

2016 specification
first exams in 2018



GCSE Edexcel B Teaching Pack

Topic 3: Challenges of an Urbanising World



**CA12/
8157**

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Each section includes:

- Lesson overview sheets
- PowerPoint handouts
- Task sheets
- Answers

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Teacher's Introduction

This pack has been written to support the **GCSE Edexcel specification (1GB0)**. It covers the topic content for **Unit 3 – Challenges of an Urbanising World**. Each key idea of the specification is presented in the order outlined by Edexcel, unless indicated otherwise in the **overview of the scheme of work**. Key terms identified from the specification are highlighted at the start of each lesson in which they are first introduced.

There are 14 lessons in total. Each lesson tab contains four parts: a lesson **Overview** to help you plan and prepare for the lesson; **Task Sheets** containing all the relevant information required for the lesson; **PowerPoint slide handouts** to use as a teaching reference (if using the lesson PowerPoints available on the CD-ROM); **Answers** for the lesson.

Because individual student learning objectives vary with each student's needs and ability, the aim of each lesson is given as a **learning question** set out at the beginning of the lesson. You may wish to translate this into specific learning objectives for your students. You will find anticipated learning outcomes for each task (All, Most and Some students can...) outlined in the **Teaching and Learning Plan** (Section C of each lesson overview). It is good practice to allow students to reflect on how confident they feel that they are able to answer the **learning question** at the end of each lesson.

Each lesson, students work towards answering the **learning question** through a number of tasks that develop their knowledge, understanding, application and skills (in line with the Assessment Objectives for Geography outlined by the government and your examining board). Tasks are structured to engage learners who employ visual, auditory, reading/writing and kinaesthetic learning strategies. Each task is inherently differentiated through its structure. You will find ideas on how you could further differentiate tasks to provide additional support or extension for your specific students in the **Teaching and Learning Plan** (Section C of each lesson overview).

Answers for every lesson task are set out at the end of each lesson tab. Assessment takes place via a variety of methods requiring different levels of your involvement. Exam-style questions will require formal marking by the teacher or support of students undertaking self-assessment. Generally, knowledge-gathering exercises need not be assessed except through informal review at the end of a task. You may wish to acknowledge student effort and accuracy on a regular basis through informal marking within the classroom.

The course aims to engage students in the assessment of their own and their peers' work to deepen their learning experience and retention of knowledge. There are specific tasks where self- or peer-assessment is used to help students learn how they will be assessed during examinations and practise structuring their answers to best demonstrate their ability. Opportunities for your formal assessment of individual student progress are highlighted in each Teaching and Learning Plan. The **Meaningful Marking Overview** can help you track this over the unit and between units of the GCSE Geography course. You may wish to keep a supply of a particular coloured pen in your classroom in order that peer- and self-assessment can be distinguished from your own formal marking.

The lesson **Overview** is designed to help you plan and prepare for each lesson and contains:

Part A

- Directions to the associated Task Sheet and PowerPoint for the lesson;
- An outline of what preparation will be needed – in particular what resources you will need to photocopy and how many of each you will need; and
- A list of any other resources you may need to provide.

Part B

Space for you to make notes about specific student needs that you or a cover teacher will need to pay particular attention to during the lesson.

Part C: **The Teaching and Learning Plan**. This sets out:

- Suggested timings and order of the lesson;
- Task instructions;
- Teaching strategies you could employ – including suggested questions you might ask;
- Anticipated learning outcomes of each task; and
- Suggestions on how the learning could be assessed.

Note from the author

Having been a teacher myself I know the essential benefits a good-quality resource brings to the classroom. But, more importantly, I believe in lightening teachers' workloads while helping them improve the quality of their teaching. This is what I have sought to achieve here. The resource is packed with ideas and content – take as much or as little as you need. Where you find the content of a lesson too much to get through in one lesson, whether due to restricted teaching time or student behaviour, tailor it to suit your needs. If you have purchased the electronic version you can edit worksheets and move content as you desire.

The level of detail included in the planning and preparation overviews is not meant to cramp your individual teaching style, but to help you save time creating lesson plans while providing evidence that you are covering every aspect of the Edexcel specification in an effective and interesting way. You can choose to use the lesson content with or without the lesson plans – take individual tasks or lessons and incorporate them into your own schemes of work. The detailed questioning strategies may prove particularly helpful for cover and non-specialist teachers.

I hope you will find teaching Geography using this pack an enjoyable and professionally fulfilling experience. Please feed back on the types of activities you and your students find most successful or with suggestions for improvements.

J Gettrup PGCE MRes BSc (Hons)
Former Geography Teacher

The purpose of the pack is to impart subject knowledge but also to provide activities that develop students' understanding and application of the specification content. Introductory text outlines the key concepts of the specification, which are then explored through case studies and examples as required by the examination board.

This Teaching Pack can be supplemented by the ZigZag Education GCSE Edexcel **Homework Pack: Challenges of an Urbanising World**, which has been written alongside this resource to provide a set of engaging homework activities to follow each pair of lessons. The Homework Pack serves to consolidate classroom learning and broaden students' knowledge and understanding of the topic being studied. For details and to order, visit zzed.uk/8157.



A web page containing all the links listed in this resource is conveniently provided on ZigZag Education's website at zzed.uk/8157

You may find this helpful for accessing the websites rather than typing in each URL.

December 2017

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* resulting from minor specification changes, suggestions from teachers and peer reviews, or occasional errors reported by customers

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Overview of the scheme of work

Edexcel B GCSE Topic 3: Challenges of an Urbanising World	Key idea for specification	Lesson number	Lesson title	Lesson learning questions	Section of lesson	Lesson content
Enquiry Question: What are the causes and challenges of rapid urban change?	3.1(a)	1	Global urbanisation	What is urbanisation? How and why is it different across the world?	1.1	Global trends
					1.2	How trends in global regions
					1.3	Future projections
					1.4	Application of knowledge from the lesson
	3.2	2	Megacities and urban primacy	Where are megacities and how are they changing? What is urban primacy?	2.1	Introduction to Indonesia
					2.2	Definition of megacity world/global city Number and distribution
					2.3	Urban primacy disadvantages (political and economic)
					2.4	Growth rates of urban regions

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Enquiry Question: What are the causes and challenges of rapid urban change?	3.2(a)	3	Why are cities changing? What causes the growth and decline of cities around the world?	3.1	Socio-economic and pull factors
				3.2	Changing cities migration
				3.3	Key term consolidation
	3.2(b)	4	Economies of cities. How are urban economies different from one another?	4.1	Compare and contrast developed, developing countries
				4.2	How the structure between developed and developing countries
				4.3	The formal and informal economy
				4.4	Arab Spring and working in the informal economy
	3.3(a)	5	Changing populations. How do urban populations change and what is the impact on spatial growth?	5.1	Introduction to megacity
				5.2	Changing population and spatial growth
				5.3	The cycle of urbanisation: suburbanisation, urbanisation, deurbanisation
				5.4	Consolidation and urbanisation
	3.3(b)	6	Urban land use. What are the characteristics of land use in urban areas? How are they influenced?	6.1	Influences on land use
				6.2	Land-use characteristics
				6.3	Consolidation and urbanisation characteristics and influences
	3.4(a)	7	Introducing Rio de Janeiro. What is the significance of Rio de Janeiro? How is its site, situation and connectivity?	7.1	Existing knowledge
				7.2	Facts about the city
				7.3	Reasons why it is nationally, regionally significant
				7.4	Rio de Janeiro and the world

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What are the causes... (continued)	3.4(b) & 3.5(b)	8	The structure of Rio de Janeiro	What is the structure of Rio de Janeiro?	8.1	What is a model?
					8.2	Land-use models of developed countries
					8.3	Spatial growth patterns, function and form
					8.4	Location of different types of buildings and age of buildings
Enquiry Question: Why does quality of life vary in a megacity in an emerging country?	3.5(a)	9	Population growth in Rio de Janeiro	How and why has the population of the Rio de Janeiro changed?	9.1	How to read the population pyramid and change and rate of change
		10	Opportunities and challenges of living in a megacity	What are the opportunities for people living in Rio de Janeiro? What challenges does rapid population growth create?	9.2	Trends in population growth
					9.3	Natural increase in population
					9.4	Reasons for population growth
					9.5	Rural-urban migration, specifically push and pull factors
	3.6(a) & (b)	10			10.1	Identify social and economic contrasting areas
					10.2	Opportunities for employment, traffic congestion, industrialisation
					10.3	Consolidation of opportunities for population growth
	3.6(c) Part i	11	Inequalities in a megacity	How and why do wealth and quality of life vary in Rio de Janeiro?	11.1	Identification of social and economic contrasting areas
					11.2	Features of life in a megacity
					11.3	Opportunities for employment, traffic congestion, industrialisation in Rio de Janeiro and how inequalities in life expectancy, economic background, etc.
					11.4	Variation in life expectancy, economic background, etc. in Rio de Janeiro
	12	Managing the megacity	What are the political and economic challenges to managing Rio de Janeiro?	12.1	Consolidation of opportunities for population growth	
				12.2	Challenges to managing Rio de Janeiro, including civil unrest, investment, etc.	

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Enquiry Question: Why does quality of life vary in a megacity in an emerging country?	3.6(c) Part ii	12	Managing the megacity	What are the political and economic challenges to managing Rio de Janeiro?	12.3	Tackling the issues surrounding legacy – reasons for differences in life in the city
	3.7(a)	13	Making a megacity sustainable	What are the advantages and disadvantages of top-down strategies to creating a sustainable megacity?	13.1	Past knowledge and understanding of concept of sustainability
					13.2	The sustainability stool and its components
					13.3	Top-down strategies in Rio de Janeiro
					13.4	Judgement about the most effective top-down strategy in Rio de Janeiro
	3.7(b)	14	Promoting sustainable development in a megacity.	What are the advantages and disadvantages of bottom-up strategies to creating a sustainable megacity?	14.1	Keyword consolidation
					14.2	Advantages and disadvantages of bottom-up strategies – IT investigation
					14.3	Consolidation of advantages and disadvantages

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Meaningful marking over

Lesson		1	2	3	4	5	6	7
Formal teacher marking		1.2 1.3	2.2 2.3	3.2	4.2.1 4.3(c)	5.2 + Ext	6.2	
Student name	AO1	/2	/12	/5		/2	/24	
	AO2	/4	/38	/12		/13	/16	
	AO3	/4	/8	/15	/16	/16		
	AO4	/24	/10	/8		/9		
	AO1	/2	/12	/5		/2	/24	
	AO2	/4	/38	/12		/13	/16	
	AO3	/4	/8	/15		/16		
	AO4	/24	/10	/8		/9		
	AO1	/2	/12	/5		/2	/24	
	AO2	/4	/38	/12		/13	/16	
	AO3	/4	/8	/15	/16	/16		
	AO4	/24	/10	/8		/9		
	AO1	/2	/12	/5		/2	/24	
	AO2	/4	/38	/12		/13	/16	
	AO3	/4	/8	/15	/16	/16		
	AO4	/24	/10	/8		/9		
	AO1	/2	/12	/5		/2	/24	
	AO2	/4	/38	/12		/13	/16	
	AO3	/4	/8	/15	/16	/16		
	AO4	/24	/10	/8		/9		
	AO1	/2	/12	/5		/2	/24	
	AO2	/4	/38	/12		/13	/16	
	AO3	/4	/8	/15	/16	/16		
	AO4	/24	/10	/8		/9		
	AO1	/2	/12	/5		/2	/24	
	AO2	/4	/38	/12		/13	/16	
	AO3	/4	/8	/15	/16	/16		
	AO4	/24	/10	/8		/9		

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Lesson 1 Overview: Global urb



Learning questions: What is urbanisation? How and why is it different?

New key terms: urbanised, urbanisation, global region, growth rate, percent

Associated Task Sheet: 1 – pages 13 – 17

Associated PowerPoint file: Lesson 1.ppt

1.A Preparation

Worksheet and resources for photocopying:

For event	Description	Page(s)	Photo
1.1 & 1.3	Graphs (bar chart and line graph) to complete and annotate	18	Number
1.4	Peer-assessment marking	19	Number

Other resources you may need to provide:

- ✓ Glue, stapler or hole punch to attach worksheets
- ✓ Calculators

1.B Individual student planning

Use this section to tailor your lesson plan to individual students in your class.




	Student(s)	Detail of action
G&T		
SEN		
EAL		
Other		

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1.C Teaching and learning plan

Suggested time	Event	Task instructions	
15 mins	 Starter	Instruction to students: <u>working independently</u> , (a) unscramble the definition of urbanisation to complete the sentence; (b) complete the bar chart of global urbanisation. Teaching strategy: <u>develop student knowledge</u> by leading discussion of answers at end of task. Learning outcome: All: know the definition of urbanisation and the global pattern of urban change.	Bar
15 mins	1.2 Task 	Instruction to students: <u>working independently</u> , interpret the bar chart and answer the questions to identify how urbanisation varies between global regions of the world. Teaching strategy: <u>develop student skills</u> by leading interpretation of the bar chart. Lead discussion of answers at end of task. Learning outcome: All: know that the number and proportion of people living in urban areas varies across different global regions. Most: explain how the number and proportion of people living in urban areas is increasing and how this varies across global regions. Some: understand why there is variation in urbanisation across global regions.	Non
15 mins	1.2 Task 	Instruction to students: <u>working independently</u> , match the descriptors to the trends on the graph of rates of urbanisation in developed, emerging and developing countries and interpret the data. Teaching strategy: <u>develop student skills</u> by leading discussion of answers at end of or during the task. Learning outcome: All: know how the rate of urbanisation has changed and is different in developed, emerging and developing countries. Most: understand why the differences have been / are occurring and be able to make calculations using annual percentage growth. Some: make calculations using annual percentage growth.	Line

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Suggested time	Event	Task instructions	Workload
15 mins	 1.4 Plenary	<p>Instruction to students: Working independently or in pairs, create an audio representation of this lesson's learning. Students should use the criteria set out in the task to assess three sets of lyrics at the end of the task. Performance is not necessary – individuals or pairs could read their creations aloud or perform them.</p> <p>Teaching strategy: <u>develop student application</u> by encouraging students to use their own language to explain their understanding of what they have learnt during the lesson. <u>Develop student understanding</u> by leading peer-assessment of lyric content against the criteria laid out in the task.</p> <p>Learning outcome: All: apply and interpret knowledge of facts about what urbanisation is and how it is happening at different rates and on different scales across global regions. Most: include explanations of why these variations occur in their own lyrics and are able to identify them in those of others Some: can make predictions about the future and are able to suggest how urbanisation looks different to people in different global regions.</p>	No

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Lesson 1: Global urbanisation

Learning questions: What is urbanisation? How is it changing across the world?

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1.1 Starter

Unjumble the definition of the key terms.

is an increase in the proportion of the population living in urban areas

compared to rural areas

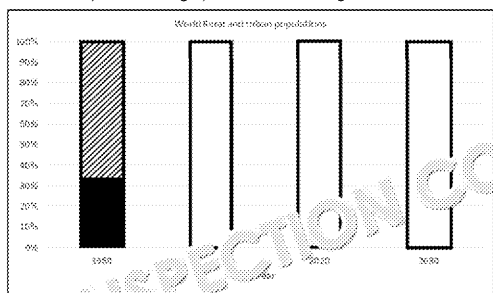


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(b) The number of people living in urban areas across the world has been increasing. In 1960, only 34% of the world's population lived in urban areas, but by 2015 this had risen to 54%. Urban populations are expected to keep growing and are predicted to reach 60% in 2020 and 70% in 2030.

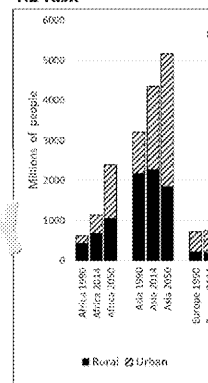
Using **Worksheet 1A** complete the bar graph to reflect these figures.

Figure 1.1 Global urbanisation



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1.2 Task

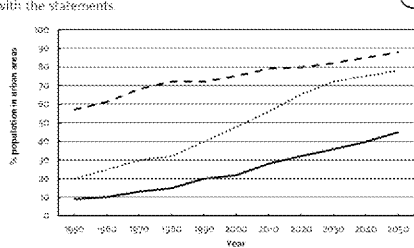


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1.3 Task

Study **Figure 1.3**, showing the global pattern of urban change. Using **Worksheet 1A** annotate the graph with the statements.

Figure 1.3 Global patterns of urban change



A. The rate of urbanisation continues to be most rapid in countries that are experiencing a lot of economic development.

B. Urbanisation has increased but remains relatively low in countries that are developing.

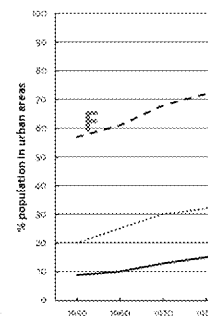
C. Around 2015, developed countries became over 80% urbanised.

D. In future, the rate of urbanisation is expected to increase in developing countries.

E. It is likely that the rate of urbanisation of emerging countries will slow down once the rapid changes they are undergoing have occurred.

F. By 2050 urbanisation was already high in some industrialised countries or after the industrial revolution.

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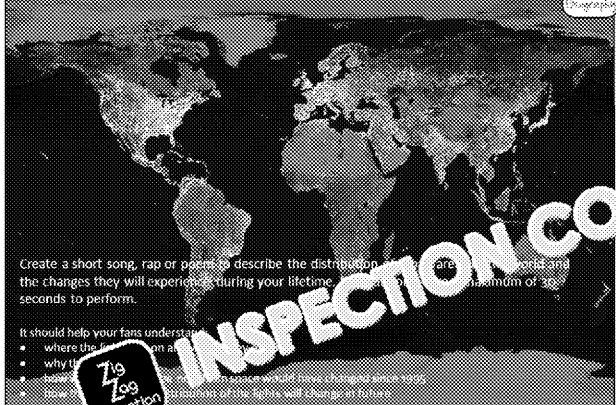


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1.4 Plenary



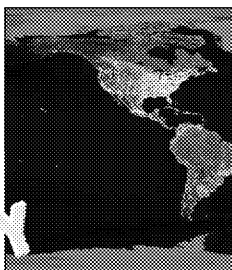
Create a short song, rap or poem to describe the distribution of urban areas and the changes they will experience during your lifetime. You have a maximum of 30 seconds to perform.

It should help your fans understand:

- where the world's urban areas are
- why the world's urban areas are there
- how the world's urban areas will change in the future

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Edexcel B Teaching Pack – Challenges of an Urbanising World



How well did the lyrics show understanding of the following?

What urbanisation is	
Where most people living in urban areas can be found	
How the world's urbanisation is different in different global regions	
Where urban areas are most likely to grow in future	
Total out of	

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Task Sheet 1: Global urbanisation



Learning questions: What is urbanisation? How and why is it different?

New key terms: urbanised, urbanisation, global region, growth rate, percentage

1.1 Starter

- (a) Unjumble the definition of urbanisation.

Urbanisation is an increase in the number of people living in urban areas compared to rural areas.

URBANISATION

- (b) The number of people living in urban areas across the world has been increasing. In 1960, 30% of the world's population lived in urban areas, but by 2015 this had risen to 54% and is predicted to keep growing and are predicted to reach 60% in 2020 and 70% in 2030.

Complete the bar graph to reflect these figures.

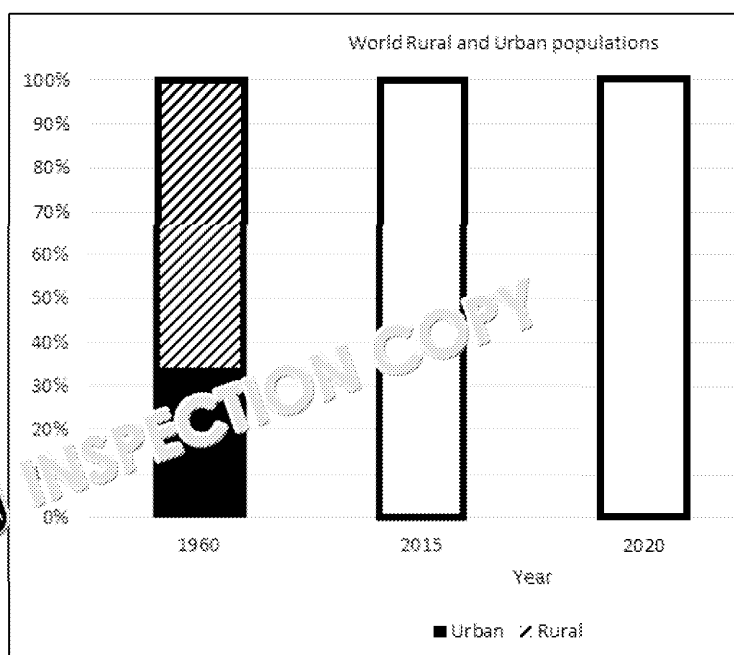


Figure 1.1: Global urbanisation
Data source: World Health Organization, 2017

1.2 Task

The rate of urbanisation varies between global regions. Some regions are already largely urbanised, e.g. Europe and North America, while others still have large rural populations, e.g. Asia and Africa. This is because more countries in Europe and North America have industrialised. We call them developed countries. Emerging countries in Latin America and the Caribbean have more recently urbanised while many countries in Africa and parts of Asia are still developing. They still have large proportions of their populations living in rural areas. In developing countries, rural populations are still increasing due to improving living conditions and high birth rates.



Makola market in Accra, Ghana. Ghana is an emerging country with a fast growing population. In 2015, 54% of the population lived in urban areas.

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People moving from the countryside to urban areas in search of a better quality of life is called **urbanisation** (a form of national or internal migration). People moving into a country to live and settle in urban areas. This can also cause urbanisation because it leads to an increase in the number of people living in urban areas compared to rural areas. This is one of the main causes of rapid population growth in many developing countries.

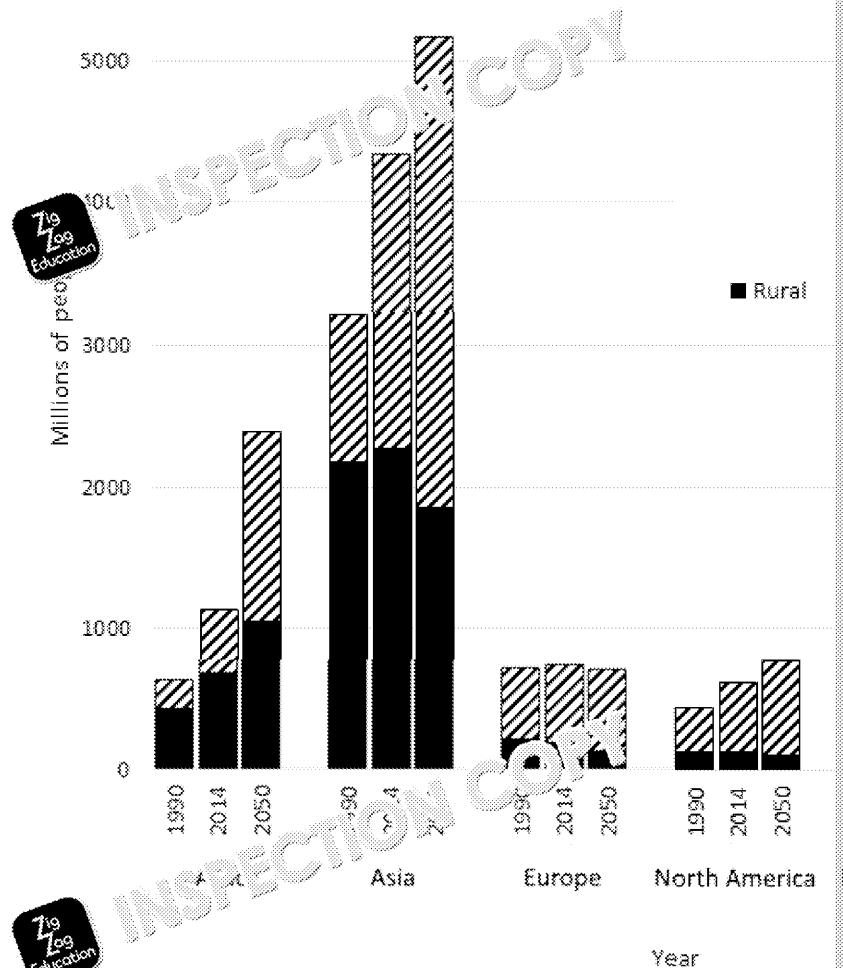


Figure 1.2: Variation in urbanisation between global regions
Data source: World Urbanization Prospects, United Nations

Study Figure 1.2 and answer the following questions:

- Define urbanisation in your own words. (2)
- Name the global region that will have the largest population in 2050. (1)
- Identify the two global regions that will see the greatest amount of urbanisation between 1990 and 2050. (2)
- Compare urbanisation in North America and Asia from 1950 to that anticipated in 2050 by:
 - describing for each how the proportion of the population living in urban areas has changed – link your descriptions with the word 'whereas' (2)
 - explaining how changes to the proportion of people living in urban areas are similar or different (2)
- Explain why the rate of urbanisation is predicted to continue increasing rapidly in Asia and Africa. (4)

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Extension 1.2.1

The proportion of the population living in urban areas in global regions such as Asia and Latin America is predicted to continue to grow to 2050, although at a slower rate than Asia and Africa. Suggest two reasons why urbanisation is slower but continues to grow in Latin America and Asia.

Tip: When you suggest a reason you must justify what you are saying. Think about the point, e.g. could you give examples to support your reasoning?

1.3 Task

We can observe a change in the rate of urbanisation in developed, developing and emerging countries.

- (a) Use capital letters to annotate the correct part of the graph:
- The rate of urbanisation continues to be most rapid in countries that are in the early stages of development.
 - Urbanisation has increased but remains relatively low in countries that are in the early stages of development.
 - Around 2015, developed countries became over 80% urbanised.
 - In future, the rate of urbanisation will increase in developing countries.
 - It is likely that the rate of urbanisation of emerging countries will slow down in the future as they are undergoing have occurred.
 - By 1950, urbanisation was already high in countries that had industrialised during the Industrial Revolution.

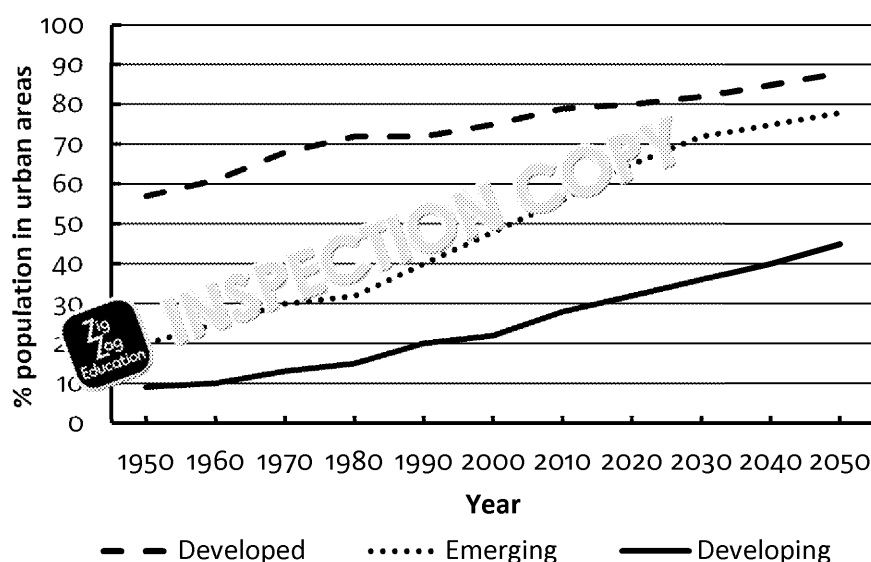


Figure 1.3: Global patterns of urban change

Data source: United Nations, 2014

- (b) Line graphs clearly show trends (i.e. the way in which something is changing). The steeper the line on the graph the more quickly the change. When urbanisation occurs more slowly the line is closer to flat the slower the change.

- State what a flat line on the graph would indicate. (1)
- Calculate the growth in urbanisation for developed countries between 1980 and 2020. (1)
- Calculate the rate of urbanisation in developing countries between 1980 and 2020. (2)
- Compare the rate of change for emerging countries between the periods 1980 and 2020 with that projected between 2030 and 2050. (3)

Annual
10 years
the how

Growth
change
time.

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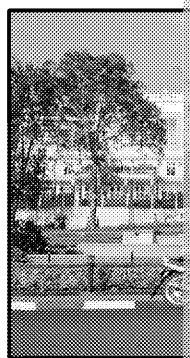
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Extension 1.3.1

In 2014, Rwanda had an urban population of 3,369,000. That year it was the fastest urbanising country in the world with an annual percentage growth of 3.7%. Presuming it continues to urbanise at this speed what would you expect its urban population size to be in:

- (a) 2015? (1)
(b) 2020? (2)



Kigali city in



1.4 Plenary

Look at the image below, created from satellite photographs taken from space by (NASA Earth Observing Agency) in 1995. You can see urban areas lit up by electric lighting. By 2030, 70% of the world's population will live in an urban area and 1 in 3 of us in a city with over half a million inhabitants (that's about the size of London). Your task is to create a short song, rap or poem to describe the distribution of urban areas and the changes they will experience during your lifetime. It should only take a maximum of 5 minutes.

It should help your fans understand:

- where the lights are on and where they are not
- why they are shining
- how what you would see now from space would have changed since 1995
- how the number and distribution of the lights will change in future



Get into teams of four. Listen to three of your classmates perform their lyrics and then vote according to how well their lyrics show they have understood what they learnt.

How well do they show understanding of the following?	Maximum marks
What urbanisation is	2
Where most people living in urban areas can be found	2
How the rate of urbanisation is different in different global regions	4
Where urban areas are most likely to grow in future	2
Total out of 10	

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Extension 1.4.1

Consider the impact that access to electric lighting has on the image –you should reflect the fact that parts of the world will be lit up more brightly in future because of better access to lighting, not just because there are more people living together.



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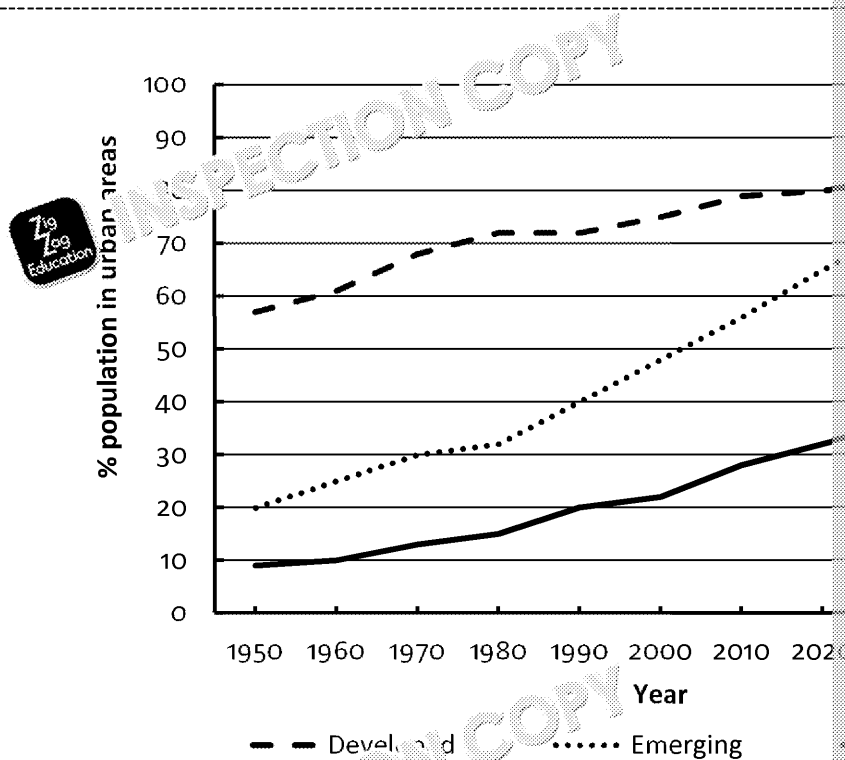
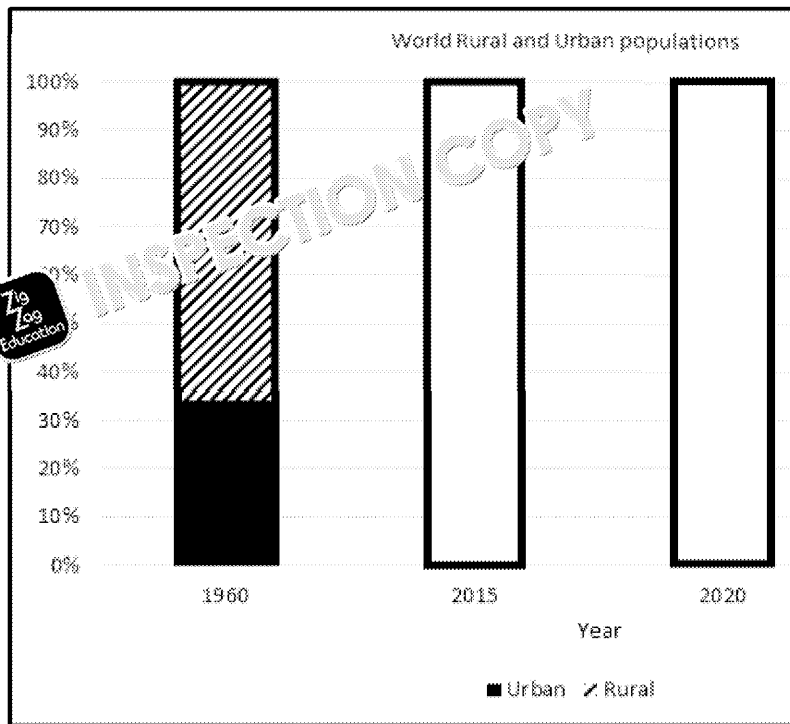
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Bar chart (Starter 1.1) and line graph (Task 1.1)

Make as many copies as students – cut out and give one to each student



- The rate of urbanisation continues to be most rapid in countries that are experiencing a lot of economic development.
- Urbanisation has slowed down in countries that have reached high levels of economic development.
- Around 2015, developed countries became over 80% urbanised.
- In future, the rate of urbanisation will increase in developing countries.
- It is likely that the rate of urbanisation of emerging countries will slow down once the rapid changes they are undergoing have occurred.
- By 1950, urbanisation was highest in countries that had industrialised during the Industrial Revolution.

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Peer-assessment marking (Task1.4)

Make two copies – cut out and give one table to each group

How well did the lyrics show understanding of the following?	Max mark
What urbanisation is	2
Where most people living in urban areas can be found	2
How the rate of urbanisation is different in different global regions	4
Where urban areas are most likely to grow in future	2
Total out of	



How well did the lyrics show understanding of the following?	Max mark
What urbanisation is	2
Where most people living in urban areas can be found	2
How the rate of urbanisation is different in different global regions	4
Where urban areas are most likely to grow in future	2
Total out of	



How well did the lyrics show understanding of the following?	Max mark
What urbanisation is	2
Where most people living in urban areas can be found	2
How the rate of urbanisation is different in different global regions	4
Where urban areas are most likely to grow in future	2
Total out of	



How well did the lyrics show understanding of the following?	Max mark
What urbanisation is	2
Where most people living in urban areas can be found	2
How the rate of urbanisation is different in different global regions	4
Where urban areas are most likely to grow in future	2
Total out of	

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Lesson 1: Answers

Abbreviation of Assessment Objectives (AO):

1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

1.1 Starter

- (a) AO1 Urbanisation: an increase in the proportion / of a population living in towns and cities
- (b) AO4

World Rural and Urban populations

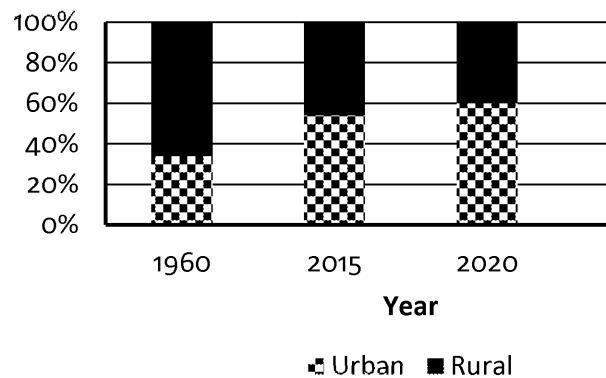


Figure 1.1: Global urbanisation

1.2 Task

Question	AO	Answer
(a)	AO1	<p>Student definition must:</p> <ul style="list-style-type: none"> ✓ understand that it describes a proportional relationship between urban and rural areas; ✓ understand that the number of people living in urban areas is increasing.
(b)	AO4	Asia
(c)	AO4	Africa and Asia
(d)	AO4	<p>(i) Proportion of people living in urban North America has increased from approx. 30% to over 80% (1), whereas proportion of people living in rural North America has decreased from approx. 70% to approx. 20% (1).</p> <p>(ii) Changes are similar in that they have both increased (1) but the increase in North America (50%) was smaller than that in Asia (30%) (1).</p>
(e)	AO2	<p>1 mark for reason and 1 mark for explanation – students should not give more than 2 reasons for maximum 2 marks.</p> <ul style="list-style-type: none"> ▪ Countries in Africa and Asia are all developing (1) – so jobs are being created and people move there for work (1). ▪ Africa and Asia have high proportions of people living in rural areas (1) so any people who might want to move to urban areas (1).

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Question	AO	Answer
Ext	AO3	<p>1 mark for reason and 1 mark for justification or an example. At least 1 justification may come from the text, but the example will be from own knowledge and understanding. For example:</p> <p>The number of people living in urban areas is still increasing due to rural-urban migration. Students may be able to refer to specific examples, e.g. London's growing finance sector, or explain in more general terms, e.g. referring to the pull of unskilled work in cities, or the push of rural-urban migration in developing to developed countries or the search of a better quality of life.</p> <p>The pace of urbanisation is slow because rural-urban migration is slow. People living in rural areas have a quality of life as good as or possibly better than living in urban areas so there isn't the same scale of rural-urban migration. Students may be able to refer to specific examples, e.g. some people living in urban areas like the countryside, as demonstrated by popular TV programmes in the UK, <i>Country</i>, or explain in more general terms, e.g. people have free access to healthcare and utilities in both rural and urban areas, it is more affordable in rural areas.</p>

1.3 Task

- (a) AO4 Annotations as indicated – there may be some small movement along each annotation.

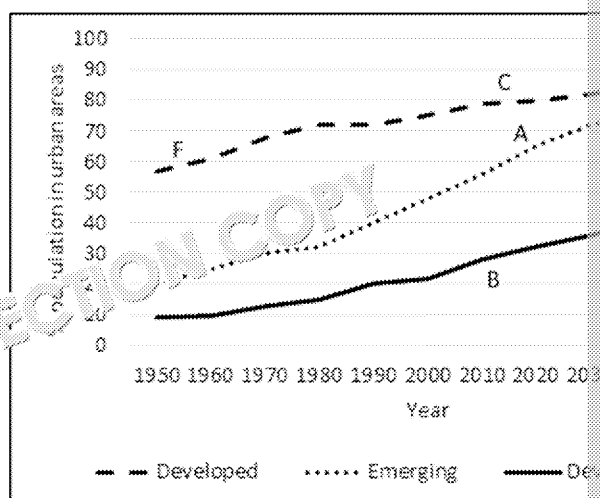


Figure 1.2: Global patterns of urban change

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(b)

Question	AO	Answer
(i)	AO4	No change, the variable remains constant
(ii)	AO4	Calculate the difference between the first and second point 1980 (72%) and 2020 (80%) = $80 - 72 = 8\%$ Allow + or – 1%
(iii)	AO4	Calculate the difference between the first and second point (1980 (72%) and 2020 (32%) = $32 - 15 = 17\%$) divided by the elapsed points on the x-axis (2020 – 1980 = 40 years) = Allow + or – 0.1
(iv)	AO4	Rate of change calculated as for part (iii) as follows – 1 mark quoted in the answer: 1980 to 2020: $(65 - 32)/(2020 - 1980) = 33/40 = 0.82\%$ per 2030 to 2050: $(78 - 72)/(2050 - 2030) = 6/20 = 0.3\%$ per year Allow + or – 0.1 1 mark for summarising findings and noticing any relationships of similarities and differences, e.g. the rates of change are twice as fast between 1980 and 2020 than is expected between
Ext	AO4	Find 3.7% of the annual population size and add to that size understand that to calculate additional years this must be done one 3.7% increase multiplied by the number of years, as per year. To 2015, 1 year: $(3,369,000/100) \times 3.7 + 3,369,000 = 3,493,653$ To 2020, 6 years: start with 2015 value from part (i) and calculate 2016 = $(3,493,653/100) \times 3.7 + 3,493,653 = 3,622,918$ 2017 = $(3,622,918/100) \times 3.7 + 3,622,918 = 3,758,446$ 2018 = $(3,758,446/100) \times 3.7 + 3,758,446 = 3,897,509$ 2019 = $(3,897,509/100) \times 3.7 + 3,897,509 = 4,041,717$ 2020 = $(4,041,717/100) \times 3.7 + 4,041,717 = 4,191,261$

1.4 Plan

AO1, 2 and 3

Assessed through peer-assessment

How well did the lyrics show understanding of the following?	Max marks
What urbanisation is AO1	2
Where most people living in urban areas can be found AO1	2
How the rate of urbanisation is different in different global regions AO2	4
Where urban areas are most likely to grow in future AO3	2
Total out of 10	

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Lesson 2 Overview: Megacities and



Learning questions: What are megacities and how are they changing?


New key terms: economic influence, political influence, megacity, world city

Associated Task Sheet: 2 – pages 28 – 32

Associated PowerPoint file: Lesson 2.ppt

2.A Preparation

ICT – For 2.4 of the lesson you will need Internet access to:

 <https://www.theguardian.com/cities/2015/nov/23/cities-in-numbers-change-the-world#img-1>

or photocopy this image before the lesson*

Worksheets and resources for photocopying:

For event	Description	Page(s)	Photocopies re
2.1	Choropleth map of distribution of megacities	33	Number of student
2.2	Urban primacy card sort	34	Number of student
2.4	Growth rate of megacities table	35	Number of student
2.4	*Copy from the <i>Guardian</i> website		Number of student

Other resources you may need to provide:

- ✓ Calculators
- ✓ Glue, stapler or hole punch to attach worksheets

2.B Individual student planning

Use this section to tailor your lesson plan to individual students in your class.

	Student(s)	Detail of action
G&T		
SEN		
EAL		
Other		

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2.C Teaching and learning plan

Suggested time	Event	Instructions	Student work
10 mins	2.1 Starter	<p>Instruction to students: working independently, study the photograph – interpret what it would be like to be in the city and identify signs of urbanisation. Reveal at the end of the task that the image is of Jakarta, Indonesia – a megacity in an emerging country.</p> <p>Teaching strategy: develop student application by encouraging students to refer to their existing knowledge and understanding about cities and their own experiences of urban areas.</p> <p>Learning outcome: All: can describe characteristics of urban areas. Most: can explain which features of the city are the result of its growth. Some: recognise similarities and differences between cities in developing, emerging and developed countries.</p>	None
20 mins	2.2 Task	<p>Instruction to students: working independently (a) match the definitions and examples and write them into your own words; (b) to (e) calculate the increase in number of megacities in a given global area to 2030 and plot the data on the world map and describe the pattern.</p> <p>Teaching strategy: develop student skills by supporting creation and interpretation of a choropleth map.</p> <p>Learning outcome: All: know definitions of terms megacity, primate city, world or global city, and that megacities are increasing in number. Most: can describe the pattern of megacities across the world in terms of their number and distribution. Some: can justify their choice of statements describing the global pattern in the growth of megacities by referring to the text and numerical evidence.</p>	Choropleth map

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Suggested time	Event	Task instructions	Student work
20 mins	2.3 Task	<p>Instruction to students: In pairs, create a mini mind map of the points to note about urban primacy, then sort the advantages and disadvantages of urban primacy and identify which influences on the city are political, economic or social.</p> <p>Learning strategy: develop student knowledge by demonstrating reading for information. Develop student understanding by circulating and asking questions, e.g. what are the good/bad things about this and what or who (decision-making, money making, or people) is it good/bad for?</p> <p>Learning outcome: All: know what a primate city and urban primacy are and how a primate city is different from a megacity. Most: understand that there are advantages and disadvantages to urban primacy and can give examples. Some: can apply knowledge and understanding to identify whether the impacts of urban primacy impact on politics, the economy or society, and assess the implications of primacy for the economic growth of a country.</p>	Urban primacy sort
10 mins	2.4 Plenary	<p>Instruction to students: Working in groups calculate the number of people arriving in your megacity in the next 24 hours, year, decade, and by 2050. Compare the findings of the class and look for patterns.</p> <p>Learning strategy: develop student skills of calculating the rate of growth and develop student knowledge that existing and emerging megacities are growing at different rates around the world by supporting the class in identifying patterns in the data, e.g. where are the similarities and differences in the rate of growth? Develop student understanding by encouraging students to look for other similarities and differences in the types of country located in each global region, i.e. developed, developing, emerging.</p> <p>Learning outcome: All: know that existing and emerging megacities are growing at different rates. Most: can identify simple patterns in the data, e.g. cities are growing fastest in Asia and Africa, slowest in western Europe and North America. Some: understand that the rate of growth of a country is related to whether it is developed, developing or emerging.</p>	Calculate Growth of megacity table

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Lesson 2: Megacities and urban primacy

Learning quest... 2 megacities and how the time is changing? What is urban primacy?

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Edexcel B GCSE Topic 3: Challenges of an urbanising world

2.1 Starter

Study the photograph and imagine... Describe what you see, hear, and... Find three signs that this city is a...

Where in the world is this city?

2.2 Task

Match these definitions and examples, then write them into your own words:

Megacity	an urban area that influences the global economy irrespective of its size	e.g. Buenos Aires (16.3 million) has 10 times as many people as Córdoba (1.5 million), the next largest city in Argentina. London (10.4 million) has four times as many people as Birmingham (2.5 million), the next largest city in the UK.
Primate city	an urban area with more than 10 million people living in it	e.g. New York, USA – home to the world's two largest stock exchanges, London, UK and Tokyo, Japan – home to the third and fourth largest stock exchanges in the world
World or global city	an urban area that has disproportionate economic or political influence over its country due to its much larger size (e.g. London is as influential as three times as many cities)	e.g. Tokyo, Japan has 38 million people, the world's largest urban area of 33 million people. Indonesia has 20.5 million people.

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Edexcel B GCSE Topic 3: Challenges of an urbanising world

2.3 Task

Continent	Number of megacities in 2016
Africa	3
Asia	15
Europe	3
Latin America and the Caribbean	5
North America	2
Oceania	0

(a) Plot the data onto the choropleth map...

- the number of megacities on each continent
- the number predicted to exist in 2030
- how many of these will be new cities

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Edexcel B GCSE Topic 3: Challenges of an urbanising world

2.4 Task

Warsaw – a primate city in...

Advantages of urban primacy	Disadvantages of urban primacy

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Advantages

- People in positions of power live and work within the city – these may be politicians working in the national government or heads of major companies, e.g. transnational companies, that have influence on the economy.

Political

Disadvantages

Urban primacy is the disproportionate economic or political influence that some urban areas have over the rest of their country.

Urban

Advantages

- Improved rights for women and minority groups in the city can lead to changes in legislation and work practices that improve the lives of people living in other parts of the country.
- The wide range of people, from all walks of life and all different backgrounds, makes people more tolerant of differences in another urban area and encourages growth in the city.

Disadvantages

- People living in other urban areas and the countryside may feel uninvolved with what is happening in the city. This can lead to disenfranchisement.
- Minority groups are often excluded from the diversity of the city while those remaining in rural and other urban areas may become marginalised (treated as separate from society).

Advantages

- The economic multiplier effect (if a service job, more wealth, creates a larger market, creates more services that development spreads out into urban areas surrounding the city).
- The city has better services than the surrounding other towns and cities – this attracts new businesses.
- International companies decide what goods will be offered within the city and what will be a BPO location in the city, it will bring economic and employment to the city.
- The city is the financial centre of the country. If large enough it will become the financial centre of a global region, attracting more investment from companies, more jobs and more wealth to the city.
- The city has good transport links to the rest of the country and abroad. This can be through an international airport, port or railway.
- The city is well connected to other urban areas. For example, it is easy to get goods into and out of the city, the surrounding area benefits from trade with the city and beyond.

2.4 Plenary

Visit https://www.theguardian.com/uk/2015/sep/23/cities-in-a-united-kingdom-waters-of-urban-growth-change-the-world81img_1

City	Growth rate per day (people per 24 hrs)	Annual growth rate (people per year)	Decadal growth rate (people per 10 years)	Additional size by 2050
Asia				
Africa				
Europe				
North America				
Latin America				

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Task Sheet 2: Megacities and urbanisation



Learning questions: What are megacities and how are they changing?

