



PE

A Level | Edexcel | 9PE0



Starters and Plenaries

for A Level (Year 2) Edexcel PE

Update v1.1, January 2020

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Teacher's Introduction

This resource contains 39 starters and plenaries which cover all of the theory content of the A Level (Year 2) Edexcel PE specifications (2016).

The activities follow the specification order and give the teacher a clearly defined structure to work from. All activities are fully co-teachable with Edexcel's A Level Physical Education.

The starter activities offer a way to grab the students' attention prior to learning the core information of the specification. The plenaries help to challenge the students, testing their understanding. While each activity is specified as either a starter or a plenary in the resource, these are adaptable to the teacher's needs.

The wide range of activities helps to stimulate each of the students' interest, by offering fresh and enjoyable methods of learning. The activities help to promote discussion, explanation, application and critical thinking skills, meaning that each student can learn to deeply analyse the information that they have been taught, which gives them a solid foundation from which to work for the following lessons. The activities target each type of learner, enabling every student to benefit from this resource.

October 2018

Update v1.1, January 2020

p. 59 – In the diagrammatic summary of Weiner's (1985) Locus of Control, the placement of 'Chance/Luck' and 'Task Difficulty' has been corrected.

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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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Specification Cross-Reference

This table will enable you to pick and choose starters or plenaries relevant to the teaching. While each activity has been selected as either a starter or a plenary you can use a starter and plenary tasks may be interchangeable dependent on how you teach them. Some may not work so well as a starter or plenary. It is at the teacher's discretion.

Specification Reference	Activity	Ex Res	
Topic 1: Applied Anatomy and Physiology			
 2.1.4 Energy systems: fatigue and recovery	1	Forms of Energy: Annotate and Discuss	
	2	ATP as Energy: Topic Notes	
	3	Energy Systems: Quiz	
	4	ATP Resynthesis and the Energy Continuum: Complete the Graph	
	5	Fatigue in Sport: Research Stations	Multiple choice, interactive tasks, completion, text
	6	EPOC and the Recovery Process: Complete the Flow Chart	
	7	Recovery from Exercise: Verbal Tennis	(Optional Tennis)
	8	Response of Energy Systems to Warm-ups: Newspaper Article	
Topic 2: Exercise Physiology and Applied Movement Analysis			
2.3 Injury prevention and the rehabilitation of injury	9	Acute and Overuse Injuries: Correct the Mistakes	
	10	Injury Prevention: Spider Diagram	
	11	Responding to Injuries: Be the Physio	(Optional) Completion, spider diagram
	12	Rehabilitating Injuries: Be the Doctor	
2.4 Linear motion	13	Linear Motion in Sport: Quiz	
2.5 Angular motion	14	Angular Motion in Sport: Calculations and Relationships	
	15	Angular Motion in Sport 2: Complete the Graph	
 Projectile motion	16	Projectile Motion in Sport: Optimising Flight Distance	
	17	Projectile Motion in Sport 2: Lift and Spin	
2.7 Fluid mechanics	18	Fluid Mechanics in Sport: Complete the Spider Diagram	
	19	Bernoulli's Principle and Technological Advancements: Offering a Lift	

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Specification Reference	Activity	Ex Resources
Topic 3: Skill Acquisition		
3.7 Memory models	20	Information Processing: Annotate and Apply
	21	Memory Stores: Scenario Application
	22	Reaction Time, Response Time and Movement Time: Identifying Factors
	23	Schmidt's Schema Theory: Applying the Theory
Topic 4: Sport Psychology		
4.4 Attribution theory	24	Attribution Theory: Long jump Control
4.5 Confidence and self-efficacy	25	Confidence and Self-efficacy in Sports Performance: Verbal Tennis
4.6 Leadership	26	Leadership in Sport: Tri-answers
Topic 5: Sport and Society		
5.3 Commercialisation of sport	27	How has Sport been Commercialised? Annotate and Explain
	28	Advantages and Disadvantages of Commercialisation in Sport: Verbal Tennis
	29	Historical and Social Context of Commercialisation: Pyramid Factors
	30	Commercialisation and the Modern Olympic Games: Table Fill
	31	Relationship between Sport and the Media: Building Relationships
	32	Franchises, Power Shifts, Americanisation and Global Sport: Post-it Notes
5.4 Ethics and deviance in sport	33	Drugs and Doping in Sport: Tri-answer
	34	Sportsmanship, Gamesmanship and Contemporary Forms of Deviance: Interviews
	35	Combating Deviance in Sport: Explain the Factors
5.5 The relationship between sport and the media	36	Coverage of Sport by the Media: Reasons for Change
	37	Implications of Media and Social Media: Table Fill
	38	Modern Technology and Entertainment: Weighing Things Up
5.6 Development routes for talent identification through to elite performance	39	Routes to Sporting Excellence in the UK: Provide the Strategies

A Level: Paper 2 (Component 2)

Activity 1 – Forms of Energy

Teacher's Notes

Plenary Activity: Annotate and Discuss	
Aim of the activity	To get students thinking about the different forms of energy and the forms and human movement.
Teacher's instructions	Photocopy the activity sheet on the next page with images of different pairs or groups, allow 10 minutes for students to think and discuss what is shown in the images, and what other forms of energy exist. Students to list of each form of energy they have thought of.

