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# **Teacher's Introduction**

This resource has been produced to support the teaching of the **2016 OCR B specification for GCSE Geography: Topic 2: Changing Climate.** 

To help with the delivery of the specification all of our keyword activities are organised into subtopics linked to the key questions presented within each theme. A variety of engaging activities is included to help consolidate your students' understanding of key terminology and concepts. The range of activities enables you to use this resource **before**, **during** and **after** the teaching of each subtopic, helping your students to **prepare**, **recap** and **revise** each module.

The learning content for Changing Climate is covered by a total of three sets of keywords and matching descriptions. For each set, there are five different keyword activities designed to give you a range of different options for classroom, homework and revision. The answers for all the keywords can be found at the back of the resource, along with the crossword solutions.

The activities are as follows:

### (1) Crosswords

These traditional keyword activities are equally effective as lesson or homework activities – and are also an excellent way to ease students into their revision programme. There is also an A3 'jumbo' crossword with terms from across the whole unit. This could be used as class revision challenge at the end of the unit, perhaps dividing students into teams to see how far they can get.





In addition to the photocopiable worksheets, the crosswords are also provided in interactive format on the accompanying CD-ROM. These are web-based (HTML) and will run straight from your Internet browser.

### (2) Fill in the Keyword

Nothing fancy – students simply write the keyword which is being described, without any other help. Because this activity tests the students' own knowledge, they are best used as a homework activity at the end of each subtopic or during revision. This then acts as a check that they have grasped the key terminology for each subtopic. Alternatively, they could be given to students at the beginning of the subtopic, to see what they already know.

# The state of the s

### (3) Match Up

Students match descriptions to their keyword by drawing lines between them. Because there are similar descriptions and keywords, students are likely to make the odd mistake while completing the activity, so it is recommended that they use a pencil to start with! By eliminating the keywords that they are familiar with, students can then think about and learn the ones that they are less confident with.

### (4) Dominoes

This is another match up activity, but this one is designed to be used in a more active way to engage students. It is recommended that students work in pairs or small groups. Half of each card contains a keyword, and the other contains a description. To complete the activity, students must align all the cards

in the correct order. There is a 'Start' and a 'Finish', meaning that if any cards are left outside of the chain, then students have gone wrong somewhere. The CD contains an editable Word version of the blank dominoes template, so you can make your own.

## (5) Bingo

Each student is given a different bingo card containing a selection of words from the set. The teacher reads the definitions and the student must match the definition to the words on their card to complete rows, columns, and the full bingo card.

A Roberts, April 2016

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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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# **Selected Activities and Completed Glossary Page**

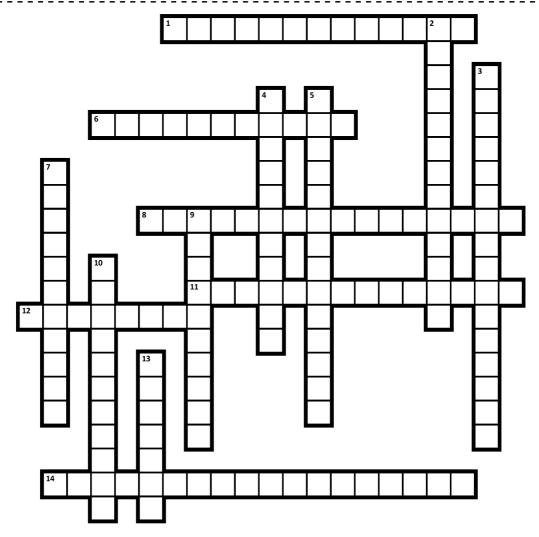
This sample shows <u>one</u> example of several activities.

The whole resource contains approximately 20 activities –

6 or 7 activities for each of the 3 topics.

The resource covers 41 key terms.

# **Subtopic 1: Climate Change: Factors: Crossword**



### **Across**

- Natural global temperature variation over long periods of time (7,6)
- 6 Temporary prohibition on the watering of gardens other than with watering cans (8,3)
- 8 The last two million years (10,6)
- 11 Variation within the rotation of the Earth's orbit around the Sun, which causes climate fluctuations (7,7)
- 12 Cooler areas of the Sun's surface, which have a cooling effect on Earth's climate (8)
- 14 Climatic variation due to changes in the Earth's orbit and tilt on its axis (12,6)

### **Down**

- Recent temperature increase, caused by the artificial addition of greenhouse gases into the atmosphere by humans (6,7)
- 3 The process of atmospheric warming caused by certain gases in the atmosphere that trap heat (10,6)
- **4** Condition cause by lack of water (11)
- 5 Drivers of climate which are beyond the control of humans (7,7)
- 7 The amount of energy provided to the Earth and its atmosphere by the Sun (5,6)
- Gaseous layer above the Earth's surface (10)
- **10** Coal, oil and natural gas, for example (6,5)
- 13 Natural emitter of greenhouse gases (7)