New key terms: economic influence, political influence, megacity, world city

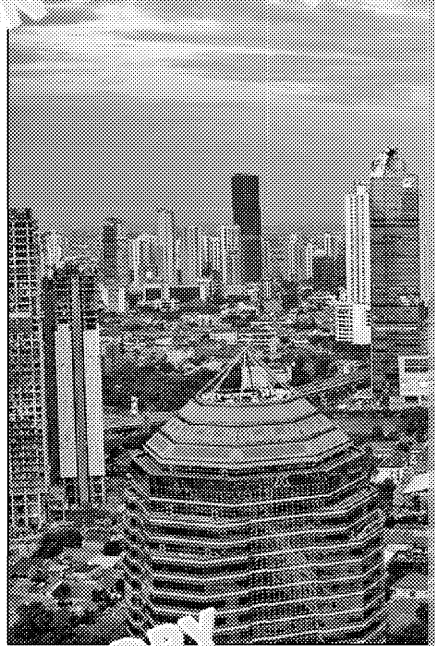
2.1 Starter

Study the photograph and imagine what you are here:

- ✓ Describe what you can see, hear, smell and feel.
- ✓ Look for three signs that this city is growing.

Be ready to explain your thinking.

Where in the world do you think the photograph was taken?



2.2 Task

Cities vary greatly in size. The majority are small, with fewer than a million people, but some are very large, sprawling out in all directions, swallowing up villages and even other cities around them. In 2016, 512 cities had more than one million inhabitants and 31 of these had over 10 million people, making them **megacities**. These numbers will increase as urban population increases across the world. By 2030, we could see 661 **millionaire cities** (more than one million residents) and 41 megacities, with 29 cities crossing the five million people mark (15 of which are in Asia and 10 in Africa).

City limits are usually defined by local authority boundaries because in reality urban development sprawls into the surrounding area, swallowing up towns, villages and sometimes other cities. This process is called **agglomeration**.

Urban conurbations (also called metropolitan areas) are created when urban areas grow together. In the UK we often use the term 'conurbation' before a city's name to describe the area that has grown around the city. For example, Greater London or Greater Manchester.

Not all cities are increasing rapidly. Some of the largest cities developed quickly during the twentieth century, but at a moderate speed, e.g. Los Angeles. Some cities have been slowed down by natural disasters, e.g. cities which were relatively small before experiencing very rapid growth.

Some cities may not grow into megacities but are still very important to the world. These are called **world cities**. They play a significant role in the world as cultural or political centres.

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- (a) Match and write out in your own words these definitions and examples for World or Global city.

<p>Megacity</p>	<p>an urban area that influences the global economy irrespective of its size.</p>	<p>e.g. Buenos Aires, London, New York, Tokyo, Shanghai, Singapore, Sydney, Taipei, Toronto, Vancouver, Vienna, Yokohama</p>
<p> Primate city</p>	<p>an urban area with more than 10 million people living in it.</p>	<p>e.g. New York, London, Tokyo, Shanghai, Singapore, Sydney, Taipei, Toronto, Vancouver, Vienna, Yokohama</p>
<p>World or global city</p>	<p>an urban area that has disproportionate economic or political influence over its country due to its much larger size (often twice as big as the next largest city).</p>	<p>e.g. Tokyo, New York, London, Singapore, Sydney, Taipei, Toronto, Vancouver, Vienna, Yokohama</p>

- (b) Plot the following data onto the choropleth map worksheet to show the number of people on the continent in 2016, the number predicted to exist in 2030, and how many children are born each year. The data for Africa has been plotted for you.

Continent	Number of megacities in 2016	Predicted number of megacities in 2030
Africa	3	6
Asia	18	24
Europe	3	3
Latin America and the Caribbean	5	6
North America	2	2
Oceania	0	0

Table 2.1: Megacities of the world 2016 and 2020
Data source: United Nations, 2014

- (c) Describe the predicted distribution of megacities across the world by 2030. (2)
- (d) Describe the pattern of change you expect to see in the number and size of all cities up to 2030. (3)
- (e) Look at the list of new megacities by 2030. Suggest two reasons why most of them will emerge in Africa and Asia. (4)

Extension 2.2.1

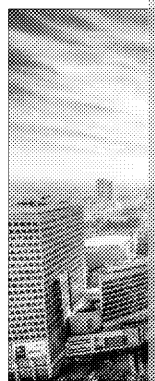
Select which of the following statements best describe what you expect to see for megacities worldwide between 2030 and 2050.

1. Megacities in Europe and North America will continue to grow due to population growth in these countries.
2. There will be new megacities in Europe and North America as the population continues to grow between urban areas.
3. There will be fewer new megacities in Africa and Asia because urbanisation has already taken place in the majority of the population have moved to urban areas.
4. The number of megacities will continue to increase in Africa and Asia as urbanisation continues.
5. There will be an increase in the number of megacities in Oceania because of the high quality of life.
6. There will be many more megacities in Latin America.

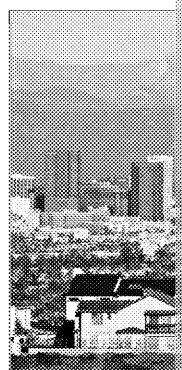
2.3 Task

Urban primacy is the disproportionate economic or political influence that some urban areas have over the rest of their country. A **primate city** may be a megacity, but this is not always the case, e.g. Warsaw (1.75 million) is the primate city of Poland. Kingston (0.6 million) is the primate city of Jamaica. There are three points to consider about urban primacy:

1. Primate cities usually develop where their location has enabled them to trade with other countries and/or they have held the seat of power, e.g. Dhaka (16.5 million), the capital of Bangladesh, was historically a major trading centre for the region and then an administrative capital during British colonial rule. Today Dhaka remains Bangladesh's cultural, economic and political centre.
2. Often a primate city is the largest city of a country, but this is not always the case. Some capital cities do not have a dominant position within their own countries. For example:
 - Brazil, where Sao Paulo (21.3 million) and Rio de Janeiro (11.3 million) have greater economic influence over the country than its capital and seat of power Brasilia (4.2 million)
 - USA, where New York (18.6 million) and Los Angeles (12.3 million) are greater drivers of the US economy than its capital Washington DC (5 million)
3. In some very large countries there may be more than one megacity. Each may have disproportionate economic or political influence over the surrounding area of country (both rural and urban areas) but this has no adverse effect on the other, e.g. India – Delhi (25.4 million), Mumbai (21.3 million) and Kolkata (14.9 million); China – Shanghai (24.5 million) and Beijing (21.2 million).



Warsaw



Los Angeles

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- (a) Create a mini mind map or find your own way to make brief notes about the three points to note about urban primacy with an example for each. (6)
- (b) Cities that exhibit urban primacy can bring advantages and disadvantages to the wider country. Sort the facts into the correct column of the table: (15)

Advantages of urban primacy	Disadvantages of urban primacy

The city has better services than the surrounding area and other towns and cities – this attracts new business.	Migration into the city from rural areas creates a large labour force – this attracts new businesses.
The economic multiplier effect (i.e. more jobs creates more wealth, creates a larger market, creates more jobs, etc.) means that development spreads out into rural and urban areas surrounding the city.	The wide range of people from all walks of life and all different backgrounds makes people more tolerant of one another. Women and ethnic minority groups are more likely to prosper in the city.
Having transnational corporations (TNC) headquarters in the city may mean that both urban and rural areas are overlooked when they consider new opportunities for investment in the country.	The city is well connected to other urban areas by rail and road. Because it is easy to get goods into and out of the city, the surrounding areas benefit from trading with the city and beyond.
The city has good transport links to the rest of the world, enabling trade into and out of the country. This could be through an international airport, port or railway station.	Improved rights for women and minority groups in the city can lead to changes in legislation and work practices that improve the lives of people living in other parts of the country.
The city is the financial centre of the country. If it grows large enough it will become the financial centre of the global region, attracting more investment from private companies, more jobs and more wealth to the country.	People in positions of power live and work within the city – these may be politicians, working in the national government or heads of major companies, e.g. transnational companies, that have influence on the economy.

- (c) Use a key to identify which influences of the primate city are political (to do with decision-making), economic (to do with money) or social (to do with how people live).

Political influences	Economic influences
----------------------	---------------------

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Extension 2.3.1

Assess the extent to which primate cities have a positive effect on the economy.

Tip: When you are asked to assess the extent of something you should (1) make a judgement of what you believe; (2) back it up by identifying points that support what you say; (3) say why you think it is or is not so important. In this case you may want to say it's totally true, or it's not so important. It's your choice, but you must show your reasons for your judgement.

For this question, talk about the advantages of the primate city to the country. Say which set of arguments you believe are the most important. To find facts to back up your ideas. Finish by saying how things might be different if there were different conditions, such as the size of the country or if there were different conditions, such as the location of the city.



2.4 Plenary

Visit <https://www.theguardian.com/cities/2015/nov/23/cities-in-numbers-how-change-the-world#img-1> or look at a photocopy of the image. The map shows the number of people arriving each hour to existing and emerging megacities across the world and a partner one city from the map.

- If your chosen city continued to grow at this rate, calculate how many people would arrive in the next 24 hours, the next year, the next decade, and by 2050.
- Compile your class results in the following table of growth of megacities across the world.

	Growth rate per day (people per 24 hrs)	Annual growth rate (people per year)	Decadal growth rate (people per 10 years)
Africa			
Asia			
Europe			
North America			
Latin America			

- Compare and contrast your findings, looking for patterns in the rate of growth.

Extension 2.4.1

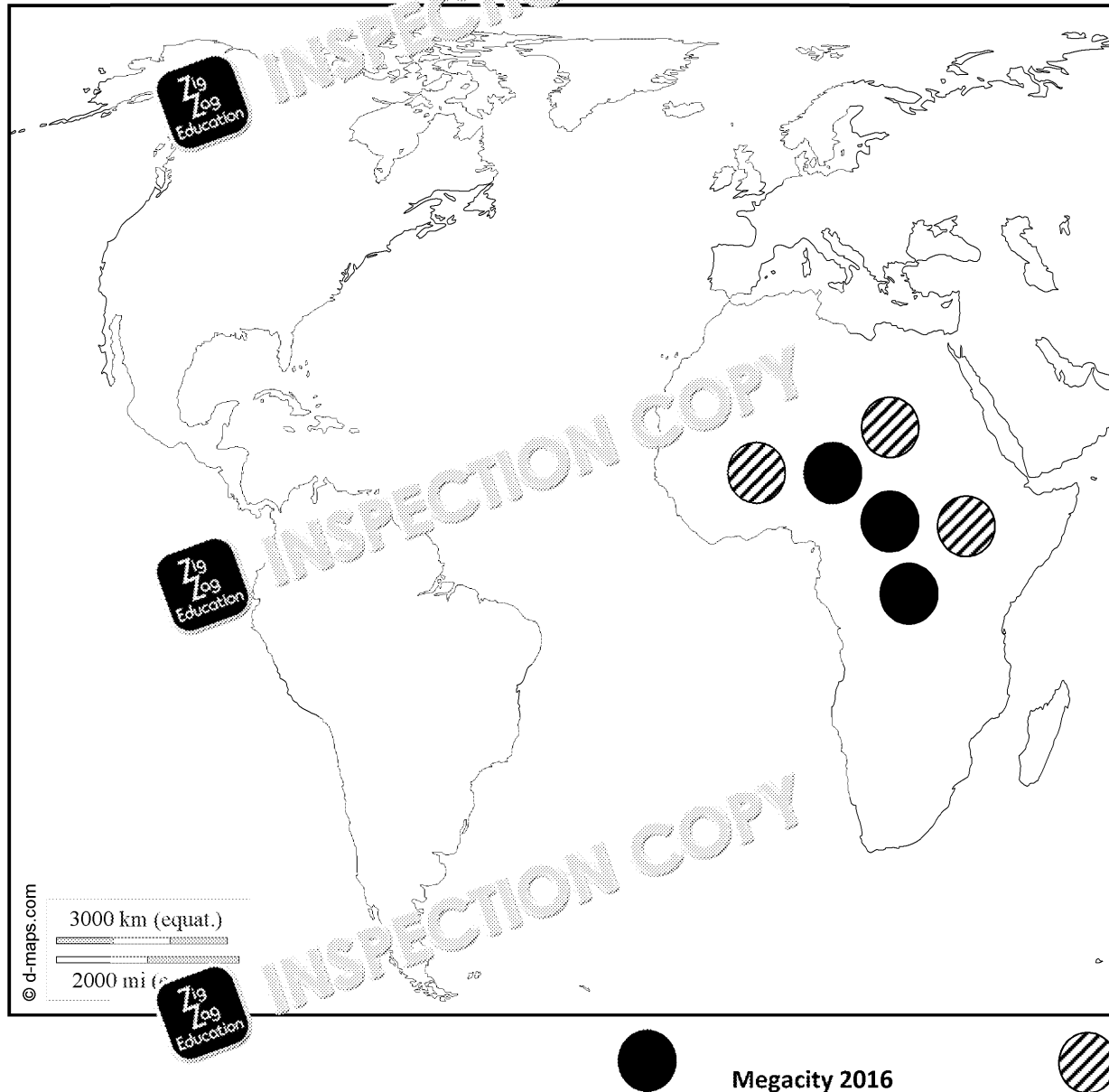
Suggest reasons for the patterns in growth of megacities across global regions.

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Choropleth map of distribution of megacities

Make as many copies as students – handout 1 each



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Urban primacy card sort (Task 2.3)

Make as many copies as students – give one to each student

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<p>The city has better services than the surrounding area and other towns and cities – this attracts new businesses.</p>	<p>Migration to the city from rural areas creates a large labour force – this attracts new businesses.</p>
<p>The economic multiplier effect (i.e. more jobs creates more wealth, creates a larger market, creates more jobs, etc.) means that development spreads out into rural and urban areas surrounding the city.</p>	<p>The wide range of people from all walks of life and all different backgrounds makes people more tolerant of one another. Women and ethnic minority groups are more likely to prosper in the city.</p>
<p>Having transnational companies' (TNC) headquarters in the city may mean that other urban and rural areas are overlooked when the government considers investment in the country.</p>	<p>The city is well connected to other areas by rail and road. Because it is easy to get goods into and out of the city, the surrounding areas benefit from trading with the city and beyond.</p>
<p>The city has good transport links to the rest of the world, enabling trade into and out of the country. This could be through an international airport, port or railway station.</p>	<p>Improved rights for women and minority groups in the city can lead to changes in legislation and work practices that improve the lives of people living in other parts of the country.</p>
<p>The city is the financial centre of the country. If it grows large enough it will become the financial centre of the global region, attracting more investment from private companies, more jobs and more wealth to the country.</p>	<p>People in positions of power and work within the city – these may be politicians working in the national government or heads of major companies, e.g. transnational companies, that have influence on the economy.</p>

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Growth rate of megacities table (Task 2)

Make as many copies as students/2 – give one table to each student

City	Growth rate per day (people per 24 hrs)	Annual growth rate (people per year)	Decadal growth rate (people per 10 years)
Africa			
Asia			
Europe			
North America			
Latin America			



City	Growth rate per day (people per 24 hrs)	Annual growth rate (people per year)	Decadal growth rate (people per 10 years)
Africa			
Asia			
Europe			
North America			
Latin America			

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Lesson 2: Answers

Abbreviation of Assessment Objectives (AO):

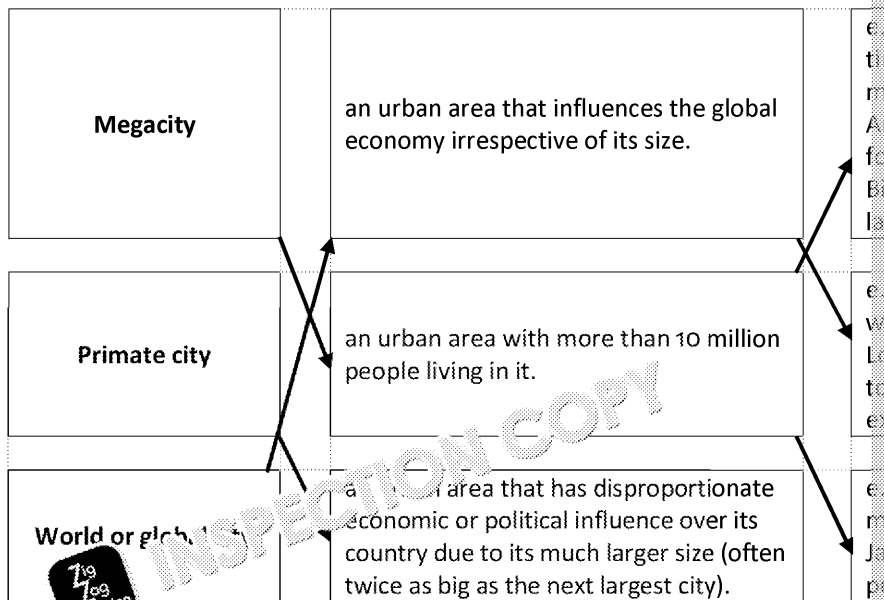
1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

2.1 Starter

This is a free-thinking exercise, where there are no right or wrong answers as such. Assessment teacher can listen to student comments and suggestions.

2.2 Task

(a) AO1



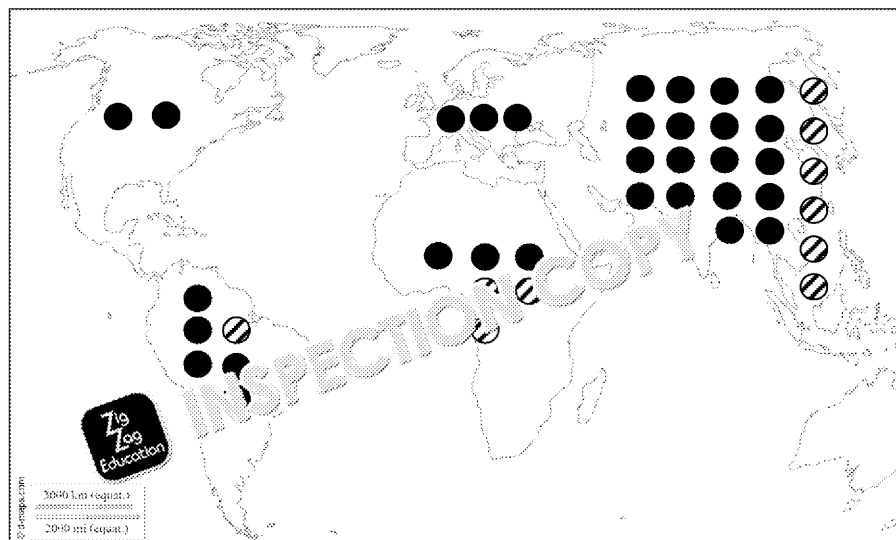
(b) AO4 Credit 2 marks for correctly plotting the data onto the map for each global megacities (1) must be correct).

Continent	Number of megacities in 2016	Predicted number of megacities in 2030
Africa	3	6
Asia	18	24
Europe	3	3
Latin America and the Caribbean	5	6
North America	2	2
Oceania	0	0

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Question	AO	Answer
(c)	AO1	<p>1 mark for any correct statement up to a maximum of 2 marks: The majority of megacities will be in Asia (24) / There will be a small number of megacities in Europe and North America (3 and 2 respectively) / There will be no megacities in Africa and Latin America will each have 6 megacities.</p> <p>Any observations pertaining to E or W, N or S are incorrect as they cannot be seen from the data.</p>
(d)	AO1	<p>Care is needed to read this question – it is about <u>all</u> cities, not just megacities.</p> <p>1 mark for any correct statement up to a maximum of 2 marks: Most cities will get larger although some may decline / There will be more megacities / There will be more millionaires / There will be more million people / Cities and towns will agglomerate to form megacities.</p> <p>1 mark for reference to evidence – e.g. data from the text or task (see brackets above).</p>
(e)	AO2	<p>1 mark for reason and 1 mark for further explanation – students learning from lesson 1 and apply this to answer the question.</p> <p><u>Rural–urban migration is high</u> because: life in rural areas of Africa and Asia is difficult because people don't have such good access to resources and services / Countries in Africa and Asia are developing, leading to urbanisation / People move to towns and cities in pursuit of better quality of life.</p> <p><u>There is a large proportion of the population living in rural areas</u> so people could move to urban areas so the growth of urban areas is likely to be high.</p>
Ext. 2.2.1	AO2	<p>1 mark for the identification of each of the two accurate statements for evidence to support each statement. For example: <u>Megacities in Europe and America will continue to grow due to rural–urban migration</u> – developed countries are generally highly urbanised and rural–urban migration to urban areas will lead to their growth. This is likely to be faster than rural–urban migration in the country. <u>The number of megacities will continue to increase in Africa and Asia</u> – rural–urban migration continues in Africa and Asia have high proportions of rural population and are developing so it is likely that there will be a lot of people moving to urban areas. As the standard of living improves in rural areas, people will have more opportunities to make an income that urban areas provide.</p>

2.3 Task

- (a) AO1 Credit 1 mark for recording each of the three points plus 1 mark for each explanation.
(b) AO2 Credit 1 mark for each correct advantage and disadvantage.
(c) AO2 Credit 1 mark for correct identification of political, economic and social influences.

Key: **P** = Political influences **E** = Economic influences **S** = Social influences

*Relevant arguments for the extension

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Advantages of urban primacy		Disadvantages
<p>The city has better services than the surrounding area and other towns and cities – this attracts new business.</p> <p>*New business generates wealth for the economy of the country.</p>	E	<p>The city grows wealthy but does not share this wealth with the surrounding areas. People who live there will get poorer.</p> <p>*There is a danger that the wealth generated in the city is not shared with the surrounding areas, which is affecting the economy of the country and the people who live there.</p>
<p>Migration into the city from the surrounding areas creates a large labour force for the city's new businesses.</p>	E	<p>People living in other parts of the countryside may feel that they are being left behind by what is happening in the city. They may feel disenfranchised, forgotten.</p>
<p>The economic multiplier effect (i.e. more jobs creates more wealth, creates a larger market, creates more jobs, etc.) means that development spreads out into rural and urban areas surrounding the city.</p> <p>*The multiplier effect is creating economic growth and this is spreading out into other parts of the country.</p>	E	<p>Individuals from minority groups and other urban areas may feel that they are being left behind by what is happening in the city. They may feel disenfranchised, forgotten.</p>
<p>The wide range of people from all walks of life and all different backgrounds makes people more tolerant of one another. Women and ethnic minority groups are more likely to prosper in the city.</p>	S	<p>People move to the city from rural areas, creating a shortage of labour in rural areas.</p> <p>*The economies of rural areas struggle to grow.</p>
<p>The city is well connected to other urban areas by rail and road. Because it is easy to get goods into and out of the city, the surrounding areas benefit from trading with the city and beyond.</p> <p>*Good links to other parts of the country mean that the primate city encourages growth there too.</p>	E	<p>Having transnational companies in the city may mean that other parts of the country are overlooked when opportunities for investment arise.</p>
<p>The city's good transport links to the rest of the world, enabling goods to be imported into and out of the country. This could be through an international airport, port or railway station.</p>	E	
<p>Improved rights for women and minority groups in the city can lead to changes in legislation and work practices that improve the lives of people living in other parts of the country.</p>	S	
<p>The city is the financial centre of the country. If it grows large enough it will become the financial centre of the global region, attracting more investment from private companies, more jobs and more wealth to the country.</p> <p>*More companies and jobs means more economic growth for the country.</p>	E	
<p>People in positions of power live and work within the city – these may be politicians working in the national government or heads of major companies, transnational companies, that have influence on the economy.</p>	P	
<p>Transnational companies decide what goods and services will be produced within the city and what will be exported. If a TNC locates in your city it will bring economic growth and employment to the city.</p> <p>*If the economy of the city grows then the economy of the country will grow.</p>	E	

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Extension 2.3.1

AO3 Award 1 mark for each of the following – marks should be awarded progressively, an argument against the judgement is not introduced.

Mark	Answer
1	Summarises a judgement
2	Gives an argument in support of the judgement
3	Gives an argument against the judgement
4	Explains the supporting argument further
5	Explains why the argument against the judgement is not as important as the supporting argument
6	Gives facts to support the arguments for and against
7	More than one argument in support of and against the judgement
8	Considers how the answer might be different in a different situation or under different circumstances

Relevant arguments are outlined in the table above with a *

2.4 Plenary

City	Growth rate per day (people per 24 hrs)	Annual growth rate (people per year)	Decadal growth (people per 10 years)
Africa			
Johannesburg	48	17,520	175,200
Kinshasa	1,512	551,880	5,518,800
Lagos	2,040	744,600	7,446,000
Asia			
Jakarta	648	236,520	2,365,200
Tokyo	-24	-8,760	-87,600
Shenzhen	360	131,040	1,310,400
Shanghai	1,272	464,280	4,642,800
Dhaka	1,776	648,240	6,482,400
Delhi	1,008	367,200	3,672,000
Kolkata	576	210,240	2,102,400
Mumbai	1,224	446,760	4,467,600
Hong Kong	96	35,040	350,400
Manila	696	254,040	2,540,400
Europe			
Istanbul	456	166,440	1,664,400
Berlin	24	8,760	87,600
London	216	78,840	788,400
North America			
New York	240	87,600	876,000
Mexico City	528	192,720	1,927,200
South America			
Sao Paulo	432	157,680	1,576,800
Rio de Janeiro	240	87,600	876,000

Students should observe that largest growth is occurring in cities in Africa and Asia. There are very few large cities in developed countries. Tokyo is a small city at present.

Extension

Reasons for growth include: rural-urban migration, industrialisation, international migration. Note that the rate of growth may change due to changing circumstances.

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Lesson 3 Overview: Why cities are



Learning questions: What causes the growth and decline of cities around the world?

New key terms: socio-economic, internal migration, international migration

Associated Task Sheet: 3 – pages 47 – 50

Associated PowerPoint file: Lesson 3.ppt

3.A Preparation

Worksheet and resources for photocopying:

For event	Description	Page(s)	Photocopies required
3.1	Cut-out-and-sort cards	51	Number of students
3.1	Rural–urban migration images	52 – 53	Copy duplex: Number of students =
3.2	Changing cities information sheet	54 – 55	Number of students
3.2	Economic influences on migration	56	Number of students
3.3	'Call my bluff' cards – two sheets	57 – 58	One copy to card of

Other resources you may need to provide:

✓ Glue, stapler or hole punch to attach worksheets

3.B Individual student planning

Use this section to tailor your lesson plan for individual students in your class.

	Student	Detail of action
G&T		
SEN		
EAL		
Other		

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3.C Teaching and learning plan

Suggested time	Event	Instructions	Student work
10 mins	3.1 Starter	<p>Instruction to students: working independently, match the correct country to the images to discover the socio-economic reasons why people migrate from rural to urban areas.</p> <p>Teaching strategy: develop student knowledge of the reasons why people move from rural to urban areas by asking questions, e.g. would this make you want to live in the countryside? Would it make you want to live in the city?</p> <p>Learning outcome: All: know some examples of the reasons for rural–urban migration. Most: understand that some are pushing people out of rural areas and some pulling them to the city. Some: can suggest whether these factors are unique to developing, emerging or developed countries or whether they might apply in more than one, or all.</p>	Rural–urban migration images Cut-out sort cards
30 mins	3.2 Task	<p>Instruction to students: working independently, read the information sheet and answer the key questions.</p> <p>Teaching strategy: develop student knowledge and understanding by reading the information sheet as a class and identifying key points for discussion. Clarify the concepts and keywords. Model methods of note-taking for comprehension by (i) noting key definitions, e.g. ask what is internal or national migration, how is this different to international migration, what is a knowledge economy; (ii) drawing a flow chart to make the multiplier effect visual; and (iii) creating a mind map (e.g. four points) of why the economy of a city may decline. Encourage students to refer to your notes as well as the information sheet when answering the questions.</p> <p>Learning outcome: All: know how the growth and decline of urban areas can be caused by economic change and migration. Most: understand how economic differences vary between developing, emerging and developed countries. Some: identify the differences between reasons for migration to urban areas in developed and developing countries and the role of economic change in creating these.</p>	Changing cities information sheet

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Suggested time	Event	Task instructions	Student work
20 mins		<p>Instruction to students: In teams of 3 or 4, play 'Call my bluff'. There are several definitions to play. Determine which definition is correct: national migration, international migration, rural-urban migration. Definitions include: global shift, counter-urbanisation, re-urbanisation, multiplier effect.</p> <p>Teaching strategy: develop student understanding by directing the game and encouraging students to question how the definitions relate to their previous knowledge.</p> <p>Learning outcome: All: recognise definitions of keywords introduced during the lesson. Most: are able to reason why alternative definitions are bluffs.</p>	'Call my bluff' cards

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Lesson 3: Why cities are changing

Learning question: What causes the growth and decline of cities around the world?

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3.1 Starter


Using Worksheet 3

(a) match the captions and images

(b) indicate which are push or pull factors

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Rural road networks



The road from the village is very poor and in need of repair

PUSH factors – out of the countryside

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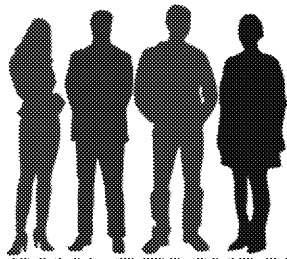


Desertification is the loss of anything that once made the land fertile

PUSH factors – out of the countryside

© Zig Zag Education, 2017

Job opportunities




HUMAN RESOURCES

There are more opportunities for better-paid jobs in the city

PULL factors – into the city

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There are more schools in the city

PULL factors – into the city

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Urban healthcare



The city has a large hospital with many qualified doctors and nurses

PULL factors – in to the city

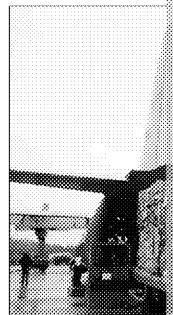


PUSH factors – out of the countryside

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Malnutrition



If crops fail in rural areas, as there is no money to buy food, people can become malnourished

PUSH factors – out of the countryside

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Subsistence farming



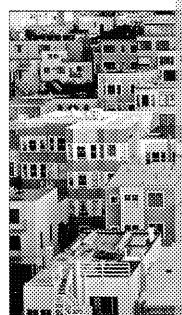
Subsistence farmers have no money. They grow their own food and keep a few animals for eggs, milk and meat.

PUSH factors – out of the countryside

PULL factors – in to the city

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Edexcel B GCSE Topic 3: Challenges of an urbanising world



The houses have electricity and running water

PULL factors – in to the city

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Transport systems



There are buses, trams and trains in the city so it's easy to get around

PULL factors – in to the city

PUSH factors – out of the countryside

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There are few qualified people to drive buses, so people have to wait for a long time

PUSH factors – out of the countryside

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Farming



Farming is hard work but you can make much money

PUSH factors – out of the countryside

PULL factors – in to the city

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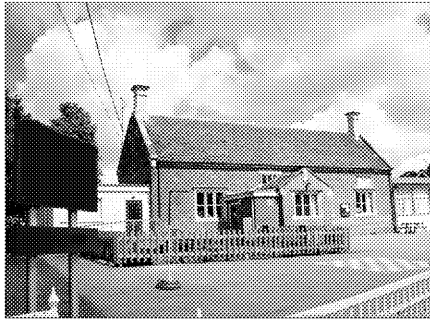


Many of your friends live in the city

PULL factors – in to the city

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Rural education



In the countryside it can be difficult to get to school and you may have to travel a long distance.

PUSH factors – out of the countryside

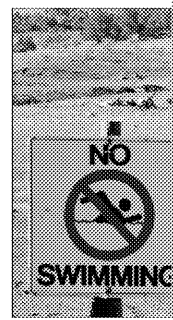
PULL factors – in to the city

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Edexcel B GCSE Topic 3: Challenges of an urbanising world



Drowning



When a natural disaster strikes, many people are killed.

PUSH factors – out of the countryside

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Entertainment



The city has lots of different entertainment and leisure facilities – theatre, cinema, sports centres

PULL factors – in to the city

PULL factors – in to the city

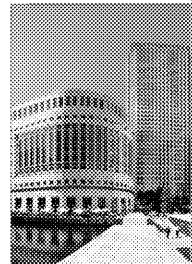
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Edexcel B GCSE Topic 3: Challenges of an urbanising world



3.2 Task

Use the 'Changing cities' information sheet to answer the following questions. Write your answers in the spaces provided. Use them to revise. Use the number of marks to guide you on how much detail to give.




In geography we often refer to **skilled and experienced** workers. Skilled workers have attained some specialist knowledge or training. Industries require both types of worker to be successful.


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- People cannot make a living in rural areas
- Unskilled workers can make money in the informal economy of the city
- There are many new industries creating jobs for skilled and unskilled workers.
- As the economy of the city grows, more buildings and roads are needed – the booming construction industry provides opportunities for employment.
- Jobs in the city pay better than rural areas so migrants expect a better standard of living.
- The city is attracting a new infrastructure – water, electricity, transport, and road systems – which make it more attractive to TNCs.
- Unskilled workers are attracted to the city by the promise of a better life.





- Expansion of city centres means there are attractive and pleasant opportunities for employment.
- Some cities feel they cannot move on their reliance on informal urban jobs. This is why many cities are struggling.
- Industries are closing down, people must look for a new source of income.
- The city is struggling to keep up with the demand for housing, transport, and other services.
- The city is struggling to keep up with the demand for housing, transport, and other services.

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Edexcel B/Edexcel Challenge of an Urbanising World

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3.3 Plenary

To play:

1. Choose any two teams to start.
2. Each player from the first team goes aloud to the class (don't reveal).
3. The opposing team may confess.
4. When the team has made their truth the rest of the class should guess the team and thumbs down.
5. Your teacher will count the number of votes that were cast in agree or blue team.
6. When the card is revealed, the team with the most votes wins.
7. The two teams should then swap roles.
8. When both teams have played, the class should discuss the game.

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Task Sheet 3: Why cities are c



Learning questions: What causes the growth and decline of cities around the world?

New key terms: socio-economic, internal migration, international migration

3.1 Starter

Write or stick the caption next to the photo image to discover the socio-economic reasons why people migrate from rural to urban areas. Using the key indicate which factors are pushing people from rural areas and which are pulling people towards urban areas.



Push factors
leave where

Pull factors
live in the city

Extension 3.1.1

Use symbols to indicate which of these factors would apply in a developing country. The answer could be all or more than one. Complete the key to the symbols mean.

Adverse weather conditions can cause crops to fail.	There are more opportunities for better-paid jobs in the city.
The city has lots of different entertainment and leisure facilities – theatre, cinema, sports centres.	Narrow dirt tracks may be the only way in and out of the village.
There are few qualified doctors and nurses in rural areas. People travel many miles to see a doctor.	In the countryside it can be difficult to get to school and you may have to travel a long distance.
Many people you already know are about to live in the city.	Except in slum areas, most buildings have electricity and running water and are well built.
The climate is so dry that the land is turning to desert. You can't grow anything and your animals starve.	There are more schools and universities to choose from in the city.

KEY

	Push factors – out of the countryside			Pull factors – into the city
	Developing		Emerging	



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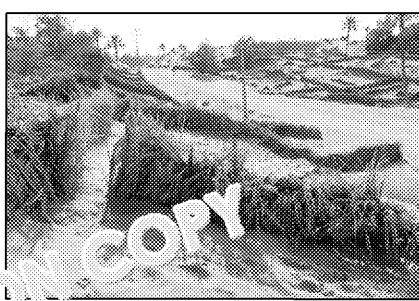


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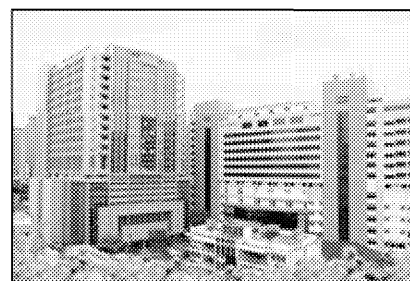
Rural road network



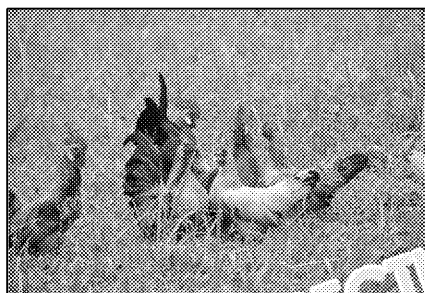
Desertification



Higher education



Urban healthcare



Community sports



Good-quality housing



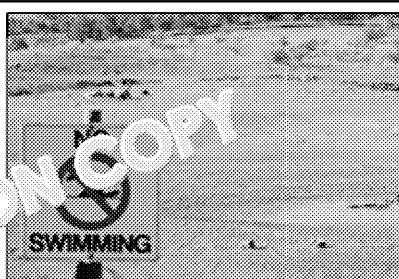
Rural healthcare



Farming



Primary education



Drought and natural disaster

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3.2 Task

Use the 'Changing cities' information sheet to answer the following questions. You can use them to revise. Use the number of marks to work out how much

- (a) Economic change often leads to migration and urban growth. Identify the statement that best describes the meaning of economic change.
- The increasing wealth of a country
 - The process by which a country urbanises
 - A transformation in the way money is generated within a country
 - The money that is left over after the country has spent its budget
- (b) Where would you be most likely to find a knowledge-based economy attracting skilled workers?
- In a city in an emerging country that has lots of universities
 - In a city in a developed country that has attracted many low-skilled workers
 - In a city in a developing country that has benefited from the global shift to services
 - In a city in a developed country where the economy has a specialised sector
- (c) (i) Define rural–urban migration.
(ii) Name two reasons why people might be attracted to an urban area.
(iii) Explain why people might want to leave the countryside to move to a city.
- (d) (i) Describe the de-multiplier effect of economic decline.
(ii) Explain why cities in developed countries suffer de-industrialisation.
(iii) Suggest how regeneration leads to international migration to a city in a developed country.
- (e) (i) Sort the reasons for growth and economic influences on migration in order of importance. Look out for the red herring.

Tip: When you suggest a reason you must include what you are saying. Try to make your point, e.g. could you give examples to support your reasoning?

Economic influences on migration in developing countries	Economic influences on migration in emerging countries

The city has already industrialised and grown rapidly. Growth will continue for another decade although rural–urban migration is expected to slow down as the country becomes increasingly urbanised.	Some cities are declining due to deindustrialisation or counter-urbanisation.
Low-skilled internal and international migrants are attracted by: <ul style="list-style-type: none"> opportunities for employment in the construction industry improvements in living conditions in the urban poor jobs in the service sector working in low-skilled jobs for TNCs 	The city attracts increasing numbers of skilled international migrants to the tertiary sector services. They are attracted to work for TNCs which have been drawn to the city by its recent investment in infrastructure (ports, airports and road systems) and established industrial zones.
Low-skilled international migrants are attracted by higher wages and opportunities to work.	Internal and international migration brings highly skilled workers to work in specialist areas of the economy.

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- (ii) Compare reasons for migration due to economic change in emerging countries.

In geography we often refer to **skilled and unskilled workers**. This helps to explain the type of job that a person has, how much they will be paid and what their status is. Skilled workers have attained some specialist knowledge or expertise either through training or experience. Unskilled workers are those who do jobs that the industries require both types of worker to be successful.

Extension 3.2.1

Cities in developing and developed countries are at various stages of growth. This means that the types of job that attract people to them vary. Assess the changes responsible for the growth of cities in developed and developing countries.

Tip: When you are asked to assess the extent of something you should (1) make a judgement; (2) back it up by identifying points that support what you say; (3) say why it is so important. In this case you may want to say it's totally true, totally false or something in between, but you must show there are reasons for your judgement.

For this question talk about the economic advantages of the primate city to the country. What are the disadvantages? Say which set of arguments you believe outweighs the other. To back up your ideas. Finish by saying how things might be different if the situation was different city or if there were different conditions, such as the economy going into a recession.

3.3 Plenary

You are going to play a version of 'Call my bluff'. Prepare the eight new keywords on the cards provided. Divide yourselves into groups of three or four. Each group will be assigned a keyword. You can create your own definition for the keyword you have been assigned. You must not use the same definition as those on the cards provided by your teacher. Be very careful not to reveal what you are saying to anyone in the class.

1. Choose two teams to start the game.
2. Each player from the first team should read the definition for their keyword (whether it is a truth or a bluff!).
3. The opposing team may confer to decide which definition is the truth.
4. When the team has made their guess of which of the opposing team is telling the truth, they should cast a vote – thumbs up in agreement with the guessing team and 'bluffing' team.
5. Your teacher will count the number of thumbs up and thumbs down.
6. When the card is revealed, the team who has won the round scores the number of thumbs up in agreement with them – allocate the points to the red or blue team.
7. The two teams should then swap roles to play a new round based on a new keyword.
8. When both teams have played swap around to let another two teams get started.

Continue until all four rounds have been played or run out of time!

National migration	International migration	Rural–urban migration
Deindustrialisation	Counter-urbanisation	Re-urbanisation

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Cut-out-and-sort cards (Starter 3.1)

Make as many copies as students/3 – cut out and give one set to each student

Adverse weather conditions can cause crops to fail.	There are more opportunities for better-paid jobs in the city.
The city has lots of different entertainment and leisure facilities – theatre, cinema, sports centres.	Narrow dirt tracks may be the only way in and out of the village.
There are few qualified doctors and nurses in rural areas. People travel many miles to see a doctor.	In the countryside it can be difficult to get to school and you may have to travel a long distance.
Many of the people you already know and care about live in the city.	Except in slum areas, most buildings have electricity and running water and are well built.
The climate is so dry that the land is turning to desert. You can't grow anything and your animals starve.	There are more schools and universities to choose from in the city.



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Rural-urban migration images (Starter)

Copy duplex – make as many copies as students – give one to each student

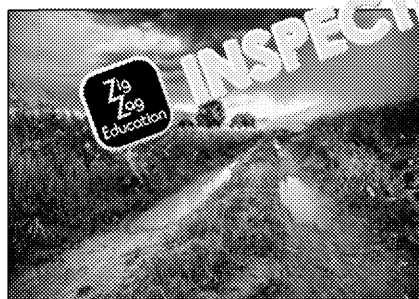
KEY

PUSH factors – out of the countryside

PULL factors – into the city

Developing

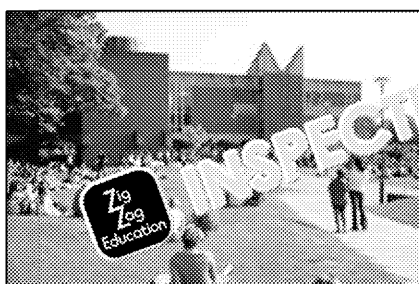
Emerging



Rural road networks



Desertification



Higher education



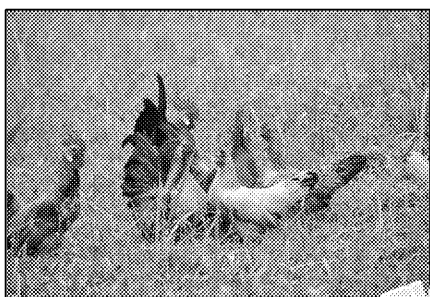
Urban healthcare

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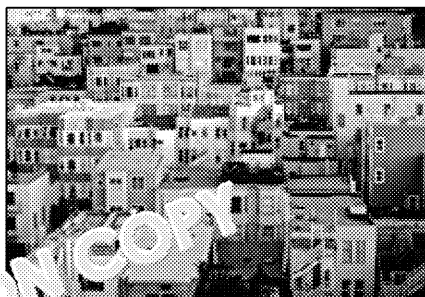
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Subsistence farming



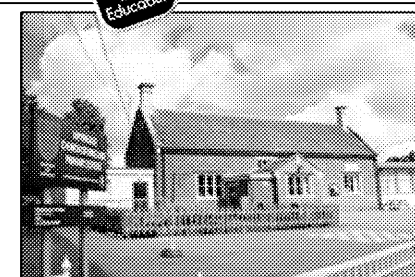
Good-quality housing



Rural healthcare



Farming



Rural education



Drought and natural disaster

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Changing cities information sheet (Task 1)

Make as many copies as students/2 – give students one between two

People move to towns and cities for different reasons depending on their personal circumstances. Some arrive from other towns and cities, some from villages and towns, some because of persecution or war or simply looking for a better job. Some people come from other countries (**national migration**) while others come from other countries (**international migration**) on the same continent.

One of the most significant causes of migration across all cities of the world is the growth of secondary and tertiary industries. As manufacturing and service industries grow (i.e. secondary and tertiary industries mechanise, meaning fewer jobs in farming, forestry and mining), people move to the city to find work in the factories and offices of the city. The migration of people from rural areas to the city is called **rural-urban migration**.

Urban areas make the most efficient locations for secondary and tertiary industries. They have a large, skilled workforce and a large market. They create jobs, providing opportunities for a better income and standard of living, and offer social opportunities (because there is a better healthcare). As more people are attracted to live in urban areas, more jobs are created, and so more resources they need, and so more jobs are created, attracting more people.

As a city's economy evolves, quaternary-sector industries may develop in specialised areas, e.g. finance or technology. Intellectual industries congregating in the city need people with specialist skills and qualifications and will attract people from all over the world. This is a **knowledge economy**. As the economy changes, wages rise and more people are attracted to work in that country.

When the economy of a city declines, people move away to find jobs and a better quality of life in other towns and cities. The economy may start to decline for a number of reasons:

1. A major employer in the city closes or makes redundancies (**deindustrialisation**). This might be for the following reasons:
 - Its offices and factories are relocated to where labour is cheaper – many manufacturing and services from developed countries to emerging countries, e.g. from the UK, clothing manufacturing has moved to China, call centres to India, etc. This is called the **global shift**.
 - It mechanises more of its processes, meaning fewer staff are needed.
 - The industry goes into decline and/or the company goes bankrupt, e.g. steel production in Sheffield, UK.
2. Natural disaster causes so much damage to the city that businesses cannot operate, e.g. New Orleans, USA still feeling the physical, economic and cultural effects of Hurricane Katrina (2005).
3. Changes to the transport network mean people no longer need to travel through the city to get in, out or around the country, e.g. Buffalo, USA where the population has declined 50% since air travel became cheaper and the railways declined.
4. People become more affluent and move out of the city for a better quality of life living in commuter settlements (**counter-urbanisation**), leaving only the poor to pay the city's taxes – the city cannot afford to pay for services and may go bankrupt.

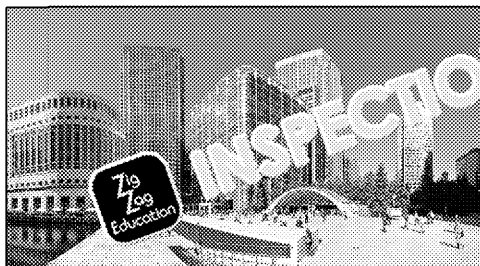
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Just as the multiplier effect can create a cycle of increasing wealth and growth, the economic decline of a city can follow a similar but opposite cycle (a de-multiplier effect). The wealthy leave first because they have the means to do so and can find alternative work. Income that they would generate leaves the city and the local authority struggles to provide services. As more people leave, the city becomes less attractive and people cannot find work and their quality of life declines.



London Docklands, previously the site of derelict warehouses, has been regenerated into a thriving new business district.

In some cities the regeneration of derelict areas is called **urbanisation**. New businesses are attracted to the regenerated buildings or attractive areas. The Docklands financial district, UK. New green space attract people back to the city.