Answers

Note: these are only suggestions. There are acceptable answers will vary for each student, particularly the sporting movements. They all require some element of kinetic energy and chemical energy.

Baseball player – mechanical energy

- Mechanical energy is the energy used to do work. It is the sum of potential energy and kinetic energy.
- Mechanical energy is the sum of the motion of the baseball player (kinetic energy) and the height of the player (potential energy).
- Energy is imparted from the core to the bat through a kinetic chain.

Heart – electrical energy

- Energy that is stored and released by charged particles.
- The human body uses electrical energy to pass impulses through the nervous system (including the cardiac muscle).

High diver – potential energy

- Energy that is stored within an object, due to its position, typically as a result of gravity.
- The high diver has stored potential energy because they are high up off the ground.
- This potential energy is released and harnessed when the diver leaves the platform.

Golfer – chemical energy/ kinetic energy

- **Chemical energy** – energy resulting from chemical reactions. Chemical energy can be stored in a battery or sound or kinetic energy.
- **Kinetic energy** – any energy that causes movement of an object. This is the energy stored in a moving object.

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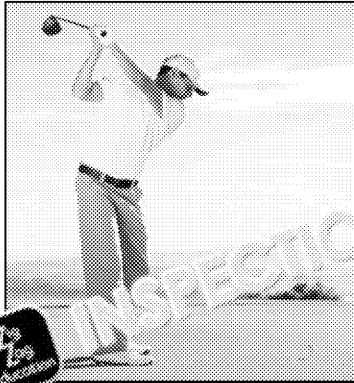




Forms of Energy: Annotate and D

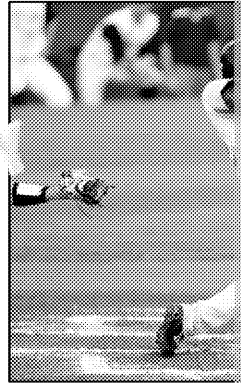
Working in pairs or small groups, use the images below to help you think of, and as you can. For each form of energy you identify, write a description to help some

Chemical energy / Kinetic Energy



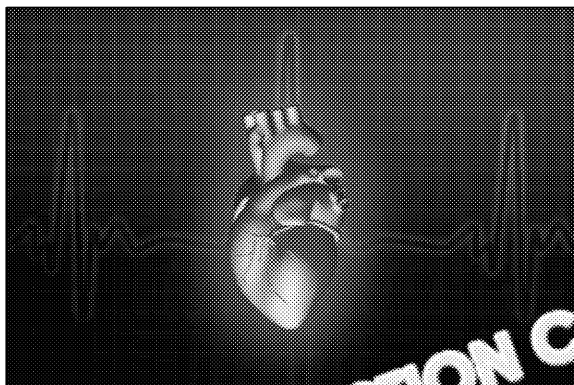
Description:

Mechanical



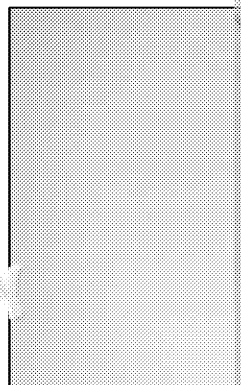
Description:

Electrical Energy



Description:

Potential



Description:

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Activity 2 – ATP as Energy

Teacher's Notes

Plenary Activity: Post-it Notes	
Aim of the activity	To get students to think back to what they have learned and any questions they have for the next lesson regarding ATP and energy for exercise.
Teacher's instructions	Photocopy the activity sheet on the next page and hand out a copy to each student. Collect students' worksheets at the end of the lesson. The questions will be discussed in the following lesson. Students are required to revisit their learning by writing answers to the questions learned in the lesson. They are also required to think of a question to be answered in the next lesson.

Answers:

Note: these are only suggested answers (answers will vary for each student).

Energy currency

ATP is referred to as the energy currency because it is an important source of energy for living organisms. It has a role in cell metabolism, muscle contraction, nervous transmissions etc.

ATP structure

Adenosine
3 phosphate molecules

ATP breakdown

ATP = ADP + P + Energy

ATP resynthesis

Energy + ADP + P = ATP

Energy is needed to resynthesise ATP

Energy is gained from the coupled reaction $PC = P + C + \text{Energy}$ (the breakdown of phosphocreatine)

Additional sources of ATP resynthesis

- Glycogen
 - Glycogen is stored in the muscle cells, blood and liver. To use this energy source, glycogen is broken down into glucose.
 - Glycolysis is the process that breaks down glucose. Glycolysis releases four molecules of ATP (energy) per molecule of glucose, as well as pyruvate. Pyruvate is the cause of lactic acid.
- Fats
 - Fatty acids that are carried in the blood are broken down into acetyl CoA through beta oxidation. Beta oxidation allows fats (now in the form of acetyl CoA) to enter the mitochondria and be broken down into ATP (energy), water and carbon dioxide.