# **Subtopic 1: Climate Change: Factors: Fill in the Keyword**

Gaseous layer above the Earth's surface, ranging from the troposphere to the exosphere, the pressure of which decreases with increased distance from the surface	
Non-renewable energy sources which were created in the past, which include coal, oil and natural gas	
Cooler areas of the Sun's surface, which have a cooling effect on Earth's climate	
Climatic variation due to changes in the Earth's orbit and tilt on its axis	
Condition in humans and animals which can result after drought has caused a lack of water	
Temporary prohibition on the watering of gardens other than with watering cans	
The natural trend and variation in the Earth's climate over time	
The rise in the average temperature of the Earth's atmosphere and oceans since the nineteenth century and its projected continuation into the future	
Natural process by which the Earth's atmosphere absorbs and traps longwave radiation from the Sun, causing elevated surface temperatures.	
Drivers of climate which are beyond the control of humans	
Variation within the rotation of the Earth's orbit around the Sun, which causes climate fluctuations	
Processes whereby greenhouse gases are released into the atmosphere from within the Earth	
The amount of energy provided to the Earth and its atmosphere by the Sun	
The most recent period in geological time, spanning the last two million years until present. This is divided into the Pleistocene (last glacial period) and the Holocene (most recent interglacial period).	

# Subtopic 1: Climate Change: Factors: Match Up

Climatic variation due to changes in the Earth's orbit and tilt on its axis

Condition in humans and animals which can result after drought has caused a lack of water

Cooler areas of the Sun's surface, which have a cooling effect on Earth's climate

Drivers of climate which are beyond the control of humans

Gaseous layer above the Earth's surface, ranging from the troposphere to the exosphere, the pressure of which decreases with increased distance from the surface

Natural process by which the Earth's atmosphere absorbs and traps long-wave radiation from the Sun, causing elevated surface temperatures.

Non-renewable energy sources which were created in the past, which include coal, oil and natural gas

Processes whereby greenhouse gases are released into the atmosphere from within the Earth

Temporary prohibition on the watering of gardens other than with watering cans

The amount of energy provided to the Earth and its atmosphere by the Sun

The most recent period in geological time, spanning the last two million years until present. This is divided into the Pleistocene (last glacial period) and the Holocene (most recent interglacial period).

The natural trend and variation in the Earth's climate over time

The rise in the average temperature of the Earth's atmosphere and oceans since the nineteenth century and its projected continuation into the future

Variation within the rotation of the Earth's orbit around the Sun, which causes climate fluctuations

# **ATMOSPHERE**

CLIMATE CHANGE

PEHYDRATION FOSSIL FUELS GLOBAL WARMING

GREENHOUSE EFFECT

HOSEPIPE BAN

MILANKOVITCH CYCLES

NATURAL FACTORS

ORBITAL CHANGES

**QUATERNARY PERIOD** 

SOLAR OUTPUT

SUNSPOTS

**VOLCANIC ACTIVITY** 

# Subtopic 1: Climate Change: Factors: Dominoes

increased distance from the surface troposphere to the exosphere, the pressure of which decreases with Gaseous layer above the Earth's surface, ranging from the

Non-renewable energy sources which include coal, oil and natural gas were created in the past, which

**Atmosphere** 

Cooler areas of the Sun's surface, which have a cooling effect on Earth's climate

Fossil Fuels

Climatic variation due to changes in the Earth's orbit and tilt on its axis

Milankovitch Cycles

which can result after drought has Condition in humans and animals

watering of gardens other than with watering cans

Temporary prohibition on the

caused a lack of water

**Dehydration** 

Climate Change

and its projected continuation into the The rise in the average temperature oceans since the nineteenth century of the Earth's atmosphere and

Hosepipe Ban

The natural trend and variation in the Earth's climate over time

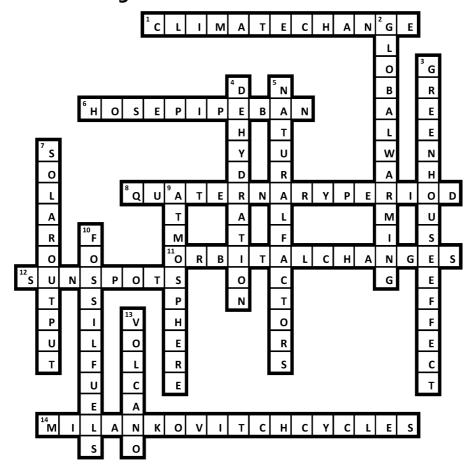
# **Subtopic 1: Climate Change: Factors: Bingo**

Bingo				
Atmosphere	Fossil Fuels	Sunspots	Other Keywords	
Milankovitch Cycles	Dehydration	Hosepipe Ban	1.	
Climate Change	Global Warming	Greenhouse Effect	5	

Bingo				
Hosepipe Ban	Quaternary Period	Solar Output	Other Keywords	
Volcanic Activity	Orbital Changes	Natural Factors	1.	
Greenhouse Effect	Global Warming	Climate Change	5	

## Crosswords

**Subtopic 1: Climate Change: Factors** 



**Subtopic 2: Climate Change: Proxies / Evidence** 