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Economic influences on migration (Task)

Make as many copies as students/2 – cut out and give one set to each student

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<p>The city has already industrialised and grown rapidly. Growth will continue for another decade although rural–urban migration is expected to slow down as the country becomes increasingly urbanised.</p>	<p>Some cities are declining due to deindustrialisation or counter-urbanisation.</p>
<p>Low-skilled internal and international migrants are attracted by:</p> <ul style="list-style-type: none"> opportunities for employment in the construction industry improvements in living conditions for the urban poor jobs in the service sector working in low-skilled jobs for TNCs 	<p>The city attracts increasing numbers of skilled international migrants as the tertiary sector develops. They are attracted to work for TNCs which have been drawn to the city by its recent investment in infrastructure (ports, airports and road systems) and established industrial zones.</p>
<p>Low-skilled international migrants are attracted by higher wages and opportunities to work.</p>	<p>Internal and international migration brings highly skilled workers to work in specialist areas of the economy.</p>



<p>The city has already industrialised and grown rapidly. Growth will continue for another decade although rural–urban migration is expected to slow down as the country becomes increasingly urbanised.</p>	<p>Some cities are declining due to deindustrialisation or counter-urbanisation.</p>
<p>Low-skilled internal and international migrants are attracted by:</p> <ul style="list-style-type: none"> opportunities for employment in the construction industry improvements in living conditions for the urban poor jobs in the service sector working in low-skilled jobs for TNCs 	<p>The city attracts increasing numbers of skilled international migrants as the tertiary sector develops. They are attracted to work for TNCs which have been drawn to the city by its recent investment in infrastructure (ports, airports and road systems) and established industrial zones.</p>
<p>Low-skilled international migrants are attracted by higher wages and opportunities to work.</p>	<p>Internal and international migration brings highly skilled workers to work in specialist areas of the economy.</p>



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'Call my bluff' cards – Sheet 1 (Plenary)

Make one copy to card or paper – cut out, fold and give one to each student

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<p>National migration is the movement of people within a country.</p> <p>Fold</p> <p></p> <p>True</p>	<p>National migration is the movement of people within a country.</p> <p>Bluff</p>	<p>National migration is the movement of people between countries within a global area.</p> <p>Bluff</p>
<p>International migration is the movement of people across national borders.</p> <p>Fold</p> <p>True</p>	<p>International migration is the movement of foreign people.</p> <p>Bluff</p>	<p>International migration is the movement of people in to a country.</p> <p>Bluff</p>
<p>Rural-urban migration is the movement of people from the countryside to towns and cities.</p> <p>Fold</p> <p>True</p>	<p>Rural-urban migration is the movement of people from towns and cities to the countryside.</p> <p>Bluff</p>	<p>Rural-urban migration is the movement of people from rural areas to villages.</p> <p>Bluff</p>
<p>Deindustrialisation is the decline of manufacturing industries in an area or the economy.</p> <p>Fold</p> <p></p> <p>True</p>	<p>Deindustrialisation is the urban decline of an area after a natural disaster.</p> <p>Bluff</p>	<p>Deindustrialisation is what happens when people move out of a city.</p> <p>Bluff</p>

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'Call my bluff' cards – Sheet 2 (Plenary)

Make one copy to card or paper – cut out, fold and give one to each student

<p>Global shift describes the relocation of industries from developed to developing or emerging countries.</p> <p>Fold</p> <p></p> <p>True</p>	<p>Global shift describes the relocation of manufacturing industries from developed or emerging countries.</p> <p>Bluff</p>	<p>Global shift describes the relocation of service industries from emerging to developed or developed countries.</p> <p>Bluff</p>
<p>Counter-urbanisation is the movement of people out of a city, usually for better quality of life.</p> <p>Fold</p> <p>True</p>	<p>Counter-urbanisation is when there are many more people in the city to count.</p> <p>Bluff</p>	<p>Counter-urbanisation is the change in the number of people in a city that are important.</p> <p>Bluff</p>
<p>Re-urbanisation is the movement of people back into inner city areas.</p> <p>Fold</p> <p>True</p>	<p>Re-urbanisation is the rebuilding of the city from the centre out.</p> <p>Bluff</p>	<p>Re-urbanisation is the improvement of inner city areas.</p> <p>Bluff</p>
<p>Multiplier effect describes the cycle of increasing urban growth as more people move to the city.</p> <p>Fold</p> <p></p> <p>True</p>	<p>Multiplier effect describes how more people in the city than ever before.</p> <p>Bluff</p>	<p>Multiplier effect describes how increasing numbers of people in a city make resources scarce.</p> <p>Bluff</p>

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Lesson 3: Answers

Abbreviation of Assessment Objectives (AOs)

1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

3.1 Starter

AO1 and 2

Key: Dd – developed country; E – emerging country; Dg – developing country

		Image description
A	Rural road networks	Rural road, location unknown – roads often deteriorate by wear and tear rather than come up to standard. There is not enough money to do so. This means they are prone to flooding during wet seasons and makes access for large vehicles difficult. In HICs, rural areas can be difficult to access as small amount of traffic makes commercial vehicles unprofitable.
B	Desertification	Desert overrunning farmland, Tinfu, Morocco – desertification occurs as a result of poor land management.
C	Job opportunities	Human resources graphic
D	Higher education	Students at University of Sussex, UK
E	Urban healthcare	Bumrungrad International Hospital, Bangkok, Thailand – major city hospitals often attract skilled doctors and staff from across the world.
F	Malnutrition – international aid	Food Aid shipment being loaded for distribution to areas of famine – malnutrition is common in rural areas when crops fail. They are further from resources if there is a breakdown of food, e.g. during war.

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		Image description	PUSH/	DD.
G	Subsistence farming	Small flock of free-range chickens – subsistence farming is still the main occupation of many rural areas in some areas of LICs and NEE. People live on what they can grow, keep small numbers of livestock for milk and meat, and have little disposable income.		
H	Good-quality housing	Densely packed high-quality housing, location unknown – when people live together it is more and more efficient to use energy and water as they don't have to be distributed over large distances.		
I	Public transport systems	Tram in Strasbourg, France – public transport is more cost-effective in an urban area because it allows people to use it over a smaller distance. It also helps reduce congestion on the roads.		
J	Rural healthcare	Building with sign in Hindi script is Shalini Hospital in Hutup village, East India – lack of resources means such hospitals are not well resourced or staffed.		
K	Farming	Rice farmers planting rice crops – Asia, exact location unknown – in LICs, agriculture often still involves working with hand tools. In rural areas in HICs machinery is available. The costs mean small-scale farmers find it difficult to make a profit compared to large-scale.		
L	Friends and family	Friends walking in the sunshine – people will migrate for exactly the reasons outlined in the task. News of their success may encourage others to migrate themselves.		
M	Rural education	Rippingale village school, Leicestershire, UK – this school has since closed and been redeveloped into flats. There were no children in the village and surrounding area. Local children must now travel to school.		
N	Drought and natural disaster	Dry up water hole, South Australia – lack of water makes it hard to grow crops or make a living. Natural disasters around the world (e.g. earthquake, flood or hurricane) destroy homes and livelihoods and cause mass migration.		
O	Entertainment	Broadway posters – because there are lots of people in urban areas, entertainment and leisure businesses can make a profit. This includes restaurants, theatres and sports facilities.		

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3.2 Task

Question	AO	Answer
(a)	AO1	iii. A transformation in the way money is generated within a city.
(b)	AO1	iv. In a city in a developed country where the economy has a service sector.
(c)(i)	AO1	Rural–urban migration is the movement of people from rural areas (towns or cities).
(c)(ii)	AO2	1 mark for each reason – any two PULL factors from the table from the start of the 20th century.
(c)(iii)	AO2	1 mark for each of four reasons or 1 mark for each of two reasons. Answers could include any PUSH factors from the table from the start of the 20th century.
(d)(i)	AO1	1 mark for each part of the definition – brief summary/detail: <i>A consequence of economic decline is that it creates more economic problems for the city to find work or better quality of life elsewhere, they no longer have the resources which in turn leads to loss of more jobs so more people move away.</i>
(d)(ii)	AO2	Three reasons should be identified (1 mark each) and developed using the information sheet: A major employer in the city closes or makes redundancies (define this). It could be because: <ul style="list-style-type: none"> Its offices and factories are relocated to where labour is cheaper. Companies have relocated manufacturing and services from developed to emerging and developing countries, e.g. from the UK, clothing to China, call centres have moved to India. This is called the globalisation of the economy. It mechanises more of its processes, meaning fewer staff are needed. This happened in the car industry in Detroit, USA. The industry goes into decline on its own. The company goes bankrupt. This happened in the shipbuilding industry in Glasgow, UK, and steel production in Sheffield, UK.
(d)(iii)	AO3	1 mark for reason and 1 mark for justification or an example. <u>Regeneration in cities creates job opportunities for unskilled workers</u> , e.g. in the construction industry. International migrants are unskilled and so can find work where there are jobs. <u>Regeneration often involves building offices, suggesting tertiary sector jobs.</u> These may be specialist industries which require skilled workers. Developing countries may be attracted to these jobs. <u>Regeneration creates economic wealth</u> , which supports a society with a high quality of life and high wages. International migrants are attracted to these jobs.

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- (e) (i) AO2 Credit 1 mark for each correct statement up to 8 marks.

Economic influences on migration in developing countries	Economic influences on migration in emerging countries
<p>Internal migrants are attracted by:</p> <ul style="list-style-type: none"> opportunities in informal economy. People can set up or work for 'unofficial' businesses and avoid paying tax. jobs in construction created by investment in infrastructure new industries, e.g. factories being built by TNCs 	<p>Low-skilled internal and international migrants are attracted by:</p> <ul style="list-style-type: none"> opportunities for employment in the construction industry improvements in living conditions for the urban poor jobs in the service sector working in low-skilled jobs for TNCs <p>The city attracts increasing numbers of skilled international migrants as the tertiary sector develops. They are attracted to work for TNCs which have been drawn to the city by its recent investment in infrastructure (ports, airports and road systems) and established industrial zones.</p>

- (ii) AO2 Credit 1 mark for similarity, 1 mark for a difference and 1 mark for statement.
- Similarities:** Both attract low-skilled internal migrants, both attract migrants who have TNCs attracting migrants (although for different types of work).
- Differences:** The developing country is not yet attracting large numbers of skilled international migrants. TNCs are interested in skilled workers in emerging countries.

Extension 3.2.1

AO3 Award 1 mark for each of the following – marks should be awarded progressively if an argument against the judgement is not introduced.

Mark	Answer
1	Summarises a judgement
2	Gives an argument in support of the judgement
3	Gives an argument against the judgement
4	Explains the supporting argument further
5	Explains why the argument against the judgement is not as important as that in support of it
6	Gives facts to support the arguments for and against
7	Gives more than one argument in support of or against the judgement
8	Outlines how the answer might be different in a different situation or under different circumstances

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Examples of arguments that could be included, *and further explanation*:

Arguments for	Arguments against
<p>Economic growth creates job opportunities which attract people to live in the city – <i>they are looking for higher incomes to improve their quality of life.</i></p> <p>Economic change offers a range of jobs for skilled and unskilled migrants. <i>As the economy changes different industries establish, e.g. manufacturing, technology. Opportunities become available for unskilled workers.</i></p>	<p>People migrate to cities for a number of push and pull factors. <i>Students may migrate in the starter activity.</i></p> <p>Some people migrate to cities for a better quality of life or there has been a natural increase in their homes. <i>They are not looking for any kind of work they do. They mean doing work they are used to.</i></p> <p>Some people have a choice of where they do a sort of work they do. <i>They migrate to may be more</i></p>

3.3 Plenary

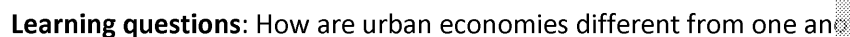
Answers for the keyword definitions are on the True cards.

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Associated Task Sheet: 4 – pages 56 – 71
Associated PowerPoint file: 4 – screen 4.pptx

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For event	Description	Page(s)	Photocopies required
4.2	Urban economies cards	72	Number of students
4.2	The urban economy sort sheet	73	Number of students
4.3	Informal economy statement	74	Number of students



4.B Individual estate planning

	Student(s)	Detail of action
G&T		
SEN		
EAL		
Other		

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4.C Teaching and learning plan



Suggested time	Event	Task instructions	Student worksheet
10 mins	 4.1 Starter	<p>Instruction to students: <u>working as a class</u>, compare and contrast the images of the urban economies in developed, emerging and developing countries.</p> <p>Teaching strategy: <u>develop student understanding</u> by asking questions, e.g. what work goes on here? How do people make money? What might be happening in this city that can't be seen in the photograph? (Images are New York, USA – developed country; Bangkok, Thailand – emerging country; Dar es Salaam, Tanzania – developing country).</p> <p>Learning outcome: All: identify differences between the urban economies visible in the three images. Most: can make reasoned suggestions as to which image shows which type of country. Some: recognise that the photographs may not reveal all there is to see in those cities.</p>	None
20 mins	 4.2 Task	<p>Instruction to students: <u>work in pairs</u>, sort the statements about the structure of the urban economy into those relating to developed, emerging and developing countries, summarise your findings and identify the differences.</p> <p>Teaching strategy: <u>develop student understanding</u> and application by asking questions that relate to past learning about the stages of economic development, e.g. how are the economies of developed, emerging and developing countries different from one another? What sectors of the economy would you expect to find most developed in urban areas?</p> <p>Learning outcome: All: describe the urban economy of developed, emerging and developing countries. Most: identify and explain the differences between them. Some: suggest reasons why there may be variation between countries within these groupings.</p>	Urban economies cards The urban economy sort sheet



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Suggested time	Event	Task instructions	Student worksheet
20 mins	 4.3 Task	<p>Instruction to students: Working independently identify the correct words in the paragraph defining the informal economy and write a similar paragraph to define the formal economy. Justify your judgement as to whether you agree or disagree with the statement '<i>The informal economy is vital for the urban poor in developing and emerging countries</i>'.</p> <p>Teaching strategy: <u>develop student knowledge</u> by supporting the identification of opposite conditions to the informal sector statement.</p> <p><u>Develop student application</u> by helping students structure their justification of their decision.</p> <p>Learning outcome: All: know what the formal and informal economy are and their key characteristics. Most: understand how the two parts of the economy are different and related. Some: can give reasoned arguments as to why the informal sector is or is not important for the people in emerging and developing countries.</p>	Statement about the informal economy
10 mins	 4.4 Plenary	<p>Instruction to students: Watch one of the videos then <u>work as a class</u> to discuss the video (or both if time allows) the questions – can protesting be different to whether governments of emerging and developing countries improve quality of life? How can governments protect people working in the informal economy without taking away this vital opportunity for them to make an income or damaging the formal economy?</p> <p>Teaching strategy: <u>develop student application</u> by helping students identify relevant knowledge and understanding from the lesson in relation to the role of the informal economy in people's lives.</p> <p>Learning outcome: All: know that poor people need to find work and that the informal economy arises out of government's lack of control of economic growth. Most: recognise the importance of the informal economy to the urban poor in emerging and developing countries. Some: understand the implications of tackling the informal economy on the lives and the formal economy.</p>	None



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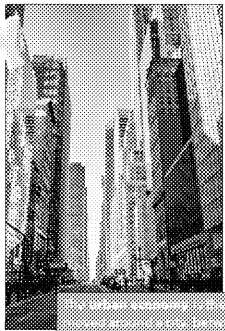
Lesson 4: Economies of cities

Learning question: How do urban economies differ from one another?

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4.1 Starter



The urban economy is the backbone of a city. It involves the production, distribution and consumption of goods and services.

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4.2 Task

(a)

- There is a small informal economy, mostly in construction and catering, where migrants can find temporary work.
- Employment levels and conditions work conditions, pay and holidays. The country is rich enough to be able to generate income that does not follow the law.
- Attract investment and encourage investment. The government should attract investment from private companies to create jobs and stimulate the economy. The government should encourage investment from private companies to create jobs and stimulate the economy.

The urban economy

The urban economy is the backbone of a city. It involves the production, distribution and consumption of goods and services. The urban economy is the backbone of a city. It involves the production, distribution and consumption of goods and services.

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(b)

Urban economy	Rural economy
Secondary	Increased
Tertiary	Large (but declining)
Quaternary	None
Formal	Small
Informal	Large

(c) Emerging countries generally have a large tertiary sector, while both sectors are small in developed countries.

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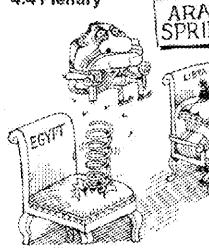
4.3 Task

The informal economy refers to people **living/working** without legal recognition. They have no contracts or employment **rights/responsibilities** that would set standards for pay (e.g. **minimum/maximum** wages or work conditions (e.g. how many **minutes/hours** a week they should work or how much holiday they are entitled to). The government has no **minimum/maximum** / **record** of how much they are earning so they **pay no taxes/bills**.

It is an unofficial economy where people are usually paid in **cash/notes** and at low rates, but it provides an **opportunity/challenge** for some people to earn an income who would otherwise struggle to get or hold down a formal job, e.g. if they have never been to **university/school** or they have **children/people** to take care of. They work for themselves **on the streets / in markets / outdoors** - trading goods, making food or offering services such as **designing/mending** things or in industries that rely on a large **skilled/unskilled** workforce, e.g. construction labourers, fruit pickers, or catering. The majority of people working in the informal economy are **women/males** and children. The informal economy is usually **larger/smaller** in developing countries than developed countries.

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4.4 Plenary



Discussion

Can protesting make a difference to the quality of life? Yes or no – why?

How can governments protect people's opportunity for them to make an income? Possible solutions – consider knock-off products.

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Task Sheet 4: Economies of



Learning questions: How are urban economies different from one another?

New key terms: urban economy, informal employment, formal employment, structures, working conditions

4.1 Starter

Compare and contrast the urban economies below by looking for signs of the urban economy. Use the correct terminology in your answer, and think about different sectors of the economy.

The urban economy is moving from people's creation to people's consumption.



4.2 Task

The structure of a city's economy depends on how developed a country is.

- Sort the statements (next page) into those relating to the urban economy of developed countries. Some statements may be relevant to more than one country (if so, write the country name in the box it should be in), some may not be relevant to any.
- Summarise what you know about the urban economies in developing, emerging, and transition economies, as below. Use the terms 'small', 'large' or 'increasing' to indicate the relative importance.

Urban economy	Developing	Emerging
Secondary		
Tertiary		
Quaternary		
Formal		
Informal		

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(c) Describe the difference between the urban economies of developing countries and developed countries.

There is a small informal economy, mostly in construction and catering, where migrants can find temporary work.	The majority of the workforce is employed in the service sector.
Employment law sets out minimum work conditions, pay and holidays. The country is rich enough to be able to prosecute businesses that do not follow the law.	Industry is well established and benefits from tax breaks, cheap energy and good working conditions.
Although there is a large informal economy in the city (including a large tertiary sector), a significant proportion of the work in the informal economy is made up of people living from making, selling or mending things. There is a growing number of skilled middle-class residents.	The city's formal economy includes high-paying sector jobs, e.g. doctors, and government and private companies. Over the long term, the tertiary sector, most of the jobs.
The large informal economy includes independent entrepreneurs with small shops, health and beauty services, street vendors selling food, etc. It would take a lot of government resources to keep track of all activities.	A large proportion of the workforce is unskilled. They are concentrated in the inner city areas. They make a living by doing low-paying jobs. They can't earn enough to live on.
The majority of people work in the tertiary and quaternary industries. There is only a small amount of manufacturing in the cities, most of which has closed down or moved to where there is a cheaper workforce.	Almost all workers are employed in the service sector. There is some variation between cities (lower in regions with a large manufacturing sector compared to those with a small one).
The tertiary sector is growing fast as financial, technology and service industries are attracted by the growing skilled workforce. There may also be a small amount of manufacturing and growing specialist quaternary sectors.	The cities have a large manufacturing sector. The manufacturing sector is beginning to industrialise and the workforce is growing.



Developed countries

Developing countries

The urban economy



Em

Extension 1.2.1

Further differences occur in the urban economy when different developing countries or developed countries become specialists, e.g. by exploiting particular strengths on new technologies due to their political significance, history or location. Discuss the advantages and disadvantages of an urban economy becoming specialised and evaluate what this means for a city.

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4.3 Task

The urban economy can be understood in three parts:

1. **The formal economy** – legal work that the government knows is happening
2. **The informal economy** – legal work that a government doesn't know about
3. **The criminal economy** – money that is generated as a result of criminal activity such as extortion or smuggling

In emerging and developing countries the informal economy accounts for over half of all urban jobs (over 80% in some cities), compared to developed countries that have fewer legitimate jobs. So there are fewer formal-sector jobs available to people in the city. Working 'informally' provides a vital income – without it many unskilled poor people would not be able to survive. The informal economy exists because governments in developing and emerging countries don't have the resources to oversee everything that is happening. This is made worse where cities are growing rapidly. But if a government doesn't collect money through work-related taxes it has less money to spend on improving quality of life in the city.



Waste picking in Jakarta, Indonesia. This is an informal sector worker. He looks for valuable items to sell to a recycling company in the formal economy.

The formal and informal sectors are closely linked. Goods needed by the informal sector can come from the formal economy and the products of it often end up there (sometimes through street vendors get their supplies from shops in the formal economy while waste pickers sell to recycling companies. Some transport companies have been criticised for exploiting workers in developing and emerging countries. People often will work in unsafe and uncomfortable conditions with no alternative but to make a living or starve. However, some people do set up formal businesses in developing and emerging countries then those workers would

- (a) Read and complete the statement about the informal economy – you need to use each of the 15 pairs marked in italic:

The informal economy refers to people **living/working** without legal recognition or employment **rights/responsibilities** that would set standards for pay or work conditions (e.g. how many **months/hours** a week they should work or be entitled to). The government has no **interest in / record of** how much they pay **taxes/bills**.

It is an 'unofficial' economy where people are usually paid in **cash/kind** rather than through banks. It is an **opportunity/challenge** for some people to earn an income who would lose a formal job, e.g. if they have never been to **university/school** or they are out of work. They work for themselves **on the streets / in office blocks** – trading goods and services such as **designing/men** or in industries that rely on a lot of labour, e.g. construction labourers, waste pickers, or catering. The majority of people in the informal economy are **women / men** and children. The informal economy is usually larger in **developing / developed** countries than developed countries.

- (b) Write a similar description of the formal economy. Refer to what it is, who it is for and how it is different in developing, emerging and developed countries.
- (c) *The informal economy is vital for the urban poor in developing and emerging countries. Do you agree with this statement? Justify your answer.*

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In 2011, people across the Arab nations of the Middle East rose up against their governments in rebellions and protests. They were calling for democracy, socio-economic change, and a better quality of life. Today we refer to it as the Arab Spring, but it all began because of a man who threw an orange fruit on the streets of Tunisia, and he set himself on fire in protest. Watch **one** video and discuss as a class:

[illegible]

Rather than type out the

Urban economies cards (Task 4.2)

Make one copy per student/2 – Cut & handout one each

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There is a small informal economy, mostly in construction and catering, where migrants can find temporary work.	The majority of people
Employment law sets out minimum work conditions, pay and holidays. The country is rich enough to be able to prosecute businesses that do not follow the law.	Industry is well established, breaks, cheap land and conditions are not relevant.
Although there is a large formal economy in the city (including a large tertiary sector), a significant proportion of people work in the informal economy making a living from making, selling or mending things for the growing number of skilled middle-class residents.	The city's formal economy provides jobs, e.g. public sector, government officials. 80% of people work in the formal economy.
The large informal economy includes independent entrepreneurs with small shops, health and beauty services, street vendors selling food, etc. It would take a lot of government resources to keep track of all activities.	A large proportion of the workforce is unskilled. They've often moved here. They make ends meet but don't have enough money to improve their lives.
The majority of people work in the tertiary and quaternary industries. There is only a small amount of manufacturing in the cities, most of which has closed down or moved to where there is a cheaper workforce.	Almost all workers are employed in the tertiary sector. There is some variation between different regions in regional urban areas, but those in emerging economies are the most varied.
The tertiary sector is growing fast as financial, technology and service industries are attracted by the growing skilled workforce. There may also be a small and growing specialist quaternary sector.	The cities have a strong manufacturing (secondary) sector. They are beginning to industrialise. TNCs are attracted to the cities.

There is a small informal economy, mostly in construction and catering, where migrants can find temporary work.	The majority of people
Employment law sets out minimum work conditions, pay and holidays. The country is rich enough to be able to prosecute businesses that do not follow the law.	Industry is well established, breaks, cheap land and conditions are not relevant.
Although there is a large formal economy in the city (including a large tertiary sector), a significant proportion of people work in the informal economy making a living from making, selling or mending things for the growing number of skilled middle-class residents.	The city's formal economy provides jobs, e.g. public sector, government officials. 80% of people work in the formal economy.
The large informal economy includes independent entrepreneurs with small shops, health and beauty services, street vendors selling food, etc. It would take a lot of government resources to keep track of all activities.	A large proportion of the workforce is unskilled. They've often moved here. They make ends meet but don't have enough money to improve their lives.
The majority of people work in the tertiary and quaternary industries. There is only a small amount of manufacturing in the cities, most of which has closed down or moved to where there is a cheaper workforce.	Almost all workers are employed in the tertiary sector. There is some variation between different regions in regional urban areas, but those in emerging economies are the most varied.
The tertiary sector is growing fast as financial, technology and service industries are attracted by the growing skilled workforce. There may also be a small and growing specialist quaternary sector.	The cities have a strong manufacturing (secondary) sector. They are beginning to industrialise. TNCs are attracted to the cities.

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The urban economy sort sheet (Task)

Make one copy per student – give one to each

Developed countries



Developing countries



The urban economy



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Informal economy statement (Task 4)

Make as many copies as students/3 – cut out and give one copy of statement to each

The informal economy refers to people **living/working** without legal contracts or employment **rights/responsibilities** that would set standards (**maximum/minimum** wages) or work conditions (e.g. how many **months** work or how much holiday they are entitled to). The government has no idea how much they are earning so they pay no **taxes/bills**.

It is an 'unofficial' economy where people are usually paid in **cash/king** and provides an **opportunity/challenge** for some people to earn an income to get on with a normal job, e.g. if they have never been to **university** or **children/pets** to take care of. They work for themselves **on the streets** selling goods, making food or offering services such as **designing/mending** things on a large **skilled/unskilled** workforce, e.g. construction labourers, fruit sellers. The majority of people working in the informal economy are **women/men**. The informal economy is usually **larger/smaller** in developing countries than developed countries.



The informal economy refers to people **living/working** without legal contracts or employment **rights/responsibilities** that would set standards (**maximum/minimum** wages) or work conditions (e.g. how many **months** work or how much holiday they are entitled to). The government has no idea how much they are earning so they pay no **taxes/bills**.

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Lesson 4: Answers

Abbreviation of Assessment Objectives (AO):

1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

4.1 Starter

AO3 this is a free-thinking exercise. There are no right or wrong answers as such. Ask the teacher to refer to student comments and suggestions.

4.2 Task

(a) AO2

Developed countries:

- There is a small informal economy, mostly in construction and catering, which is not regulated.
- Employment law sets out minimum work conditions, pay and holidays. The government can prosecute businesses that do not follow the law.
- Almost all workers are protected by legislation. There is some variation between regions (lower in regional urban areas), but rates are high compared to those in emerging countries.
- The majority of people work in the tertiary and quaternary industries. There is very little manufacturing in the cities, most of which has closed down or moved to other parts of the country.

Emerging countries:

- Industry is well established, attracted by government tax breaks, cheap land and labour. Work conditions are not regulated as in developed countries.
- Although there is a large formal economy in the cities, including a large tertiary sector, many people work in the informal economy making a living from making, selling or repairing goods. A large number of skilled middle-class professionals work in the tertiary sector.
- The large informal economy includes independent entrepreneurs with small businesses, street vendors selling food, etc. It would take a lot of government resources to regulate this sector.
- The tertiary sector is growing fast as financial, technology and service industries move into the cities. The workforce is growing. There may also be a small and growing specialist quaternary sector.

Developing countries:

- The city's formal economy consists mostly of tertiary sector jobs, e.g. public sector jobs (government officials), banks or national companies. Over 80% of people work in the informal economy in low-paid service jobs.
- A large proportion of the city's population are poor and unskilled. They've got to make ends meet by doing whatever they can to earn enough money to survive.
- The large informal economy includes independent entrepreneurs with small businesses, street vendors selling food, etc. It would take a lot of government resources to regulate this sector.
- The cities have a small but increasing amount of manufacturing (secondary sector) and are beginning to industrialise. TNCs are attracted because the workers will work for lower wages.

Throw away:

- The majority of people still live in rural areas as subsistence farmers – this does not change.

(b) AO2

Urban economy	Developing	Emerging
Secondary	Increasing	Large
Tertiary	Large (but unskilled)	Large (skilled and unskilled) and increasing
Quaternary	None	Small
Formal	Small	Increasing
Informal	Large	Large

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- (c) AO2 Emerging countries generally have larger secondary and tertiary sectors and both sectors are increasing in developing countries.

Extension 4.2.1

AO3

Students could refer to the knowledge economies outlined in lesson 3 or identify their own necessary but students might be aware of Silicon Valley, San Francisco, USA; Oil exploration

Students should refer to their learning about economic development from lesson 3.

This question can be marked as an 8-mark extension-style question as follows:

Mark	Answer
1	Starts a judgement
2	One argument in support of the judgement
3	Gives an argument against the judgement
4	Explains the supporting argument further
5	Explains why the argument against the judgement is not as important as the supporting argument
6	Gives facts to support the arguments for and against
7	Gives more than one argument in support of and against the judgement
8	Outlines how the answer might be different in a different situation or under different circumstances

Examples of arguments that could be included, and further explanation:

Arguments for – it is a 'good thing', i.e. advantages	Arguments against – it is a 'bad thing', i.e. disadvantages
<p>Attracts international and national migrants with specialist skills. <i>These people are highly paid – they bring revenue to the country through taxes and provide jobs for unskilled workers</i></p> <p>Reputation of the country improves, making it more attractive to attract more investment.</p>	<p>The economy is susceptible to global economic downturns. If a resource falls or a new industry may close down, service industries that rely on the city may be affected.</p> <p>People living in the city may not have the specialist skills needed for the city's economy.</p> <p>Environmental damage caused by one particular industry, e.g. car manufacturing, can cause noise pollution, air pollution, and damage to waterways.</p>

4.3 Task

(a) AO1

Correct words: working, rights, minimum, hours, record of, taxes, cash, opportunities, mending, unskilled, women, larger.

(b) AO2

- What it is – legally recognised work that the government keeps track of and in terms of controls on working conditions and hours of work. In some countries, a minimum wage, living wage in UK. Also protects against discrimination in the workplace.
- Who works in it – skilled and unskilled workers, adults, male and female? Are there any restrictions on age at which they can work or how many hours they can be employed?
- How and why it is different in developing, emerging and developed countries and legislation. The government has the power to track, chase and prosecute those not following the law.

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(c) AO3

Mark	Answer
1	Summarises a judgement
2	Gives an argument in support of the judgement
3	Gives an argument against the judgement
4	Explains the supporting argument further
5	Explains why the argument against the judgement is not as important as
6	Gives facts to support the arguments for and against
7	Gives more than one argument in support of and against the judgement
8	Outlines how the answer might be different in a different situation or un

Example of arguments that could be included, and further explanation:

Arguments for – it is vital for the urban poor	Arguments against
It provides unskilled jobs that are not available elsewhere, <i>if these jobs were not available then people would struggle to make money.</i>	It exploits people who are poor and vulnerable
There are a range of different types of work, there is a certain amount of choice as to what they can do <i>depending on confidence, entrepreneurial knowledge, health and age of a person.</i>	People would find it difficult to live on a low wage economy if that was the only option
It allows people to work the hours they can or take their children with them, <i>if jobs had more rules and regulations this would not be possible so women with young children would not be able to work.</i>	
It enables people who have no qualifications to learn for themselves, <i>they can learn from experience and cooperate.</i>	

4.4 Plenary

This is a topic for discussion/debate – there are no right or wrong answers. Students

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Lesson 5 Overview: Changing popul



Learning questions: How do urban populations change and what is the

New key terms: agglomeration, urban conurbation, metropolitan area, spatial deindustrialisation, counter-urbanisation, regeneration, gentrification, re-

Associated Task Sheet: 5 – pages 85 – 88
Associated PowerPoint file: 5_Sch_25.pptx

5.A Preparation

ICT – For part 5.4 of the lesson you will need Internet access to:

London Datastore: <https://data.london.gov.uk/census/> (4.10 mins)

Worksheets and resources for photocopying:

For event	Description	Page(s)	Photocopies re
5.1	The facts about London in 2011	87	Number of student
5.2	Changing cities	88	Number of student
5.3	How cities grow – fact sheets 1 to 9	89 – 97	Copy each sheet on
5.3	Model of a city	98	Copy to A3. Num students/2 =
5.4	Mini booklet template	99 – 100	Copy duplex. Num students =

Other resources you will need to provide:

- ✓ Glue stick and hole punch to attach worksheets
- ✓ Glue stick to complete task 5.3
- ✓ Scissors and stapler to create mini booklet

5.B Individual student planning

Use this section to tailor your lesson plan to individual students in your class.




	Student(s)	Detail of action
G&T		
SEN		
EAL		
Other		

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5.C Teaching and learning plan

Suggested time	Event	Instructions	Student worksheet
10 mins	 Starter	<p>Instruction to students: <u>working independently</u>, watch the animation and decide if the true or false fact sheet. You may need to shout 'stop' to pause the animation and do any calculations that are required using the data in the animation.</p> <p>Teaching strategy: <u>develop student knowledge</u> and skills by helping them identify key facts and work out what to do with data in order to extrapolate the answers needed for the true or false fact sheet.</p> <p>Learning outcome: All: know the correct key facts about London in 2011. Most: know how to manipulate the statistics to draw conclusions.</p>	The facts about London in 2011
15 mins	5.2 Task 	<p>Instruction to students: <u>working independently</u>, answer the questions about how London's population number and distribution have changed over time.</p> <p>Teaching strategy: <u>develop student knowledge</u> and understanding by drawing attention to visible differences in the spatial distribution of the population over time in the map and satellite image, and encouraging students to say what they see happening to population numbers on the line graph before asking them to work out what might be causing this.</p> <p>Learning outcome: All: know what spatial growth and urbanisation are and how London has changed since 1821. Most: understand the meaning of the processes of urbanisation, suburbanisation, deindustrialisation, agglomeration, regeneration and international migration. Some: Accurately predict what happens to population growth in different parts of a city during these processes.</p>	Changing cities worksheet
15 mins	5.3 Task 	<p>Instruction to students: <u>working in pairs</u>, gather facts about the processes at work in the city as it grows. Use them to annotate your model so that you can see where and when each process takes place and track the spatial growth of the city.</p> <p>Teaching strategy: <u>develop student knowledge</u> and understanding by asking questions to help students identify where and when the processes are occurring.</p> <p>Learning outcome: All: know how the city is changing – that it grows, parts become derelict and then regenerate while it continues to grow outwards. Most: understand where and when the processes are taking place and can describe the cycle of urbanisation. Some: start to consider the implications of urban sprawl.</p>	<p>Model of a city (A3)</p> <p>You will need to distribute the 'How cities grow' fact sheets around the classroom</p>

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Suggested time	Event	Task instructions	Student worksheet
20 mins	 Plenary	<p>Instruction to students: Working independently, create a mini booklet for KS3 children about the cycle of urbanisation. The class will look at their booklets, nominate the best three examples and vote for the very best based on how well they fulfil the instructions you were given.</p> <p>Teaching strategy: <u>develop student application</u> by referring students to their answers in task 5.2 and model from task 5.3.</p> <p>Learning outcome:</p> <p>All: describe the stages of the cycle of urbanisation in terms of what happens and how it changes the city.</p> <p>Most: explain the reasons why each stage occurs.</p> <p>Some: suggest the implications of spatial growth on the people, environment and economy of the city and surrounding area.</p>	Mini booklet template

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Lesson 5: Changing populations of cities

Learning questions: How have urban populations changed? What is the impact on spatial growth?

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Edexcel B GCSE Topic 3: Challenges of an urbanising world

5.1 Starter

Watch or listen to the presentation of 1 minute each of the 12 facts in this video.

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The facts about London in 2011

	True	False	Correct answer
1 The population of Greater London grew by one million in the decade between 2001 and 2011.	✓		Increased from 7.5 million in 2001 to 8.7 million in 2011 (one million)
2 The increase in population was greatest in the outer parts of the south and east of the city.		✓	Increase in population 2 and central areas (central, central & south, central, central & south)
3 More people living in London were born outside the UK than within it.		✓	1.5 million born in the UK, 1.5 million born outside the UK
4 70% of people migrating to the capital came from Europe.	✓		
5 Around one million people in London were born outside the UK (non-British country of birth).	✓		
6 There are more British people from ethnic minorities living in the city than white British.		✓	White British, 40%, Black British, 14%, Asian, 14%, Mixed, 14%, Other, 14%
7 The most common language spoken in London after English is Portuguese.		✓	Pakistani, Portuguese is the next most popular
8 Half of Londoners work their own way.	✓		Only one in 10 (10%) people in 2011
9 10% of people live in the north of the city and in the east and west of the city.	✓		
10 Most adults in the city are in full-time or part-time employment.	✓		4.2 million in 2011
11 There are more people employed in the finance sector than in health or education.	✓		1.5 million in 2011, 1.5 million in 2011
12 80% of adults in London have some form of qualification.		✓	1.5 million in 2011, 1.5 million in 2011

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5.2 Task

Within the boundaries of Greater London last 200 years, increasing from 1.5 million

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In 1866 million in 2011. During the last 100 years people have moved out of the city to live in surrounding towns such as Watford (to the north), Maidenhead (to the west), Croydon (to the south), and Dartford and Ilford (to the east).

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After WWII, the government relocated to improve their living conditions while the suburbs.

As urban areas have grown they have to plan the wider urban conurbation surrounding the large metropolitan area, it can be

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- (a) Which of the following correctly defines spatial growth?
- The impact of the city on intergalactic space
 - The increase in population of a city
 - The change in the size of land it covers at a set point in time
 - The changing pattern of land-use within the city



- (b) Define urbanisation.

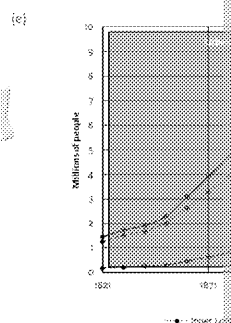
	1852	2006
Population size	Approximately 2.8 million people (over 90% in London)	Approximately 7.6 million people
Population distribution (say where you can see development has occurred)	Most of the population is located to the north of the River Thames in parts of the city known as Westminster, Marblebone and Finsbury. There is some development to the south of the river in Lambeth and Southwark. There is a small amount of development in East London.	There is development all the way to the south of the river. The city is now only contained within the M25.
Spatial growth (the direction the city has grown)	The city has grown by over two million and the city has grown to cover a much larger area. Growth has mainly been away from the river corridor to the north and south and along the river to the west.	

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- (d) Describe how the population changed in Inner London and Outer London between 1971 and 2001.

The population of Inner London increased from 2.1 million in 1971 to 2.8 million in 2001. The population of Outer London increased from 2.1 million in 1971 to 2.8 million in 2001.



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- (f) Explain why the total population of London decreased between 1940 and 1995 while the population of Outer London remained relatively constant.

Redundant industries – many of the manufacturing industries that were in the city moved to other parts of the country or overseas.

Redundant industries – many of the manufacturing industries that were in the city moved to other parts of the country or overseas.

Explain means give reasons – 4 marks suggests you should have given two reasons with explanations. Like this...



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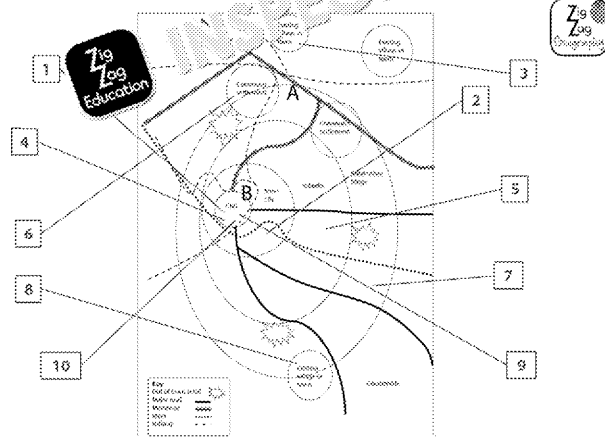
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5.3 Task

Urban growth can lead to different processes of change in a city and the surrounding towns, villages and countryside. Working in pairs, decide who will be heads and who will be tails.

- Toss a coin – the winner must tell one fact about the processes at work in Bristol's growth from one of the fact sheets around the room and bring it back to the table.
- Together, read the fact and decide how to label your **Model of a City**.
- Toss the coin again to see who will collect the next fact.
- Continue until you have found all 10 facts and finished labelling your model.

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5.4 Plenary

Use the template to make a model of change over time. Make it easy for...

- describing the changes in the city
- using drawings to show what is happening
- explaining what key words mean (e.g. regeneration)

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Task Sheet 5: Changing population



Learning questions: How do urban populations change and what is the impact?

New key terms: agglomeration, urban conurbation, metropolitan area, spatial deindustrialisation, counter-urbanisation, regeneration, gentrification, re-urbanisation.

5.1 Starter

Watch or listen to the animation on the 2011 census results for Greater London. Which facts are true or false? Tick the correct answer where the fact is false. You may shout 'Stop' at your teacher if you hear relevant information but need time to think.

London Datastore: <https://data.london.gov.uk/census/> (4.10 mins)

Rather than type out this

	The facts about London in 2011	True	False
1	The population of Greater London grew by one million in the decade between 2001 and 2011.		
2	The increase in population was greatest in the outer parts of the south and east of the city.		
3	More people living in London were born outside the UK than within it.		
4	76% of people migrating to the capital came from Europe.		
5	Around 262,000 people in London were born in India – the top non-British country of birth.		
6	There are more Asian people from ethnic minorities living in the city than white British.		
7	The most popular language spoken in London after English is Portuguese.		
8	Half of Londoners rent their homes.		
9	There is more overcrowding north of the river and to the east and west of the centre.		
10	Most adults in the city are in full-time or part-time employment.		
11	There are more people employed in the finance sector than in health or education.		
12	82% of adults in London have some form of qualification.		

5.2 Task

Within the boundaries of Greater London the population has changed dramatically, increasing from 1.8 million in 1821 to 8.66 million in 2015. During the last 100 years the city has expanded into surrounding towns such as Watford (to the north), Maidenhead (to the south), and Dartford and Ilford (to the east). After WWII the government relocated residents to these towns and cities to improve their living conditions. As urban areas grew, they **agglomerated**. Today the wider **urban conurbation** surrounding the capital has grown to over 10 million people. As one large metropolitan area, London can be considered a **megacity**.

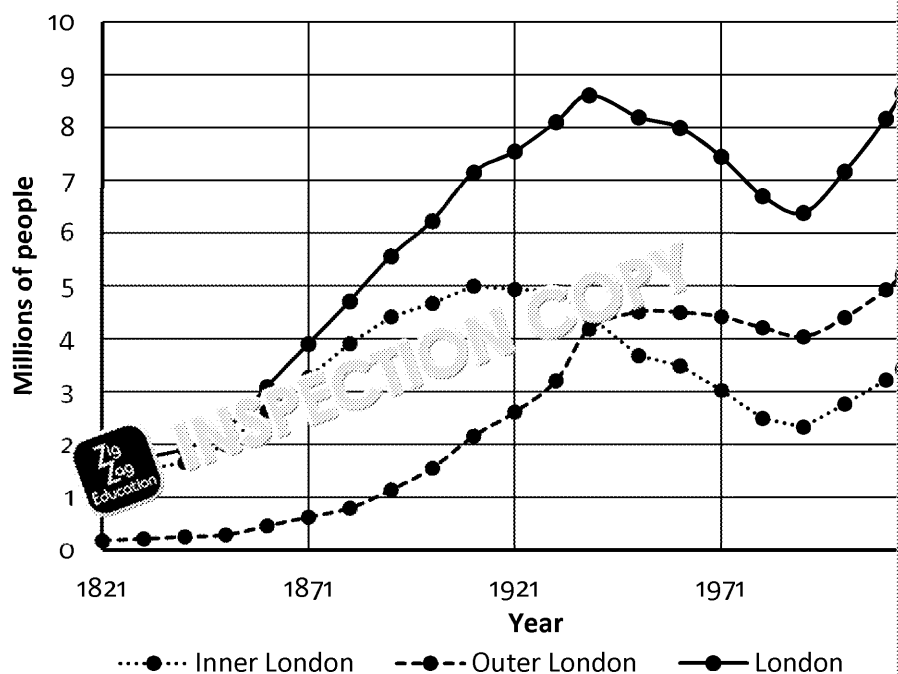
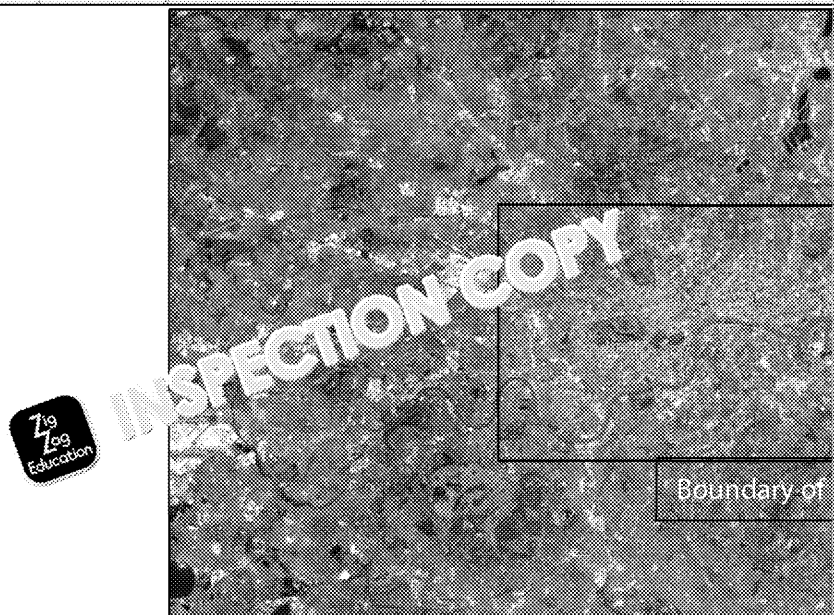
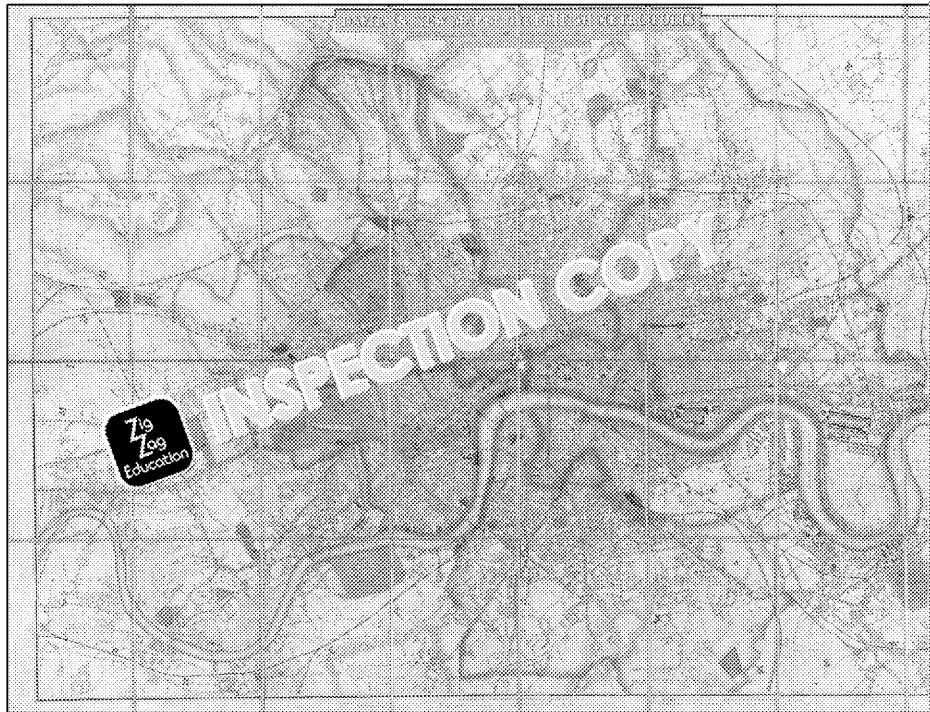
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Study Figures 5.1, 5.2 and 5.3, showing the distribution of population in London in 1852 and 2006 and the change in urban population 1821–2021 and answer the following questions:

- (a) Which of the following correctly defines spatial growth? (1)
- The impact of the city on intergalactic space
 - The increase in population of a city
 - The physical growth of the city – the change in the area of land it covers as it gets larger
 - The changing pattern of development within the city
- (b) Define urbanisation. (1)
- (c) Complete the information in the table. (5)

	1852	
Population size		Approx.
Population distribution (say where you can see development has occurred)	Most of the population is located to the north of the River Thames in parts of the city known as Westminster, Marylebone and Finsbury. There is some development to the south of the river in Lambeth and Southwark. There is a small amount of development around the docklands in East London.	
Spatial growth (say how the distribution of the population has changed)		

- (d) Describe how the population changed between 1821 and 2021 in:
- inner London; and
 - outer London
- (e) The distribution of people and spatial growth of the city has changed over time. Using your knowledge and the annotations, select the correct time period on the graph during which the

Urbanisation – the population of the city increased as people moved from rural areas during industrialisation.	Suburbanisation – the population in the inner city started to decrease while the population in the outer city continued to increase as people moved to live in more pleasant suburban areas.
Agglomeration of the wider urban conurbation – after WWII the city was badly damaged. People were moved to live in new housing in towns and villages and the conurbation grew and the urban areas grew and joined together to make a large interconnected urban area.	Regeneration – derelict areas of the city were rebuilt as specialist centres for finance and media industries, e.g. the City of London and London Docklands.

- (f) Explain why the total population of London decreased between 1940 and 1950 and why the population of London remained relatively constant between 1950 and 2006.

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Extension 5.2.1

Assess the extent to which the increase in population of London from 1991 had a positive impact on the population of London and the wider metropolis.

5.3 Task

Cities change over time. Population distribution shifts and the city grows outwards while parts of it may become derelict. The change in the area of land which a city covers is called **spatial growth**.

Working in pairs, decide who will be heads and who will be tails.



1. Toss a coin – the winner must find one fact about how the city changes from the fact sheets around the room and bring it back to the table.
2. Together read the fact and decide what it tells you and where you should place it on the **model of change in distribution of the urban population and spatial growth over time** – attach it to the model.
3. Toss the coin again to see who will collect the next fact.
4. Continue until you have found all nine facts and you have finished labelling your model. (9)

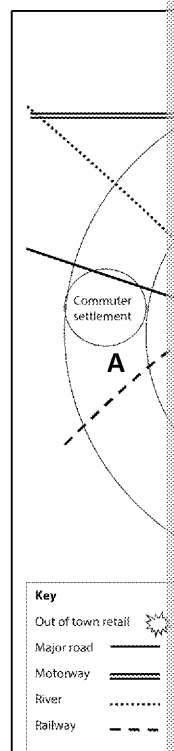


Figure 5.4: Model of urban population distribution

Extension 5.3.1

Identify the reasons for the spatial growth of the city. Develop your answer.