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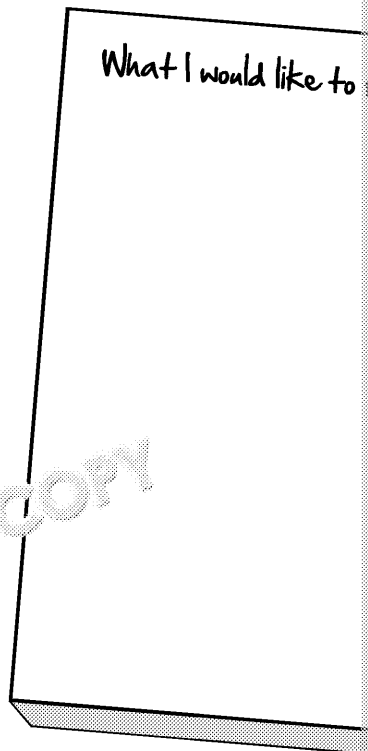
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ATP as Energy: Post-it Note

Write down one key thing that you have learned from the lesson. Also write down one question you would like answered for next lesson about ATP as an energy source.



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Activity 3 – Energy Systems

Teacher's Notes

Plenary Activity: Quiz	
Aim of the activity	To test students' understanding of the glycolytic, aerobic and ATP-PC
Teacher's instructions	Print out a copy of the multiple-choice quiz on the next two pages and allow the students 10 minutes to complete the quiz independently in class and get the students to mark their answers.

Answers

1. d
2. b
3. d
4. c
5. b
6. a
7. c
8. c
9. a
10. a
11. a
12. b



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Energy Systems: Quiz

Answer the questions by ticking the correct statement.

1. **Which of the following statements shows the correct order of the energy systems on an energy continuum?**
 - a) ATP-PC, aerobic, glycolytic
 - b) Aerobic, ATP-PC, glycolytic
 - c) Glycolytic, ATP-PC, aerobic
 - d) ATP-PC, glycolytic, aerobic
2. **Where does the ATP-PC energy system take place?**
 - a) The mitochondria
 - b) The sarcoplasm
 - c) The sarcolemma
 - d) The cell nucleus
3. **What enzyme breaks down phosphocreatine in the ATP-PC system?**
 - a) Lactate dehydrogenase
 - b) Lipase
 - c) Phosphofructokinase
 - d) Creatine kinase
4. **At what stage of the aerobic energy system is glucose broken down into pyruvic acid?**
 - a) Krebs cycle
 - b) Electron transport chain
 - c) Glycolysis
 - d) ATP-PC
5. **When is pyruvate converted to lactic acid?**
 - a) When oxygen is available
 - b) When oxygen is not available
 - c) When carbon dioxide is available
 - d) When carbon dioxide is not available
6. **What are the by-products of the aerobic energy system?**
 - a) Carbon dioxide and water
 - b) 2 and carbon dioxide
 - c) Hydrogen and ATP
 - d) Hydrogen and water
7. **What is the ATP yield of the glycolytic system?**
 - a) 1 ATP
 - b) 4 ATP
 - c) 2 ATP
 - d) 38 ATP
8. **Which energy system provides the most energy for endurance events?**
 - a) ATP-PC
 - b) Glycolytic
 - c) Aerobic
 - d) Anaerobic
9. **Which sport would use the most ATP-PC and Glycolytic energy systems?**
 - a) Volleyball
 - b) Triathlon
 - c) Marathon
 - d) Open-water swimming
10. **Where does the aerobic energy system take place?**
 - a) Mitochondria
 - b) Sarcoplasm
 - c) Sarcolemma
 - d) The cell membrane
11. **Which energy system produces the most ATP per unit of fuel?**
 - a) Aerobic system
 - b) ATP-PC system
 - c) Lactic acid system
 - d) Glycolytic system
12. **Which energy system provides the highest power output?**
 - a) Aerobic system
 - b) ATP-PC system
 - c) Lactic acid system
 - d) Glycolytic system

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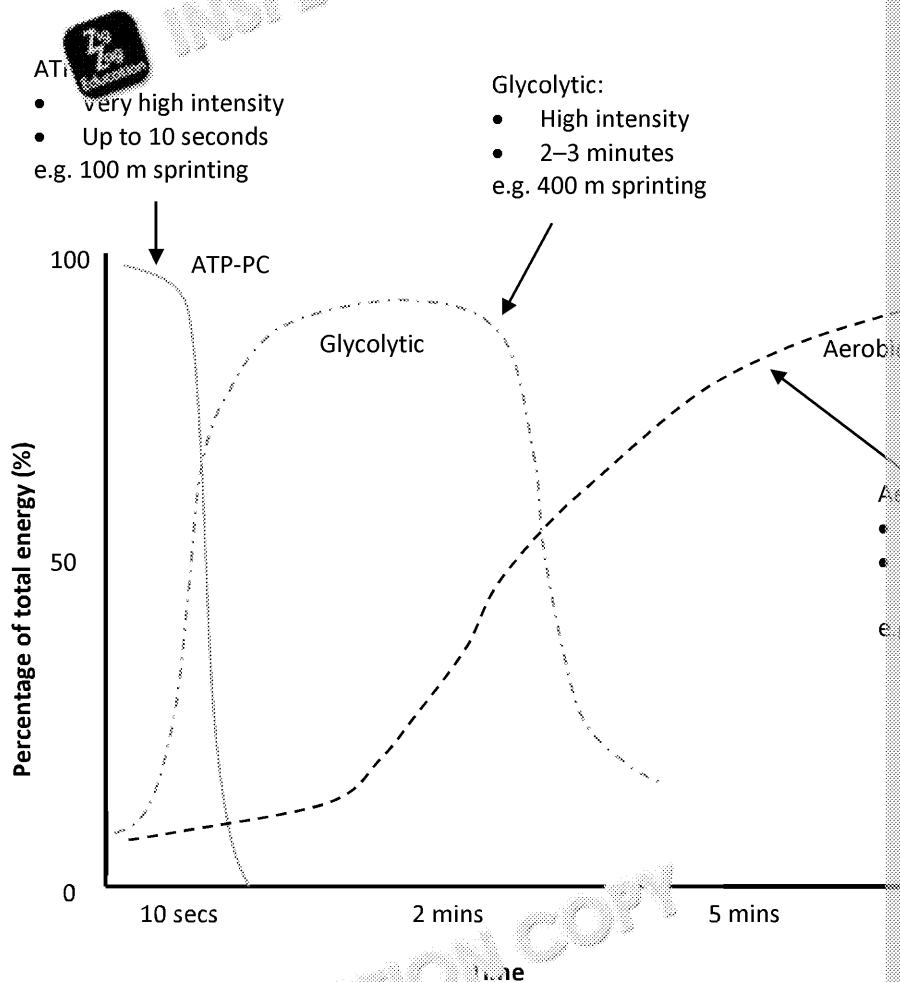
Activity 4 – ATP Resynthesis and the Energy System

Teacher's Notes

Plenary Activity: Complete the Graph	
Aim of the activity	To test the students' understanding of the energy continuum, and when each system becomes predominant when resynthesizing ATP.
Teacher's instructions	Photocopy the activity sheet on the next page and hand a copy to each student. Give students 10 minutes to complete the activity independently by completing the graph, and by providing annotations to show the exercise intensity and the energy system.

Answers:

1)



2)

Energy system	Recovery time*
ATP-PC	Up to 3 minutes
Glycolytic	24 – 48 hours
Aerobic	Approx. 24 hours

* Recovery times of energy systems will depend on the source that the information is taken from, and other factors such as type of exercise and intensity of work completed.

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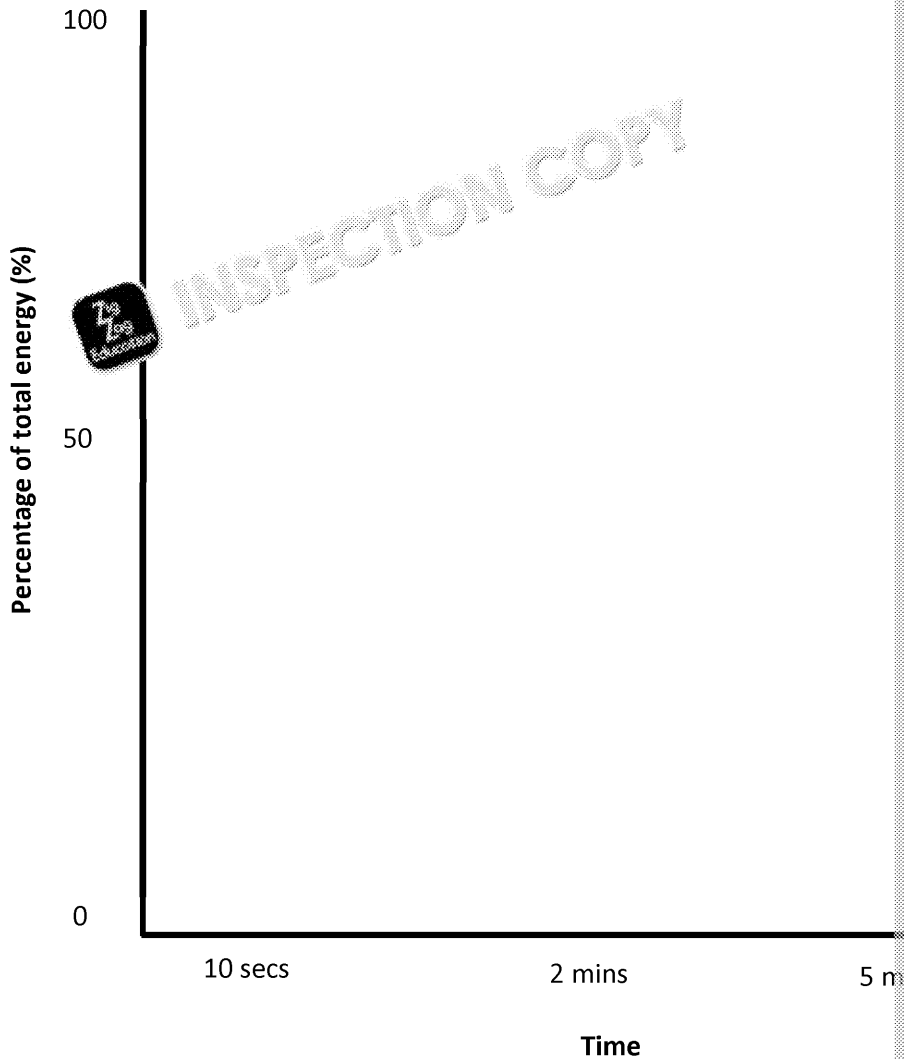