Extension 5.3.2

The city authorities have designated a new high-tech industrial park at site X. Economic investment in new roads and a new railway station and incentives for offices and manufacturing facilities. Land around the site will be removed from agricultural use to get planning permission to build new houses or other development. Assess the growth resulting from this designation might impact on the city in future – consider the consequences of any changes to how land in the city would be used.

5.4 Plenary

Use the template to create a mini booklet – follow the instructions in bold to collect information and images to teach Year 7 children at your school about how cities change for them to understand by:

1. describing the changes in chronological order;
2. using drawings to show what is happening;
3. explaining what the changes mean in language the younger children will understand.



Extension 5.4.1

Suggest the impact of each stage on the economy, people and environment of the area.

Share your booklets between your classmates and, as a class, identify the theme of a booklet you must say why it fulfils the brief you were given. Take a class vote.

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The facts about London in 2011 (Starte

Make as many copies as students/2 – cut out and give one set to each student

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	The facts about London in 2011	True	False
1	The population of Greater London grew by one million in the decade between 2001 and 2011.		
2	The increase in population was greatest in the outer parts of the south and east of the city.		
3	More people living in London were born outside the UK than within it.		
4	76% of people migrating to the capital came from Europe.		
5	Around 262,000 people in London were born in India – the top non-British country of birth.		
6	There are more British people from ethnic minorities living in the city than white British.		
7	The most popular language spoken in London after English is Portuguese.		
8	Half of Londoners rent their homes.		
9	There is more overcrowding north of the river and to the east and west of the centre.		
10	Most adults in the city are in full-time or part-time employment.		
11	There are more people employed in the finance sector than in health or education.		
12	82% of adults in London have some form of qualification.		



	The facts about London in 2011	True	False
1	The population of Greater London grew by one million in the decade between 2001 and 2011.		
2	The increase in population was greatest in the outer parts of the south and east of the city.		
3	More people living in London were born outside the UK than within it.		
4	76% of people migrating to the capital came from Europe.		
5	Around 262,000 people in London were born in India – the top non-British country of birth.		
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10	Most adults in the city are in full-time or part-time employment.		
11	There are more people employed in the finance sector than in health or education.		
12	82% of adults in London have some form of qualification.		

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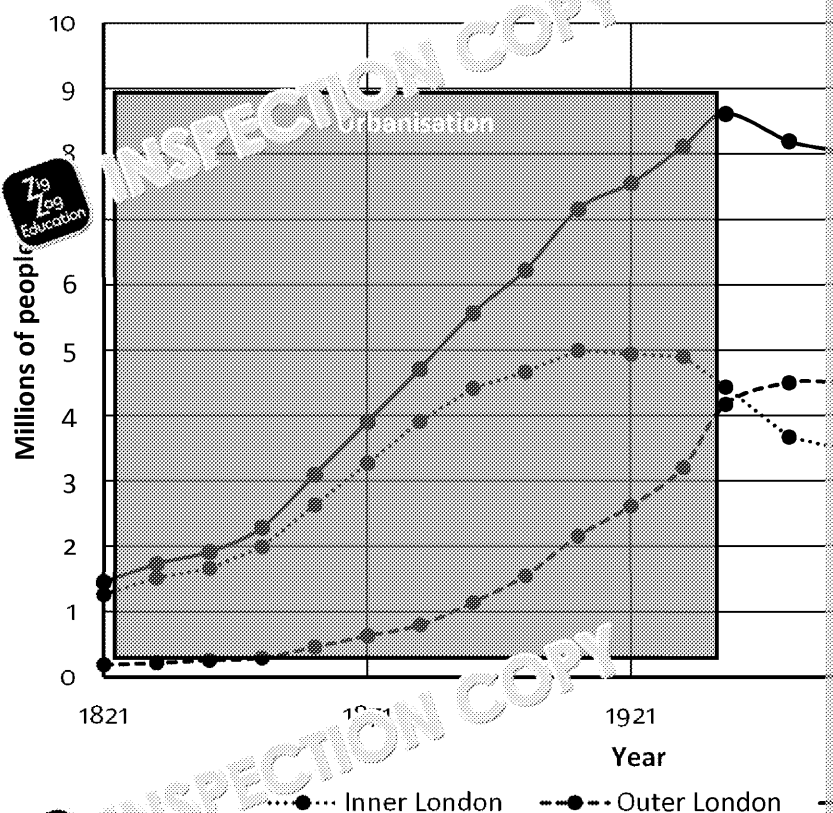
Changing cities (Task 5.2)

Make as many copies as students – give one to each student

	1852	
Population size		Appro
Population distribution (say where you can see development has occurred)	Most of the population was located to the north of the River Thames in parts of the city known as Westminster, Marylebone and Finsbury. There is some development to the south of the river in Lambeth and Southwark. There is a small amount of development around the docklands in East London.	
Spatial growth (say how the distribution of the population has changed)		

Urbanisation – the population of the city increased as people moved from rural areas during industrialisation.

Suburbanisation – the population in the inner city started to decrease while the population in the outer city continued to increase as people moved to live in more pleasant suburban areas.



Agglomeration of the wider urban conurbation – After WWII the city was badly damaged. People were moved to live in new housing in towns and cities around the capital. These urban areas grew and joined together to make a large interconnected urban area.

Regeneration – derelict areas of the city were rebuilt as specialist centres for finance and media industries, e.g. the City of London and London Docklands.

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Activities grow – fact sheet 1 (Task 1)

Make one copy – cut along dotted lines and pin in the classroom

		<p>Re-urbanisation is occurring as new luxury apartments and student accommodation are attracting people to live in the city centre.</p>
		<p>Re-urbanisation is occurring as new luxury apartments and student accommodation are attracting people to live in the city centre.</p>
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		<p>Re-urbanisation is occurring as new luxury apartments and student accommodation are attracting people to live in the city centre.</p>

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Activities grow – fact sheet 2 (Task 2)

Make one copy – cut along dotted lines and pin to the classroom

		Gentrification occurs where wealthier families buy homes in cheap areas to renovate and improve. This makes house prices rise and become unaffordable to local people.
		Gentrification occurs where wealthier families buy homes in cheap areas to renovate and improve. This makes house prices rise and become unaffordable to local people.
		Gentrification occurs where wealthier families buy homes in cheap areas to renovate and improve. This makes house prices rise and become unaffordable to local people.
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Activities grow – fact sheet 3 (Task 3)

Make one copy – cut along dotted lines and pin to the classroom

		New information and communication technologies enable people to move to the countryside but still work for companies in the city. This movement of people is called <u>counter-urbanisation</u> .
		New information and communication technologies enable people to move to the countryside but still work for companies in the city. This movement of people is called <u>counter-urbanisation</u> .
		New information and communication technologies enable people to move to the countryside but still work for companies in the city. This movement of people is called <u>counter-urbanisation</u> .
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		New information and communication technologies enable people to move to the countryside but still work for companies in the city. This movement of people is called <u>counter-urbanisation</u> .

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Activities grow – fact sheet 4 (Task 4)

Make one copy – cut along dotted lines and pin to the classroom

		Regeneration is occurring in parts of the city centre. Brownfield sites in industrial areas are transformed. Some old buildings are renewed (modernised) while others are demolished and their sites redeveloped .
		Regeneration is occurring in parts of the city centre. Brownfield sites in industrial areas are transformed. Some old buildings are renewed (modernised) while others are demolished and their sites redeveloped .
		Regeneration is occurring in parts of the city centre. Brownfield sites in industrial areas are transformed. Some old buildings are renewed (modernised) while others are demolished and their sites redeveloped .
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Activities grow – fact sheet 5 (Task 5)

Make one copy – cut along dotted lines and pin to the classroom

		Suburbanisation occurred as transport links to the city centre improved. New housing developments were built on greenfield sites around the inner city along principal road routes and where there were railway stations.
		Suburbanisation occurred as transport links to the city centre improved. New housing developments were built on greenfield sites around the inner city along principal road routes and where there were railway stations.
		Suburbanisation occurred as transport links to the city centre improved. New housing developments were built on greenfield sites around the inner city along principal road routes and where there were railway stations.
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Activities grow – fact sheet 7 (Task 1)

Make one copy – cut along dotted lines and pin to the classroom

		Greenbelt policy protects areas of land around the city from being developed. It encourages developers to look at brownfield sites in the city first, encouraging regeneration and re-urbanisation and preventing urban sprawl .
		Greenbelt policy protects areas of land around the city from being developed. It encourages developers to look at brownfield sites in the city first, encouraging regeneration and re-urbanisation and preventing urban sprawl .
		Greenbelt policy protects areas of land around the city from being developed. It encourages developers to look at brownfield sites in the city first, encouraging regeneration and re-urbanisation and preventing urban sprawl .
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	The central business district has been revitalised by improvements such as cleaning up the waterways, improving pedestrian and cycle access and installing CCTV. Old buildings are being transformed into offices and new multi-use buildings are being erected.
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Zig Zag Education	The central business district has been revitalised by improvements such as cleaning up the waterways, improving pedestrian and cycle access and installing CCTV. Old buildings are being transformed into offices and new multi-use buildings are being erected.
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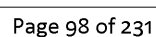
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Urbanising World – Fact Sheet 9 (Task 1)

Make one copy – cut along dotted lines and pin to the classroom

		Deindustrialisation of the CBD and inner city occurred when manufacturing industries in the city went into decline and the UK economy became a service economy. Rising unemployment meant people moved away (depopulation).
		Deindustrialisation of the CBD and inner city occurred when manufacturing industries in the city went into decline and the UK economy became a service economy. Rising unemployment meant people moved away (depopulation).
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Mini booklet template (Task 5.4)

Copy duplex. Make as many copies as no. of students – give students one each

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What happens next...?

1. Fold along the dashed line



Write a conclusion – suggest why the cycle may not happen in this order or at all

2. Fold along the dashes

3. Staple on the dotted lines

4. Cut along the dashed line

Title of book

Introduction

5. Cut along the dashed line



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Describe the first stage of the cycle...

What happens next...?



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Lesson 5: Answers

Abbreviation of Assessment Objectives (AO):

1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

5.1 Starter

	Statements about London in 2011	True	False	
1	The population of Greater London grew by one million in the decade between 2001 and 2011.	✓		Inc 8
2	The increase in population was greatest in the outer parts of the south and east of the city.		✓	Inc an O
3	More people living in London were born outside the UK than within it.		✓	50 bo
4	76% of people migrating to the capital came from Europe.	✓		
5	Around 262,000 people in London were born in India – the top non-British country of birth.	✓		
6	There are more British people from ethnic minorities living in the city than white British.		✓	W =
7	The most popular language spoken in London after English is Portuguese.		✓	Po po
8	Half of Londoners rent their homes.	✓		24
9	There is more overcrowding north of the river and to the east and west of the centre.	✓		
10	Most adults in the city are in full-time or part-time employment.	✓		4 17
11	There are more people employed in the finance sector than in health or education.		✓	He
12	82% of adults in London have some form of qualification.	✓		18 18

5.2 Task

Question	AO	Answer
(a)	AO1	(iii) The physical growth of the city – the change in the area of land used for housing and other purposes.
(b)	AO1	Most recognise both: <ul style="list-style-type: none"> ▪ increase in <u>proportion of population</u>; ▪ living in <u>urban areas compared to rural areas</u>.
(c)	AO4	<ul style="list-style-type: none"> ▪ Approximately 2.3 million in 1921 (+ or – 0.1 million) (1) ▪ There is development to the north and south of the river, particularly in the north (2) ▪ The population has increased by over five million and the city has grown in a much greater area. Growth has mainly been away from the centre and south and along the river to the west (2).
(d)	AO4	Allow + or – 0.1 million on all readings from Figure 5.3. (i) The population decreased from 4.9 million in 1921 to 3.7 million in 1931 (its lowest point in 1991 (2.25 million people) before increasing again. (ii) The population increased from 2.7 million in 1921 to 5.6 million in 1991 and again between 1991 and 2011.

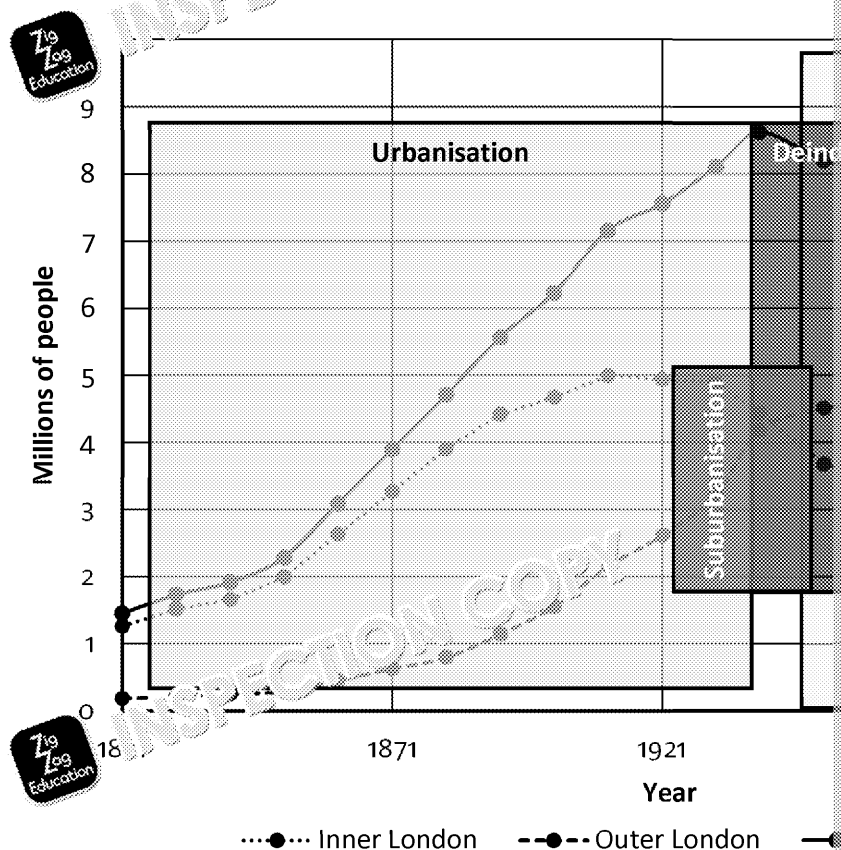
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5.2 Task (continued)

Question	AO	Answer
(e)	AO2	See graph below
(f)	AO2	<ul style="list-style-type: none"> Deindustrialisation – closure of manufacturing industries and people had to leave to find work elsewhere (2) Relocation of urban population (W1) – movement of people beyond the London inner metropolitan area) to improve living conditions (2). This led to a decrease in the inner city where people were poorest, rather than where living conditions were better (2).



5.2.1 Extension

AO3 Students should identify the reasons for the increase in population from 1991 to the present in the inner city and international migration. They should consider the advantages and disadvantages of the population of London and wider metropolitan area in order to make a judgement about whether the situation is positive or negative.

Mark	Answer
1	Summarises a judgement
2	Gives an argument in support of the judgement
3	Gives an argument against the judgement
4	Explains the supporting argument for the judgement
5	Explains why the argument against the judgement is not as important as the supporting argument
6	Gives facts to support the arguments for and against
7	Summarises one argument in support of and against the judgement
8	Explains how the answer might be different in a different situation or under different circumstances

Examples of advantages and disadvantages of regeneration and international migration in the inner city and wider metropolitan areas that could be included.

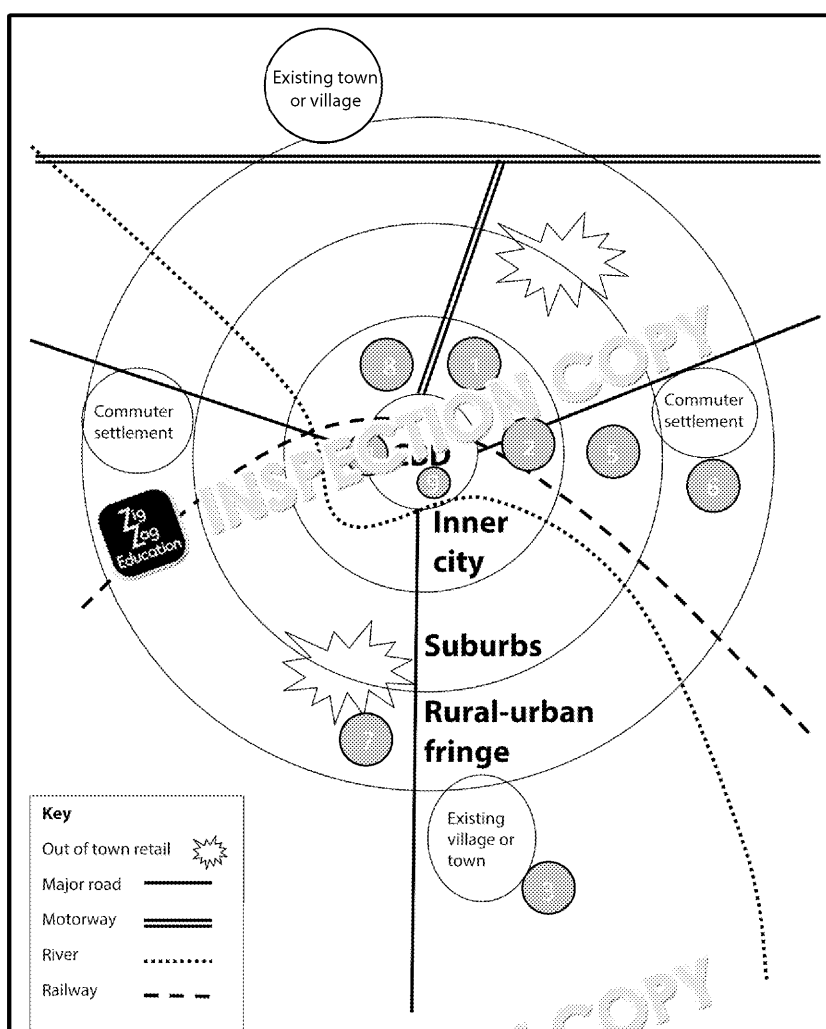
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	Advantages	
Regeneration	Creates more jobs and leads to economic growth which in turn creates more jobs (the multiplier effect).	The jobs created by regeneration can attract more investment. Improvements in infrastructure which generate other private sector jobs. Communities no longer abandoned.
Internal migration	The multiplier effect means that more people should create more jobs and opportunities for the existing population.	There is no need for transport. Health and social services. Rising demand for services. Cost of living rises.

5.3 Task



AO1 An place n similar

1. Re-u
2. Gen
3. Com
4. Reg
5. Sub
6. Com
7. Urb
8. Cent
9. Deir

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Question	AO	Answer	Max
Extension 5.3.1	AO2	Reason (1), <i>and further explanation</i> (1): <ul style="list-style-type: none"> For better quality of life, <i>including more space and less pollution.</i> As communications technology improves, <i>enabling people to work remotely.</i> As transport links improve, <i>enabling people to commute more easily.</i> To find work <i>because manufacturing industries have closed or moved elsewhere.</i> 	

Extension 5.3.2

AO3 Students

Mark	Answer
1	Summarises a judgement
2	Gives an argument in support of the judgement
3	Gives an argument against the judgement
4	Explains the supporting argument further
5	Explains why the argument against the judgement is not as important as that supporting it
6	Gives facts to support the arguments for and against
7	Gives more than one argument in support of and against the judgement
8	Outlines how the answer might be different in a different situation or under different conditions

Suggest how this might affect the spatial growth of the city in future – changes, *and further explanation*

Positive	Negative
<ul style="list-style-type: none"> ✓ New business will attract new employees – <i>increase in population of the city as the new businesses are likely to need specialist skills</i> ✓ Increased population will create demand for new housing – <i>likely to see expansion of commuter settlement and possible new settlements around the industrial park, creating wealth for the city</i> 	<ul style="list-style-type: none"> ✗ Business already located in the city – <i>may need to move out for more space and cheaper land, so city centre may go into decline</i> ✗ Removal of land from the green belt – <i>loss of countryside in the rural-urban fringe, leading to a decline in quality of life for people living there</i> ✗ A new road will grow towards the west – <i>new housing focused along the road corridor, so villages along this route may become poorer, leading to loss of their distinctive character</i>

5.4 Plenary

This task is peer-assessed. Discuss the lesson. Chronological order of the stages of the cycle is indicated. Some processes may run in parallel:

1. Urbanisation
2. Deindustrialisation and decline
3. Suburbanisation
4. Urban sprawl
5. Regeneration, gentrification and re-urbanisation
6. Counter-urbanisation

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Lesson 6 Overview: Urban land use



Learning questions: What are the characteristics of land use in urban areas?

New key terms: accessibility, availability, cost, planning regulations, density

Associated Task Sheet: 6 – pages 109 – 117

Associated PowerPoint file: Lesson 6.ppt

6.A Preparation

Worksheet and resources for photocopying:

For event	Description	Page(s)	Photocopies required
6.1	Influences on land use	113 – 114	Copy duplex. Number of students/2 =
6.2	Resource sheet 1: description and photos	115	Number of students
6.2	Resource sheet 2: satellite images	116	Number of students
6.2	Resource sheet 3: OS maps	117	Number of students
6.2	Land use fact file (3 pages)	118 – 120	Copy duplex. Number of students =
6.3	Bingo cards – sheets 1–4	121 – 125	Copy once
6.3	Bingo clues	125	Make one copy for teacher

Other resources you may need to provide:

- ✓ Science and Geography for Task 6.2
- ✓ Glue stick or hole punch to attach worksheets

6.B Individual student planning

Use this section to tailor your lesson plan to individual students in your class.




	Student(s)	Detail of action
G&T		
SEN		
EAL		
Other		

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6.C Teaching and learning plan

Suggested time	Event	Instructions	Student worksheets
15 mins	 Starter	<p>Instruction to students: <u>working independently</u>, search for the influences on how land is used in urban areas then match the influence on land use in urban areas to the correct description.</p> <p>Teaching strategy: <u>develop student knowledge</u> by asking questions in relation to the descriptions, e.g. what does it mean when it says...? What might cause that to happen?</p> <p>Learning outcome: All: know the eight influences on land use in urban areas. Most: identify the reasons why the influences determine how land is used in urban areas. Some: can identify links between different land-use influences.</p>	Influences on land use wordsearch Influences on land use mix and match
25 mins	 6.2 Task	<p>Instruction to students: <u>working independently</u>, compile the fact file of land-use descriptions, photos, satellite images and OS maps. Draw your own model of land-use structure in a modern city and label it with descriptions of the characteristics of land use. Enter your model to suggest the limitations of using urban land-use models</p> <p>Teaching strategy: <u>develop student knowledge and understanding</u> by encouraging students to look for characteristics of land use in relation to location, density, building size and open space. <u>Develop student application</u> by asking students to predict how influences on land use might vary between cities and between developing, emerging and developed countries.</p> <p>Learning outcome: All: can identify the characteristics of land use in urban areas. Most: can link land-use characteristics, type and location and explain these in terms of influences on land use. Some: suggest limitations of land-use models.</p>	Land use fact file template Resource sheets 1, 2 & 3
20 mins	 6.3 Plenary	<p>Instruction to students: <u>working independently or in pairs</u>, play bingo as a class. Your teacher will read out a clue – look to see if the keyword from today's lesson that the clue refers to is on your card and cross it off. There are nine words out of 21 on each card.</p> <p>Teaching strategy: <u>develop student knowledge and understanding</u> by discussing what the clues mean.</p> <p>Learning outcome: All: know the keywords used to describe the influences on land use, the characteristics of land use and land-use types. Most: know the correct definitions for the keywords. Some: can explain why the clues define the keywords to their partner.</p>	Bingo cards You will need the Bingo clues

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Lesson 6: Urban land use

Learning question: What are the characteristics of land use in urban areas? How are they influenced?

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6.1 Starter

Accessibility
Availability
Cost to build
Value of land
Historical factors
Physical features
Planning regulations
Transport links

When these factors are taken into account, the land use pattern that emerges is a result of the interaction of all these factors. The land use pattern that emerges is a result of the interaction of all these factors. The land use pattern that emerges is a result of the interaction of all these factors.

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6.2 Task

The influences on how land is used mean that most cities grow in a similar way. Models like these from Burgess (1925) and Hoyt (1932) help us understand patterns of land use.

Central business district
Factories/industry
Working-class housing
Middle-class housing
Upper-class housing

But cities have changed since 1925 and 1932

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For two main reasons:

Mobility

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A more accurate land-use model for urban areas today might look like this:

Central business district
Factories and industry
Inner-city residential
Suburban residential
Urban-rural fringe
Areas of deprivation
Out-of-town retail and leisure parks
Commuter towns

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Different land uses have different characteristics:

- building size (depending on age)
- building density (how many buildings)
- layout of streets
- open space

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- (a) Cut out the descriptions and images from the three resource sheets:
- Land-use descriptions (generic) and photographs of areas of Bristol
 - Satellite images of areas of Bristol (mixed scales)
 - Sections of the Ordnance Survey map of areas of Bristol (mixed scales)

- (b) Use the template sheets to organise the information to create a fact file of land-use characteristics.

- (c) From your understanding of land use in urban areas draw your own model of a city. Annotate it to describe the characteristics of land use in the different areas and why they have evolved at these locations.



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Edexcel B (PSE) Topic 11: Challenges of an urbanising world

6.3 Plenary

On your bingo cards are nine words from today's lesson.

Your teacher will read out clues for their definitions.

Listen carefully to your teacher and cross off the relevant word when you hear it described.

The first player to get three in a row and the first player to get a full house (all words in your grid) will be the winners.



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Task Sheet 6: Urban land

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Learning questions: What are the characteristics of land use in urban areas?

New key terms: accessibility, availability, cost, planning regulations, density

6.1 Starter

In urban areas land is used in many different ways – for housing (residential), factories and workshops (industrial), parks and nature reserves (open space) and (leisure). What gets built where depends on a number of factors.

(a) Find eight influences on how land is used in urban areas.

S G T J P N X L E R A M Z J O G S I P O
S R W O I A P X Y E H P Y X Q F D P N F
M N O B W V V C O S T T O B U I L D D R
S R O T C A F L A C I S Y H P A N R E E
N J G U C B P I T L F J H W N Y G W Z G
L E N Q U A Y A I V K W K N S X Z C O X
V P K K D F F B X Z N D I D Q V P V L A
N X A G E B A L L H F N W O Y X A U A W
C V I Z Y L B L A I G A S B T Z A I X S
H E L D I W Y V C C E W V B T M R N C J
E Q Y A M B Q H O O I C J E S E P W W
J K V T T R A N S F R T L I N K S Q X
G A X H Q C T O L O D D O L B K O F J I
G D U T F F T J E F J T I D G Z I N
L O R F X S Q J K L Z S C G D N S
D L A L F O E U L A V A I W S I D M Y H
K C S Y U M Q L H E C O L M E C H Z H C
C N I F G B A J H S E Y T C C W M L D N
P E U E Y Q J C L O T S T J C C M G T U
J U M M L E Z Q O L J X P Y A L I R A N

(b) Match each factor with the correct description of how it influences land use.

Extension 6.1.1

Some of these influences are interlinked – they impact on each other, e.g. land use patterns that originally have been influenced by physical factors, which could be areas with abundant natural resources such as coal or clay. Find two more examples of how these are linked.

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Accessibility	When there is a lot of demand for land from competing developers, land becomes more expensive. Land use that does not generate an income can be displaced by land from developers who want to make more money.
Availability	The government sets out overarching planning policy in the UK. Local authorities have the power to control where, what and how much development happens. Developers must follow certain rules about what can be built and get permission before they begin.
Cost to build	Types of land use that require good access will be found close to transport routes. Roads, cycle routes and paths may need to be improved for the benefit of new development.
Value of land	Land that is in high demand is more valuable, e.g. because it is accessible and easy to develop.
Historical factors	Land that is too difficult to develop, attractive or valued for natural beauty, or with historical interest, resulting in open spaces within the city.
Physical features	Land that is most accessible (i.e. has good transport links) will be developed first by developers for a range of land uses including industrial and commercial.
Planning regulations	The decline of industries and damage from war or natural disasters can leave land to become derelict. The design and development of both residential and commercial development has changed over time. This can be seen in the characteristics of land use in urban areas.
Transport links	Land that hasn't been built on before is often cheaper and easier to develop because it doesn't need to be cleared and any contamination remediation schemes are more expensive to build.

6.2 Task

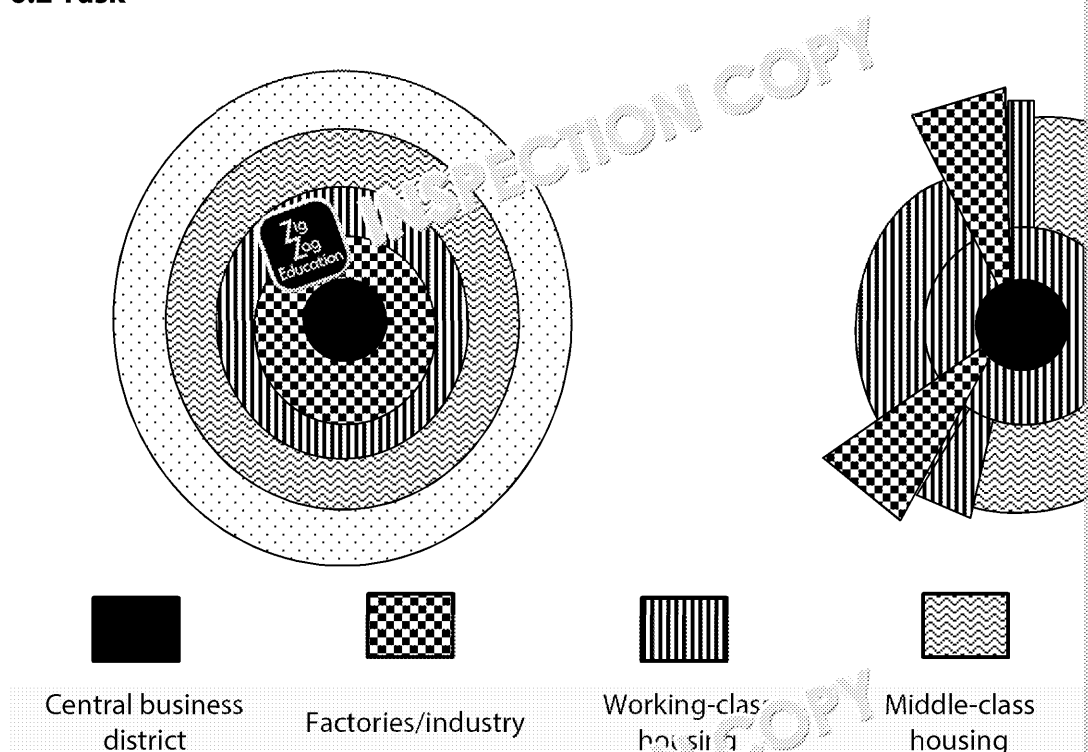


Figure 6.1: Land-use models from the early twentieth century – Left: Burgess, 1925 & Hoyt

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The influences on how land is used mean that most cities grow in a similar way. Models such as those in Figure 6.1 from Burgess (1925) and Hoyt (1932) help us understand patterns of land use. Commercial and retail activities are found at the centre because it is the most accessible part of the city, making it a reliable market for businesses. But there is only a finite amount of land available at the centre so it becomes very expensive. Residential areas develop where land is cheaper (on the outskirts) and the development of 'layers' of different aged housing as the city grows. Growth is towards the outskirts of the city. Hoyt's model also shows how industrial, commercial and residential areas develop along major transport routes.

UK house prices rose from 1995 to 2007, RAC, 2008

In developing countries these models are not so relevant today because cities have grown for two main reasons:

1. **Mobility** – The rise in car ownership has made it easier for people to get to the city centre. Developers have built large out-of-town developments for retail, leisure and housing where land is cheap. They can afford to buy large plots and it's easy to build on them now as it was before. They provide large, free car parks making it easier for people to get to the city centre where parking is expensive and limited.
2. **Inner city decline and regeneration** – In recent years cities have been regenerating themselves by the demise of industry and, in the UK, bombing during WWII, have been rebuilt. New housing and housing, and people who can afford to improve their homes have been moving into the inner city where the culture is vibrant and housing is cheap (gentrification). People living in the inner city and some of them are very wealthy.

A more accurate land-use model for urban areas today might look like this:

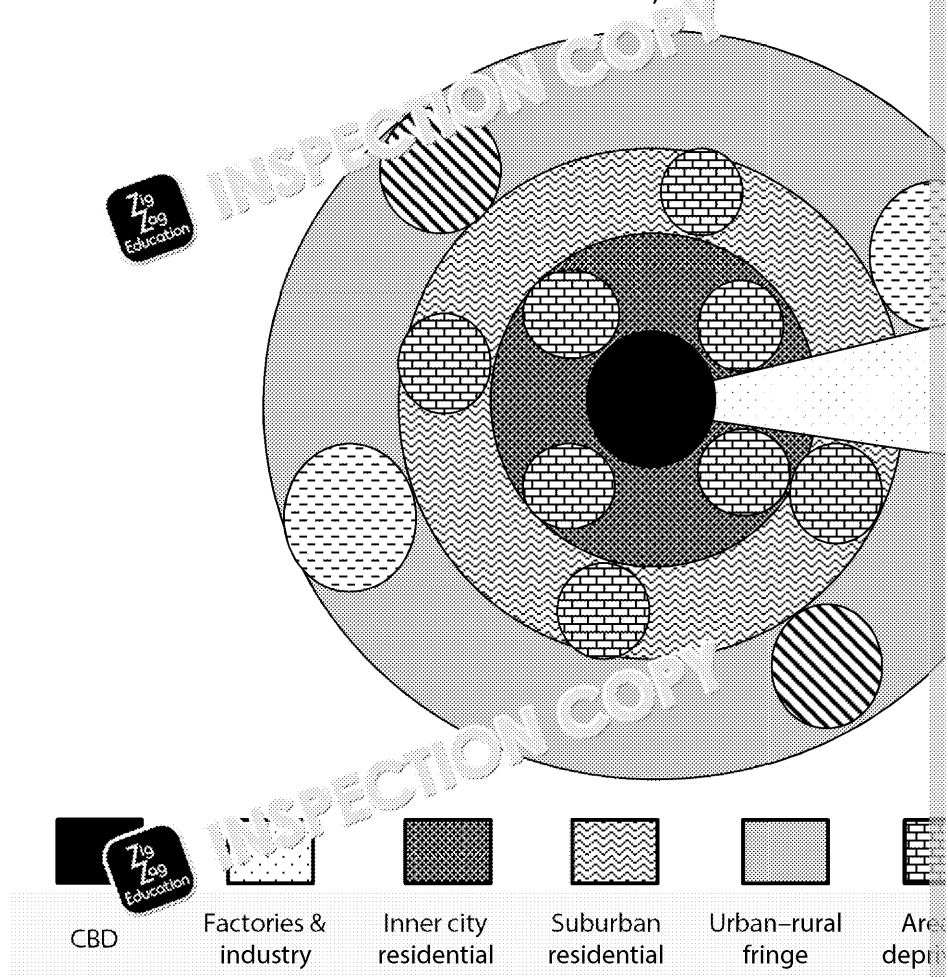


Figure 6.2: Suggestion for a modern model for cities in developing countries

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Different land uses have different characteristics, e.g. the **layout** of streets and will be different depending on the age and use of the buildings, the **density** (how many people live in a given area) will vary as will the amount of **open space** available. You can see these characteristics around you. It is possible to see them on maps and satellite images. You are going to use maps of Bristol, a city in SW England, to discover the characteristics of different land uses.

- Cut out the descriptions and images from the three source sheets:
 - Land-use descriptions (generic)
 - Satellite images of areas of Bristol (mixed scales)
 - Sections of the Ordnance Survey map of areas of Bristol (mixed scales)
- Use the template sheets to organise the information to create a fact file of land use in Bristol.
- From your understanding of land use in urban areas, draw your own model of the characteristics of land use in the different areas and why they have evolved.

Extension 6.2.1

- Suggest the limitations of using urban land-use models to understand how land use has changed in:
- in different cities in developed countries;
 - in cities in developing and emerging countries.

6.3 Plenary

On your bingo cards are nine words from today's lesson. Your teacher will read out the words. Listen carefully to your teacher and cross off the relevant word when you hear it. The first player to get three in a row and the first player to get a full house (all nine words in your grid) will check your answers before declaring a class champion.

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Influences on land use (Starter 6.1) (copy)

Make as many copies as no. of students/2 – cut out and give one wordsearch to each

S G T J P N X L E R A M Z J O G S I P O
S R W O I A P X Y E H P Y X Q F D P N E
M N O B W V V C O S T T O B U I L D D R
S R O T C A F L A C I S Y H P A N R E E
N J G U C B P I T L F J H W N Y G W Z C
L E N Q U A Y A I V K W K N S X Z C O X
V P K K D F F B X Z N D I D Q V P V L A
N X A G E B A L L H F N W O Y X A U A W
C V I Z Y L B L A I G A S B T Z A I X S
H E L D I W Y V C C E W V B I M R N C J
E Q Y A M B Q H O O I Q U K L S E P W W
J K V T T R A N S P O R T L I N K S Q X
G A X H Q C T O B O D D O L B K O F J I
G D U T D R I F T J E F J T I D G Z I N
L Q C O O R F X S Q J K L Z S C G D N S
D N A L F O E U L A V A I W S I D M Y H
K C S Y U M Q L H E C O L M E C H Z H C
C N I F G B A J H S E Y T C C W M L D N
P E U E Y Q J C L O T S T J C C M G T U
J U M M L E Z Q O L J X P Y A L I R A N



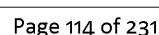
S G T J P N X L E R A M Z J O G S I P O
S R W O I A P X Y E H P Y X Q F D P N E
M N O B W V V C O S T T O B U I L D D R
S R O T C A F L A C I S Y H P A N R E E
N J G U C B P I T L F J H W N Y G W Z C
L E N Q U A Y A I V K W K N S X Z C O X
V P K K D F F B X Z N D I D Q V P V L A
N X A G E B A L L H F N W O Y X A U A W
C V I Z Y L B L A I G A S B T Z A I X S
H E L D I W Y V C C E W V B I M R N C J
E Q Y A M B Q H O O I Q U K L S E P W W
J K V T T R A N S P O R T L I N K S Q X
G A X H Q C T O B O D D O L B K O F J I
G D U T D R I F T J E F J T I D G Z I N
L Q C O O R F X S Q J K L Z S C G D N S
D N A L F O E U L A V A I W S I D M Y H
K C S Y U M Q L H E C O L M E C H Z H C
C N I F G B A J H S E Y T C C W M L D N
P E U E Y Q J C L O T S T J C C M G T U
J U M M L E Z Q O L J X P Y A L I R A N

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Resource sheet 1: Description and photos (1)

Make as many copies as no. of students – give one to each student

Land use description

These are residential areas built during previous centuries to house the workers of the city. The land use is characterised by a grid street system of smaller narrow, straight streets, two-down with small backyards. Pockets of deprivation exist in areas redeveloped in the twentieth century – often characterised by high-rise flats.

Late twentieth and twenty-first century development on the edge of the city is a style of modern, open and large areas of industrial estates, retail parks or business parks and of very modern design but built in the same materials and at the same time, except they are agglomerated with the urban area. Retail and leisure facilities have been built on site.

These are usually derelict or disused industrial areas that are undergoing redevelopment with environmental improvements (public art and open spaces) and the creation of a cultural quarter. They have invested in 'flagship' buildings – e.g. a new museum, a shopping centre, a stadium or a new live in the area. Architecture is characterised by reuse of heritage buildings alongside modern design.

This is an area of mid-twentieth-century housing (built in the 1930s) – mostly semi-detached and terraced bedroom houses with gardens. Land use is characterised by low-density housing and a grid street system (most roads connect, with small cul-de-sacs). There are pockets of deprivation in areas of high-rise flats and local high streets and parks.

Main roads circulate traffic around the centre of the city, where large multi-occupancy residential centres and office blocks, have been built. Some major squares and squares have been built for public traffic). The main bus station and rail station are located here.

Areas where manufacturing and industry was once located. This particular area was once a chocolate factory, a car factory and aircraft manufacturing. Some of the brownfield land has been cleared and redeveloped for modern industrial estates and business parks. Land use is characterised by large, densely packed buildings along with some derelict land.

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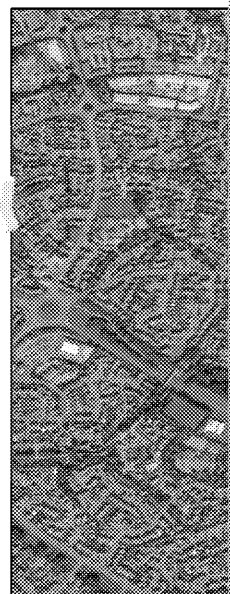
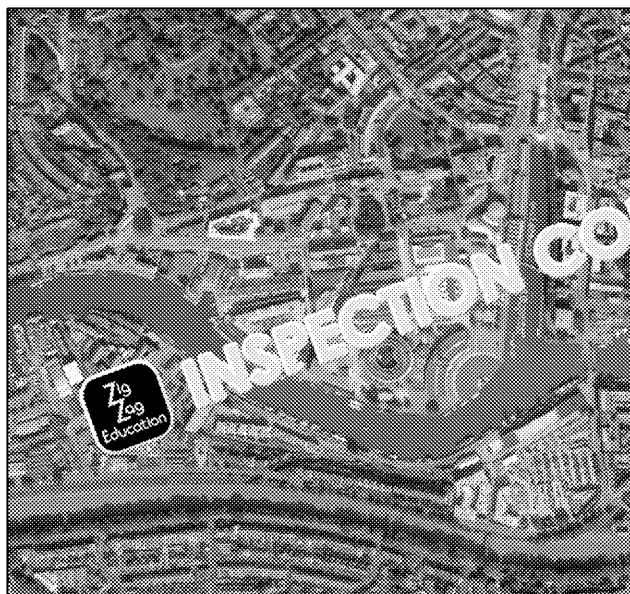
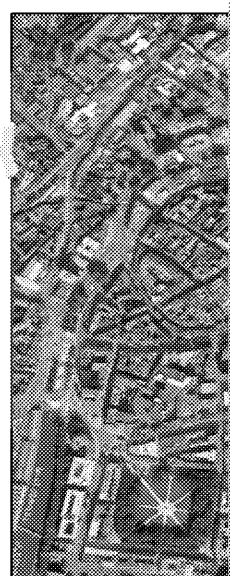
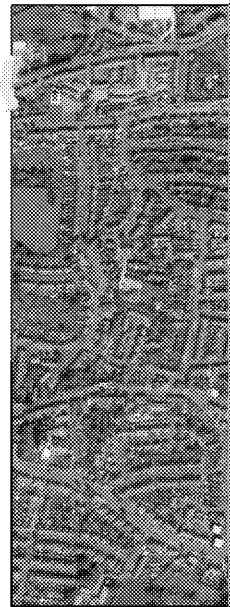
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Resource sheet 2: Satellite images (Task)

Make as many copies as no. of students – give one copy to each student

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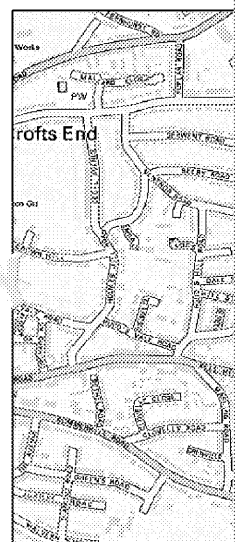
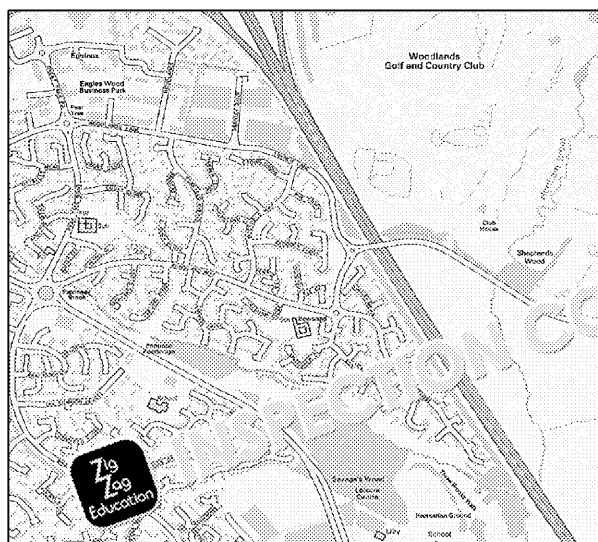
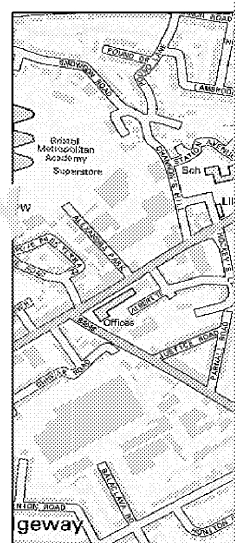
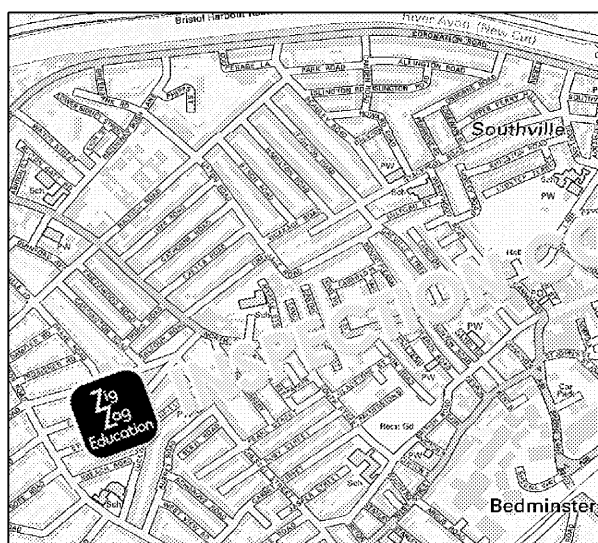
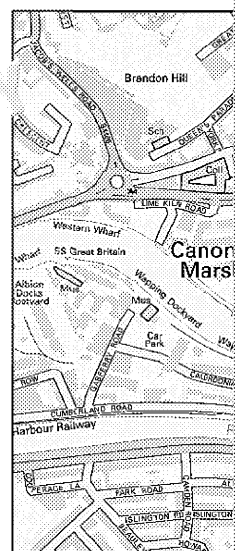
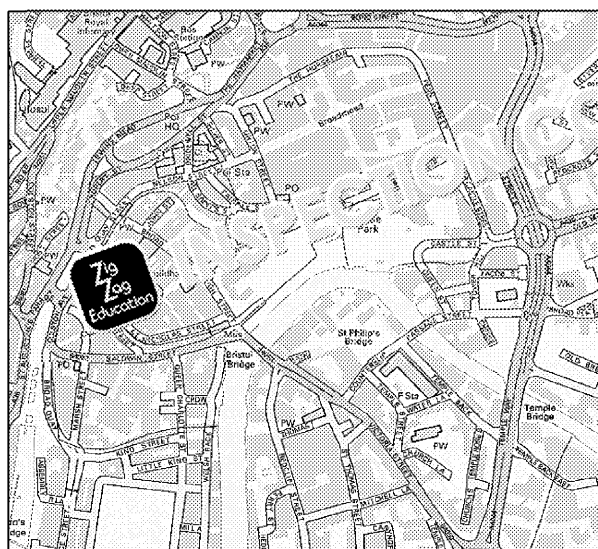
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Resource sheet 3: OS maps (Task 6.2)

Make as many copies as no. of students – give one to each student

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Land use fact file template (Task 6.2)

Copy duplex – make as many copies as no. of students – give one to each student

Commercial and retail (within the CBD)

<p>Attach land use description here</p>	
<p>Attach satellite image here</p>	

Inner city residential


<p>Attach land use description here</p>	
<p>Attach satellite image here</p>	

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Suburban residential

Attach land use description here	
 Attach satellite image here	

The urban-rural fringe


 Attach land use description here	
 Attach satellite image here 	

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Old industrial areas

Attach land use description here	
 Attach satellite image here	

Urban regeneration

 Attach land use description here	
 Attach satellite image here 	

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Bingo cards – Sheet 1 (Plenary 6)

Make one copy per game to be played – cut out and give one card to each student

Card 1		Planning regulations	Physical factors		Open space
		Commercial	Inner-city residential		Suburban residential
	The urban-rural fringe			Density	Retail

Card 2		Historical factors			
		Suburban residential			
		Accessibility			

Card 3		Open space	Out-of-town leisure park	Transport links	
	Layout	Accessibility			Areas of deprivation
		Historical factors		Building site availability	

Card 4					
		Building site availability			
		Physical features			

Card 5	Old industrial		Physical factors		Layout
	Open space		The urban-rural fringe		
	Building site availability	Areas of deprivation	Density		

Card 6		Suburban residential			
		Inner-city residential			
		Out-of-town leisure park			

Card 7		Density		Layout	Open space
		Physical features	The urban-rural fringe	Suburban residential	
	Out-of-town leisure park		Cost to build		Commercial

Card 8		Open space			
		Out-of-town leisure park			
		Retail			

Card 9			Physical factors	Open space	Transport links
	Availability		Areas of deprivation		Suburban residential
		Cost to build		Planning regulations	The urban-rural fringe

Card 10		Retail			
		Building site availability			
		Old industrial			

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Bingo cards – Sheet 2 (Plenary 6)

Make one copy per game to be played – cut out and give one card to each student

Card 11	The urban–rural fringe	Layout		Planning regulations
	Physical features		Transport links	Regeneration
	Out-of-town leisure park	Availability	Suburban residential	

Card 13	Availability	Historical factors		Value of land
		Cost to build		Accessibility
	Building size		The urban–rural fringe	Inner-city residential

Card 15	Value of land	Planning regulations	Out-of-town leisure park	
	Availability	Inner-city residential	Areas of deprivation	
	Density	Suburban residential		Old industrial

Card 17		Density		Planning regulations	Retail
		Old industrial		Suburban residential	Physical features
	Cost to build	Commercial	Open space		

Card 19	Planning regulations		Physical features	Regeneration	
		Old industrial	Accessibility		Retail
	The urban–rural fringe	Value of land		Areas of deprivation	

Card 12				
		Inner-city residential		

Card 14	Areas of deprivation			
	Commercial			
	Planning regulations			

Card 16	Commercial			
	Historical factors			
	Density			

Card 18				
		Regeneration		
		Density		

Card 20		Value of land		
		Commercial		

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Bingo cards – Sheet 3 (Plenary 6)

Make one copy per game to be played – cut out and give one card to each student

Card 21	Availability	Areas of deprivation			Suburban residential
	Inne residence	Open space			Physical features
			Commercial	Regeneration	Cost to build

Card 23		Historical factors		Cost to build	Suburban residential
	Areas of deprivation		Regeneration		Layout
	Out-of-town leisure park		Open space	Commercial	

Card 25	Suburban residential		Open space	Building size	
	Areas of deprivation		Planning regulations		Commercial
	The urban rural fringe		Value of land		Old industrial

Card 27			Suburban residential	Physical features	Transport links
		Layout	Retail	Availability	
	Open space	Building size	Cost to build		

Card 29	Commercial		Areas of deprivation	Out-of-town leisure park	
			Open space	Old industrial	
	Regeneration			Retail	Availability

Card 22	Value of	
	Cost to	

Card 24	Building	
	Physical features	

Card 26	Areas of deprivation	
	Building	

Card 28	Regeneration	
	Commercial	

Card 30	Accessibility	
	Physical features	
	Historical factors	

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Bingo cards – Sheet 4 (Plenary 6)

Make one copy per game to be played – cut out and give one card to each student

Card 31	Value of land	Retail		Transport links
	Availability	Inner-city residential	Cost to build	
	Physical features		Open space	The urban-rural fringe

Card 33	Value of land	Retail	Suburban residential	
			Areas of deprivation	Cost to build
	Accessibility		Inner-city residential	Planning regulations

Card 35	Availability	Out-of-town leisure park		Areas of deprivation
	Regeneration	Planning regulations	Layout	
	Physical features	Old industrial		The urban-rural fringe

Card 37	Density		Open space	Out-of-town leisure park
	Cost to build		Accessibility	Value of land
	The urban-rural fringe		Availability	Old industrial

Card 39	Layout		Planning regulations	Inner-city residential
	Accessibility			Value of land
	Suburban residential		Density	Transport links

Card 32	Physical features	
	Cost to build	
	The urban-rural fringe	

Card 34	Regeneration	

Card 36		
	Commercial	
	Inner-city residential	

Card 38	Planning regulations	
	Open space	

Card 40		
	Physical features	

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Bingo clues (Plenary 6.3)

Make one copy – for use by the teacher or chosen quizmaster

Clue	Read aloud:
1	This term is an influence on land use describing how much needs to be spent to develop a piece of land. This could be in terms of clearing the site of contamination or building adequate drainage to prevent flooding.
2	This term is a characteristic of land use describing the amount of land taken up by development.
3	This term is a type of land use describing areas of flats and houses in the centre of the city, the CBD. Houses are usually Victorian or older with areas of derelict land and industrial sites.
4	This term is an influence on land use describing how the landscape, bedrock, rivers and nature can all determine where development can take place.
5	This word is a characteristic of land use describing how much development has been built within an area.
6	This term is a type of land use describing areas where new development has been built on old industrial sites, bringing life back into derelict and run-down parts of the city.
7	This term is a type of land use describing areas where new housing development, retail, leisure and business parks are located. The countryside is only a short distance away.
8	This term is an influence on land use describing the power that the local authority has over what type of development is built where.
9	This term is a characteristic of land use describing areas of land that have not been built on.
10	This term is a type of land use describing areas where shopping and businesses providing indoor recreational activities gather together. They usually have lots of free parking to encourage people to spend time there.
11	This term is an influence on land use describing how the past uses of land, such as trade affect current use.
12	This word is a type of land use describing areas where offices and businesses are located.
13	This word is an influence on land use describing how easy it is to get to the land for shopping and recreational activities provided by a land use.
14	This word is a characteristic of land use describing the way roads, railways and public transport are arranged.
15	This word is a type of land use describing areas where shops gather together in the city centre or on the outskirts of the city.
16	This term is an influence on land use describing the provision of roads, railways, airports, buses and motorways within an area.
17	This term refers to parts of the city where people are struggling to afford a basic standard of living. They are usually residential areas with estates of social housing built in the 1950s and 1960s.
18	This term is an influence on land use describing how expensive the land is. The more expensive, the more likely it is to be used in ways that make most money, such as commerce rather than housing.
19	This term is a type of land use describing areas where manufacturing once took place. Most factories will have closed down during the last century and their sites are derelict and waiting for redevelopment.
20	This word is an influence on land use describing how much land there is that is available for development. When there is a shortage of land but lots of developers wanting to build, its value increases.
21	This term is a type of land use describing areas of housing surrounding the city, reaching as far as the outskirts of the urban area. Houses have been built from the 1930s onwards, often along transport corridors.