ATP Resynthesis and the Energy Continuum


Complete the Graph

- 1) Complete the graph by drawing the 3 energy continuum curves, and annotate each curve with the exercise intensity worked at, duration of each energy system and an athletic event that uses that particular energy system.



- 2) The recovery time of each system affects the utilisation of that system. The recovery time determines when that system can be optimally used again.

Identify the replenishment time for each of the three systems in the table below.

Energy system	Recovery time
	
Glycolytic	
Aerobic	

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Activity 5 – Fatigue in Sport

Teacher's Notes

Starter Activity: Research Stations	
Aim of the activity	To test students' knowledge of the factors that can cause fatigue in sport
Teacher's instructions	<p>Prior to beginning the activity, create three clear 'stations' of study:</p> <ol style="list-style-type: none"> 1) an Interactive Area (where students can use laptops, mobile phones etc.) 2) a Discussion Area (where students can discuss the activity with each other) 3) a Library Area (where students can read through course compendium) <p>Photocopy the worksheet on the following page and give one copy to each student. Before the activity, students should organise themselves into pairs and make a list of questions to ask at each station. At each station, the students should spend 5 minutes at each station. At each station, the students should gather information and discuss it, using the time and resources available to them. They should also discuss anything else they can think of or anything they would like to know more about.</p>

Answers

Dehydration

- Before starting exercise, athletes should be fully hydrated
- During performance, athletes should maintain hydration by consuming fluids, salts and electrolytes (e.g. isotonic drinks), providing their body with energy, replacing lost fluids during exercise and maintaining the balance of electrolytes needed to conduct and transmit nervous impulses. This acts as a preventative measure against dehydration and therefore, fatigue.
- Dehydration can cause an increased heart rate, muscular fatigue and early onset of fatigue
- Diuretic drinks (e.g. caffeinated drinks and drinks high in sugar) should be avoided as they can cause dehydration through excessive urination

Energy depletion

- If an athlete is using more energy (ATP) than they are producing, energy depletion occurs
- This can happen if an athlete is working at too-high intensities or too long in duration
- e.g. a 5,000 m runner who runs too fast will use their glycolytic system instead of the aerobic system and their energy stores will rapidly drop
- e.g. an amateur marathon runner may not be able to produce sufficient energy from their aerobic system to maintain their running speed for the full marathon

Waste products (carbon dioxide and lactic acid)

- Carbon dioxide is a by-product of respiration at the muscles (to create ATP)
- Lactic acid is a waste product of anaerobic respiration
- Carbon dioxide changes the pH (acidity) of the blood, which can cause fatigue
- Lactic acid causes pain and discomfort as it increases the acidity (pH) of the blood and muscles
- Lactic acid can be reused by the body, by being converted to pyruvate which is either
 - converted to glycogen by means of gluconeogenesis to provide more energy to the muscles
 - oxidised, allowing it to re-enter the Krebs cycle and electron transport chain, eventually producing ATP through aerobic respiration
 - converted to glucose by the Cori cycle (in the liver), which can either be used to produce ATP in the muscles, or expelled through urination

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Fatigue in Sport: Research Stations

Working in pairs, spend 5 minutes at each station or area your teacher has set up for you. Use the resources available to you at each station to write as much information as you can about the **causes of fatigue**. In the 'Discussion Area', discuss with your partner anything you may want to know more information about, to either research yourself at home or as part of further study, or to ask your teacher.



Dehydration:

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Energy Depletion:

Waste Products:

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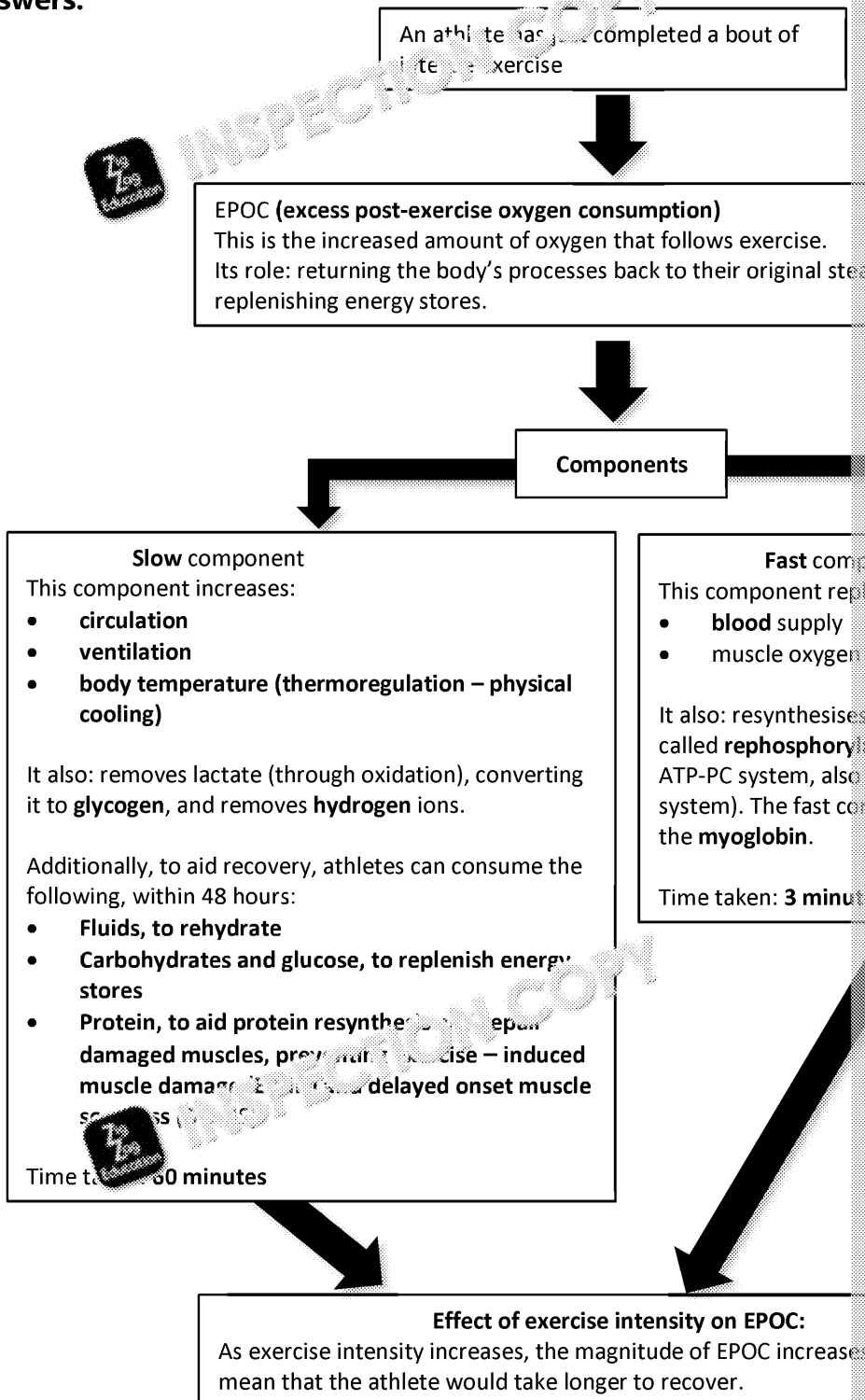
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Activity 6 – EPOC and the Recovery

Teacher's Notes

Starter Activity: Complete the Flow Chart	
Aim of the activity	To test students' understanding of EPOC and the recovery process for
Teacher's instructions	Print out a copy of the activity sheet on the next page and hand a copy to each student. Give students 10 minutes to complete the flow chart by providing details

Answers:



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EPOC and the Recovery Process

Complete the Flow Chart

Complete the flow chart underneath by filling in the gaps with information regarding the recovery process.

An athlete has just completed a bout of intense exercise

EPOC otherwise known as:

Definition:

Components

..... component

This component increases:

-
-
-

It also: removes lactate, (through oxidation), converting it to _____, and removes _____ ions.

Additionally, to aid recovery, athletes can consume the following within 48 hours:

-
-
-

Time taken:

.....

This component represents:

-
- muscle oxygen stores

It also: resynthesises ATP-PC system, also (the ATP-PC system, also known as the fast component recovery system).

Time taken:

Effect of exercise intensity on EPOC:

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Activity 7 – Recovery from Exercise

Teacher's Notes

Starter Activity: Verbal Tennis	
Aim of the activity	To test students' knowledge of the concepts of the 2-hour and 48-hour exercise-induced muscle damage (EIMD) and delayed onset muscle soreness (DOMS).
Teacher's instructions	Photocopy the activity sheet on the next page and hand a copy to each student. Give students 5 minutes to complete the activity individually, making notes on the grid. Then, students will play a game of verbal tennis with a partner, for 5 minutes, by taking turns to ask questions. The person who makes the last mistake loses the game.