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Lesson 6: Answers

Abbreviation of Assessment Objectives (AO):

1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

6.1 Starter



T J P N X L E R A M Z J O G
 S R W O I A P X Y E H P Y X Q F
 M N O B W V V C O S T T O B U I
 S R O T C A F L A C I S Y H P A
 N J G U C B P I T L F J H W N Y
 L E N Q U A Y A I V K W K N S X
 V P K K D F E B X Z N D I D Q V
 N X A G E B A L L H F N W O Y X
 C V I Z Y L B L A I G A S B T Z
 H E L D I W Y V C E W V B I M
 E Q Y A M B Q H O O I Q U K L S
 J K V T T R A N S P O R T L I N
 G A X H Q C T O B O D D O L B K
 G D U T D R I F T E F J T I D
 L Q C O O T X S Q J K L Z F C
 D N A Z C E U L A V A I W S E
 K Y U M Q L H E C O L M E C
 E N I F G B A J H S E Y T C C W
 P E U E Y Q J C L O T S T J C C
 J U M M L E Z Q O L J X P Y A L



Accessibility	When there is a lot of demand for land from competing developers, land use that does not generate an income can be expensive. Land use that does not generate an income can be expensive. Land use that does not generate an income can be expensive.
Availability	The government sets out overarching planning policy in the form of the National Planning Policy Framework. It has the power to control where, what and how much development can take place. It also sets out certain rules about what can be built where and get permission to build.
Cost to build	Types of land use that require good access will be found close to transport links. Cycle routes and paths may need to be improved or created to encourage more people to use them.
Value of land	Land that is in high demand (e.g. because it is accessible and close to transport links) will be more expensive than land that is in low demand.
Historical factors	Land that is too difficult to develop, attractive or valued for its historical interest, or in open space, may be protected from development.
Physical features	Land that is not easily accessible (i.e. has good transport links) will be more expensive than land that is in low demand. Land uses including industrial and commercial.
Planning and regulation	The decline of industries and damage from war or natural disasters can leave land become derelict. The design and development of both housing and commercial buildings has changed over time. This can be seen in the character of different areas of a city.
Transport links	Land that hasn't been built on before is often cheaper and easier to develop. It may need to be cleared and any contamination removed. Large areas of land may need to be cleared and any contamination removed. Large areas of land may need to be cleared and any contamination removed.

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Extension 6.1.1

Examples could include:

- Value of land and any other factor – value increases the more desirable and easy to access.
- Planning regulations and historical factors or physical factors – planning regulations, natural beauty or biodiversity value.
- Transport links and accessibility or availability – land with good transport links is more desirable.

6.2 Task

(a) & (b) Total 24 marks

Land-use descriptions

1
2
3
4
5
6

Photos

A
B
C
D
E
F

Satellite images of Bristol

i	ii
iii	iv
v	vi

Land use	Description	Photo	Satellite
CBD	4	B	
Inner city residential	1	D	
Suburban residential	3	E	
Urban-rural fringe	2	A	
Old industrial areas	6	C	
Urban regeneration	3	F	

(c) AO2 Look for evidence that students have understood the principle types of land use and how they change from one to another based on what they have seen in London 5, and have described their own observations.

Extension 6.2.1

AO2 Limitation on the total 2 marks for each of (i) and (ii)

Developed countries	Developing countries
<ul style="list-style-type: none"> Cities have changed a lot since models were first developed. Re-urbanisation, counter-urbanisation and regeneration are happening differently for different cities. Cities are becoming specialised in particular areas of the economy so may be developing differently. 	<ul style="list-style-type: none"> Cities are developing differently. They have developed the economy at the same time. They are experiencing different challenges.

6.3 Plenary

Answers are on the Bingo clues worksheet.

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Lesson 7 Overview: Introducing Rio



Learning questions: What is the significance of Rio de Janeiro's site, situation and connectivity?

New key terms: site, situation, connectivity

Associated Task Sheet: 7 – pages 131 – 133

Associated PowerPoint file: Lesson 7.pptx

7.A Preparation

Worksheet and resources for photocopying:

For event	Description	Page(s)	Photocopies required
7.1	Crossword	134	Number of students
7.3	True-and-false cards	135	Number of students
7.4	Map of Rio de Janeiro	136	Number of students

Other resources you may need to provide:

- ✓ Atlas for Task 7.2
- ✓ Scissors for Task 7.3
- ✓ Glue, stapler or hole punch to attach worksheets

7.B Individual student planning

Use this section to tailor your lesson plan to individual students in your class.




	Student(s)	Detail of action
G&T		
SEN		
EAL		
Other		

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7.C Teaching and learning plan

Suggested time	Event	Instructions	Student worksheet
10 mins		<p>Instruction to students: <u>working independently</u>, complete the crossword of the location of a major city in an emerging country – Rio de Janeiro.</p> <p>Teaching strategy: <u>develop student knowledge</u> by leading discussion of answers at end of task.</p> <p>Learning outcome: All: know some of the key physical and cultural features of Rio de Janeiro.</p>	Work crossword
15 mins	7.2 Task	<p>Instruction to students: <u>working independently</u> compile a fact file on the location of Rio de Janeiro. Use an atlas to find the answers to the questions. Describe Rio de Janeiro's site and situation.</p> <p>Teaching strategy: <u>develop student skills</u> by offering advice on how to use the atlas and read the maps. Review correct answers during or at end of task.</p> <p>Learning outcome: All: know the location of Rio de Janeiro. Most: can describe the site and situation of Rio de Janeiro.</p>	Student atlas
20 mins		<p>Instruction to students: <u>working in pairs</u> play True or False to discover why Rio de Janeiro is important regionally, nationally and internationally. Record the nine facts on the table.</p> <p>Teaching strategy: <u>develop student understanding</u> by questioning how students decide whether the fact is true or false.</p> <p>Learning outcome: All: know the importance of Rio de Janeiro regionally, nationally and internationally. Some: apply knowledge and understanding to show how Rio de Janeiro is linked to the rest of Brazil, South America and the rest of the world.</p>	Cut-out-and-play true-and-false cards
15 mins	7.4 Plenary 	<p>Instruction to students: <u>working independently</u>, locate the signs of the city's connectivity from the map. Suggest reasons for the location of the CBD, expensive apartments and the favelas in terms of the city's site, situation and connectivity.</p> <p>Teaching strategy: <u>develop student understanding</u> by asking questions, e.g. How do people move around the city? How do goods move around the city? How do goods and people move in and out of the city? Where might they be coming from or going to? What is important for the city? How does it affect the influence of Rio de Janeiro, Brazil, South America, and the world? Lead class discussion of findings at the end of the task.</p> <p>Learning outcome: All: identify four signs of connectivity. Most: explain the significance of the city's connectivity. Some: use site, situation and connectivity to explain the location of the city's CBD, high-quality housing, and poor-quality housing.</p>	Map of Rio de Janeiro

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Lesson 7: Introducing Rio de Janeiro

Learning question: What is the significance of Rio de Janeiro's situation and connectivity?

Personalise digital resources map onto the purchasing structure on a single site and for their own use

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7.1 Starter

Across

- In 2012, the FIFA World Cup was held in Rio. Who came to play?
- Rio is built among these large rocky landforms.

Down

- Rio is famous the world over for this flamboyant event, when people dance in the street and everyone joins in the party.
- This major international sporting event was held here in 2016.
- Unlike the rest of South America, where Spanish is predominantly spoken, in Brazil they speak this language, beginning with P.
- Rio is beside the sea so has several of these sandy landforms.

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7.2 Task

Find the location of the major city of Rio de Janeiro in your atlas (use the index or contents page to guide you).

(a) Compile a 'fact file' for the city by finding the following facts:

- Country and continent
- Latitude and longitude
- Height above sea level
- Water bodies that form its coastline
- The climate (use a climate map)
- The capital city of Brazil
- The distance from Rio de Janeiro to the scale on the map and measure in km
- The significant line of latitude that runs upon
- The 10 countries that border Brazil

(b) Using your observations from the (a) and (b) situation.

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7.3 Task

You are going to play a game to identify the reasons why Rio de Janeiro is important to Brazil, South America and the wider world.

- In pairs, cut out one set of true-and-false cards without reading them. Deal out the cards face down.
- The first player should read out their first card without revealing whether the fact is true or false.
- The player must guess whether the fact about Rio de Janeiro is true or false. If they are correct, they win the card. If they guess incorrectly then the first player keeps that card.
- Then the second player reads their first card and the first player guesses true or false and so on until all the cards have been played.
- Count up how many you each correctly identified as true or false. The winner is the player with the most correct guesses.
- Make a record of the 9 facts that are true under the heading 'Reasons why Rio de Janeiro is of importance regionally, nationally and internationally' - you can just record the facts in bold text.

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7.4 Plenary

Rio de Janeiro is well connected to other countries. Goods can be imported and exported from here to the rest of the world.

7.4: Site, situation and connectivity of Rio de Janeiro

- Identify four signs of the city's connectivity.
- Be ready to explain why its connectivity is important for the city and its influence nationally, regionally and globally.

Atlantic Ocean

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Task Sheet 7: Introducing Rio de Janeiro

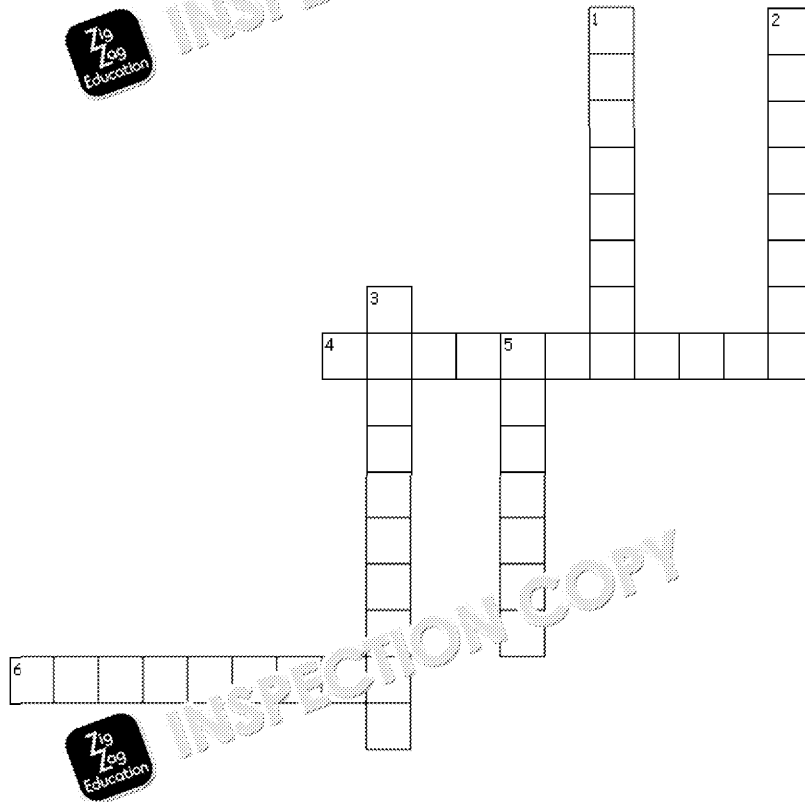


Learning questions: What is the significance of Rio de Janeiro's site, situation and connectivity?

New key terms: site, situation, connectivity

7.1 Starter

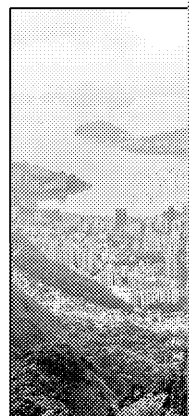
Use your existing knowledge and geographical learning to identify the basic facts about Rio de Janeiro.



7.2 Task

Rio de Janeiro is a megacity in an emerging country. In 2016, the wider metropolitan area of the city was home to 12,981 people. Situated on the Atlantic coast and surrounded by steep granite mountains, the city was designated a World Heritage Site in 2012 in recognition of its natural beauty and cultural significance to the world.

- (a) Use an atlas to compile a 'fact file' for the megacity. Include the following facts:
- Country and continent
 - Latitude and longitude
 - Height above sea level
 - Water bodies and its coastline
 - The climate (use a climate map)
 - The typical city of Brazil
 - The distance from Rio de Janeiro to the capital city – use the scale on the map and measure in km
 - The significant line of latitude that Rio de Janeiro almost lies upon
 - The 10 countries that border Brazil



The landmark statue of Christ the Redeemer, overlooking the city of Rio de Janeiro, Brazil.

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- (b) Using your observations from the photo and your fact file, describe Rio de Janeiro's:
- site
 - situation

Site: is the location of a settlement where the city has been built.

Situation: is the location of a settlement in relation to surrounding human and physical features, such as a river, close to a motorway.

7.3 Task

You are going to play a game to identify the reasons why Rio de Janeiro is important to the wider world.

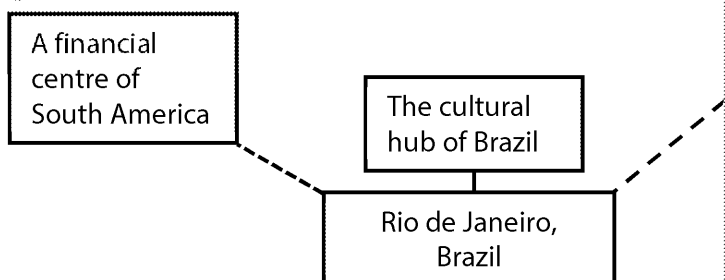
- In pairs, cut out one set of true-and-false cards without reading them. Do not reveal whether the facts are true or false.
- The first player reads out their first card without revealing whether it is true or false.
- The second player must guess whether the fact about Rio de Janeiro is true or false. If they guess incorrectly then the first player keeps that card.
- Then the second player reads their first card and the first player guesses whether it is true or false. If they guess incorrectly then the second player keeps that card.
- Count up how many you each correctly identified as true or false. The winner is the player with the most correct guesses.
- Make a record of the 11 facts that are true under the heading '*Reasons why Rio de Janeiro is important regionally, nationally and internationally*' – you can just record the facts if you wish.

Extension 7.3.1

Create your own diagram to show how Rio de Janeiro interacts with the rest of South America and the rest of the world. Below is an example to help you in your own way of displaying the information.

Key

International -----
Regional - - - - -
National _____



7.4 Plenary

Rio de Janeiro is well connected to other places in the world. Goods can be imported and exported through the city and distributed from here to the rest of the country. Study Figure 7.1: Site, situation and connectivity of Rio de Janeiro.

- Identify four signs of the city's connectivity.
- Be ready to explain why its connectivity is important for the city and its influence nationally, regionally and globally.

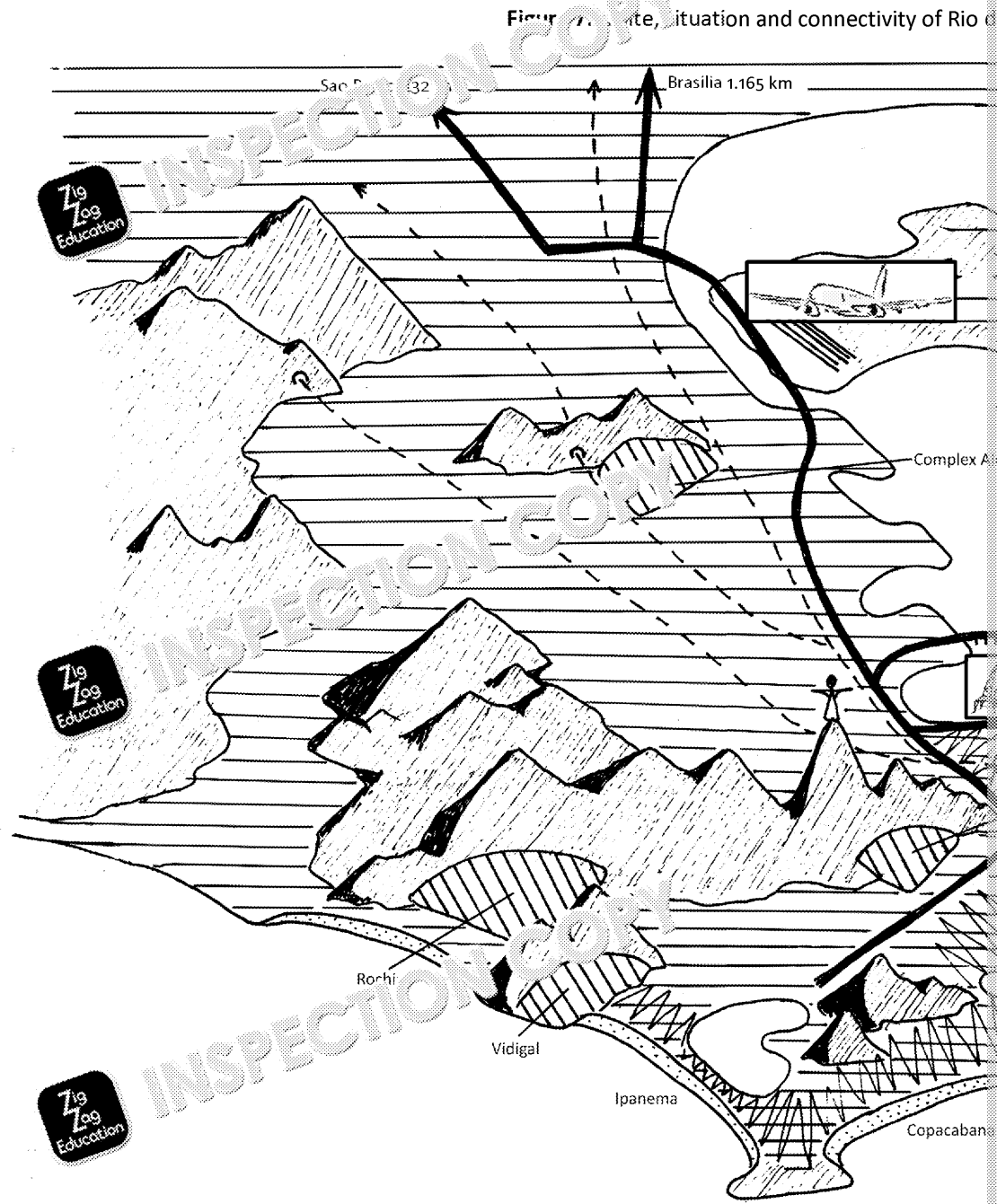
Extension 7.4.1

Suggest three locations linked to connectivity, site and situation for the location of Rio de Janeiro.

- central business district (CBD)
- most expensive apartments
- favelas (poor-quality housing)

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True-and-false cards (Task 7.3)

Make as many copies as students/2 – give students one between two

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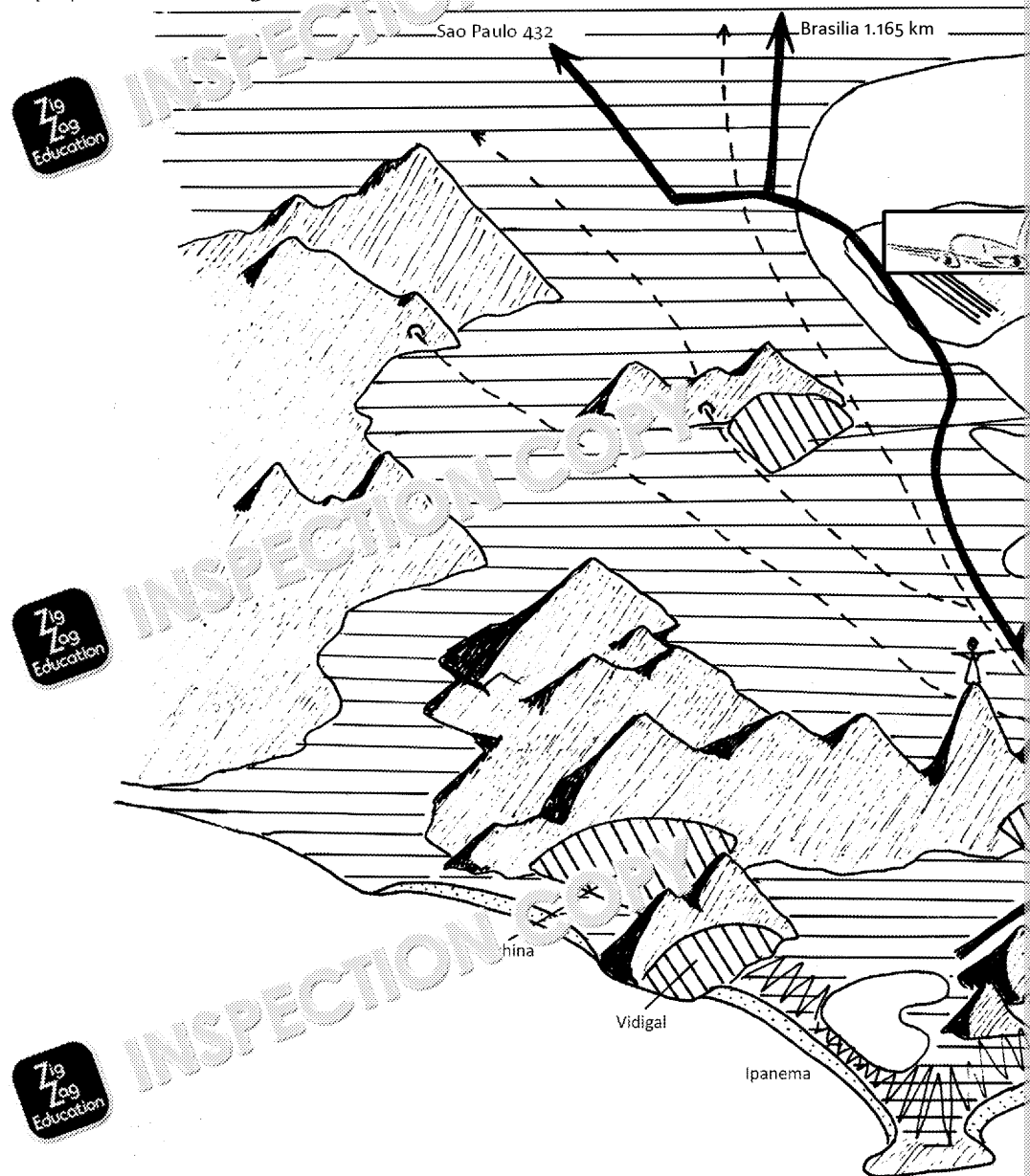
<p>Rio was Brazil's capital until 1960 and has a long history of Portuguese rule.</p> <p>TRUE</p>	<p>Construction is a Many unskilled wider region of S the cit</p>
<p>Rio has a industrial sector supporting a number of major manufacturing industries including processed foods, clothing and furniture, chemical, petroleum, pharmaceuticals and textiles.</p> <p>TRUE</p>	<p>The city is of int home of the head companies such as Vale (mining)</p>
<p>With more than 50 museums, an annual carnival, modern architecture, historic monuments and a long history, Rio de Janeiro is thought of as the cultural capital of Brazil.</p> <p>TRUE</p>	<p>Rio de Janeiro is mountain that attra an</p>
<p>Rio de Janeiro's most important exports are feathers and shiny headbands. These are made for the annual carnival and then sold in vast quantities to buyers in Europe and Australia.</p> <p>FALSE</p>	<p>Rio de Janeiro is two airports and and people to be region</p>
<p>Nickname 'th 'amous city', Rio de Janeiro is a globe because it is a significant economic cultural hub in South America.</p> <p>TRUE</p>	<p>Rio de Janeiro is o and is of internation lots of</p>
<p>Rio is important because it is Brazil and South America's main tourist destination, attracting 2.82 million visitors from around the world each year.</p> <p>TRUE</p>	<p>Hardly anybody vi an</p>
<p>Rio is the second largest city in Brazil after São Paulo. It had 6,476,600 people in 2015. Surrounding the city is a metropolitan area of 14,387,000 people</p>	<p>Rio is the capital o over 10 m</p>
<p>Rio de Janeiro has a new and growing quaternary sector specialising in electronics and computing.</p> <p>TRUE</p>	<p>Around 60% of t growing tertiary sec of jobs. It is import its financial and se</p>

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Map of Rio de Janeiro (Task 7.4)

Make as many copies as students/2 – give students one between two



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Lesson 7: Answers

Abbreviation of Assessment Objectives (AO):

1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

7.1 Starter

Across

4. football
6. mountains

Down

1. Carnival
2. Olympics
3. Portuguese
5. beaches

7.2 Task

- AO1 (a) (i) Brazil and South America
 (ii) 23° S and 43° W
 (iii) 0 m
 (iv) South Atlantic Ocean (it also sits on Guanabara Bay)
 (v) Rainy tropical climate, constantly wet throughout the year, annual rain average temperature: above 24° C in January and 16–24° C in July
 (vi) Brasilia
 (vii) 1,166 km (+/- 100 km)
 (viii) Tropic of Capricorn
 (ix) Argentina, Bolivia, Colombia, French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela
- (b) (i) Rio de Janeiro is built on a coastal plain, between mountains and sea.
 (ii) The city lies on Brazil's south coast on the South Atlantic Ocean between the mountains and the sea. It is the second largest city in Brazil and the nation's capital.

7.3 Task

Nine true statements indicated on the cards):

- Rio is the second largest city in Brazil after São Paulo. It had 6,476,600 people in its metropolitan area of 14,387,000 people. (N)
- Rio was Brazil's capital until 1960 and has a long history of Portuguese rule. (N)
- Nicknamed the 'Marvellous city', Rio de Janeiro is a global city because it is a significant city in South America. (I)
- Construction is an important activity in the city. There are many unskilled workers in the city. (N)
- Rio has a number of major manufacturing industries including processed foods, chemicals, petroleum, pharmaceuticals and textiles. It also has a new electronics and computer industry. (N)
- Rio is important for its financial and service industries, second only to São Paulo. It is the headquarters of Petrobrás – the state oil company – and the National Economic Development Bank. (N)
- With more than 50 museums, an annual carnival, modern architecture, historic architecture and a beautiful bay, Rio de Janeiro is thought of as the cultural capital of Brazil. (N)
- Rio is important because it is Brazil and South America's main tourist destination. It attracts millions of tourists around the world each year. (R & I)
- Rio de Janeiro is also a major transport hub, with two airports and five ports enabling goods and people to be transported in and out of the region and across the world. (R & I)

Extension

Diagrams show connectivity of Rio de Janeiro at different scales: international (I), regional (R) and national (N). Indicated above with a capital letter.

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7.4 Plenary

Signs of the city's connectivity are represented by the airports, port, railways and roads. People in an out of the city and Brazil. Explanations should reflect on routes in and out of the city and the purpose learned about in the previous task.

Extension 7.4.1

- Identify transport links in the boxes on the map.
- The most expensive apartments are located along the main line – most attractive close to airport, railway, port, CBD.
- The favelas are on the sides of mountains. It is difficult to develop and, therefore, people build houses illegally.



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Lesson Overview 8: The structure of



Learning questions: What is the structure of Rio de Janeiro?

New key terms: central business district, inner city, suburbs, rural-urban fr

Associated Task Sheet: 8 – pages 145 – 149

Associated PowerPoint file: Lesson 8.ppt

8.A Preparation

ICT – For 8.2 of the lesson, you could connect to the Internet to show satellite images of the city:

 <https://www.nasa.gov/feature/goddard/2016/nasa-to-aid-disaster-response>

Worksheets and resources for photocopying:

For event	Description	Page(s)	Photocopies required
8.2	Structure of land use model	150	Number of students
8.4	Urban function and building age	151	Number of students
8.4	Structure of Rio de Janeiro	152	Number of students

Other resources you may need to provide:

✓ Glue, stapler or hole punch to attach worksheets

8.B Individual student planning

Use this section to tailor your lesson plan to individual students in your class.




	Student(s)	Detail of action
G&T		
SEN		
EAL		
Other		

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8.C Teaching and learning plan

Suggested time	Event	Instructions	Student worksheet
10 mins	 Starter	<p>Instruction to students: <u>working in pairs</u>, discuss what a model is and how a land-use model for developing and emerging countries might be useful.</p> <p>Teaching strategy: <u>develop student knowledge</u> by referring students back to lesson 6, if this has been completed, or past learning from KS3.</p> <p>Lead discussion of answers.</p> <p>Learning outcome: All: suggest a definition for a model based on current knowledge. Most: understand what a land-use model does. Some: suggest how a land-use model can be used.</p>	
15 mins	8.2 Task 	<p>Instruction to students: <u>working in pairs</u>, recreate the model of land-use structure in emerging and developing countries.</p> <p>Teaching strategy: <u>develop student understanding</u> by helping students reinterpret the text on the model into their own words. Pick out keywords and explain, e.g. squatter settlement, permanent, quality, TNC, congregate, resource, accessible, CBD.</p> <p>Learning outcome: All: know the land uses of cities in emerging and developing countries and suggest a model. Most: explain the reasons why certain land uses occur in different parts of the city.</p>	Structure of land-use model
25 mins	8.3 Task 	<p>Instruction to students: <u>working independently</u>, answer the exam-style questions about the structure, pattern of spatial growth and urban function of Rio de Janeiro.</p> <p>Teaching strategy: <u>develop student understanding</u> by talking students through the development of the city using the images and maps. Concentrate on the difference in size, shape and spread of the urban area and how this relates to physical features of the land (students could be referred back to the map used for the planning in lesson 7 – site, situation, land use and connectivity of the city). More detail about population increase will focus on lesson 9.</p> <p>Learning outcome: All: know how Rio de Janeiro has grown over time, how its function has changed and the location of old and new buildings within the city. Most: understand the reasons why the city has grown as it has, why its urban function has changed and why buildings of different ages are found in different parts of the city. Some: suggest a diagrammatic representation of land use in Rio de Janeiro.</p>	

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Suggested time	Event	Teacher instructions	Student worksheet
10 mins	 8.4 Plenary	<p>Instruction to students: Working in pairs, match the text and photographs to the sketch map of Rio de Janeiro. Annotations are not necessary, but you should be able to explain your decision of where to place your annotations.</p> <p>Teaching strategy: develop student understanding and skills by drawing students' attention to characteristics of land use that they can observe in the photographs and key parts of the text. Students should use knowledge and understanding from tasks 8.2 and 8.3 to locate their annotations.</p> <p>Learning outcome: All: know examples of land use and corresponding age of buildings in different parts of Rio. Most: understand why the age of buildings and land use is different in different parts of Rio.</p>	Function and building age worksheet Land-use map of Rio de Janeiro

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Lesson 8: The structure of a megacity

Learning question: What is the structure of a megacity like Rio de Janeiro?

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8.1 Starter

- What is a megacity?
- What do you think a megacity is like?



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8.2 Task

(a) In pairs, create a model of the land-use structure of megacities in emerging or developing countries:

- First, take a coin to decide who will describe (heads) and who will draw (tails).
- Sit back to back so that you are not able to see each other.
- The describer will have a piece of paper with a diagram on it – they must describe what they see using only their own words (do not just read out the labels on the diagram – say what you understand).
- The drawer will have a blank piece of paper and a pencil – they must draw and make notes from what the describer describes.
- You can talk to each other about what you are both seeing, but you must not reveal what you have in front of you until your teacher asks you to stop and compare your land-use models.


(b) Look at the version of the model you have created. Discuss it out of to for accuracy. Identify the parts you have spotted as wrong. Sketch the model into your book or folder – try not to copy the original. Check and correct your work and add annotations in your own words.

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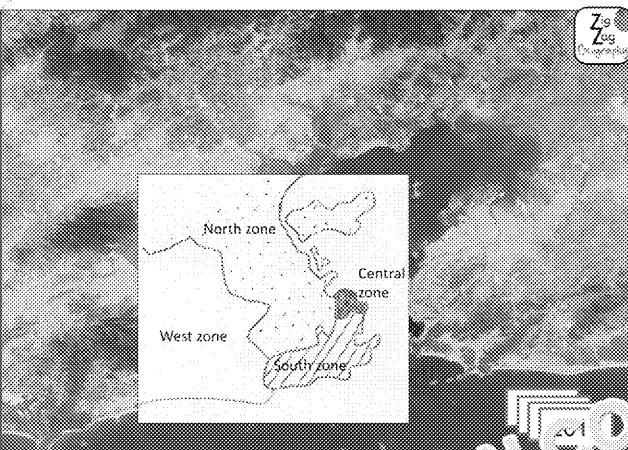
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8.3 Task

Rio de Janeiro has been developing rapidly since 2015. Its population was 12,902,000. It is now slowing down, but the population is still growing.




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8.4 Plenary



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Task Sheet 8: The structure of a




Learning questions: What is the structure of Rio de Janeiro?

New key terms: central business district, inner city, suburbs, rural-urban fr

8.1 Starter

Discuss with a partner and be ready to tell the class:

1. What is a model (the human kind!)?
2. What do we use models for?

We use  in geography to help us understand how processes work or how places are structured. As a class discuss:

- What does a land-use model do? and
- How could we use land-use models to help us understand the structure of cities in emerging and developing countries?

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8.2 Task

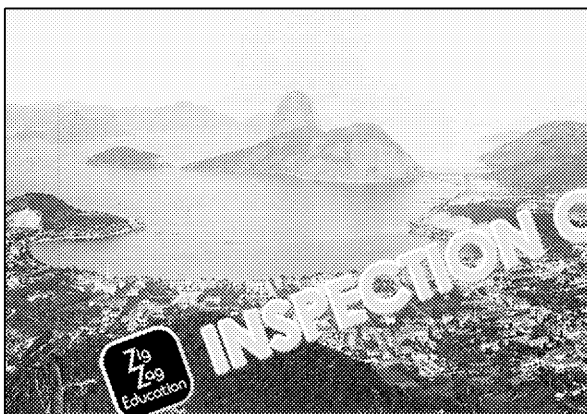
(a) In pairs, create a model of the land-use structure of megacities in emerging

- 1 First, toss a coin to decide who will describe (heads) and who will draw.
- 2 Sit back to back so that you are not able to see each other.
- 3 The describer will have a piece of paper with a diagram on it – they must describe only their own words (do not just read out the labels on the diagram).
- 4 The drawer will have a blank piece of paper and a pencil – they must draw what the describer describes.
- 5 You can talk to each other about what you are both seeing, but you must not look at each other's work until your teacher tells you to stop and compare your land-use models.

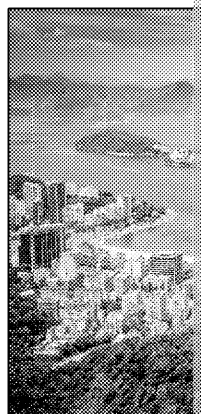
(b) Look at the version of the model you have created together. Give it a mark out of 10 for the parts you like, but on and where you have gone wrong. Sketch these parts on a new piece of paper. Now, check and correct your work and add any

8.3 Task

Rio de Janeiro has been developing rapidly since 1950 (growth rate peaked at 2.5% in 1950). The population was 12,902,000. Like many cities in emerging countries the rate of growth is still high. The population is still expected to increase by another 1.27 million people by 2030. Study the land-use maps from 1895 and 1929 and the satellite images of Rio de Janeiro. Answer the exam-style questions below.



Rio de Janeiro 1889



(land has been re

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- (a) At which location was Rio de Janeiro originally founded?
- On the southern coast of Brazil
 - On the south-west coast of Guanabara Bay
 - On the south-east coast of Guanabara Bay
 - On the northern coast of Guanabara Bay
- (b) In 1889, Rio de Janeiro became the capital of Brazil. Figure 8.2 shows how this time. The core area of the future city was created. Suggest what the likely to have been in 1895:
- It was well connected with the interior, Brazil's capital.
 - It was the safest place to escape invading French forces.
 - It was a natural trading port, situated in a natural harbour and protected from the Atlantic storms.
 - It was a great place to go on holiday.
- (c) Study Figures 8.2 and 8.3. Describe the pattern of urban growth between 1889 and 1929.
- (d) Using your existing knowledge (of why Rio de Janeiro is important), describe how the city has changed since 1885.
- (e) Study Figures 8.3 and 8.4:
- Describe the spatial change to the city between 1929 and 1984; and
 - suggest reasons for its rapid growth.
- (f) Suggest in which part of the modern city you would expect to find the following:
- The CBD
 - The oldest buildings
 - The newest buildings
 - Development from the 1930s-1970s
- (g) In recent years, the city has been growing outside its dense central core. Explain how and why this growth occurred in the inner suburbs and outer regions of the city. Suggest reasons why the city is situated to the north and west of the city where the land is flatter. Using your understanding, suggest both physical and economic reasons why the city has grown in this way.

Extension 8.3.1

As the population of Rio de Janeiro increased, development sprawled out to the north and west of the central core, creating a large metropolitan area. Using the information from this task, the model from task 8.2 and the map from lesson 7, construct a model of the urban structure of Rio de Janeiro today. The best way to do this is to think about the historic core of 1895. Start with by identifying what this is used for today. Then think about the city's spatial growth in chronological order.

Include these eight different areas in your diagram:

- CBD
- The rural hinterland (rural areas beyond the influence of the city)
- Inner core areas of high-quality housing, e.g. luxury apartments, hotels
- Old inner-city areas (within the original city boundary)
- Inner-suburban-urban fringe
- New outer suburbs (which have created the metropolitan area)
- Inner-city favelas where improvements have been made to housing and infrastructure, called 'periferias'
- New squatter settlements (favelas on the outskirts of the city)

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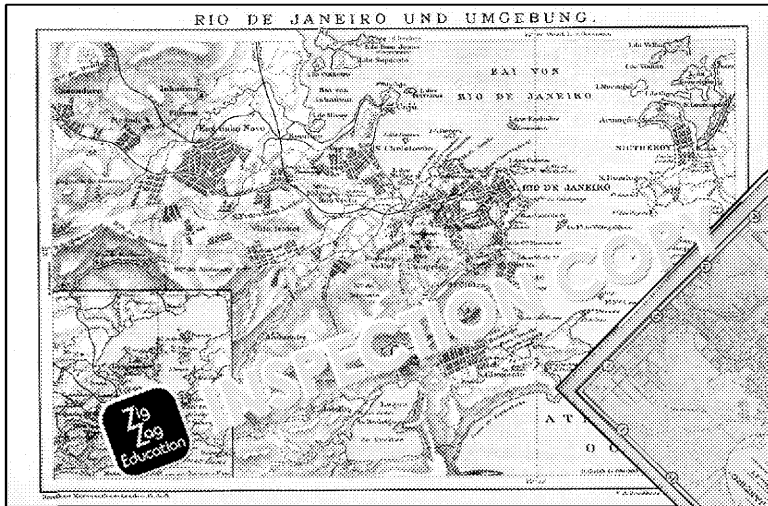


Figure 8



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If you have access to the Internet go to <https://www.nasa.gov/fedisaster-preparedness-in-rio-de-janeiro> to be able to swipe between satellite images and see the city grow before your eyes!