Answers

Set	Topic	Possible points
1	 Excess post-exercise oxygen consumption (EPOC)	After exercise has finished, the body still demands oxygen. <ul style="list-style-type: none"> The oxygen deficit is a lack of oxygen needed to generate energy during exercise. EPOC is the increased consumption of oxygen after the exercise has finished to replenish oxygen stores. EPOC helps to return the body to its normal resting state. EPOC is split into two components: the fast component and the slow component. The fast component concerns the replenishment of the oxygen stores. The fast component concerns the resynthesis of ATP and creatine phosphate. The fast component replenishes stores in three minutes. The slow component elevates ventilation and blood circulation. The slow component cools the body through thermoregulation. The slow component removes lactate by converting lactate to glucose and then to pyruvate. The slow component takes up to 60 minutes following exercise.
2	2-hour and 48-hour windows of opportunity	<ul style="list-style-type: none"> (2-hour window) The body attempts to bring the body's temperature back to normal levels through the process of thermoregulation; this causes sweating. (2-hour window) Immediately after exercise, the body has a high metabolic rate to replenish protein and glycogen stores. (2-hour window) Athletes can consume high amounts of protein and carbohydrates to replenish protein and glycogen stores. (2-hour window) Athletes should rehydrate using isotonic fluids. (48-hour window) Following exercise, the body can require up to 48 hours to fully recover from the bout of exercise. (48-hour window) The body resynthesises protein to repair muscle damage and promote muscle growth and repair. (48-hour window) The body will use glycogen and carbohydrate stores to normal levels. (48-hour window) Athletes should use supplementation (e.g. creatine) to aid recovery.
3	 Exercise-induced muscle damage (EIMD) and delayed onset muscle soreness (DOMS)	<ul style="list-style-type: none"> Occurs when the body (i.e. the muscles) completes actions that it is not used to. Occurs when muscles are put under increased levels of demand. Can occur when eccentric contractions are completed by the muscle. Muscle damage is the damage to, and inflammatory response to, the muscle. If not treated or avoided, EIMD can lead to delayed onset muscle soreness (DOMS). Consuming high amounts of protein before and after high intensity exercise can help to prevent EIMD.

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Recovery from Exercise Verbal T

In your pairs, independently note down as many bullet points as you can for each more points you can think of, the more shots you will have for the game.

Once you have all your points noted down, take it in turns to say one point each person to run out of points to say on the topic will lose the set.

Set	Topic	Your 'Bullet' Points
1	Excess post-exercise oxygen consumption (EPOC)	
2	2-hour and 48-hour windows of opportunity	
3	Exercise-induced muscle damage (EIMD) and delayed onset muscle soreness (DOMS)	
Final Score		

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Activity 8 – Response of Energy Systems

Teacher's Notes

Starter Activity: Newspaper Article	
Aim of the activity	To test students' knowledge of how energy systems respond to warm-up exercises).
Teacher's instructions	Photocopy the activity template sheet on the next page and hand out. Students will work in small groups to produce a newspaper article on the correct energy systems (warm-up exercises) and the energy systems. Give students 10 minutes to complete.

Answers

Newspaper articles should include the following points, with some reference to sporting events and athletes.

Priming exercises

- Activities specifically aim to improve the efficiency or overall performance of the athlete and minimise recovery time.
- By priming themselves for competition, athletes can improve their performance and reduce the oxygen deficit by accelerating oxygen intake and reducing the oxygen deficit.

ATP-PC system

- Athletes reliant on power for short periods of time (e.g. sprinters, high jumpers) may engage in high-intensity activities, such as 10 m acceleration sprints.
- These short priming exercises engage the ATP-PC system and prime the athlete for the main event.

Glycolytic system

- Athletes such as 800 m runners may prime themselves by performing short runs, such as a 50 m sprint (e.g. intermittent or fartlek exercises).
- This will engage both the anaerobic and aerobic energy systems, ready for exercise.

Aerobic system

- Athletes who require aerobic respiration to create energy during exercise – for example, long-distance runners – perform a slow, long-intensity warm-up to engage the aerobic energy system.
- This priming exercise can accelerate oxygen uptake by the body, meaning they have a higher oxygen deficit as possible during the race.

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Response of Energy Systems to Warm-up Newspaper Article

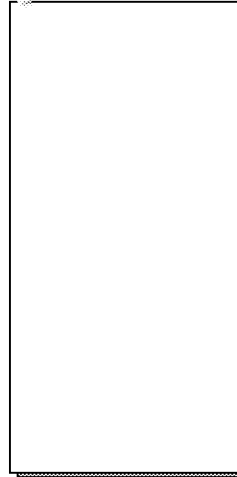
Working in small groups, design a newspaper article to discuss how warming up benefits three energy systems for activity. Include in your article a graph demonstrating the response of the three energy systems to activity.

DAILY SPORTS SCIENCE

[Insert headline]



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Activity 9 – Acute and Overuse In

Teacher's Notes

Starter Activity: Correct the Mistakes

Aim of the activity	To get students to understand the difference between acute and overuse injuries and to identify different types of these injuries.
Teacher's instructions	Print out a copy of the activity sheet on the next page and hand a copy to each student. Give students 10 minutes to complete the activity by correcting the incorrect answers and providing their own correct answers.