8.4 Plenary

Working with a partner, study the sketch map of land use in Rio de Janeiro. Discuss descriptions of urban function and photos of Rio de Janeiro. Annotate your sketch map with the location and age of buildings featured in the text and image. Be ready to explain where

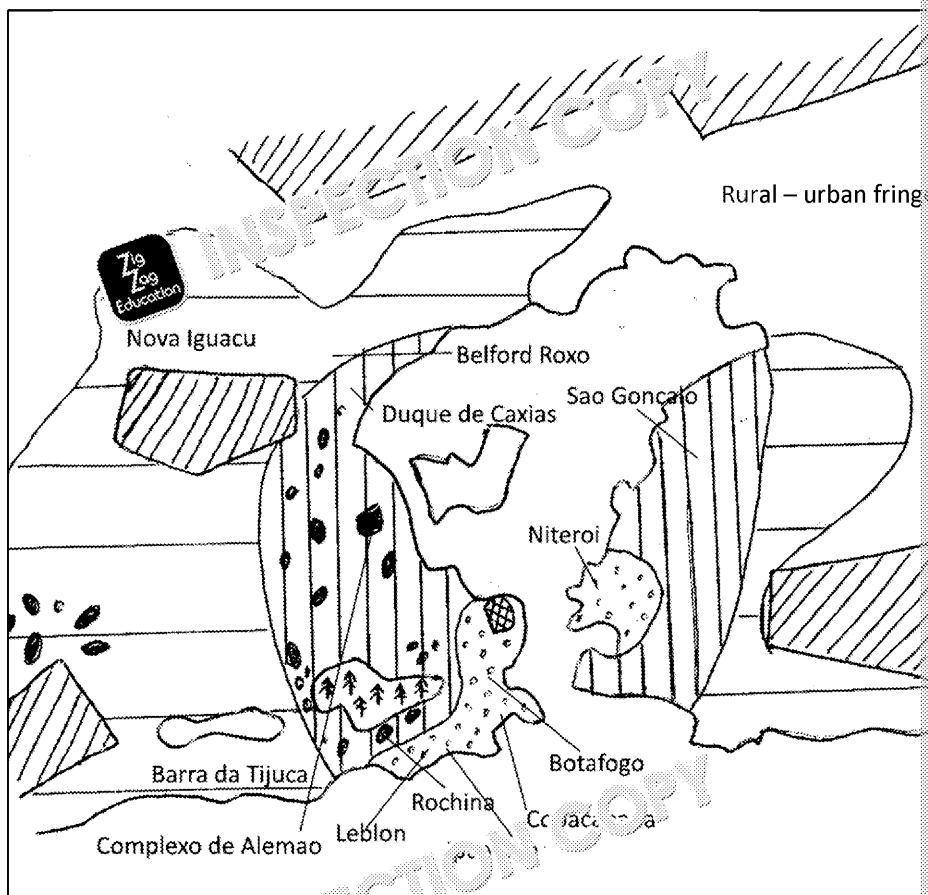


Figure 8.7: Sketch map of land use in Rio de Janeiro

<p>1. Some areas of land are so steep that they cannot be developed. In the south of the city there are mountains covered in rainforest and designated a national park.</p>	<p>2. As the city has grown north and west it has swallowed up other towns and cities to create a huge urban conurbation, e.g. Duque de Caxias and Belford Roxo, and more recently São Gonçalo and Nova Iguaçu.</p>	<p>3. New migrants who cannot afford houses in the city build makeshift homes on the outskirts (new favelas). They travel many miles each day to find work.</p>
<p>5. Older favelas perched on central mountainsides are being improved, e.g. Santa Marta, Rocinha, Complexo do Alemão. Homes have been replaced with clean water, sanitation, electricity supplies.</p>	<p>6. The historic centre of the city is sited around the city port. The central business district is still located here. The city is undergoing major improvements of this area to make it more attractive to TNCs.</p>	<p>7. In 1974, a bridge was built between Rio de Janeiro city and Niterói on the east coast of Guanabara Bay opened. This has allowed the growth of the metropolitan area of Rio de Janeiro across the bay.</p>

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A



B



C



D



E



F



G



H



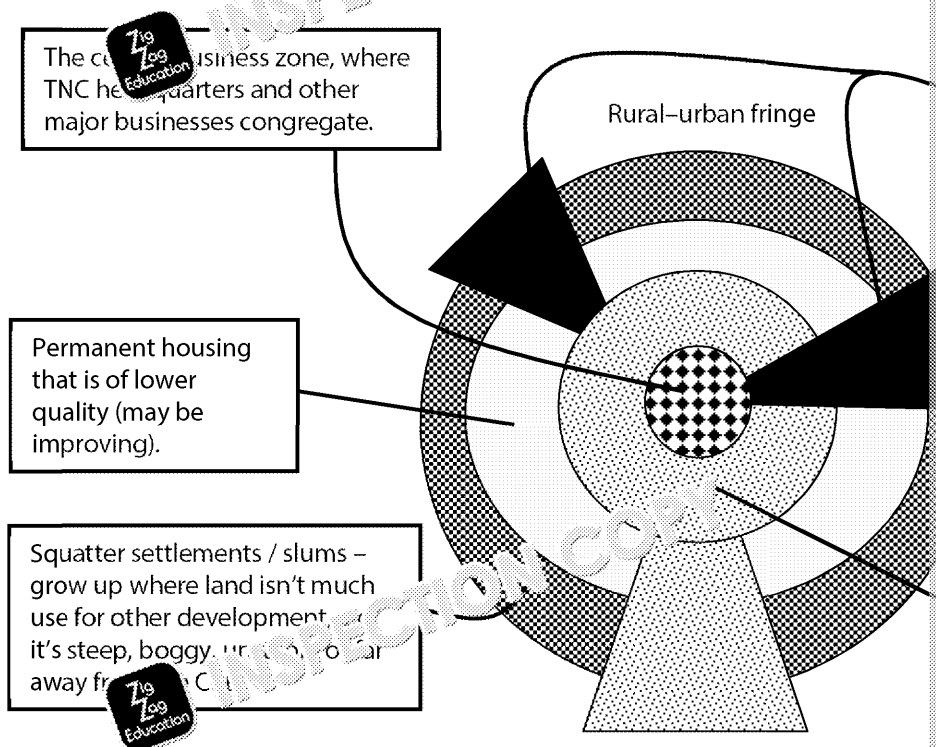
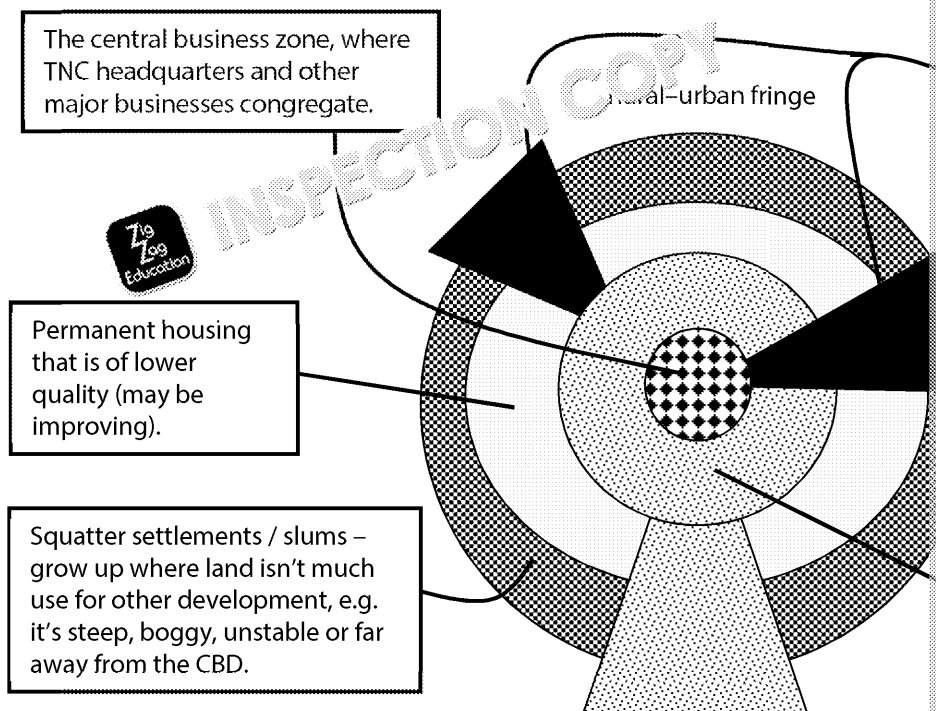
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Structure of land use model (Task 8.2)

Make as many copies as students/2 – give one diagram to each student

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Function and building age (Task 8.4)

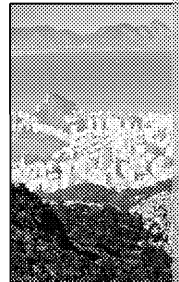
Make as many copies as students/2 – give students one between two

<p>1. Some areas of land are so steep that they cannot be developed. In the south of the city there are mountains covered in rainforest and designated a national park.</p>	<p>2. As the city has grown north and west it has swallowed up other towns and cities to create a huge urban conurbation, e.g. Duque de Caxias and Belford Roxo, and more recently São Gonçalo and Nova Iguaçu.</p>	<p>3. New migrants who cannot afford housing in the city build makeshift homes on the outskirts (new favelas). They travel many miles each day to find work.</p>
<p>5. Older buildings perched on central mountainsides are being improved, e.g. Santa Marta, Rocinha, Complexo do Alemão. Homes have been rebuilt with clean water, sanitation and electricity supplies.</p>	<p>6. The historic centre of the city is sited around the city port. The central business zone is still located here. The city is undergoing major improvements of this area to make it more attractive to TNCs.</p>	<p>7. In 1974, a bridge between Rio de Janeiro and Niterói on the east coast of Guanabara Bay opened. This has allowed the growth of the metropolitan area of Rio de Janeiro across the bay.</p>

A



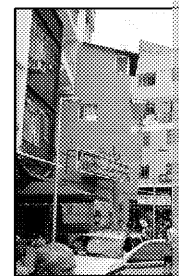
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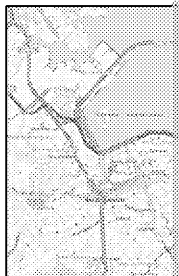
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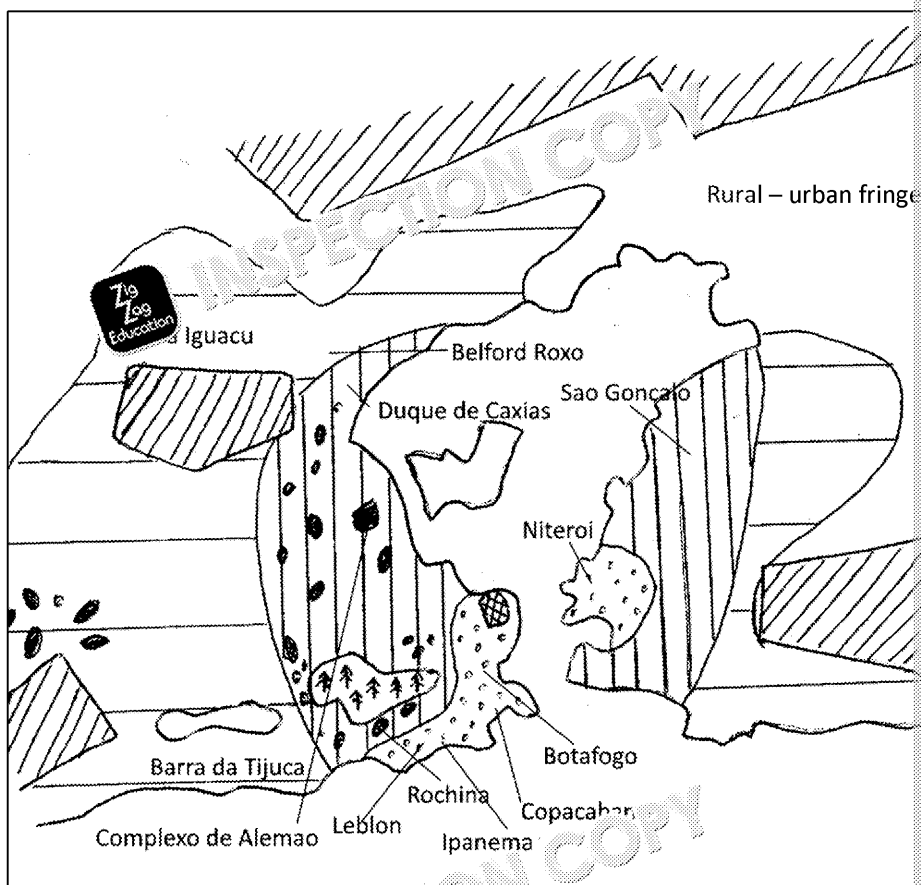
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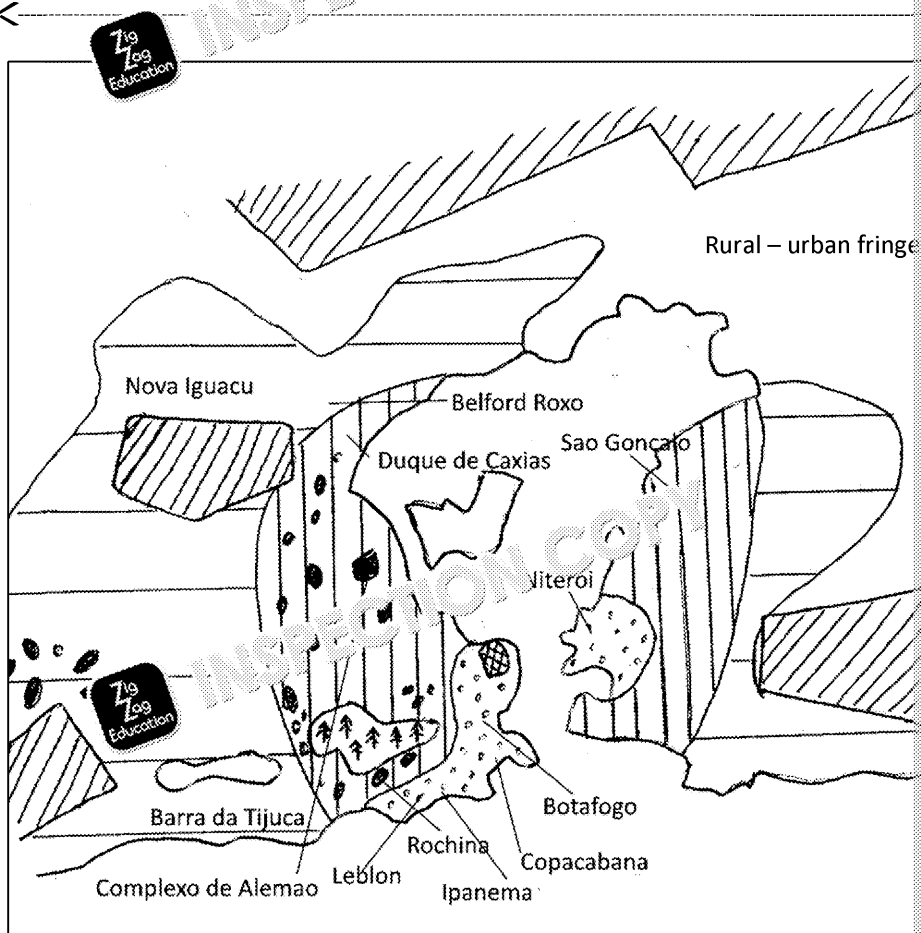


Structure of Rio de Janeiro (Task 8.4)

Make as many copies as students/2 – give one map to each student



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Lesson 8: Answers

Abbreviation of Assessment Objectives (AO):

1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

8.1 Starter

This is a free-thinking exercise. It is an open discussion so there are no right or wrong answers. It is a good way to introduce the topic. A land-use model, specifically a land-use model, is used to help us understand how places are structured.

Land-use model – suggestions (the class may come up with more):

- The model tells us what land use we might expect to see in a city and how it is arranged. It is not a map or exact representation of any particular place.
- It can be used to help us understand how the city grows and changes over time.

8.2 Task

AO1 and AO2

The correct model is that provided on the worksheet.

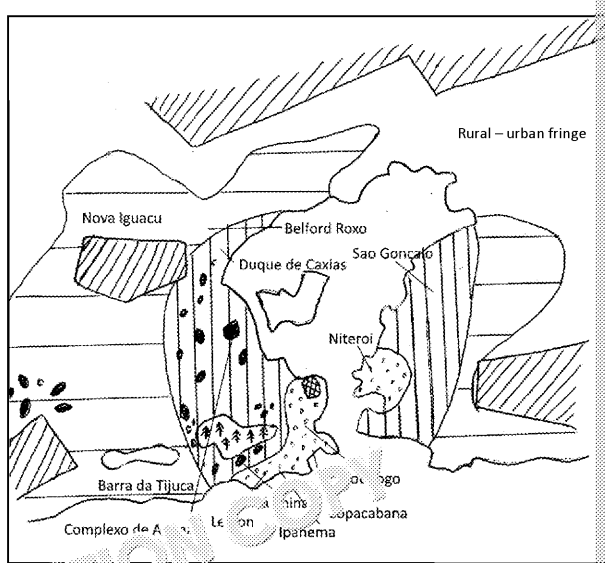
8.3 Task

Question	AO	Answer
(a)	AO1	(ii) On the south-west coast of Guanabara Bay
(b)	AO2	(iii) It was a major trading port, situated in a natural harbour on the Atlantic coast.
(c)	AO1	Credit 1 mark for each observation up to a maximum of two. For example: <ul style="list-style-type: none"> ▪ Increased density of development within the core area ▪ Expansion of development to the north-west ▪ Development along the coast to the south
(d)	AO2	Credit 1 mark for recognition of the change. For example: In 1885, the city was a major trading port. Today it is still a major port (with two airports) but also has other functions... Credit 1 mark for recognition of any one of the functions of the city today. <ul style="list-style-type: none"> ▪ Plays a key role in Brazil's economy, attracting migrants from other parts of the country ▪ Various manufacturing industries that are located there ▪ A regional and international tourist destination ▪ A specialist hub for electronics and computing in the region ▪ Regionally significant finance and service industries
(e)(i)	AO2	Credit 1 mark for each observation up to a maximum of two. For example: <ul style="list-style-type: none"> ▪ The density of development has increased ▪ The city has expanded to the north and west between the bay and the mountains ▪ Islands have been developed on ▪ Expansion of development across the flat plains to the north ▪ Expansion along the coastline to the west of the city ▪ Expansion and increased density of development on the eastern side of the bay
(e)(ii)	AO2	Credit any two reasons. For example: <ul style="list-style-type: none"> ▪ Migration from rural areas due to poor conditions. These include lack of land, natural disaster, poor standard of living, disease, lack of education and health services. ▪ Migration to the city as people are attracted to jobs in manufacturing and service industries, better housing, availability of education and health services.

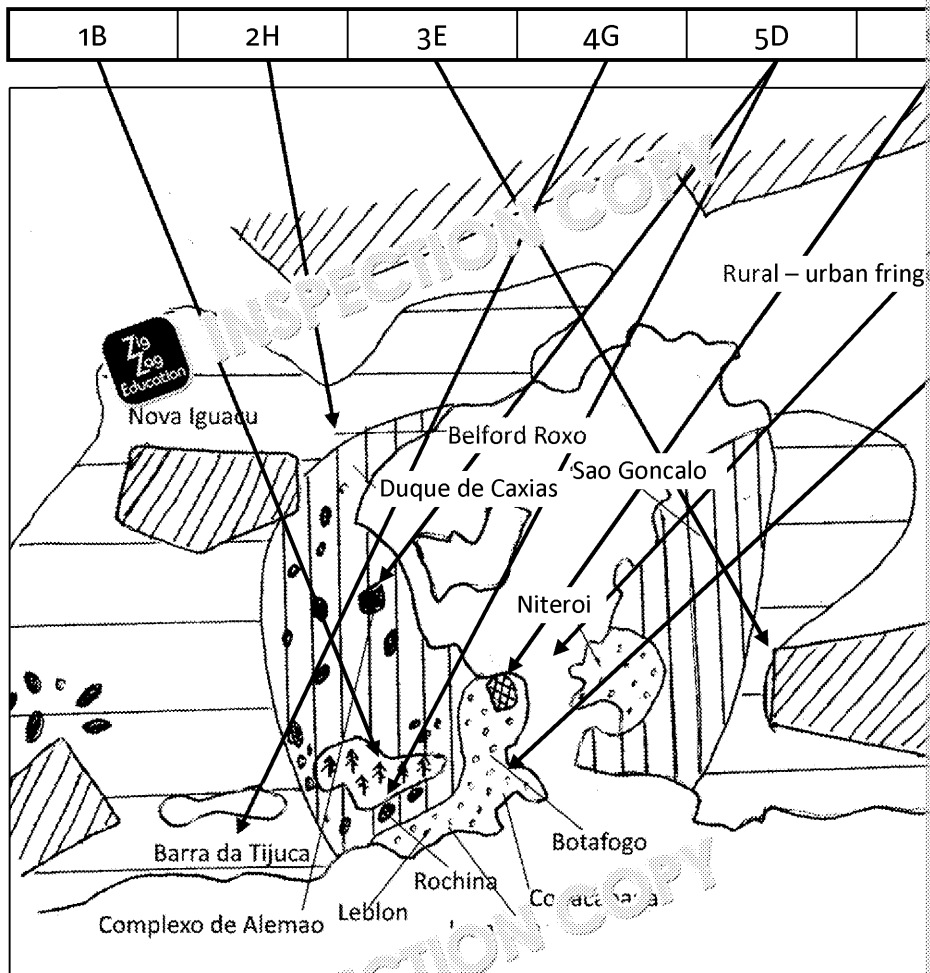
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Question	AO	Answer
(f)	AO2	<p>Credit 1 mark for each correct answer and 1 mark for an explanation.</p> <ol style="list-style-type: none"> South-east of the city where the city was originally located. Major transport hubs (railway and airport) are. It was also the original core of the city. In the south-east of the city where the city was originally located. On the outskirts of the city to the north and west – although replace old industrial buildings in the CBD. This is where new development is occurring. <p>The area between the south-east older core and the north-west new development is where the city can be seen to have grown between the 1920s and 1950s.</p>
(g)	AO3	<p>Credit 1 mark for each idea and 1 mark for an explanation – show economic and one physical.</p> <p>Must make links to past knowledge and understanding. For example, Lesson 6 land use:</p> <ul style="list-style-type: none"> Increase in density of suburbs due to demand for land – the people want to be closer in so developers infill wherever there is space. Land on outskirts of the city is undeveloped, which means it is therefore, cheaper to build on. Physical factors such as steep mountain sides mean development is limited – as these areas are developed, new development is pushed beyond the mountain range. <p>Lessons 4 and 5 urban economy and population change:</p> <ul style="list-style-type: none"> Migrants arriving in the city can't afford to live in the expensive city centre so they build homes in less expensive areas on the outskirts of the city. People are still attracted to the city for jobs and better quality of life so the population is still increasing, the city continues to grow.
Extension	AO3	<p>This is a diagram that could be accurate for Rio de Janeiro. All of the following could be included on the diagram – use the sketch map to check for comparison of accuracy.</p> 

8.4 Task
AO1 and AO2



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Lesson 9 Overview: Population growth



Learning questions: How and why has the population of Rio de Janeiro

New key terms: natural increase, economic investment, growth

Associated Task Sheet: 9 – pages 162 – 165

Associated PowerPoint file: Lesson 9.ppt

9.A Preparation

Worksheet and resources for photocopying:

For event	Description	Page(s)	Photocopies required
9.4	Past and present trends in population growth	166	Number of students

Other resources you may need to provide:

- ✓ Glue, stapler or hole punch to attach worksheets

9.B Individual student planning

Use this section to tailor your lesson plan to individual students in your class.




	Student(s)	Detail of action
G&T		
SEN		
EAL		
Other		

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9.C Teaching and learning plan

Suggested time	Event	Teacher instructions	Student worksheet
10 mins	 9.1 Starter	<p>Instruction to students: <u>working in pairs</u>, unjumble the sentences to show how to read graphs in geography.</p> <p>Teaching strategy: <u>develop student knowledge</u> by reiterating the meaning and purpose of key concepts: trend, difference, annual and decadal % change, percentage calculations, rate of change.</p> <p>Learning outcome: All: have an accurate record of how to read graphs. Most: can identify the correct methods needed to calculate different measurements from graphs. Some: understand the different purposes and methods used to find different measurements from graphs.</p>	
15 mins	 9.2 Task	<p>Instruction to students: <u>working independently</u>, use the graph showing population change in Rio de Janeiro from 1650 to 2010 to answer the questions.</p> <p>Teaching strategy: <u>develop student skills</u> by referring students to the methodologies they used in the starter activity. Lead class discussion to answer questions.</p> <p>Learning outcome: All: use data from the graph to describe and calculate trends in population growth in Rio de Janeiro. Most: know how the population has changed since 1650 and how growth varied across significant time periods. Some: predict future growth of the population based on previous knowledge and understanding of development and urban growth.</p>	
10 mins	 9.3 Task	<p>Instruction to students: <u>working independently</u>, identify causes of natural increase in urban areas.</p> <p>Teaching strategy: lead class discussion of answers and <u>develop student understanding</u> by relating differences in living conditions between developing, emerging and developed countries to variations in natural increase.</p> <p>Learning outcome: All: know how and why natural increase occurs. Most: calculate the natural increase of Rio de Janeiro in 2016. Some: suggest reasons why natural increase in Rio de Janeiro is actually a natural decrease, e.g. living conditions are still poor for many people, meaning they get ill more easily and are less able to get medical treatment.</p>	

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Suggested time	Event	Task instructions	Student worksheets	PPT slide
15 mins	9.4 Task	<p>Instruction to students: <u>working in pairs and then independently</u>, sort the reasons for increasing population into the correct time period, and indicate which relate to national migration, international migration, economic investment and growth or natural increase. <u>Students</u> compare how population increase will have affected the spatial growth of the city.</p> <p>Teaching strategy: <u>develop student understanding</u> by prompting students to consider whether the descriptions relate to people moving within or into Brazil as a result of government policy and TNC investment or increasing economic investment and creating growth – or natural increase. <u>Develop student application</u> by asking questions to which they can make links to past learning about the spatial growth of the city (lesson 8), e.g. how did the city change as a result of this?</p> <p>Learning outcome: All: know the reasons why population grew during time periods: colonial, postcolonial, industrialisation, post-industrialisation. Most: understand the reasons for the different growth rate of the population during each time period. Some: make links to the spatial growth of the city.</p>	Past and present trends in population growth.	11 – 13
10 mins	9.5 Plenary	<p>Instruction to students: listen to your teacher read Sophia's story. Indicate that you understand the concept of push and pull factors – use the method outlined in the task or create your own method as a class.</p> <p>Teaching strategy: <u>develop student understanding</u> by asking students why they have stood up, moved their arms in the air or put their arms on their hips. Lead a class discussion and possibly a vote as to whether Sophia should move to the city. Ask students to say why they made their decisions.</p> <p>Learning outcome: All: know what push and pull factors are. Most: can give examples of push and pull factors affecting people migrating to Rio de Janeiro from rural Brazil. Some: can explain what the pressures or opportunities are creating the push and pull factors.</p>		14

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Lesson 9: Population growth in Rio de Janeiro

Learning question: Why and why has the population of Rio de Janeiro changed?

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9.1 Starter

Unjumble the sentences to discover what a trend is.

Always try to refer to specific things when you say something is changing / and say whether it is increasing or decreasing. / – what you see happening in the graph.

A trend is the way something is changing over time. / if you are asked to describe a trend, you should say whether it is increasing or decreasing. / Always try to refer to specific things when you say something is changing / and say what direction the change is in.

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2. on a trend take the value of the first away / an increase in value and / from the second – a positive answer indicates / To calculate the difference between two points / a negative answer indicates a decrease in value.

To calculate the difference between two points on a trend, you should take the value of the first away from the value of the second. / a positive answer indicates an increase in value and / a negative answer indicates a decrease in value.

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3. then value b must be at least as large as value a / experienced in a year or over a decade. / The annual or decadal percentage change is calculated as: $\frac{\text{value b} - \text{value a}}{\text{value a}} \times 100$.

The annual or decadal percentage change is calculated as: $\frac{\text{value b} - \text{value a}}{\text{value a}} \times 100$.

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4. When a population is already large a small percentage increase can mean / e.g. between cities, countries, continents that might be different sizes / Percentage calculations help us make comparisons, / many thousands more people. / or between different time periods for the same city or country.

Percentage calculations help us make comparisons, e.g. between cities, countries, continents that might be different sizes, or between different time periods for the same city or country. / When a population is already large a small percentage increase can mean many thousands more people.

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You can see this clearly in a line graph. / is happening / not just how much it is changing / when the change is slower. / Rate of change is closer to flat, the slower the change is happening.

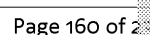
Rate of change is closer to flat, the slower the change is happening. / not just how much it is changing / You can see this clearly in a line graph. / The line appears to be rising / quickly and is becoming flatter. / The closer the line is to the horizontal axis, the slower the change is happening.

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Continuing industrialisation (1980 to present day)

There is a growing tertiary sector attracting skilled migrants from across the South American global region. [IM]

Between 1960 and 2015, the proportion of the population of Brazil living in rural areas decreased from 53.8% to 12.3%. [NI]

During the 1990s, the city experienced an economic slump. The mountainside favelas in the south grew while wealthier residents moved out to suburbs such as Barra da Tijuca. [IM]

International sporting events have brought an increase in construction and tourism in the city, attracting unskilled workers from rural areas. [IM] & [E]

In the 1970s, major oilfields were discovered off the coast of Rio de Janeiro. The city has grown as a result of a boom in associated petrochemical industries. [E]

Squatter settlements grew on the outskirts of the city, drawing migrants from rural areas into the city for housing in the city.

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Edexcel B GCSE Topic 5: Challenges of an urbanising world

9.5 Plenary

Significant numbers of people continue to migrate to Rio de Janeiro, as many as 100,000 people every hour!

They may come from within the country, from a different country, sometimes from a different continent. The movement of people from rural areas to urban areas (rural-urban migration) is common as a country develops.

For Edexcel B GCSE Topic 5: Challenges of an urbanising world

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Task Sheet 9: Population growth in



Learning questions: How and why has the population of Rio de Janeiro

New key terms: natural increase, economic investment, growth

9.1 Starter

Unjumble the sentences to discover how to read graphs in geography:

1. Always try to refer to specific data points / **A trend** is the way in which something is going, e.g. increasing or decreasing. / – so if you are what is happening in the data.
2. on a trend take the value of the first away / an increase in value and / from indicates / **To calculate the difference** between two points / a negative an
3. then value b must be at least double the value of value a. / the % change year period. / If the answer is over 100% / **The annual or decadal percent** – value a) ÷ value b × 100.
4. When a population is already large a small percentage increase can mean continents that might be different sizes / **Percentage calculations** help us thousands more people. / When a city is small a small percentage increase time periods for the same city or country. / mean only a small increase in
5. You can see this clearly in a line graph. / The line appears steeper when it is changing. / quickly and is less steep when the change is slower. / **Rat** change / The closer to flat the slower the change.

9.2 Task

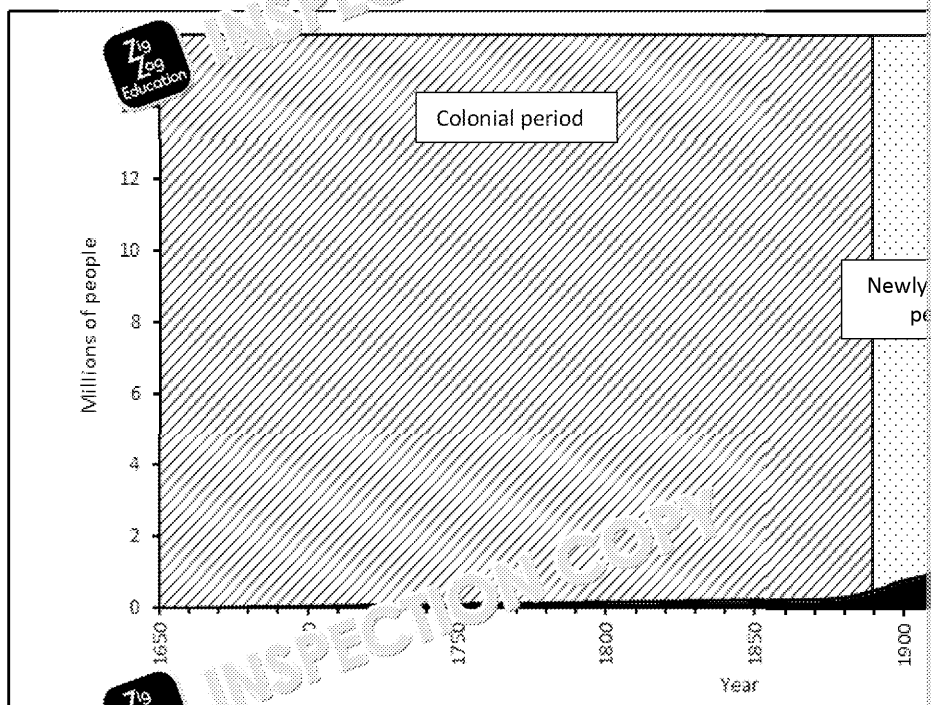


Figure 9.1: Population of Rio de Janeiro from 1660 and predicted to 1900
Data source: United Nations 2014

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Figure 9.1 shows the population of Rio de Janeiro 1660 to 2030 (in millions). The trends across four different time periods. Study the graph and answer the questions.

- Name the time period when the population increased most rapidly.
- Name the time period which had the slowest rate of population increase.
- Calculate the rate of change of the city's population over the following time periods:
 - 1890 and 1940 (when the population was 55,000 and 1,764,000 people)
 - 1940 and 1980 (when the population was 1,764,000 and 8,784,000 people)

Extension 9.2.1

Describe the changes in Rio de Janeiro's population from 1650 to the present day, identifying significant periods in the city's history and when it became a megacity.

- ✓ Refer to dates and name of each time period.
- ✓ Refer to the trend in population growth (i.e. increasing or decreasing).
- ✓ Quote data from Figure 9.1.
- ✓ Note the point at which the city became a megacity.

Extension 9.2.2

Using your knowledge and understanding from previous lessons, predict how the population of the city will change in future, within the next:

- decade
- 50 years
- century

9.3 Task

While migration has had a major impact on the population of Rio de Janeiro, so has the fact that more people are being born within the city than dying there – this is called **natural increase**. There are several reasons why this might happen – usually it is because the birth rate is increasing and the death rate is decreasing.

$$\text{Birth rate} = \frac{\text{no. of births in a year} \times 1000}{\text{Total population}}$$

$$\text{Death rate} = \frac{\text{no. of deaths in a year} \times 1000}{\text{Total population}}$$

Choose the correct reasons from the table below to explain:

- why the number of births within a city could increase (2 reasons); and
- why the number of deaths within a city could decrease (2 reasons).

Improved health services bring better antenatal care for pregnant women. More babies are likely to be born healthy.	Women put off having children because the wish to pursue careers so they are likely to have less children.
There are fewer old people in the population so fewer people are dying.	More young adults (18–35) in the population means more people starting families.

Extension 9.3.1


In 2016, the estimated birth rate of Rio de Janeiro was 4.3 births/1,000 population and the death rate was 6.6 deaths/1,000 population. Calculate the natural increase or decrease in the population. Suggest reasons for this result. (<http://www.indexmundi.com/brazil/demographic>)

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9.4 Task

- (a) There have been many reasons for past and present trends in Rio de Janeiro.
- Make a table like the one below and sort the reasons into the correct period.
 - Use a key to highlight reasons that relate to: national migration, international migration, investment and growth, and natural increase.

Colonial period (1568 to 1889)	Newly republican period (1889–1930)	Rapid industrialisation (1940–1980s)
		

During the 1950s, squatter villages began to develop in areas of the city that were difficult to develop, e.g. mountainsides.	During the 1950s, transnational companies (TNCs) were keen to exploit the natural resources of the country.	The government of the new republic of Brazil were keen to attract industry to their city and encourage growth.
In the 1700s, migrants came from elsewhere in Brazil for diamonds and gold.	Many rural poor have moved to Rio de Janeiro because industrialisation created job opportunities.	Squatter settlements continue to grow on the outskirts of the city as new unskilled migrants from rural areas are unable to afford housing in the city.
Between 1960 and 2015, the proportion of the population of Brazil living in rural areas decreased from 53.8% to 14.3%.	In the noughties, major oilfields were discovered off the coast of Rio de Janeiro. The city has grown as a result of a boom in associated petrochemical industries.	Increasing food insecurity, landlessness and natural hazards have forced the poor to abandon the countryside in large numbers.
There is a growing tertiary sector attracting skilled migrants from across the South American global region.	International sporting events have brought an influx of construction and tourism in the city, attracting unskilled workers from rural areas.	In the 1960s, offshore oil and gas fields were built and industrial development zones designated around the edge of the city.

- (b) For each time period write a paragraph to summarise how the population growth of the city. Refer to national migration, international migration, investment and growth.

9.5 Plenary

Significant numbers of people continue to migrate to Rio de Janeiro, as many as 10 people every hour! People move to towns and cities for different reasons depending on their personal circumstances and where they come from. Some will arrive from other towns and cities, some from villages and rural areas. They may come from within the country or from a different country, sometimes a different continent. The movement of people from rural areas to urban areas (rural-urban migration) is common as a country develops. A growing population mean that some people will seek a better quality of life elsewhere (economic opportunities (because there are more jobs that need doing) and so a better standard of living (education and healthcare)).

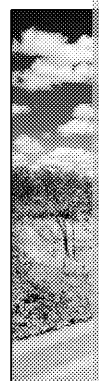
Push factors
people to
move to

Pull factors
people to

Listen to your teacher read Sophia's story. When you hear a reason why Sophia might move, put your arms in the air if it sounds like a push factor, put your hands on your hips if it sounds like a pull factor.

Now read Sophia's story again, to yourself. What do you believe that Sophia should do? Write your answer.

Sophia Silva lives in the Mirante region of NE Brazil. She dreams of a better life for her four children where they can go to school, she has enough money to buy them books and they don't have to struggle to afford food. It is hot and dry where she lives, not much grows and there is little water. She wonders if life would be better in a city, maybe Salvador (200 km) or Rio de Janeiro (600 km). She knows that life in Rio would not be perfect. She has heard stories about migrant families who have been discriminated against and she has no education or training herself.



Her husband Miguel lives in Rio de Janeiro, but he has only been able to visit once. The city is very crowded. It is a shanty town built on the side of a hill. They have managed to make houses out of concrete and are connected to water and electricity. There are jobs in the city cleaning and selling on the streets. There are schools where she can give her a job. She is honest and willing to work hard but Rio has a lot of crime. She worries her children would get caught up with drugs and gangs.

In Mirante life is very difficult. There has not been any rain now for several weeks. The weather is starting to say there will be a drought. Sophia believes that the weather is bad. Her mother and brother have both died in the last six months. She couldn't get to the nearest hospital is over 200 miles away. She worries what she will do if the drought continues. This is her home. She has lived here all her life and her parents and their friends live here. Should she leave and take her children to Rio de Janeiro?

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Past and present trends in population growth

Make as many copies as students/2 – give one set to each student

During the 1950s, squatter villages began to develop in areas of the city that were difficult to develop, e.g. mountainsides.	During the 1950s, transnational companies (TNCs) were keen to exploit the natural resources of the country.	The government of the republic of Brazil wanted to attract industry to the capital city and encourage growth.
In the 1700s, migrants came from Europe looking for diamonds and gold.	Many rural poor have moved to Rio de Janeiro because industrialisation created job opportunities.	Squatter settlements continue to grow on the outskirts of the city as unskilled migrants from rural areas are unable to afford housing in the city.
Between 1960 and 2015, the proportion of the population of Brazil living in rural areas decreased from 53.8% to 14.3%.	In the noughties, major oilfields were discovered off the coast of Rio de Janeiro. The city has grown as a result of a boom in associated petrochemical industries.	Increasing food insecurity, land reform and natural hazards have forced rural poor to abandon the countryside in large numbers.
There is a growing tertiary sector attracting skilled migrants from across the South American global region.	International sporting events have brought an increase in construction and tourism in the city, attracting unskilled workers from rural areas.	In the 1960s, offshore oil and gas fields were discovered and industrial development zones designated at the edge of the city.

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Lesson 9: Answers

Abbreviation of Assessment Objectives (AO):

1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

9.1 Starter

1. **A trend** is the way in which something is changing / – so if you are asked to describe what has happened in the data. / Always try to refer to specific data points / and say what is increasing / decreasing.
2. **To calculate the difference** between two points / on a trend take the value of the positive answer indicates / an increase in value and / a negative answer indicates a decrease.
3. **The annual or decadal percentage change** is / the % change experienced in a year (value b – value a) ÷ value a × 100. / If the answer is over 100% / then value b must be more than double value a.
4. **Percentage calculations** help us make comparisons, e.g. between cities, countries or sizes / or between different time periods for the same city or country. / When a percentage increase can mean / many thousands more people. / When a city is 50% larger / mean only a small increase in the actual size of the population.
5. **Rate of change** tells us the speed of change / not just how much it is changing. / The line appears steeper when change is happening / quickly and is less steep when change is slow / to flat, the slower the change.

9.2 Task

For self-assessment

Question	AO	Answer
(a)	AO4	Industrialisation
(b)	AO4	Colonial period
(c)	AO4	(i) $(1,764,000 - 523,000)/50 =$ growing by an average of 24,880 per year (ii) $(8,784,000 - 1,764,000)/40 =$ growing by an average of 175,500 per year
Extension 9.2.1	AO2	For each time period: 1 mark for reference to dates and name of time period 1 mark for reference to direction of trend 1 mark for reference to data from Figure 9.1 1 mark for recognition of correct time period at which the city became a world city Example: <i>During the colonial period the population grew slowly from less than a million in 1890. During the newly republic period the population grew rapidly and the city tripled its population in the 50 years to 1,764,000. The city was transformed by rapid population growth. The population increase was a period of rapid industrialisation. Since 1980 growth has been at a slower rate as industrialisation has continued (continuing industrialisation). The city became a world city in the 1990s when its population passed 8 million.</i>

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9.2 Task (continued)

Question	AO	Answer
Extension 9.2.2	AO3	<p>Based on knowledge and understanding from previous lessons, (lesson 2), why cities are changing (lesson 3). No right or wrong marks for reasoning (maximum of two time period). For example:</p> <ul style="list-style-type: none"> 10 years – city is likely to continue to grow at this rate for the continuation of rural-urban migration and evolution of secondary industries, urbanisation of Brazil reaches maximum 50 years – growth will slow but continue – continued evolution of secondary industries, urbanisation of Brazil reaches maximum 100 years – growth will have slowed and possibly reversed. Urbanisation reached its maximum some time ago and other parts of America have developed and are attracting people to live and work there.

9.3 Task

- (a) Births increase:
- More young adults (18–35) in the population means more people starting families.
 - Improved health services bring better antenatal care for pregnant women. More babies are born.
- (b) Deaths decrease:
- There are fewer old people in the population so fewer people are dying.
 - Access to clean water reduces outbreaks of cholera and dysentery.

Extension 9.3.1

Could recognise and explain any/all of the following:

- Birth rate is a change over time, not a definitive number – it is a reduction of the high numbers.
- There is no mention of death rates; if these are decreasing, then overall population will increase.
- If the number of births still exceeds the number of deaths, then the population will increase.

9.4 Task

- (a) AO2 Credit 1 mark for each correct statement and 1 mark for each correct label: [NM] naturalisation, [IM] international migration, [EI] economic investment

Colonial period (1568 to 1889)	Newly republic period (1890–1940)	Rapid industrialisation (1940–1980s)
<p>Around 1660, there were about 8,000 people in the city, mostly slaves brought from Africa to work in the sugar plantations. [IM]</p> <p>In the 1700s, migrants came from Europe looking for diamonds and gold. [IM]</p>	<p>The government of the new republic of Brazil were keen to attract industry to their capital city and encourage growth. [EI]</p>	<p>Increasing food insecurity, land reform and natural hazards forced the rural poor to abandon the countryside in large numbers. [NM]</p> <p>Many rural poor have moved to Rio de Janeiro because of industrialisation creating opportunities. [EI] & [IM]</p> <p>During the 1940s, the government lost control of the city's growth. Migrants arrived in such numbers that the city authorities could not house them. [NM]</p> <p>During the 1950s, squatter villages began to develop in areas of the city that were difficult to develop, especially mountainsides. [NM]</p>

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		<p>In the 1960s, offshore oil and gas fields were built and industrial development zones designated around the edge of the city. [EI]</p> <p>During the 1950s, transnational companies (TNCs) were keen to exploit the natural resources of the country. [EI]</p> <p>Since 1974, the population of rural Brazil has decreased from 42.5 million to 29.7 million. [NI]</p>	<p>moved out to suburbs such as Barra da Tijuca. [NM]</p> <p>In the noughties, major oilfields were discovered off the coast of Rio de Janeiro. The city has grown as a result of a boom in associated petrochemical industries. [EI]</p> <p>International sporting events have brought an increase in construction and tourism to the city, attracting millions of workers to the areas. [NI]</p>
3	3	5	5

- (b) Paragraphs should summarise the content of the table, include the key terms 'national migration', 'international migration', 'economic investment and growth' and 'natural increase', and may quote data from Figure 9.1. Credit 3 marks for first two paragraphs and 5 for second two. 16 marks

9.5 Plenary

Sophia's story	Commentary	Push or Pull factors
<i>Sophia Silva lives in the Mirante region of NE Brazil. She dreams of a better life for her four children where they can...</i>		
<i>... go to school, she has enough money to buy them books and they don't have to struggle to afford food.</i>	Sets out what she wants – no reference to city or village	
It is hot and dry where she lives, not much grows and there is little water.	Poor environmental conditions in the village	Push
<i>She wonders if life would be better in a city, maybe Salvador (200 km) or Rio de Janeiro (600 km). She knows that life in Rio would not be perfect. She has heard stories about migrant families who have been discriminated against and she has no education or training herself. Her husband Miguel lives in Rio de Janeiro, but he has only been able to find a place in a favela to stay. The favela is very crowded. It is a shanty town built on the side of a mountain,</i>	Highlights negative aspects of city life – will be useful to consider in decision-making exercise	
but some people have managed to make houses out of concrete and are connected to water and electricity supplies.	Better living conditions in the city	Pull
There are jobs in the city cleaning and selling on the streets. There are lots of rich people who might give her a job.	More job opportunities in the city	Pull
<i>She is honest and willing to work hard but Rio has a lot of crime and she worries that her children would get caught up with drugs and gangs.</i>	Highlights negative aspects of city life – will be useful to consider in decision-making exercise	
In Mirante life is very difficult. There has not been any rain now for eight months and people are starting to say there will be a drought.	Drought in the village	Push
Sophia believes that the weather helps disease to spread. Her mother and brother have both died in the last six months. She couldn't get them to a doctor and the nearest hospital is over 200 miles away.	Lack of access to healthcare in the village	Push
<i>She worries what she will do if her children get sick. But this is her home. She has lived here all her life and her parents and their parents lived here before that.</i>	Highlights positive aspects of village life – will be useful to consider in decision-making exercise	
Should she leave and take her children to Rio de Janeiro?		

This is a free-thinking exercise – there are no right or wrong answers. Peer-assessment
 Students should give reasoned responses relating to the story in their answer to whether
 Rio de Janeiro:

Yes	
<ul style="list-style-type: none"> More job opportunities in the city Better living conditions in the city Drought in the village Lack of access to healthcare in the village Poor environmental conditions in the village 	<ul style="list-style-type: none"> Rio has a lot of crime She would get caught She has lived here Her parents lived here Migrant families She has no education The favela is very close to the side of a mountain

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Lesson 10 Overview: Opportunities and challenges



Learning questions: What are the opportunities for people living in Rio de Janeiro? What challenges does rapid population growth create?

New key terms: social opportunities, economic opportunities

Associated Task Sheet: 10 – pages 177–180

Associated PowerPoint file: Lesson 10.pptx

10.A Preparation

Worksheet resources for photocopying:

For event	Description	Page(s)	Photocopies required
10.2	Opportunities and challenges Information Sheets 1–3	176 – 178	Copy to A3 – make 3 copies
10.2	Opportunities and challenges analysis sheet	179	Number of students
10.3	Opportunities and challenges plenary	180	Number of students

Other resources you may need to provide:

✓ Glue, stapler or hole punch to attach worksheets

10.B Individual student planning

Use this section to tailor your lesson plan for individual students in your class.




	Student	Detail of action
G&T		
SEN		
EAL		
Other		

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10.C Teaching and learning plan

Suggested time	Event	Task instructions	Session work
10 mins	 10.1 Starter	Instruction to students: <u>working as a class</u> , compare and contrast the images of Rio de Janeiro: 1. Copacabana beach 2. Cantaglo favela Teaching strategy: <u>develop student skills</u> . Lead discussion of similarities and differences that students have identified. Learning outcome: All: recognise features of economic and social opportunities in Rio de Janeiro. Most: understand that there are variations in quality of life across the city. Some: suggest reasons for variations in quality of life, i.e. relating observations to the different social and economic opportunities in the two locations.	
40 mins (approx. 5 mins per challenge)	 10.2 Main	Instruction to students: <u>working in groups of five</u> , move around the room visiting the 'Opportunities and challenges of living in a megacity' fact sheets. Analyse the information about each of the six impacts of rapid population growth in Rio de Janeiro – employment, access to resources, housing, health, education, provision of services, and industrialisation and infrastructure. Identify the opportunities and challenges and record your findings on the analysis sheet. Note examples for future revision. Teaching strategy: <u>develop student knowledge, understanding and application</u> . Circulate and provoke thinking by questioning students about the material. Learning outcome: All: identify the opportunities and challenges created by the impacts of rapid population change. Most: understand how these are changing with increasing growth.	Analysis Distributing 'opportunities and challenges of living in a megacity' fact sheets around the room
10 mins	 10.3 Plenary	Instruction to students: <u>working independently</u> , sort the opportunities and challenges of rapid population growth into 'opportunities' and 'challenges'. Teaching strategy: <u>develop student understanding</u> by encouraging collaboration and discussion between students. Lead discussion on the answers and how the opportunities would be different in a developed country. Learning outcome: All: know which are opportunities and which are challenges of urban growth. Some: suggest differences between developed countries and Rio de Janeiro.	Opportunities and challenges

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Lesson 10: Opportunities and challenges of living in a megacity

Learning questions: What opportunities for living in a megacity are there? What challenges does rapid population growth create?

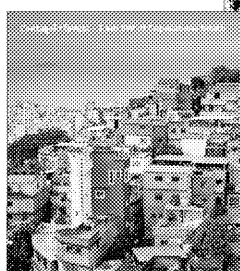
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10.1 Starter

Compare and contrast the two images of Rio de Janeiro, Brazil.

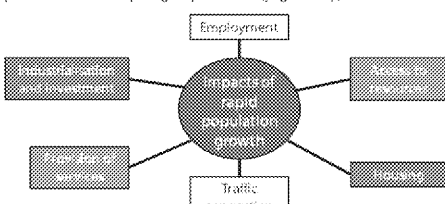
Why are the social and economic opportunities different in these two parts of the city?



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10.2 Task

Around the room are six resource sheets describing the impacts of rapid population growth on the people of Rio de Janeiro (a megacity in an emerging country).



Identify the **opportunities and challenges** that people are experiencing in the city. You should also be able to identify the **implications for the future** as the megacity continues to grow. How will different people's lives change?

Record your findings on your analysis sheet. You should also be able to identify the **implications for the future** as the megacity continues to grow. How will different people's lives change?

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10.3 Plenary

Opportunities and challenges of living in a megacity

If the weather is hot and water is scarce, people will be uncomfortable.	People will be able to enjoy the city's culture and history.
People will be able to enjoy the city's culture and history.	People will be able to enjoy the city's culture and history.
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Task Sheet 10: Opportunities and challenges of



Learning questions: What are the opportunities for people living in Rio de Janeiro? What challenges does rapid population growth create?

New key terms: social opportunities, economic opportunities

10.1 Starter

Compare and contrast the two images of Rio de Janeiro (a megacity in an emerging country). How are the social and economic opportunities different in the two places?

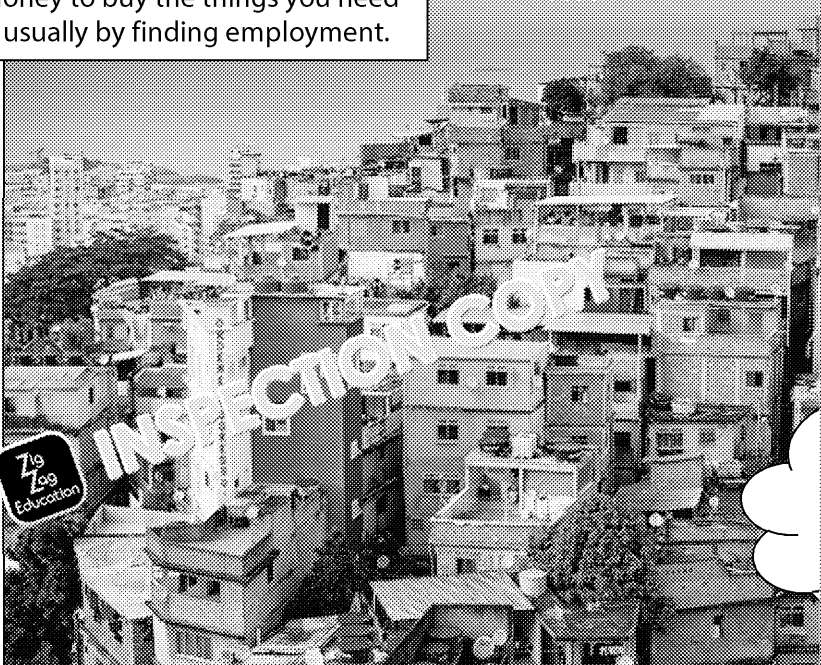


Copacabana beach – SE Rio de Janeiro



Economic opportunities are ways in which you can improve your standard of living by having a better income, i.e. more money to buy the things you need – this is usually by finding employment.

Cantagalo favela – 1 km from Copacabana beach



Social opportunities are ways in which people can improve their quality of life by having better access to education, healthcare, and recreation.

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10.2 Task

Around the room are six resource sheets describing the impacts of rapid population growth in Rio de Janeiro (a megacity in an emerging country). In groups, circulate around the room and identify the opportunities and challenges that people are experiencing and what the implications for the future as the megacity continues to grow and develop, e.g. what change? Record your findings on your analysis sheet. Remember to write down what is happening. You will need to look at these and use them when you answer the questions.

You have only a short time to complete the fact sheets will be swapped. Your teacher will be monitoring your progress so stay focused!

Extension 10.2.1

If you complete your analysis before the time is up, help other members of your group to construct their own thoughts by asking them questions. Where is it happening?

10.3 Plenary

Sort the opportunities and challenges created by rapid population growth in a city.

It is cheaper for energy and water companies to provide services to homes when they are close together and near to the source.	Clean water and sanitation systems built for a smaller population cannot cope with high demand.
Unskilled workers may find it hard to get work in well-paid jobs.	Air and water are polluted by waste and emissions from homes, industry and vehicles.
Electricity supplies may be tapped illegally if people cannot afford to get connected. This is dangerous.	Better access to services such as healthcare and education can be provided where lots of people live close together and there are qualified doctors and teachers.
Crime is much higher in the city but there is also a larger and better equipped police force.	Large numbers of people and vehicles on the transport network leads to congestion and delays.
The large number of urban poor looking for work provides a large labour force for menial and low-paid jobs that are essential to the city.	Large quantities of waste must be removed or it can lead to diseases such as dysentery and diarrhoea.

Opportunities created by rapid population growth	Challenges created by rapid population growth

Extension 10.3.1

Do you think that the opportunities and challenges faced by people in megacities would be the same or different to those in Rio de Janeiro (an emerging country)?

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Employment

Rio de Janeiro is an important centre for financial and manufacturing industries. Unskilled workers are needed to work in the many factories that have established in the south of the city. The booming construction industry also provides jobs for unskilled workers. The tertiary sector is growing as retail and service industries are attracted to the large market and skilled workforce. Jobs in these industries tend to go to people with the best education. As the economy grows it creates a multiplier effect.

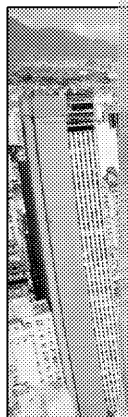


An estimated 60% of the workforce of the city are employed in the 'informal economy' – jobs created outside the usual employment laws, unprotected and untaxed. Workers are poorly

A multiplier effect describes the process by which something happening causes more of that thing to happen. In this case, when industrialisation occurs it creates jobs and attracts people to the city. This in turn attracts other industries to set up to provide services for those people, creating more jobs. The cycle continues, with the population growing ever larger.

paid, are not guaranteed work conditions, but because they are paid in cash these jobs are attractive to other employment (usually the entrepreneurial favela residents) who set up their own businesses in the favelas to sell goods to the people who live there.

Unemployment in the city is high. The city faces an economic recession, particularly affected, with 20%

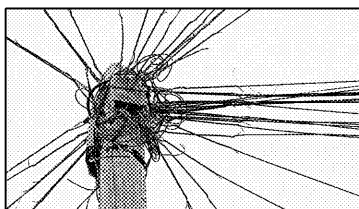


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Access to resources, e.g. energy, water and waste

Access to resources varies across the city. Wealthy areas are well connected and the city are gradually being connected to energy and water networks, but new outskirts of the city are not. Growing demand for resources has caused prices to rise and energy shortages. Until 2008, energy theft resulted in 64% of supply being taken



Janeiro's favelas. There was a lack of trust between customers and people were willing to risk their lives to connect their own cables to the electricity infrastructure in order to get power. Although crime in the favelas has been tackled by the UN – police pacifying programme – there have been problems with reliable and affordable electricity to residents.

It is the same story for clean water and sanitation. Wealthy areas are well provided with water and improving in some of the older favelas where some homes are connected to water. In the newer squatter settlements on the outskirts of the city people must travel to the city to get water. Sewage runs in open drains in the streets and polluted water causes diseases, e.g. cholera. People are so poor they cannot afford to pay for water.

Waste disposal in informal settlements is difficult because they are often built on steep, hilly land, making it impossible for refuse trucks to get around. Waste is abandoned on the street or in a wasteland. In favelas that have been formally recognised by the city authorities, collection points have been set up and waste is regularly removed. Wealthier areas have wider paved streets so bin lorries can collect rubbish easily. Gated communities have collection points from which rubbish is removed.



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Housing

Rio de Janeiro is surrounded by natural barriers – the Atlantic Ocean to the south, mountains and rainforest to the north and west. This makes growth difficult, and with lots of people wanting to build on the same piece of land the value increases. For development, builders want to get as many properties on the land as possible, so they build high-rise condominiums on apartment blocks.

The land that is difficult to build on – for example, on the sides of Rio's steep mountains – is used by the poor to create squatter settlements (in Rio de Janeiro these are known as favelas). They reuse materials they can find or that are cheap to buy, e.g. corrugated iron, broken bricks and plastic sheets. There are few roads due to the steepness of the land and the haphazard way the development has grown (no one has planned what should go where!). In heavy rains it can become very dangerous as landslides can happen, demolishing homes and killing people. The land does not belong to the person who built the house and ownership rights are only registered with the favela's residents' association, not protected in law.



Some favelas have been established for 50 years. But as a result of the government's conditions, some areas of favela have been demolished – their residents move 30 miles away from where they once lived. In some favelas new building regulations can't be built, and rates which charge residents for services provided by the government lead to the removal. Some favelas have a strong community spirit with local residents caring for each other, as having their unpaved streets concreted, electricity lines installed, and water and sewage runs down the street. They are hoping some of the funds from the Olympic Games will be used for basic plumbing and sanitation. Improvements to favelas also bring benefits to the surrounding city. For example, the value of condos increased in value by 30% a month after the police cleared a favela in Rio de Janeiro). Wealthier housing developments are often gated, and have shopping facilities on site.



Traffic congestion

Traffic congestion is particularly bad in the city. It can take 50% longer to reach the city centre. Car ownership has increased by 40% in the last decade. Some believe this is because of the cost of public transport where they may be victims of crime. Three deaths a day in the city is caused by exhaust fumes from the 2.7 million vehicles on Rio's roads, causing one person to die from deadly smog. People with heart and lung problems are particularly at risk.



Improvements are being made to the city's infrastructure. The Perimeter 1 road that carries traffic to the airport has been knocked down to allow the road to be replaced by a new six-lane road with three lanes in each direction to ease rush hour traffic. Even the new airport has been lengthened to run through an underground tunnel, taking traffic off central city roads. The new 21 km expressway connecting north and south of the city, an investment of \$1.5 billion, have removed 40% of the traffic from the city. Public transport systems are being improved.

There are also more cars. Four new rapid transit bus lines have been built to carry commuters in the city, reducing CO₂ emissions. The underground transit system (metro), which carries 1.5 million passengers each day, has recently been expanded.

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Provision of services, e.g. healthcare and education

There are two public hospitals in the city but they are always busy. A large number of private hospitals are available if you can afford to pay their increasing rates for treatment. In 2015, there was a significant financial investment in healthcare aiming to have a family health clinic for every 1,000 people. By 2016, 300 new or reformed health clinics (covering 70% of the city) had been opened. However, there has been a lack of doctors willing to commit to working long hours among them, and many clinics are that are difficult to reach and have few services and high crime rates.

As well as providing infants and screening women for cervical and breast cancer, the health authority has been the control of infectious diseases through education. Dengue fever is spread by mosquitoes, which don't discriminate between the wealthy and poor when it comes to infection. The sectors of the population are most likely to be well informed about the symptoms and are better able to seek medical attention. Mosquitoes breed in stagnant water, which is commonly found in areas of poor drainage and where there are no formal drainage systems, especially during the rainy season (December to March).

Rio de Janeiro has better literacy rates than rural areas of Brazil, with 90% of the population able to read and write. The 10% who do not benefit from an education are found mainly in the favelas. Many of children remain homeless. Although education is mandatory and free from primary to secondary school, many are too busy working to get their children to school. Some children may be seen working for themselves. Wealthy parents can often afford to send their children to private schools.

Although in 1995 Rio had 1,033 primary and 370 secondary schools, with a total of 100,000 pupils, there are insufficient schools in favelas to cater for the number of children. This leads to overcrowding and children must travel long distances to school. Only a few students can attend one of the 10 public schools and go on to one of six major universities or 47 private schools of higher education. There is a shortage of qualified teachers in the state education system. In 2015, one of the main reasons for the four months in protest was poor conditions and pay. Many teachers do not want to work in the favelas, concerned for their own and students' safety.

Industrialisation and investment

Rio de Janeiro has been industrialising since the 1940s, when the government encouraged the creation of industrial complexes in the region. As the population of the wider metropolitan area agglomerated to form the megacity we see today. There are still distinct impacts of industrialisation (see 10.1). Recent new discoveries of offshore oil fields and gas fields have led to the growth of oil refineries along Guanabara Bay, and a number of manufacturing industries are rapidly growing in the city, e.g. clothing and shoes, food processing, computing and electronics. The city's infrastructure (with two airports and five ports) makes it an ideal location for the headquarters of many of Brazil's top import-export companies, e.g. Petrobras and OGX (oil and gas), Vale (mining) and CSN (steel and cement).

Location
Duques de Caxias
Niterói
Volta Redonda
São Gonçalo

Table 10.1: Examples of industrial locations

Many thousands of new jobs have been created, but, as in many developing and emerging economies, the laws are often difficult to enforce, and there are no unions to defend workers' rights. For the 2016 Olympic Games, an estimated R\$2.83 billion (£740 million) of public money was spent on infrastructure and building new venues (another R\$4.24 billion from private investment would create a legacy for the city, but this has not been fairly distributed). For example, Barra da Tijuca, where the Olympic village and eight venues are located, has benefited from a new metro line, boosting the local economy, while poorer areas have seen little improvement.

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Opportunities and challenges analysis sheet

Make as many copies as students – give one to each student.

Challenge	Describe the opportunities, give examples	Describe the challenges, give examples
Industrialisation and investment		
Provision of services, e.g. health and education		
Access to resources, e.g. energy, water and waste disposal		
Employment		
Traffic congestion		
Housing		

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Opportunities and challenges (Plenary)

Make as many copies as students/2 – cut out and give one set to each student

It is cheaper for energy and water companies to provide services to homes when they are close together and near to the source.	Clean water and sanitation systems built for a smaller population cannot cope with high demand.
Unskilled workers may find it hard to get work in well-paid jobs.	Air and water are polluted by waste and emissions from homes, industry and vehicles.
Electricity supplies may be tapped illegally if people cannot afford to get connected. This is dangerous.	Better access to services such as healthcare and education can be provided where lots of people live close together and there are qualified doctors and teachers.
Crime is much higher in the city but there is also a larger and better equipped police force.	Large numbers of people and vehicles on the transport network lead to congestion and delays.
The large number of urban poor looking for work provides a large labour force for menial and low-paid jobs that are essential to the city.	Large quantities of waste must be removed or it can lead to dysentery and diarrhoea.

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Electricity supplies may be tapped illegally if people cannot afford to get connected. This is dangerous.	Better access to services such as healthcare and education can be provided where lots of people live close together and there are qualified doctors and teachers.
Crime is much higher in the city but there is also a larger and better equipped police force.	Large numbers of people and vehicles on the transport network lead to congestion and delays.
The large number of urban poor looking for work provides a large labour force for menial and low-paid jobs that are essential to the city.	Large quantities of waste must be removed or it can lead to dysentery and diarrhoea.

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Lesson 10: Answers

Abbreviation of Assessment Objectives (AO):

1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

10.1 Starter

AO1 and AO2 Compare and contrast Copacabana beach and Contaglo favela – both in the same neighbourhood. Give examples of contrasts that could be noted by students:

	Economic	Social
Copacabana beach	Jobs in tourism industry – tour guides, bars and restaurants, hotels. Informal-sector jobs for street vendors and beach hawks.	People are here for enjoyment. People are wealthy and have leisure time and money to spend on holidays.
Contaglo favela	People must travel out of the favela for work or set up their own businesses providing goods and services to favela residents.	People live here – there is a sense of community. People are poor.

10.2 Task

AO1 See table for summary of findings on page 181. Mark for accuracy.

10.3 Plenary

AO1 and AO2

Opportunities of rapid population growth	Challenges
<ul style="list-style-type: none"> ▪ Better access to services such as healthcare and education can be provided where lots of people live close together and there are qualified doctors and teachers. ▪ Crime is much higher in the city, but there is also a larger and better equipped police force. ▪ When people are poor they depend on one another more, leading to a strong sense of community. ▪ There are better economic opportunities for people, e.g. higher paid and more reliable jobs. ▪ The large number of urban poor looking for work provides a large labour force for menial and low-paid jobs that are essential to the city. ▪ It is cheaper for energy and water companies to provide services to homes when they are close together and near to the source. ▪ Manufacturing and service industries will locate where there is a large, cheap workforce. 	<ul style="list-style-type: none"> ▪ Healthcare and education cannot cope with the growth. ▪ Electricity supply cannot afford to meet demand. ▪ Air and water are polluted from homes, industry and transport. ▪ Clean water and sanitation for a large population cannot be provided. ▪ Unplanned and informal settlements on land is difficult to manage. ▪ Large quantities of waste lead to dysentery and disease. ▪ Large numbers of people on a small network leads to congestion. ▪ Unskilled workers are not paid well.

Extension

AO3 Mostly the same issues if dealing with rapid population growth. Developed countries face issues on provision of services but there will come a point at which the speed of expansion of the population. Remember, wages and, therefore, taxes may be higher, but costs associated with growth are also higher. Students reason whether it is the speed of growth or wealth that is the determining factor in opportunities and challenges in a megacity.

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Challenge	Describe the opportunities, give examples	Describe the challenges, give examples
Industrialisation and investment	<ul style="list-style-type: none"> Growth of manufacturing, e.g. clothing and shoes, food processing, computing and electronics, financial industry. Infrastructure – two airports and five ports. Thousands of jobs created. 	<ul style="list-style-type: none"> Workers are not protected, i.e. laws are weak and difficult to enforce, there are no unions. Investment doesn't benefit the poor, wealthy suburbs such as Barra do Rio benefited from a new metro line which hosted the Olympics 2016.
Provision of services, e.g. health and education	<ul style="list-style-type: none"> There are two public hospitals in the city. New health clinics. Most children go to school and it is free from the age of six. There are six major universities in the city. 	<ul style="list-style-type: none"> Hospitals are always busy, you have to wait for better treatment. There are not enough doctors who work in poor areas. Poor areas of the city have most children who carry dangerous diseases. Children from very poor families have to work instead of going to school. There is a shortage of teachers who are not paid well.
Access to resources, e.g. energy, water and waste disposal	<ul style="list-style-type: none"> The city has electricity, sanitation systems and waste collection services. 	<ul style="list-style-type: none"> Energy and water prices are rising due to demand and shortage of resources. Although life is getting better in the newer favelas on the city outskirts, there is still a shortage of energy, sanitation or waste disposal services.
Employment	<ul style="list-style-type: none"> Unskilled workers are needed to work in factories. There is a booming construction industry. There are jobs in skilled and unskilled tertiary sector industries. You can work for yourself selling to tourists. 	<ul style="list-style-type: none"> The best jobs go to the most skilled workers. 60% of the workforce work in the informal economy. Unemployment is 11.6% (2016) and among young adults it is 20%.
Traffic congestion	<ul style="list-style-type: none"> Car ownership has increased by 40% in the last 10 years. Improvements are being made to the roads, e.g. toll roads, underground tunnels. There are investments to public transport systems, e.g. new rapid transit bus lines (RTB), new metro line (will carry 625,000 people). 	<ul style="list-style-type: none"> It takes as much as 50% longer to get to work during peak times. There are many more cars on the roads. People avoid public transport because they are worried about crime.

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Challenge	Describe the opportunities, give examples	Describe the challenges, give examples
Housing	<ul style="list-style-type: none"> There is a lot of new housing being built in the city. Conversions in older favelas are improving as old buildings are renovated and rebuilt. Improvements to favelas make wealthier areas more valuable, e.g. Sao Conrado apartments next to Rocinha, Rio de Janeiro's largest favela. 	<ul style="list-style-type: none"> Natural barriers to development and sea, mean land is in high demand. In increasing number of tall buildings, property prices increase. Squatter settlements develop on difficult and dangerous land. They are poorly constructed and prone to landslides. In favelas people may not have access to live in their homes.

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Lesson 11 Overview: Inequalities in



Learning questions: How and why does wealth and quality of life vary

New key terms: inequalities, quality of life, standard of living, life expectancy

Associated Task Sheet: 11 – pages 188 – 190

Associated PowerPoint file: Lesson 11.pptx

11.A Preparation

ICT – For part 11.2 of the lesson you will need Internet access to either:

- ✓ <http://webdocs.dw.com/rio/english#>
- ✓ BBC news: <http://www.bbc.co.uk/news/science-environment-18548>
- ✓ or <http://www.bbc.co.uk/newsround/27982333> (2.30 mins)
- ✓ Daily mail: <http://www.dailymail.co.uk/news/article-3689767/As-Rio-Mangueira-favelas-not-Games-glitz.html> (40 seconds)

Or use Maria's story*

Worksheets and resources for photocopying:

For event	Description	Page(s)	Photocopies required
11.1	Satellite image of Rio de Janeiro	193	Number of students
11.2	Favela checklist	194	Number of students
11.2	*Maria's story	195	Number of students
11.3	Sebastian's blog	196	Number of students
11.3	Copy and complete paragraph	197	Number of students

Other resources you may need to provide:

- ✓ Glue stick or hole-punch to attach worksheets.

11.B Individual student planning

Use this section to tailor your lesson plan to individual students in your class




	Student(s)	Detail of action
G&T		
SEN		
EAL		
Other		

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11.C Teaching and learning plan

Suggested time	Event	Task instructions
10 mins		<p>Instruction to students: <u>working independently</u> identify and label the locations shown on the table on the aerial photograph of Rio de Janeiro.</p> <p>Teaching strategy – <u>develop student skills</u> by questioning their understanding of what they can see in the aerial photograph, e.g. Where has the land been built on? What are the streets like? How large are the buildings?</p> <p>Learning outcome – All: identify different land use on the image.</p>
20 mins	11.2 Task	<p>Instruction to students: <u>working independently</u> watch the video, explore webdocs or read Maria's story identifying the true and false facts about life in a favela. Writing as a journalist write an article called 'the truth about favelas'. Add to your article – 3 facts of your own and a paragraph suggesting why sense of community is important.</p> <p>Teaching strategy – <u>develop student understanding</u> by leading discussion of findings at end of task. Listen to examples of students work.</p> <p>Learning outcome – All: know what life is like in a favela Most: understand why life is like in a favela Some: suggest reasons why sense of community is important to people living there.</p>
20 mins	 Task	<p>Instruction to students: <u>working independently</u> read Sebastian's blog and answer the questions about how life is different for wealthy people in Rio de Janeiro and reasons for inequality in the megacity.</p> <p>Teaching strategy – <u>develop student understanding</u> by reading the blog with the class asking students to identify relevant information and say how this is different to life in the favela. Ask students to swap work and mark each other's answers at the end of the task.</p> <p>Learning outcome – All: know how life is different for wealthy people in the megacity; Most: understand the reasons why inequalities occur in the megacity; Some: Suggest how rapid rural-urban migration is linked to inequality.</p>
10 mins	11.4 Plenary 	<p>Instruction to students: <u>working in pairs</u> discuss what the data shows – be ready to describe and explain the reasons for any patterns you observe.</p> <p>Teaching strategy – <u>develop student application</u> by asking for references to knowledge and understanding gained from previous lessons, e.g. give examples from Sebastian's blog or the favela resource, or ask questions 11.2 and 11.3. Take suggestions for why men have shorter life expectancy than women in slum areas and ask for reasoning.</p> <p>Learning outcome – All: know how life expectancy varies with social and economic background in Rio de Janeiro; Most: can explain why life expectancy varies and make links to earlier learning Some: can use knowledge and understanding from previous lessons to support suggestions of why life expectancy varies.</p>

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Lesson 11: Inequalities in a mega city

Learning question: Why does wealth vary in Rio de Janeiro?

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11.1 Starter

Find the following locations and label your aerial photograph with the letter in the key. List the features you used to identify each location in the third column of the table.

Location

The north-western side of Rio de Janeiro is a popular favela built by the favelated in the 1950s. It is one of the poorest areas of the city and has a high unemployment rate. It is also known for its drug trade and violence.

Location

The north-western side of Rio de Janeiro is a popular favela built by the favelated in the 1950s. It is one of the poorest areas of the city and has a high unemployment rate. It is also known for its drug trade and violence.

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11.2 Task

(a) Imagine you are a journalist working for an international newspaper.

Investigate life in the favelas of Rio de Janeiro by watching one of the following videos or exploring the webdocs website:

Videos

BBC news: [Favelas in Rio de Janeiro](#) (2:35 mins)

or [Favelas in Rio de Janeiro](#) (2:30 mins)

Use the checklist to tick off the True or False facts that you see, hear or read.

(b) Compile the true facts in a brief article called 'The truth about favelas'. Describe conditions in the favela. Include an example of how life is like this. Try to say everything you need to in 300 words.

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True

- The land is steep and the houses are built randomly making it difficult to get around.
- There is no access to electricity and water supply.
- There are many favelas in Rio de Janeiro, some very large.
- There is often waste in the street and people are often seen drinking in the street.
- It is only possible to get around on foot, by bus or bicycle.

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11.3 Task

Read Maria's story and the extract from the blog 'MY RIO DE JANEIRO'.

Remember to Use three-way thinking!

- Social
- Environmental
- Economic

Quality of life is a measure of your experience of life – how happy and comfortable you are.

Standard of living is a measure of the material goods and services available to you.

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(a) Using the table on worksheet 11.1, list the wealthiest resident of Rio de Janeiro's largest favela.

1. Access to services such as health and education:

Sebastian has been to university – he notes that some children in the favela, too poor to go to school, they must work.

3. Benefits from the city's economic growth:

Makes jobs for the wealthy. New restaurants help wealthy get around better. There are few tangible benefits for the poor.

5. Cultural opportunities, e.g. leisure and sport:

People to sporting events are expensive. Poor can't afford to go. The carnival is a celebration for everyone.

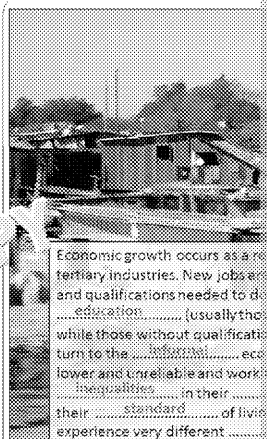
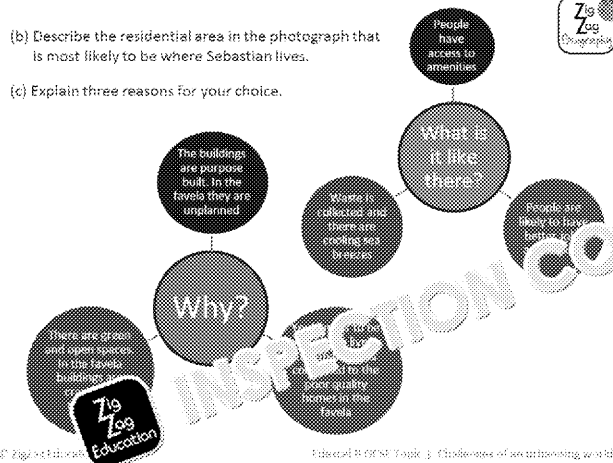
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(b) Describe the residential area in the photograph that is most likely to be where Sebastian lives.

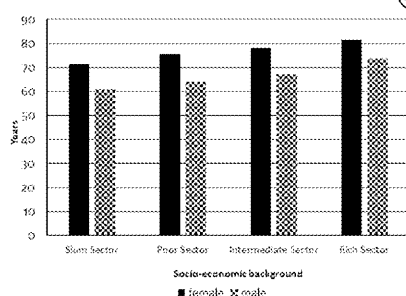
(c) Explain three reasons for your choice.



Economic growth occurs as a result of the development of tertiary industries. New jobs and qualifications needed to do education (usually those who have a tertiary education) while those without qualifications turn to the (informal) economy. The economy is lower and unreliable and work is (inequalities) in their (inequalities) their (inequalities) standard of living experience very different

11.4 Plenary

inequalities within Rio de Janeiro are so severe that a person's social and economic background (i.e. where they live and how rich or poor they are) may have a significant impact on how long they live.



Be ready to tell the class:

1. what the data tells you about life expectancy in Rio de Janeiro
2. reasons for any pattern you can see in the data -- refer specifically to quality of life of people in different sectors of the population

Task Sheet 11: Inequalities in a

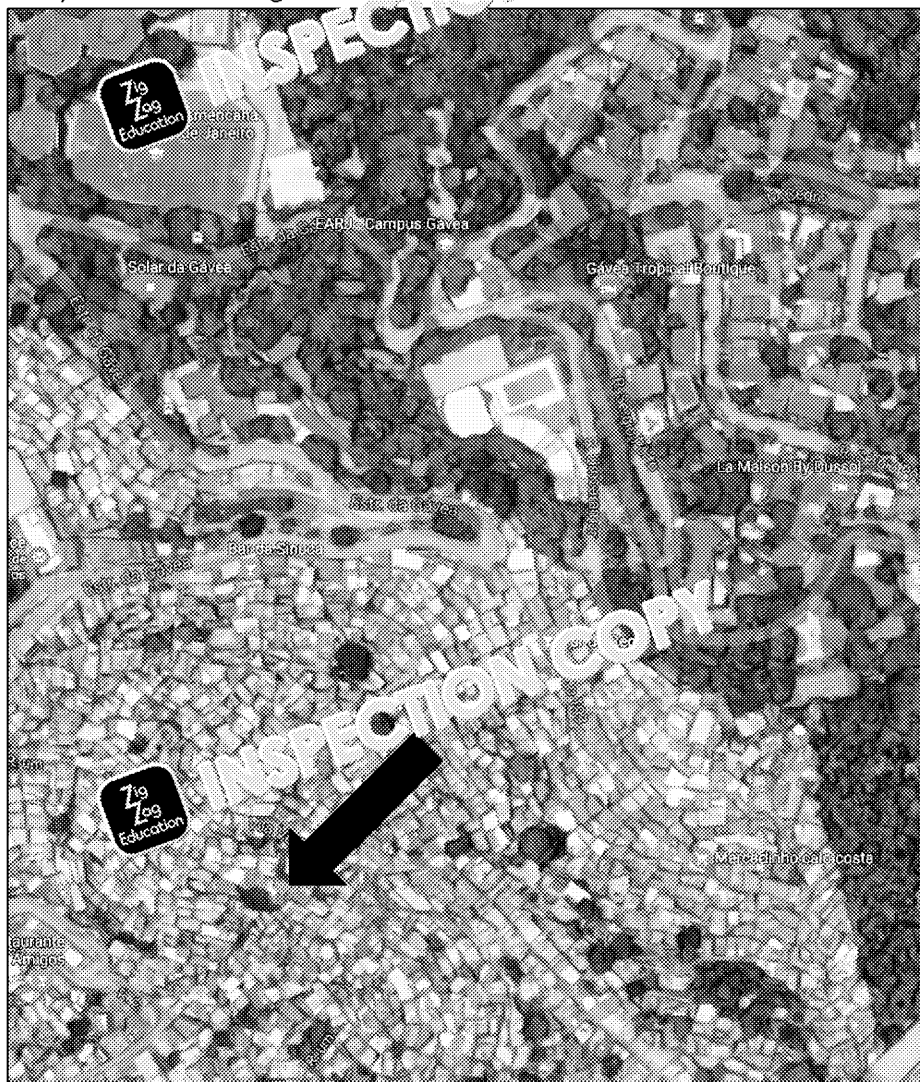


Learning questions: How and why does wealth and quality of life vary

New key terms: inequalities, quality of life, standard of living, life expectancy

11.1 Starter

Study the satellite image of Rio de Janeiro



**Photograph courtesy of Google Maps*

Find the following locations and label your aerial photograph with the letter in the first column of your table. Describe the land-use of each location in the third column of your table.

Location	Key	
The North East area of Rochina – Rio de Janeiro's largest favela	A	
Playing fields of the American School, Rio de Janeiro – a private independent school for nursery to year 15 students.	B	
Morro da Providência Ecological park	C	
Luxury mansions with private roads. Many have landscaped gardens, private swimming pools and tennis courts	D	

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11.2 Task

Read through the true or false favela checklist.

Favela checklist
The favelas are a major tourist destination for people visiting Rio de Janeiro
The land is steep and the houses are built randomly making it difficult to get around
There are many parks and green spaces
Few houses have access to electricity or a clean water supply
Many children get a good education and will go to university
'Favela' means area of outstanding natural beauty in Portuguese
There are many favelas in Rio de Janeiro, some small, some very large.
There is often waste in the street and sewage seeping into streams or running down the road.
It is only possible to get around on foot or by moped and bicycle.
Only the wealthiest people can afford to live in the favela

- (a) Imagine you are a journalist working for an international newspaper. Investigate life in Rio de Janeiro by watching one of the following videos, reading Maria's story or listening to the audio. <http://webdocs.dw.com/rio/english#>. Use the checklist to tick off the True or False. Rather than type out the facts that you see, hear or read.

Videos

- ✓ BBC news: <http://www.bbc.co.uk/news/science-environment-18544444>
- ✓ BBC newsround: <http://www.bbc.co.uk/newsround/27982333> (2.30 mins)
- ✓ Daily mail: <http://www.dailymail.co.uk/news/article-3689767/Assessing-the-truth-about-life-in-Brazilian-favelas.html> (40 seconds)

- (b) Compile the true facts in a brief article called 'The truth about favelas' designed to inform people. Include an explanation of why life is like this. Try to say everything you need to know.

Extension 11.2.1

Add 3 of your own facts about life in a favela to your article.

Extension 11.2.2

One positive aspect of living in a favela is that there is a strong sense of community. Add this to your article suggesting what this means and why it is important.


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11.3 Task

Read the extract from 'MY RIO DE JANEIRO' a blog written by Sebastian Santos of Rio de Janeiro. Sebastian is 25 and has just graduated from the Federal University of Business. The names of the companies have been replaced but the rest of the text is his own. Rio for this young man.

- Identify 6 ways in which Sebastian's life is different from that of people living in a rural area.
- The photograph at the top of the Sebastian's blog was taken in the direction of the satellite image from the street view. Describe the residential area in the photograph where Sebastian lives.


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My Blog

It's Friday and yes, the sun is shining again here in the Marvellous City of Rio de Janeiro. The professors at University today – for all their excellent teaching. We are lucky to have such high quality educational establishments here in the city.

My education has been instrumental to me sealing my first big deal with none other than NoXSUSH Chemicals. So I can officially announce they will be building their new chemical plant right here in Rio de Janeiro, creating 3,000 new jobs within the chemical industry. This sort of development is really important to stimulate economic development in the city and Brazil!

It's mostly thanks to the government's strategic areas for industry on the infrastructure – with 2 airports and 3 bridges (in Rio you can really get people quickly and of course this is money!). But not forgetting the importance of the port here in Rio de Janeiro. They are also key to attracting new business and investment.

Later today it will be time to hit the beach. This weekend is the South American Cup of Football and it's being held here this year. Well where else! Come down to Copacabana where the temporary stadium is back up for the event and the crowd will be crazy. The transport – catch the metro to stop 'Cardeal Arcoverde' for a quick journey from just about anywhere in town.

Next weekend it's all about CAHR-NAH-VAHU (that's Carnival to anyone who knows) and it will be the start of 5 days of partying, yoo hoo! Looking forward to seeing the parade and the samba bloco, check the app for details of the time and route. You know you love samba – but don't forget your sunscreen!

And for those of you asking for a snap shot from my balcony. My electricity company that really does supply connected without a fuss last night! And of course to Águas de São Paulo this complex doesn't even need




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(c) Explain 3 reasons for your choice.

(d) There are many reasons why inequalities exist between the rich and poor in Rio de Janeiro. Copy and complete the explanation of how economic growth and the informal economy are linked to inequality.

Standard of living is how well you get the things you need for a good life – food, energy, clean water, etc.
Quality of life is how good your life is – how happy you are.

Economic growth occurs as a result of
.....

New jobs are created but not everyone has the
.....

quality of education needed to do them. People who have received a good
.....

(usually those from wealthy backgrounds) will while those without qual
.....

..... They may turn to the
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make a living, where are lower
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..... can be poor. This creates
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their and job security which means
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of living will not be the same. Ultimately they will experience very differ
.....

of life.
.....

education	inequalities	skills
employment	income	informal
standard of living	industrialisation	inequalities

Extension 11.3.1

Suggest how rapid rural-urban migration is linked to inequality in the megacities. Use the following words in your answer:

squatter settlement	poor living conditions
urban areas	rural areas
housing shortage	temporary materials

11.4 Plenary

Inequalities within Rio de Janeiro are so severe that a person's social and economic status (how they live and how rich or poor they are) may have a significant impact on how long they live. Look at the graph showing life expectancy at birth in Rio de Janeiro in 4 different sectors of the population: the urban poor, those on intermediate incomes and the rich.

Be ready to tell the class about the graph.

1. What does the graph tell you about life expectancy in Rio de Janeiro?
2. Refer to the graph for any pattern you can see in the data – refer specifically to the different sectors of the population.

Extension 11.4.1

The difference in life expectancy between men and women is greatest in the urban poor. Suggest reasons to explain why this might be.

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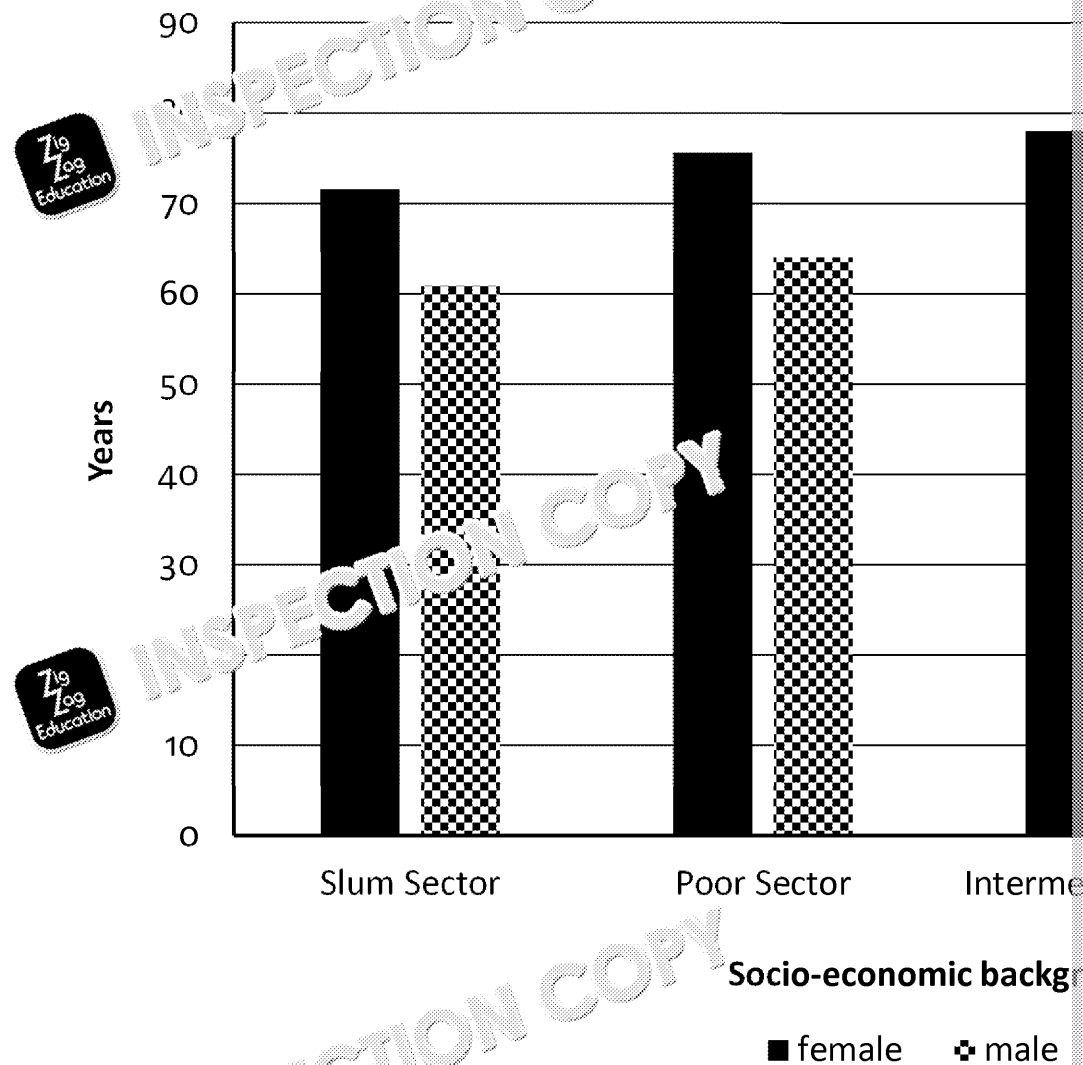


Figure 11.1: Life expectancy at birth in Rio de Janeiro
 Data source: Chart drawn from data published in the American Journal of Public Health

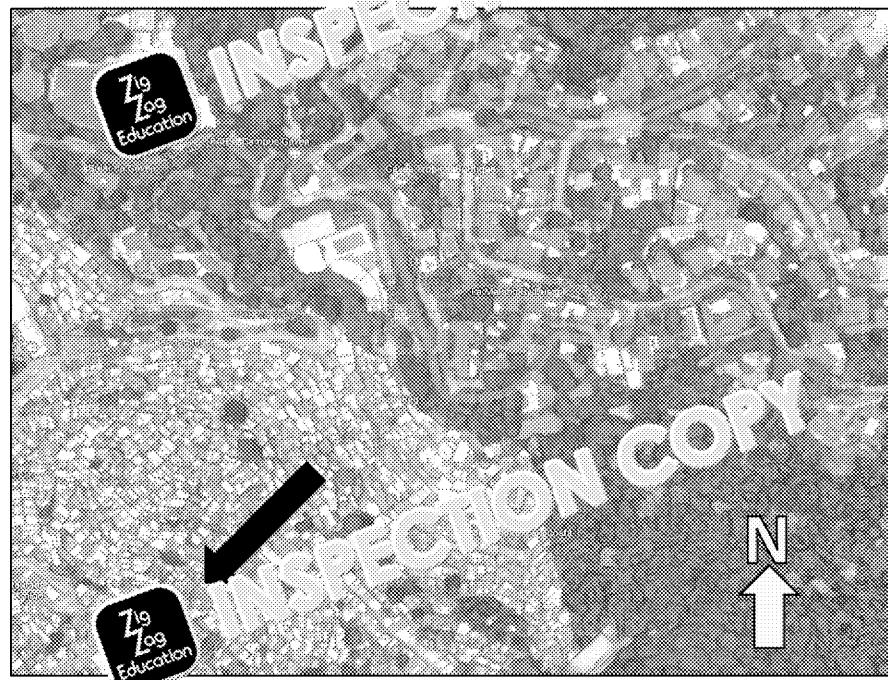
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Sketch Image of Rio de Janeiro (Star

Make as many copies as students/2 – Cut & hand out 1 each



Location	Key	Features used in identification
The North East area of Rochina – Rio de Janeiro's largest favela	A	
Playing fields of the American School, Rio de Janeiro – an independent school for nursery to year 12. 1157 students.	B	
Morro Dois Irmãos Ecological park		
Luxury roads. Manicured gardens. Swimming pools and tennis courts	D	



The Rochina
Playing fields of the American School, Rio de Janeiro – an independent school for nursery to year 12. 1157 students.
Morro Dois Irmãos Ecological park
Luxury roads. Manicured gardens. Swimming pools and tennis courts

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Favela checklist (Task 11.2).

Make as many copies as students/2 –Cut and handout 1 each.



Favela checklist

- The favelas are a major tourist destination for people visiting Rio de Janeiro
- The land is steep and the houses are built randomly making it difficult to get around
- There are many parks and green spaces.
- Few houses have access to electricity or a clean water supply
- Many children get a good education and will go to university
- 'Favela' means area of outstanding natural beauty in Portuguese
- There are many favelas in Rio de Janeiro, some small, some very large.
- There is often waste in the street and sewage seeping into streams or running down the road.
- It is only possible to get around on foot or by moped and bicycle.
- Only the wealthiest people can afford to live in the favela



Favela checklist

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Maria's story (Task 11.2).

Make as many copies as students/2 – Handout 1 each

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My name is Maria, I am 15 and I live in Rochina, the largest favela in Brazil. In Brazilian term for a city slum or squatter settlement. Houses are built with cheap materials on the steep side of the mountains where the land is difficult to build on. There are no planning controls or infrastructure so houses are crammed close together and people build them. The steepness of the land makes it difficult to build roads so it is a maze of narrow streets.

Some homes still do not have a water supply or electricity provider. We use old stand pipes and sometimes people use wires to join to the mains electricity. It is not possible for refuse lorries to get into the favela so waste has to be carried up and just dumped in the road. Some of the poorest areas further up the mountain have just plastic pipes or culverts along the streets that carry sewage down.

There is a vibrant community, many young children who are not at school. When they get older they will work to make enough money for their family to eat. It is difficult to find a doctor as there are over 70,000 people living here, but in a large favela we have a small hospital and medical centre. The fact that there are so many people here also means there are opportunities to sell things or do jobs, but people leave. Most people travel down into the main city to find work. There is no bus. In the heart of the favela you have to walk to a road.



My name is Maria, I am 15 and I live in Rochina, the largest favela in Brazil. In Brazilian term for a city slum or squatter settlement. Houses are built with cheap materials on the steep side of the mountains where the land is difficult to build on. There are no planning controls or infrastructure so houses are crammed close together and people build them. The steepness of the land makes it difficult to build roads so it is a maze of narrow streets.

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Make as many copies as students/2 – Handout 1 between 2

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My Blog

It's Friday and yes, the sun is shining again! Here in the Marvellous professors at University today – for all the excellent teaching. We are lucky to have such high quality educational establishments in this city.

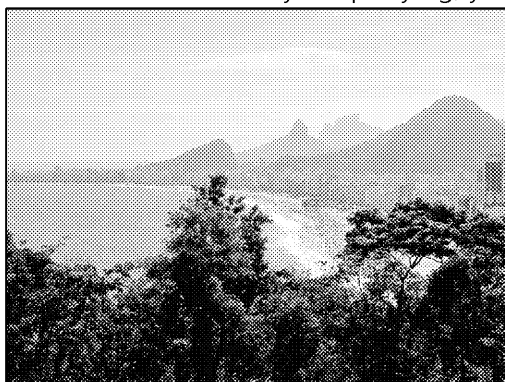
My education has been instrumental to me sealing my first big deal with none other than NoXSUSH Chemicals. So I can officially announce they will be building their new chemical plant right here in Rio de Janeiro, creating 3,000 new jobs within the chemical industry. This sort of development is really important to stimulate economic development in the city and Brazil!



It's mostly thanks to the government's designated areas for industry on the infrastructure – with 2 airports and 5 ports (in Rio you can really get people quickly and of course time is money!). But not forgetting the importance of here in wonderful Rio. They are also key to attracting new business and investment.

Later today it will be time to hit the beach. This weekend is the South American football championship it's being held here this year. Well where else do you come down to Copacabana temporary stadium is back up for the event and the crowd will be crazy. The transport – catch the bus to the top 'Cardeal Arcoverde' for a quick journey from just about anywhere in town.

Next weekend it's all about CAHR-NAH-VAHU (that's Carnival to anyone) and it will be the start of 5 days of partying, yoo hoo! Looking forward to seeing the bloco, check the app for details on time and route. You know you love samba – but don't forget your sunscreen!



And for those of you asking for a snap shot from my balcony. My electricity company that really does supply connected without a fuss last night! And of course to Ágatha, this in Brazil doesn't even need

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Copy and complete paragraph (Task 1)

Make as many copies as students/3 – Cut & handout 1 each

Economic growth occurs as a result of

New jobs are created, but not everyone has the
 qualifications needed to do them. People who have received a good
 (usually those from wealthy backgrounds) will
 while those without qualifications struggle to find
 They may turn to the economy to make money but wages
 are lower and unreliable and working
 This creates in the
 and job security which means their of living falls
 they will experience very different of life

education	conditions	skills
employment	income	informal
standard	industrialisation	inequalities



Economic growth occurs as a result of

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 (usually those from wealthy backgrounds) will
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education	conditions	skills
employment	income	informal
standard	industrialisation	inequalities

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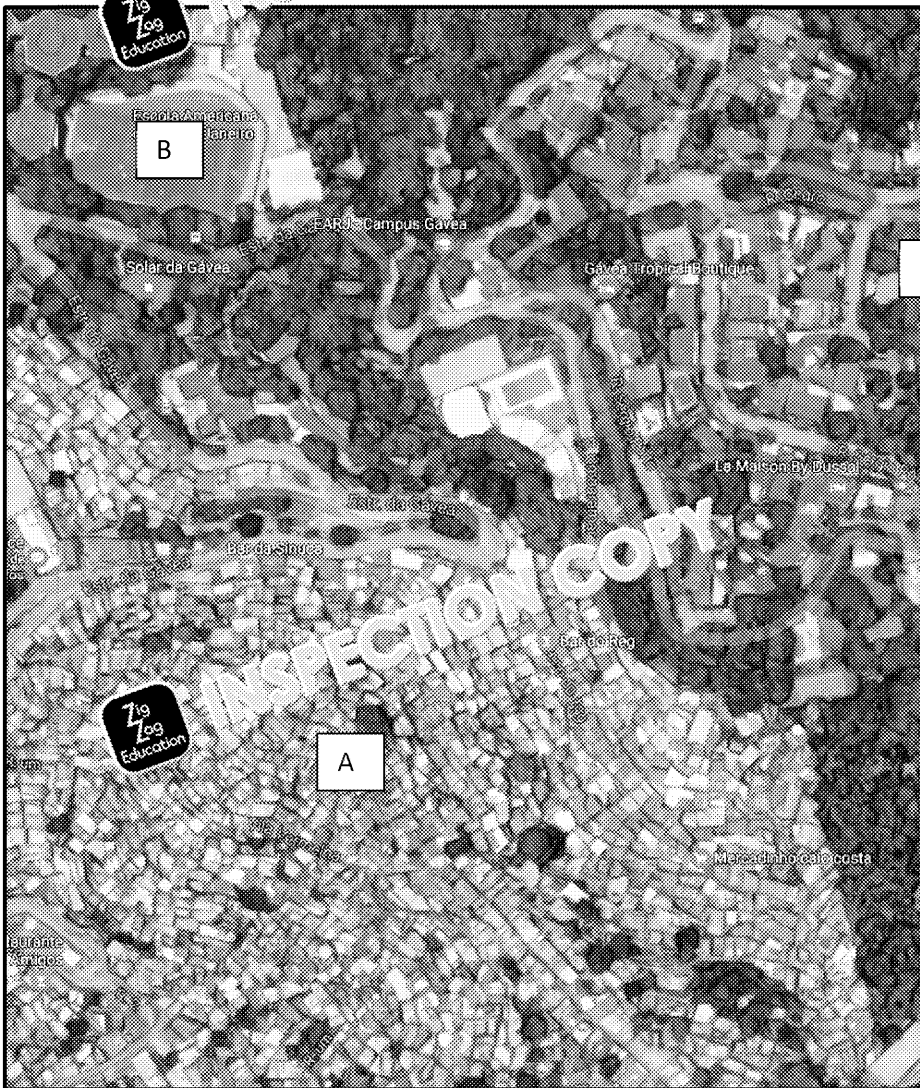
Lesson 11: Answers

Abbreviation of Assessment Objectives (AO):

1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

11.1 Starter

AO4



Features used in identification:

A	Narrow roads, small irregular shaped buildings, informal layout, small open spaces
B	Open space of mown and irrigated grass
C	Irregular tree tops and rock outcrops
D	Wide open roads, organised structure, large buildings, many with private parking

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11.2 Task

(a) AO1 & AO2

True	
<ul style="list-style-type: none"> The land is steep and the houses are built randomly making it difficult to get around; Few houses have access to electricity or a clean water supply; There are many favelas in Rio de Janeiro, some very large; There is often waste in the street and sewage seeping into streams or running down the road; It is difficult to get around on foot or by moped and 	<ul style="list-style-type: none"> The favelas are a problem when visiting Rio de Janeiro. There are many problems. Many children get into university; 'Favela' means area in Portuguese; Only the wealthiest live in the favela.

(b) AO1 & AO2

Identify the correct facts from the article – listed above.

Total of 10 marks

Extension 11.2.1

AO1 Any three accurate facts can be added from the videos or story.

Extension 11.2.2

AO2 Students could mention support (e.g. childcare, care for the elderly); sharing of life together to achieve improvements; sense of pride; and community events make life more enjoyable.

11.3 Task

(a) AO1 & AO2 Social and economic opportunities created by urban growth in Rio de Janeiro

1. Access to services such as health and education: It is possible to get a university education in the city. Sebastian attended the Federal University of Rio de Janeiro Graduate school of Business.	4. Public transport system: Sebastian talks about the system that can take you anywhere in the city.
2. Stimulus for economic development: The government has created areas for industry on the outskirts of the city. The city has 12 airports and 5 shipping ports making it easy to get goods in and out of the city.	5. Employment: There is an abundance of jobs. New businesses are starting to open.
3. Cultural opportunities, e.g. leisure and sport Rio hosts sports events like the Olympic games and other international championships; There is an annual carnival which attracts lots of people.	6. Access to resources: Electricity and water are available in the city.

(b) AO1 Students should suggest he lives in the apartment blocks in the mid ground or ground. Descriptions could include take into consideration:

- Economic income – expect those living in tower blocks have jobs and income
- Social wellbeing – anticipate those living in tower blocks have amenities, access to services
- Environment – anticipate those living in tower block have waste collection, green spaces

(c) AO2 Answers could include consideration of implications of built environment on social and environment

- Economic income – small and poor quality housing suggests poorer residents, apartments suggests wealthy enough to buy apartment.
- Social wellbeing – planned purpose built apartments would be better than unplanned housing which are not serviced by energy or sanitation.
- Environment – open space and green areas near to the beach versus cramped spaces in the city.

(d) AO2 Economic growth occurs as a result of **industrialisation** and growth of tertiary sector but not everyone has the **skills** and qualifications needed to do them. People who have skills (usually those from wealthy backgrounds) will **benefit** while those without qualifications will not. They may turn to the **informal** economy to make a living, where **wages** are lower and job security can be poor. This creates **inequalities** in their **income** and job security which makes life more difficult. Ultimately they will experience very different **quality** of life.

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Extension 11.3.1

AO3 Students should award themselves a mark for every word used in the correct sense

11.4 Plenary

1. AO4 There is a direct correlation between wealth and life expectancy. The data shows that life expectancy is higher for wealthier residents of Rio de Janeiro than the poor. Those living in the favelas have a life expectancy – 71 for women and 61 for men compared to 81 for women and 74 for men. Women are expected to live longer than men. The difference between life expectancy is highest in the slum sector and lowest for the rich.
2. AO3 Reasons include inequalities in quality of life – specifically access to education and healthcare. Low income generates an income related inability to afford good quality housing with sanitation.

Extension 11.4.1

There is a high prevalence of violent crime in the favelas which has led to the death of many people, particularly with more violence in the favelas.

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Lesson 12 Overview: Managing the



Learning questions: What are the political and economic challenges to

New key terms: civilian discontent, conflict over investment, criminality, co

Associated Task Sheet: 12 – page 205

Associated PowerPoint file: Lesson 12.ppt

12.A Preparation

ICT – For 12.4 of the lesson you will need Internet access to either:

✓ You Tube: <https://www.youtube.com/watch?v=fywvd6mmDhs> (1.17)

✓ You Tube: https://www.youtube.com/watch?v=1W_zM7koJy8 (8.36)

Worksheets and resources for photocopying:

For event	Description	Page(s)	Photocopies re
12.2	Information cards – Part 1 & 2	206 – 207	Number of student
12.2	Ask and expert note sheet	208	Number of student

Other resources you may need to provide:

✓ Glue, stapler or hole-punch to attach worksheets.

12.B Individual student planning

Use this section to tailor your lesson to individual students in your class




	Student(s)	Detail of action
G&T		
SEN		
EAL		
Other		

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12.C Teaching and learning plan

Suggested time	Event	Task instructions	Student worksh
10 mins	 12.1 Starter	<p>Instruction to students: <u>working as a class</u> play the word-chain game – association with 'Urbanisation' – make it fun by introducing a ball of wool or string to be thrown between students to create a visible chain around the classroom and encourage participation.</p> <p>Teaching strategy – <u>develop student knowledge and understanding</u>. Adjudicate the game and encourage participation. You can control where the ball goes next or leave this for students to determine.</p> <p>Learning outcome – All: know keywords. Most: can spell keyword. Some: can give their own definitions for keywords.</p>	
30 mins	 12.2 Task 	<p>Instruction to students: <u>working as a class</u> share expertise on the four political and economic challenges of managing a megacity. First become an expert in your subject area – you will have either: (A) Civilian discontent, (B) Conflict or crime, (C) Criminality or (D) Corruption. You will need to know: 1. What it is? 2. How does it affect the poor? 3. How can it be reduced? 4. How does it affect the future of the city? 5. What can be done?</p> <p>Then the class will visit the Expert (A)'s – they have 5 minutes to ask the questions and gather information before it becomes the turn of the Expert (B)s, then (C)s and (D)s.</p> <p>By the end of the 30 minutes each student should have notes about each area of interest.</p> <p>Teaching activity – <u>develop student knowledge</u> by making notes to accompany the task on the whiteboard. Students can check their own findings against this at the end of each 5 minute consultation with an expert. Try to ensure all experts are visited – at least 1 student as the process of answering the questions is part of the learning experience.</p> <p>Learning outcome – All: know what political and economic challenges there are to managing a megacity. Most: understand how these affect different sectors of society (poor and wealthy), and the future of the city; Some: can suggest what can be done to reduce these challenges.</p>	<p>One information card about political and economic challenges of managing a megacity</p> <p>Ask an expert note sheet</p>

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Suggested time	Event	Tasks/Instructions	Student worksheet
20 mins	 12.3	<p>Instruction to students – Watch one of the videos highlighting the issues resulting from the 2016 Olympic games. As a class make notes and then discuss them. Then, in groups, create a 15 second speech telling the class what you would do to tackle the issues raised in the video. Listen to 3 of your class perform their vox pop and take a vote to decide who you would elect mayor.</p> <p>Teaching strategy – <u>develop student application</u> by encouraging students to refer to previous learning. Identify successful aspects of each vox pop and facilitate class discussion and vote.</p> <p>Learning outcome –</p> <p>All: know what issues the people of Rio de Janeiro are facing as a result of the 2016 Olympic games;</p> <p>Most: suggest ways to tackle these issues based on past learning;</p> <p>Some: perform their vox pops to the class.</p>	

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Lesson 12: Managing the megacity

Learning our way around the political and economic challenges to managing Rio de Janeiro?

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Edexcel B GCSE Topic 3: Challenges of an urbanising world

12.1 Starter

As a class, play the word-chain game. Your teacher may agree to use a ball of wool/string or a bean bag to be passed between you as you create the chain.

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12.2 Task

Megacities are difficult to manage because of their size and complexity. In the emerging and developing world there are a number of political and economic challenges to how successful a city authority can be in improving quality of life in the city.

A. Civilian's content

B. Conflict over investment

C. Criminality

D. Corruption

You must ask the 'expert' five questions:

1. What is it?
2. How does it affect the poor?
3. How does it affect the wealthy?
4. How does it affect the future of the city – specifically its ability to reduce inequalities?
5. What can be done?

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Edexcel B GCSE Topic 3: Challenges of an urbanising world

12.3 Plenary

In 2016, the Olympic Games were held in Rio de Janeiro. Preparations for the Games highlighted the issues this megacity is facing as it continues to grow.

You are going to run for mayor of Rio de Janeiro in the upcoming mayoral election. In a class, watch one of the videos. Together, make notes about what the issues are and what people in Rio de Janeiro today.

Now, using your knowledge and understanding of the issues, prepare your own 15-second vox pop.

It should let people know:

- how you would tackle the issues from the Olympic legacy and
- why this makes you the best person to be the new mayor.

Be ready to perform your vox pop!

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Task Sheet 12: Managing the megacities



Learning questions: What are the political and economic challenges to managing megacities?

New key terms: civilian discontent, conflict over investment, criminality, corruption

12.1 Starter

As a class, play the word chain game. Your teacher may agree to use a ball of wool or a bean bag to be passed between you as you create the chain.

The ball starts with your teacher, who throws it to a student of their choice while shouting 'urbanisation'. The next player must think of any word relating to urbanisation and shout it out as they throw the ball to another student of their choice.

For example, they might shout '**traffic congestion**' – a challenge caused by urbanisation with many vehicles trying to get around a city, causing delays to goods and people.

Your teacher may stop and challenge you to explain the meaning of your word at a word that has already been said.

Continue throwing and shouting words relating to **urbanisation** until your time is up or you have run out of ideas.

12.2 Task

Megacities are difficult to manage because of their size and complexity. In the emerging world, the number of political and economic challenges to how successful a city authority can be is increasing.

You are going to investigate **(A) Civilian discontent (B) Conflict over investment, (C) Corruption and (D) Corruption**. You must ask the 'Expert' 5 questions. These are:

1. What is it?
 2. How does it affect the people?
 3. How does it affect the economy?
 4. How does it affect the future of the city – specifically its ability to reduce inequality?
 5. What can be done?
- (a) First you must become an 'Expert' in one area yourself. Read the information sheet and answer the questions ready to teach your class mates.
- (b) When your teacher tells you, each member of the class should choose an Expert (and crowd around the same expert!). Ask your Expert A questions, note down the answers (no copying from the expert's information sheet!)
- (c) Next, it is the turn of the Expert Bs to be questioned and do the teaching. Follow the same method with Expert Cs and Expert Ds until everyone has been questioned about all 4 political and economic challenges of managing a megacity.

12.3 Plenary

The 2016 Olympic Games highlighted the issues the city is facing. You are going to watch the upcoming mayoral election. As a class watch one of the videos. Together, make a list of the challenges for people in Rio de Janeiro today.

Now using your knowledge and understanding about civilian discontent, conflict over investment, corruption and why this makes you the best person to be the new mayor. Be ready to defend your choice.

Listen to 3 of your classmates vox pops then take a vote to find out who you would most like to be the new mayor.

Videos

- You Tube: <https://www.youtube.com/watch?v=fywvd6mmDhs> (1.17mins)
- You Tube: https://www.youtube.com/watch?v=1W_zM7koJy8 (8.36 mins)

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Make as many copies as students/4 – Cut & handout 1 info card each.

A. Civilian discontent

Improvements in communication across the world mean that many people understand how their lives could be better. They see and hear about people who are better off than them and believe that their politicians and leaders should do more to help them. When money is spent on large projects that do not help them, instead of on their wages or on improving their living conditions, they get organised and protest. Often the protests are peaceful but sometimes it may lead to civil unrest.

Social media and the Internet mean that news about what is happening can reach across the city, country and sometimes the world. If enough people speak out it puts pressure on city authorities and national governments.

In Rio de Janeiro there have been a number of public demonstrations in recent years.

28/06/16	Image posted on social media of Rio de Janeiro policemen greeting a banner 'Welcome to Hell: Police and firefighters don't get paid, who be safe';
04/08/16 & 05/08/16	The Independent newspaper reported how unpaid teachers had tried to lead a parade through the suburbs of Rio de Janeiro and that police had fired tear gas near to the Maracana stadium (pictured). Both protests reflected public anger about the Olympics in light of Brazil's recession, political and public health problems (including the Zika virus);
16/11/16	The Guardian newspaper reported that Rio de Janeiro's police had shot at protesters who were trying to break into the building of the state assembly to demand an end to public spending cuts. Thousands of people working for the state had not been paid for months.

B. Competition over investment

Economic growth is generally seen as a good thing, bringing wealth and prosperity. However, if more businesses to a city there must be investment in infrastructure and facilities (such as transport, relief and cheap land). By spending money on improving infrastructure there is less money for providing affordable good quality housing, education and healthcare. Although economic growth does not always reach the poorest people in society. Inequalities can widen as a result.

In Rio de Janeiro £9 billion investment was spent improving infrastructure and facilities for the 2016 Olympic Games. One of the major projects associated with this was the redevelopment of the city centre. £1 billion has been spent improving roads, putting in rail links and rebuilding squares to attract businesses and new residents. New cultural attractions including two museums have been built to encourage visitors to the area (pictured).



The scheme has been criticised for benefiting the upper-classes rather than providing for the poor. As land becomes more valuable due to the new apartments while the city struggles with a housing shortage. 500 poorer families have been moved out of the Favela, one of the first favelas to be pulled down to make way for the new development. Residents say that the £24 million could have been better used to provide better housing and services for the poor.

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Make as many copies as students/4 – Cut & handout 1 info card each

C. Criminality

In developing and emerging countries megacities can have serious problems with managing their development. Large numbers of people living in extreme poverty and a large population may turn to crime in order to improve their quality of life, and some may be under resourced and inexperienced at dealing with organised gangs and police officers and city officials.

The crime rate in Rio de Janeiro increased in 2015 with higher incidence of reported petty crime including theft and robbery, particularly around Ipanema and Copacabana beaches where tourists are often targeted. Tourists are rarely at risk from deadly crimes, but within the favelas the murder rate is high (3117 across the city in 2015). This is because they are often controlled by gangs trafficking drugs. Since 2010 the Unidade de Policia Pacificadora (UPP) – Pacifying Police Unit – have been working to reduce the crime rate within the favelas and take back control. They have successfully entered and pacified 38 of the 1000 favelas, including the notorious Rocinha, the largest favela in Rio. The programme is expensive, however, requiring many police officers who must be trained and then provide an ongoing presence in each favela to prevent the return of criminal gangs.

The UPP has been criticised for a number of reasons:

- It has led to an increase in petty crime – possibly because people are now more visible but more likely because minor criminals are no longer under the control of the gangs.
- The programme prioritised favelas close to the scale of their problem and not the ones closest to wealthy areas of the city leading people to suggest improving property and quality of life for the rich than about improving the lives of the poor.
- The programme has not reduced drug trafficking. Gangs have simply moved to other parts of the city and more inter gang violence.
- There are accusations of police brutality, extortion and human rights abuses.

D. Corruption

Corruption is a challenge to managing megacities because it interferes with natural economic growth and creates a system where the wealthy can get what they want while the poor cannot. Developers and businesses secretly give money to people with political power so that they'll do what they want them to do.

In Brazil, like many emerging and developing countries, it has been common for businesses to over-charge the government for their work and then pay government officials some of that money. This makes them both richer, but it's basically stealing from the public. In 2016 the President was impeached after allegations of corruption involving political parties and officials taking money from businesses.

In Rio de Janeiro the governor was arrested in 2016 as part of an investigation surrounding the 2014 World Cup and 2016 Olympic Games. Another former governor was also arrested. Learning how corrupt politicians are erodes voter trust in their government. Brazil only had a democratically elected government for a relatively short time (28 years) and only 50% of all literate adults between the ages of 18 to 70 to vote. There is hope that as politicians become more accountable to the electorate, working for the people rather than themselves.

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As an expert note sheet (Task 12)

Make as many copies as students – Handout 1 each

	Environmental Discontent	Conflict over investment	
Political/ecor challenge?			
What is it? Write a short description of what is happening in the megacity.			
How are the poor affected?			
How are the wealthy affected?			
How does it affect the future management of the city – specifically its ability to reduce inequalities?			
How would change things for the better?			

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Lesson 12: Answers

Abbreviation of Assessment Objectives (AO):

1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

12.1 Starter

AO1 & AO2 Students could choose any key terms introduced through learning so far in the course. These include:

Lesson 1 <ul style="list-style-type: none"> Urbanised Urbanisation Global region Population size Population distribution Growth rate 	Lesson 2 <ul style="list-style-type: none"> Megacity World city Urban primacy Primate city Economic influence Political influence
Lesson 4 <ul style="list-style-type: none"> Urban economy Informal employment Formal employment Economic sectors Economic structures Working conditions Tertiary sector 	Lesson 5 <ul style="list-style-type: none"> Spatial growth Suburbanisation De-industrialisation Counter-urbanisation Regeneration Urban sprawl
Lesson 7 <ul style="list-style-type: none"> Site Situation Conurbation 	Lesson 8 <ul style="list-style-type: none"> Urban structure Land use Development Land use zones Building age CBD Inner city Suburbs Urban-rural fringe Urban model
Lesson 10 <ul style="list-style-type: none"> Economic change Access to resources Employment Service provision Housing shortages Water supply Waste disposal Working conditions Living conditions Urban infrastructure Traffic congestion 	Lesson 11 <ul style="list-style-type: none"> Inequalities Quality of life Standard of living Life expectancy

12.2 Task

AO1, AO2 & AO3 See table on next page for suggestions of notes and application.



12.3 Plenary

This is a free thinking exercise –there are no right or wrong answers as such. Students discuss their ideas in groups (using the video (notes will have been prepared on the board) and what they have learnt during the course).

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	Civilian discontent	Conflict over investment	Crime
Political/economic challenge?	Political	Economic	Economic
What is it? Write a short description of what is happening in the megacity.	People who live in the city campaigning for better work and living conditions. They use social media to help spread their message get people to join them and put pressure on the government.	Disagreement about how large sums of money should be spent, i.e. on large infrastructure projects that attract investment from TNC or on public services like health, education and housing.	High crime rate, especially in areas of the city with poor living conditions where the police force isn't big enough to deal with the problem.
How are the poor affected? Suggestions could include:	 Poor live in the worst conditions so they are likely to be most vocal.	When money is spent on large projects instead of the public the direct benefits are few. Poor people are unable to access the new jobs but may benefit because in the long term there should be more money for the city authority which can then be spent on public services.	Criminality is higher in poorer areas of the city. If not tackled there is no chance of reducing the incidence of petty crime. People have been beaten and injured.
How are the wealthy affected? Suggestions could include:	Some may be interested in the welfare of poorer residents; Changes in government policy may result in increases in taxes and less money spent in wealthy areas.	They benefit from new jobs, housing, cultural facilities and events, faster journey times because they can afford to access more of these.	Their lives are impacted as house prices increase as the favelas being pacified.
How does it affect the future management of the city – specifically its ability to reduce inequalities? Suggestions could include:	 Highlights the issues of social justice concern to people and so it may help them to get more spending to where they want it most. This may not make the most economic sense but helps get politicians elected.	Long-term the city may be in a better position to be able to reduce inequalities but for the time being they widen.	The city will need a stronger police force if it is to tackle the 1000 favelas (only 100 tackled so far!). Urban control in the favelas is needed to improve quality of life.
How would you change things for the better? Suggestions could include:	Could suggest reform of electoral process and city governance to allow people more involvement in the running of the city.	Involve local people in new schemes or plan schemes that involve an element of local housing or give back to local communities in some way.	Support and involve more in decriminalisation. Tackle the growth of the favelas so that there aren't more in the city.

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Lesson 13 Overview: Making a mega

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Learning questions: What are the advantages and disadvantages of top-down strategies for sustainable megacity?

New key terms: sustainable development, top-down strategies,

Associated Task Sheet: 13 – pages 218 – 219
Associated PowerPoint file: Lesson 13.pptx

13.A Preparation

Worksheet and resources for photocopying:

For event	Description	Page(s)	Photocopies required
13.3	Information sheet	218	Number of students
13.3	Top down table	219	Number of students

Other resources you may need to provide:

- ✓ Glue, stapler or hole-punch to attach worksheets.

13.B Individual student planning




Use this section to tailor your lesson plan to individual students in your class

	Student(s)	Detail of action
G&T		
SEN		
EAL		
Other		

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13.C Teaching and learning plan

Suggested time	Event	Task instructions	Student worksheet
10 mins	 13.1 Starter	<p>Instruction to students: <u>working as a class</u> use your existing knowledge of the words or phrases relating to the word 'sustainable'. This should be from all areas of your life – you will learn more about how we use the word in geography this lesson.</p> <p>Teaching activity – <u>develop student knowledge</u> by facilitating the discussion. Allow students to write their ideas onto the whiteboard as they come up with successful suggestions. Ask students to suggest how we might use the word in the context of urban growth.</p> <p>Learning outcome – All: start to understand the meaning of the word sustainable Some: can suggest ways in which it might apply in Geography.</p>	
15 mins	 13.2 Task	<p>Instruction to students: <u>working independently</u> look at the sustainability stool and quadrant and answer the questions.</p> <p>Teaching strategy – <u>develop student understanding</u> by spending some time examining the diagrams and identifying their key features.</p> <p>Learning outcome – All: can identify the sustainability stool and sustainability quadrant; Some: can understand the importance of sustainability in the growth of urban areas; Some: suggest their own ways of understanding the concept of sustainability.</p>	
30 mins	 13.3	<p>Instruction to students: <u>working in pairs</u> read the Information sheet and complete the Top down table by identifying the detail, advantages and disadvantages of each scheme and then judging how well they meet the principles of sustainability.</p> <p>Teaching strategy – <u>develop student knowledge and understanding</u> by reading the information sheet as a class and identifying key points for consideration. Clarify any concepts and key words.</p> <p>Learning outcome – All: know the key features of the three strategies; Most: understand the positive and negative aspects of the strategies; Some: make judgements about how well they fit with the principles of sustainability.</p>	<p>Information sheet;</p> <p>Top down table.</p>

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Suggested time	Event	Taught activities	Student worksheet
5 mins	 13.4 Plenary	<p>Instruction to students: – Class discuss which strategy was the most sustainable. Refer to your work in Task 13.3 to give reasons for your justification.</p> <p>Teaching strategy – <u>develop student application</u> by encouraging justification of student statements. Create a tally of opinions on the board or a mind map of reasons why each scheme has been judged sustainable or not.</p> <p>Learning outcome – All: apply the principles of sustainable development to judge which scheme is the most sustainable; Most: can explain their reasoning; Some: identify some of the problems of top-down schemes in terms of meeting the criteria for sustainability.</p>	

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Lesson 13: Making a megacity sustainable

Learning question: What are the advantages and disadvantages of top-down strategies to creating a sustainable megacity?

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Edexcel B GCSE Topic 3: Challenges of an urbanising world

13.1 Starter

Using your past geographical knowledge, suggest ways in which sustainable development can be achieved, either on a personal level, or on a national or international level. Plot them onto the word SUSTAINABLE.

Solar panels can help reduce carbon.

U.S.

Try to draw a route to your routine.

A.I.N.A.

Be a fair trade product to whatever.

LE

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In order to reduce the inequalities in megacities across the world it is important that they develop.

But development can create problems such as pollution or the break-up of communities.

It can exacerbate inequalities and some people, especially the poor and disadvantaged, may be excluded from the process and displaced.

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The concept of sustainability can be represented by the sustainability stool.

Sustainability

Environment

Economy **Society**

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13.2 Task

(a) Copy the following paragraph, choosing the six correct words to complete the statement.

The sustainability stool helps us understand what would happen if one or more of the three/few elements of sustainability (environment, sustainability/society, or economy) gets improved/damaged, i.e. the stool collapses/grows – the scheme or strategy is/is not sustainable.

(b) Using the sustainability quadrant, suggest why it is important that megacities develop sustainably. You could phrase your answer in terms of what would happen if they don't!

- Benefits of economic growth would not be shared equally among residents.
- Future generations would not have the same opportunities or access to resources as today.
- People would not be involved in decisions and development that affected them.
- The environment would be damaged – water, air, land and wildlife.

(c) You are going to learn about a number of strategies that have been used in Rio de Janeiro to improve quality of life in the megacity. Suggest how you could use the sustainability stool and/or the sustainability quadrant to help you assess their sustainability.

Compare what is happening against the principles, i.e. do they balance the needs of the economy, environment and society or do they deliver benefits for all, not impact on future generations, involve the people who will be affected, avoid harm to the environment.

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Edexcel B GCSE Topic 3: Challenges of an urbanising world

Top-down strategies

National government and/or private companies

Local people are told what will happen

Major infrastructure or regeneration projects

Large budgets (£ millions or billions)

Loans from international sources

Employ thousands of people

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13.3 Task

The Brazilian Government has tried a number of different strategies to bring about change in Rio de Janeiro.

Four programmes to tackle social deprivation have been implemented in the last decade:

The Growth Acceleration Programme, known in Brazil as PAC

Programme to build new public transport lines

Specialised strategies associated with the 2014 World Cup and 2016 Olympic Games

Read the information sheet to find out about each strategy.

VISIT:
Visit the websites of the Growth Acceleration Programme (PAC), the Programme to build new public transport lines (POT) and the Specialised strategies associated with the 2014 World Cup and 2016 Olympic Games to see the first results of the 'top-down' strategies in the favela of Rocinha.

Working with a partner, consider the advantages and disadvantages of these 'top-down' strategies has been by referring to the different strategies in the sustainability stool and sustainability quadrant.

This sheet contains the advantages and disadvantages of the different strategies.

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Edexcel B B2M1 Task 1: Challenges of an urbanising world

13.4 Plenary

Which strategy would you recommend?

The Growth Acceleration Programme, known in Brazil as PAC

Programme to build new public transport lines

Be ready to share your ideas.

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Task Sheet 13: Making a megacity



Learning questions: What are the advantages and disadvantages of top-down strategies for sustainable megacity?

New key terms: sustainable development, top-down strategies

13.1 Starter

Using your past geographical knowledge and understanding suggest ways in which sustainable megacity could be achieved, either at the personal level, by schools and businesses or on a national level. Think of them or write them on a piece of paper. **SUSTAINABLE.** Three examples are given to get you started.



Solar panels can help reduce carbon dioxide emissions and prevent

U

S

Try to always recycle your rubbish

A

I

N

A

Buy fair trade products whenever you can

L

E

Sustainable development
'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' Brundtland Commission, 1987

13.2 Task

In order to reduce the inequalities in megacities across the world it is important that they develop. But development can create problems. If development is not managed well it can exacerbate inequalities and some people, especially the poor, are excluded from the process.



By aiming to make development sustainable we can be sure that it is fair and effective, bringing economic and social benefits. There are two useful ways of describing sustainable development. The 'three pillars' have evolved from the original definition created by the United Nations in 1987. The 'three pillars' are the environment, the economy and society. We can use them to help us make judgements about the sustainability of a development. Study Figure 13.1 and 13.2 and answer the following questions:

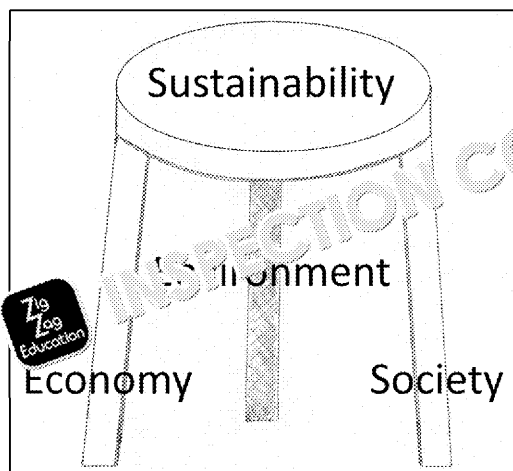
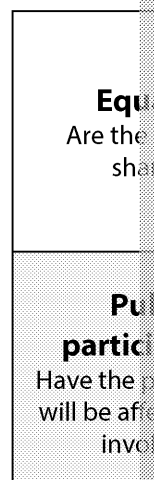


Figure 13.1: Sustainability stool



Equity

Are the benefits shared?

Participation

Have the poor and vulnerable groups been involved?

Figure 13.2: Sustainability triangle

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- (a) Copy the following paragraph, choosing the 6 correct words to complete it. The sustainability stool hinders/helps us understand what would happen if the elements of sustainability (environment, sustainability/society, or economic) stool collapses/grows– the scheme or strategy is/is not sustainable.
- (b) Using the sustainability quadrant suggest why is it important that megacities phrase your answer in terms of what would happen if they don't!
- (c) You are going to learn about a number of strategies that have been used in life in the megacity. Suggest how you could use the sustainability stool to help you assess their sustainability?

Extension 13.3

Think of a new way of describing the concept of sustainability – you could go back to the stool that needs to be held up (like the stool) or a diagram that shows us what we need (like the quadrant)

13.3 Task

The Brazilian Government has tried different strategies to bring about change in Rio de Janeiro. Four programmes to tackle social deprivation have been implemented in the last decade: The Growth Acceleration Program (known as the PAC), Minha Casa Minha Vida and sports-led strategies associated with the 2014 World Cup and 2016 Olympic Games.

Working with a partner consider how sustainable each of these 'top-down' strategies has been by referring to the different elements of the sustainability stool and sustainability quadrant. This should help you identify the advantages and disadvantages of the different strategies. Complete your findings in a table (like below).

Top-down strategies

- Large budget
- Loans from international banks
- National government
- For infrastructure
- Local people
- Employ 1000s

Bottom-up strategies

- Small budget
- Rely on charities
- Non-Governmental organisations and communities
- Small, incremental changes
- standard of living
- Work with the local people
- Employ a handful

Extension 13.3.1

Indicate which of your advantages and disadvantages are environmental, economic or social.

Top down strategy – name and details	Advantages of the strategy	Disadvantages of the strategy
Growth Acceleration Program, 2007		
Minha Casa Minha Vida, 2009		
2014 World Cup and 2016 Olympic Games		

13.4 Plenary

Which strategy would you recommend as the most sustainable? Be ready to state your reasons.

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Make as many copies as students/2 – Handout 1 between 2

Top down strategies to reduce inequalities in Rio de Janeiro and m

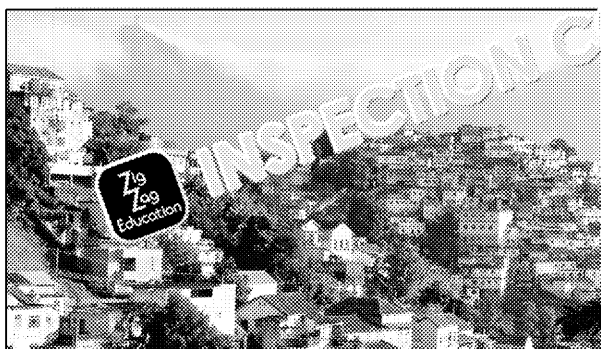
The Brazilian Government's Growth Acceleration Program, known as PAC began economic growth in the country by investing in infrastructure. So far it has been funded with loans from the World Bank and private investment. In Rio de Janeiro favelas, specifically improving mobility, sanitation, housing and access to utilities. Projects were started in Rochina (Rio de Janeiro's largest favela), to build a footbridge over the dual carriageway that cuts through the favela, a sports complex and health clinic. Investments were made to streets to improve access and the open sewer that runs through the favela was to be covered.

The second phase of the PAC programme proposed a cable car for Rochina, but residents fear that it will turn out like the celebrated cable car of the Complexo do Alemão favela, which has become a major tourist attraction yet only serves 7% of the favela's population (despite every resident being offered a free ticket each day). They would rather see the R\$152.2million earmarked for its development spent on sanitation in the favela.

In recent years Rio de Janeiro and Brazil as a whole have experienced financial problems and many planned projects have not been completed. There has been criticism of unnecessary overspending on some projects, like the *passarela* (the footbridge designed by Brazil's most famous architect) while the city still has open sewers running through residential areas. Rochina has benefited, but other favelas in the city don't have adequate schools, healthcare or utilities. The strategy had high ambitions, but the reality of construction has left many inhabitants unsatisfied.

In 2009, the government announced the **Minha Casa Minha Vida** programme as its purpose was to promote the construction and acquisition of new housing for families on a monthly basis, with priority for those on less than R\$1,600 a month. The project aimed to move families to the west of the city where transport and infrastructure are poor. Families moving from the city centre where they could use their homes for business purposes have found it difficult to work in other parts of the city. Some properties have already started to fall apart.

In advance of both the **2014 World Cup and 2016 Olympic Games** infrastructure projects were implemented, using Public-Private Partnership (when private companies fund projects, e.g. schools, hospitals, roads) to help improve urban facilities. Billions were spent on improving the international airport and transforming the transport network. However, because of the eviction and displacement of urban poor and the demolition of old transport routes.



Improving roads and public transport to reduce congestion and air pollution. A new bridge connecting Rio de Janeiro to the city centre was planned, many of which would bypass the traffic from local roads. The new transport system included new bus lines and an expansion of the metro. However, because of the inaccessible land transport routes, flatter wealthier areas of the city.

Rua 4 is a narrow street through the favela, with many places of the houses built on the slopes. The number of houses in the location is high, built on a steep slope where existing residents are being demolished. The blocks are lined with new buildings, but the refurbishment of the plazas is 12 months.

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Top down table (Task 13.3).

Make as many copies as students – Handout 1 each

Top down strategy – name and description	Advantages of the strategy	Disadvantages of the strategy
Growth Acceleration Program, 2007		
Minha Casa Minha Vida, 2009		
2014 World Cup and 2016 Olympic Games		

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Lesson 13: Answers

Abbreviation of Assessment Objectives (AO):

1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

13.1 Starter

AO3 This task requires application of past knowledge and understanding.

13.2 Task

(a) AO1

The sustainability stool helps us understand what would happen if one or more of the stool legs (environment, society, or economy) gets damaged, i.e. the stool collapses – the social

(b) AO2 Otherwise benefits of economic growth would not be shared equally among people. People would not have the same opportunities or access to resources as today/people would not have the same quality of life. Development that affected them/the environment would be damaged – water, air, land.

(c) AO4 Compare what is happening against the principles, i.e. do they balance the needs of the present and society or do they deliver benefits for all, not impact on future generations, do they avoid harm to the environment.

Extension 13.2.1

This is a free thinking exercise – proposals should recognise the importance of balance in sustainability – people (fairly treated and benefiting now and in future, the environment).

13.3 Task

AO3 Mark for application- judge extent to which the scoring has been well reasoned: Maximum

0	no reasoning
1	Outlines advantages or disadvantages
2	Outlines both advantages and disadvantages with some detail
3	Develops a consideration of both advantages and disadvantages and with reference to the environment throughout



For example: Scores are indicative – they are a judgement so need to be justified.

Top down strategy – name and details	Advantages of the strategy	Disadvantages of the strategy
Growth Acceleration Program, 2007	<p>Equality – benefits are shared within the local community, e.g. improvements to sanitation, mobility and housing by widening roads to improve access into the favela [S] & [En];</p> <p>Impact on future generations – provision of new accommodation for the urban poor [S];</p> <p>Environment – improved sanitation and aesthetics, e.g. creation of open public spaces [En].</p>	<p>Equality – the benefits are not widely shared beyond the favela where the project has taken place e.g. there are 1000 favelas across the city [S];</p> <p>Impact on future generations – the function of the favela is changed e.g. making it a tourist attraction [Ec];</p> <p>Public participation – local people are not being listened to, e.g. initiatives like the cable cars for tourists rather than local people.</p>

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Top down strategy – name and details	Advantages of the strategy	Disadvantages of the strategy
 Minha Casa Minha Vida, 2009	Future generations – 100,000 new homes for the poorest of the urban poor [S].	Equality – doesn't help the urban poor who must make more than \$1,000 [S]; Public participation – people had to leave their homes and communities and start again in a place where the building was to be placed [S]; Equality – people are worse off because they must now commute to their work, sometimes long distances [S]; Future generations – buildings were not built well, they will last – a waste of money [E]; Environment – new infrastructure has to be built and people now travel longer distances meaning possible increase in vehicle emissions [En].
2014 World Cup and 2016 Olympic Games 	Future generations – large infrastructure improvements – improved transport network will make the city easier to get around for future generations [Ec]; Future generations – investment in infrastructure, e.g. new stadiums and improved airport will bring more investment [Ec].	Public participation – even displacement of people – demolition of favelas [S]; Equality – the urban poor cannot afford to use the transport to buy tickets to sports events or use the airport [Ec];

Extension 13.3.1

AO2 The advantages and disadvantages are labelled as follows Environmental [En]; Economic [Ec]; Equality [E]; Social [S].

13.4 Plenary

This is a free thinking exercise – it is an open discussion so there are no right or wrong answers. Pupils should be encouraged to justify their reasoning by referring to examples from their knowledge and understanding of the world.

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Lesson 14 Overview: Bottom-up solutions



Learning questions: What are the advantages and disadvantages of bottom-up sustainable megacity?

New key terms: bottom-up strategies

Associated Task Sheet: 14 – pages 228 – 231
Associated PowerPoint file: Lesson 14.pptx

14.A Preparation

ICT – For part 14.2 of the lesson students will need Internet access to the following websites:
<http://www.favela-street.com/rio-de-janeiro/> – A project bringing favela street art to the world.
<http://www.projectfavela.org/> – A project that has created a school in a favela.
<http://www.favelapainting.com/> – A project that decorates buildings in favelas.
 Or print out relevant pages from the Internet for groups of students to work on.

Worksheets and resources for photocopying:

For event	Description	Page(s)	Photocopies required
14.2	Note taking framework	228	Number of students
14.2	Briefing template	229 – 231	Copy duplex. Make 2 copies as number of students
14.2	*Copy pages from Internet for each project if no Internet access is available to students		

Other resources you may need to provide:

- ✓ Glue sticks or hole-punch to attach worksheets.

14.B Individual student planning

Use this section to tailor your lesson plan to individual students in your class




	Student(s)	Detail of action
G&T		
SEN		
EAL		
Other		

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14.C Teaching and learning plan

Suggested time	Event	Teacher instructions	Student worksheet
10 mins	 Starter	<p>Instruction to students: <u>working as a class or in pairs</u> play hangman using the terms for the unit introduced in previous lessons.</p> <p>Teaching activity – develop student knowledge. Facilitate the game – it may be useful to have a list of key terms available for students to choose from. Develop understanding by offering definitions for the word and asking students to identify the correct one.</p> <p>Learning outcome – All: students know how to spell key terms; Most: can distinguish the correct definition of key terms.</p>	
30 mins	14.2 Task 	<p>Instruction to students: <u>working independently</u> research your chosen bottom-up strategy. Make notes about the strategy then complete the briefing for the Governor of Rio de Janeiro.</p> <p>Teaching strategy – <u>develop student application</u> by drawing students attention back to the questions they have been asked to answer. Help them make judgements about the scheme by asking questions, e.g. Why is it working? How many people are being helped? Are there more important issues for people's lives to tackle? How does it help improve people's quality of life?</p> <p>Learning outcome – All: know the details of their strategy and judge whether it is helping people or not; Most: understand the advantages and disadvantages of the strategy and judge whether it could make the megacity more sustainable; Some: make suggestions for how to improve the strategy or alternative recommendations.</p>	<p>Framework for note taking;</p> <p>Briefing template.</p>
10 mins	14.3 	<p>Instruction to students: swap your work with a partner and go through their briefing paper looking for examples of how they have answered the questions. You are judging how well they have investigated the strategy not the facts themselves so don't worry if you worked on a different strategy.</p> <p>Teaching strategy – <u>develop student understanding</u> of how their work is assessed by looking at examples of good answers and explaining what makes them good.</p> <p>Learning outcome – All: can assess another students briefing; Most: identify which information is missing; Some: make suggestions for improvements.</p>	

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Lesson 14: Bottom-up solutions to inequality

Learning question: What are the advantages and disadvantages of bottom-up strategies to create a sustainable megacity?

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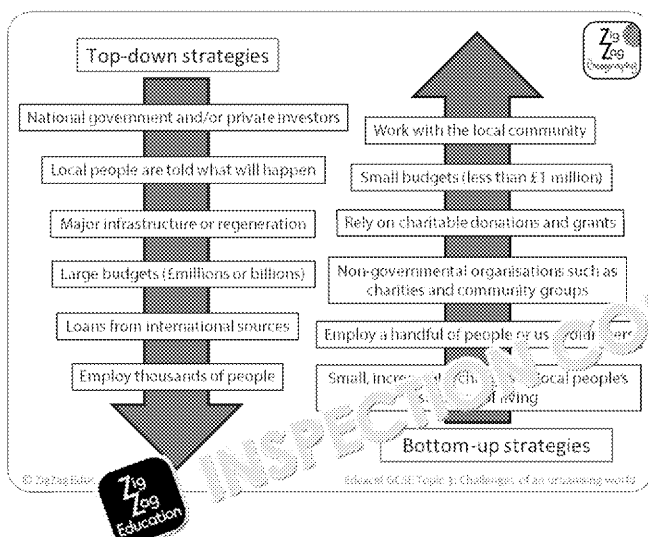
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Edexcel B GCSE Topic 3: Challenges of an urbanising world

14.1 Starter

Use the keywords you have learnt with a partner or as a class.

Keywords: Choose a keyword and write a sentence from the dictionary, write the same keyword below.



14.2 Task

Your expertise is needed to brief the quality of life in the megacity.

Use the internet or the resources provided to find out about the strategy used by community and non-governmental organisations.

Assess the impact of the strategy on the quality of life in the megacity.

Your briefing should do the following:

1. Explain why it is important that megacities are sustainable.
2. Outline the strategy you have investigated.
3. Describe the advantages of the strategy.
4. Explain the disadvantages of the strategy.
5. Suggest how the strategy could be improved.
6. Recommend whether the strategy you have investigated is sustainable.
7. Say what the next steps should be. If you think the strategy work elsewhere, if you didn't, say why it would help improve the quality of life in the megacity.

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How to do it...

Use the internet to find out about one particular strategy in Rio de Janeiro. You can start at any of the following sites or find your own example.

<p>A project that decorates buildings in bright paint</p> <p>http://www.therealestate.com.br/</p>	<p>A project bringing football training to girls in favelas</p> <p>http://www.football.com.br/</p>	<p>A project that has created a school in the heart of a favela</p> <p>http://www.projectofhope.org/</p>
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Edexcel B GCSE Topic 3: Challenges of an urbanising world

Find out ...

- How does the strategy help improve the quality of life in the megacity?
- Who is in charge, e.g. a charity or government?
- Who is involved in making it happen? Are there any people from other countries?
- What aspects of sustainability are improved?
- What aspects of sustainability are not improved?

Tips ...

Use the **note-taking framework** to help you collate the information you will need.

Then use the **sustainability wheel or quadrant** to help you assess whether the strategy will make the megacity sustainable.

Economic

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14.3 Plenary

Swap your briefing with a classmate (try to find someone who worked on a different strategy).

Mark their work using a different-coloured pen.

1. Check how many marks are available for a section and use it as an indication of the level of detail you need to look for.
2. Underline parts of the work where you believe they have done what was requested.
3. Only award marks if they have followed the command word, e.g. if it says explain they must have given reasons, if it says justify they must outline the arguments for and against before reaching a decision.
4. Suggest ways to improve their work.

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Task Sheet 14: Bottom-up solutions



Learning questions: What are the advantages and disadvantages of bottom-up sustainable megacity?

New key terms: bottom-up strategies

14.1 Starter

Use the keywords you have learnt so far in this topic to play 'Hangman' with your partner in class.



Hangman: Choose a keyword and write down how many letters it has. The audio will read out the alphabet. Write the correct letter in the line of the gallows for each letter.

14.2 Task

In contrast to the **top-down approach** to development where regional, national or international bodies fund and lead change, a **bottom-up approach** involves local communities and individuals (e.g. charities, not for profit and ordinary businesses). Experts may be involved at the start and on the ground, but the success of such projects is usually in the hands of local people making it happen. Sometimes local businesses may provide funds and support for micro-credit schemes, grants or charitable donations. Individuals can access these funds to make improvements to their homes or set up their own businesses. The success of these incremental changes that empower people who might otherwise find it hard to access services, through schemes that bring together people with similar needs and/or businesses that

Case Study – LIGHT SA

LIGHT SA is Brazil's fourth largest energy company and a major supplier to the population of Rio de Janeiro (around 4 million). Until 2008 the company suffered substantial losses from electricity theft (64.1% of supply being taken by illegal tappings within Rio de Janeiro's favelas). There was a lack of trust between the company and the local community. People were willing to risk their lives by connecting up illegal electrical infrastructure in order to get free electricity.

With the advent of the Unidade de Policia Pacificadora (UPP) – Police pacifying units – the company developed new initiatives to provide reliable and affordable electricity to favelas, which made good business sense. They invested 0.5% of annual profits in an energy efficiency programme for people in the favelas to replace old and inefficient electrical appliances with energy efficient ones. Having an electricity bill means that residents of the favelas can now open bank accounts and economic opportunities that were not available to them before (utility bills require proof of your identity and address). They also developed an education programme to show how to reduce the amount of electricity they used, making their electricity bills more affordable and more difficult to steal they rebuilt customer trust. The living conditions for people in the favela and reduced levels of theft to 11%

Your expertise is needed to brief the Governor of Rio de Janeiro on a new way to manage the megacity. Use the Internet or the resources provided by your teacher to investigate the challenges used by community and non-governmental organisations in Rio de Janeiro. Assess the sustainability of the solutions.



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Your briefing should:

1. Explain why it is important that quality of life should improve;
2. Outline the strategy you have investigated;
3. Describe the advantages of the strategy in creating a sustainable megacity;
4. Explain the disadvantages of the strategy in creating a sustainable megacity;
5. Suggest how the strategy could be improved;
6. Recommend whether the strategy you have investigated should be replicated;
7. Say what the next steps should be. If you recommend the strategy say how it could be made to work elsewhere. If you don't recommend the strategy then make a recommendation and say why it would help improve the quality of life which achieving sustainable development.

Use the Internet to find out about one particular strategy in Rio de Janeiro. You can use the following sites or your own example:

http://www.favela-street.com/rio-de-janeiro/	A project bringing football to the favelas
http://www.projectfavela.org/	A project that has created a sustainable community
http://www.favelapainting.com/	A project that decorates the favelas

First you will need to find out:

- How does the strategy help improve quality of life in the megacity?
- Who is in charge, e.g. a charity, a local community group, the Brazilian Government?
- Who is involved in making it happen, e.g. volunteers, local people, or quality of life?
- What aspects of sustainability do you think the strategy covers?
- What aspects of sustainability do you think the strategy doesn't cover?

Use the note taking framework to help you collate the information you will need.

Then use the sustainability stool or quadrant to help you assess whether the strategy is sustainable. Make notes about what you have found out (you can use the note taking framework to help you). You can use the briefing template provided to help you structure your briefing.

14.3 Plenary

Swap your briefing with a classmate (try and find someone who worked on a different strategy) and mark it using a different coloured pen:

1. Check how many marks are available for a section and use it as an indicator to look for;
2. Underline parts of the work where you believe they have done what was asked;
3. Only award marks if they have followed the command word, e.g. if it says justify, if it says justify they must outline the arguments for and against the strategy;
4. Suggest what else they could have done to receive more marks.

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Framework for note taking (Task 14.2)

Make as many copies as students– Handout 1 each

Notes on a bottom-up strategy in Rio de Janeiro

Name of strategy:

How does the strategy help improve quality of life in the megacity?



Who is in charge, e.g. a charity, a local community group, the Brazilian Government?

Who is involved in making it happen, e.g. volunteers, local people, or qualified professionals?



What aspects of sustainability do you think the strategy covers?

What aspects of sustainability does your strategy not cover?



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Copy duplex – Make as many copies as students– Handout 1 each



Briefing for the Governor of Rio C

Author: D

1. Introduction

(briefly say why the strategy you are investigating will help improve quality)

.....

.....

.....

.....

2. The strategy

(In your own words, briefly describe what the strategy is doing, who is in charge, from whom, who is involved, e.g. staff or volunteers)

.....

.....

.....

.....

3. The advantages of the strategy

(Explain which aspects of the strategy are in line with the concept of sustainable development, environmental, economic and social benefits)

.....

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4. **The disadvantages of the project** (Explain which aspects of the strategy sustainability – or what parts are missing)

.....

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.....

.....



5. **Could the project be improved in future?** (Identify any problems with how you would make it better)

.....

.....

.....

6. **Your recommendation** (Justify your decision by giving reasons why you think it is worth spending public money)

I recommend that this strategy should / should not be rolled out into other areas of the city.

.....

.....

.....

.....

.....



7. **Next steps** (If you recommended the strategy say what you are going to do to make it sustainable elsewhere in the megacity. If you didn't recommend the strategy then suggest ways of making the megacity sustainable and improving the quality of life).

.....

.....

Suggest ways to improve your work:

.....

.....



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Lesson 14: Answers

Abbreviation of Assessment Objectives (AO):

1. Knowledge
2. Understanding
3. Application of knowledge and understanding
4. Skills

14.1 Starter

AO1 & AO2 Students could be given any key terms introduced through learning so far

Lesson 1 <ul style="list-style-type: none"> Urbanisation Urbanisation Global region Population size Population distribution Growth rate 	Lesson 2 <ul style="list-style-type: none"> Megacity World city Urban primacy Primate city Economic influence Political influence
Lesson 4 <ul style="list-style-type: none"> Urban economy Informal employment Formal employment Economic sectors Economic structures Working conditions Tertiary sector 	Lesson 5 <ul style="list-style-type: none"> Spatial growth Suburbanisation De-industrialisation Counter-urbanisation Regeneration Urban sprawl
Lesson 7 <ul style="list-style-type: none"> Site Situation Connectivity 	Lesson 8 <ul style="list-style-type: none"> Urban structure Land use Development Land use zones Building age CBD Inner city Suburbs Urban-rural fringe Urban model
Lesson 10 <ul style="list-style-type: none"> Economic change Access to resources Employment Service provision Housing shortages Water supply Waste disposal Working conditions Living conditions Urban infrastructure Traffic congestion 	Lesson 11 <ul style="list-style-type: none"> Inequalities Quality of life Standard of living Life expectancy
Lesson 13 <ul style="list-style-type: none"> Sustainable development Top-down strategies 	

14.2 Task

AO1, AO2 & AO4 This task will be subject to peer assessment during the plenary

14.3 Plenary

AO3 Students should peer assess one another's work. Credit 1 mark for each point scheme given on the template briefing paper. You may wish to formally mark the

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