Answers:

Question	Description of Mistake
1	An acute injury is caused by a sudden, excessive force being applied to the body, it is caused by trauma.
2	An overuse injury is an injury that results from continuous stress to the body over a long period of time. Examples include tendonitis and stress fractures.
3	Dislocation is a type of acute injury. It is normally caused by a sudden, large force (not repetitive pressure).
4	Both cruciate ligament and Achilles tendon injuries are types of acute injuries.
5	Tennis/golfer's elbow is a soft tissue overuse injury. It is caused by repetitive stress (not playing too often). A stress fracture is an example of a hard tissue overuse injury. It is caused by repetitive stress on the bone, which causes trauma (small cracks) in the bone.
6	A strain is the overstretching or tearing of tendons, which connect muscles to bone. A sprain is the overstretching, or damage to, ligaments, which connect bone to bone to form a joint.
7	Shin splints are most likely to occur in explosive, short events, but rather in long periods of time on hard surfaces, such as marathon running.
8	A fracture is a break in the bone, caused by a sudden, excessive force being applied to the bone. Fractures can be categorised as either open fractures or closed fractures. A stress fracture is a small crack in a bone (not completely broken) that is caused by repetitive stress on the bone, causing trauma.

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Acute and Overuse Injuries: Correct the

Identify the mistakes in the questions or answers below by giving the correct answer.

1. **Provide a definition for the term acute injury.**

An acute injury results from continuous stress to the body.

.....

2. **Provide a definition for the term overuse injury.**

An overuse injury is an injury that only occurs when a body part has had repeated external contact.

.....

3. **A rugby player is tackled with great force and dislocates their shoulder. What**

Dislocation is an example of acute injury, caused by repetitive pressure.

.....

4. **Footballers are at greater risk of suffering from soft tissue injuries such as cruciate ligament and Achilles tendon injuries. Categorise these injuries as either acute or overuse and how they can occur.**

Cruciate ligament injuries are a type of acute injury whereas Achilles tendon injury. These injuries are caused by sudden movement of the soft tissues which causing them to rupture or tear.

.....

5. **Provide two sporting examples of acute injuries, state what type of injury they are (e.g. soft tissue etc.) and give common reasons for the occurrence of this injury type.**

Soft tissue: Tennis or golfer's elbow (tenonitis), caused by swinging the racket rupturing the tendons.

Hard tissue: A stress fracture in the ankle as a long-distance runner is finishing a sudden great force being placed on the bone.

.....

6. **Describe the difference between a strain and a sprain.**

A strain is the overstretching of, or damage to, ligaments, which connect bones to bones.

A sprain is the overstretching or tearing of tendons, which connect muscle to bone.

.....

.....

7. **Provide a definition for shin splints (periostitis), and provide an example of how they can occur.**

Shin splints can be defined as a soft tissue overuse injury, caused by repetitive stress on the bones (tibialis anterior and tibia), causing inflammation and pain. Common causes include explosive events such as a high jump.

.....

.....

8. **Describe the difference between a fracture and a stress fracture.**

A fracture is a small crack in a bone, caused by a sudden, excessive force being applied.

A stress fracture can be categorised as either open or closed, and is caused by repetitive stress being placed on the bone.

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Activity 10 – Injury Prevention

Teacher's Notes

Plenary Activity: Spider Diagram	
Aim of the activity	To get students to understand the preventative measures used to help prevent injury.
Teacher's instructions	Photocopy the activity sheet on the next page and hand out a copy to each student. Give students 10 minutes to complete the spider diagram by providing details of the preventative measures used to help prevent injury.

Answers:

Conditioning:

Strength and conditioning coaches should identify flaws in technique and performance. This is done by looking at the technical aspects of performance that may lead to injury. For example, a sprint coach may notice a sprinter taking too long to get off the blocks at the start of a race, and then correct this by providing technical advice.

Muscle balance:

An athlete should attempt to make both sides of their body as strong as each other. This helps to improve performance but also reduces the risk of injury. This is because without muscle balance, one side of the body becomes too strong and puts too much pressure on the other side, which can lead to injury. For example, a footballer side-stepping off their right foot may put too much pressure on their left leg due to the forces placed upon them. This can also be applied to antagonistic pairs of muscles such as the quadriceps and hamstring that work together to cause movement of the knee.

Technique:

Bad technique can cause injury because the body may be put into positions that weaken it. For example, in sports such as rugby, where bad technique / body positioning may lead to serious injury.

Protective equipment:

Protective equipment helps to prevent injury from external sources (e.g. a large blow to the head). Examples of protective equipment include shin pads, gum-shields and helmets. Equipment such as running trainers helps to prevent injuries as the athlete is being correctly supported for the activity they are completing. For example, running shoes help to absorb the shock of landing on hard floors, preventing injuries such as shin splints in runners.

Managing risks:

Health and safety questionnaires, risk assessments, PAR-Q and RPE questionnaires should be used to identify potential safety risks in an activity and act to resolve these before the activity begins.

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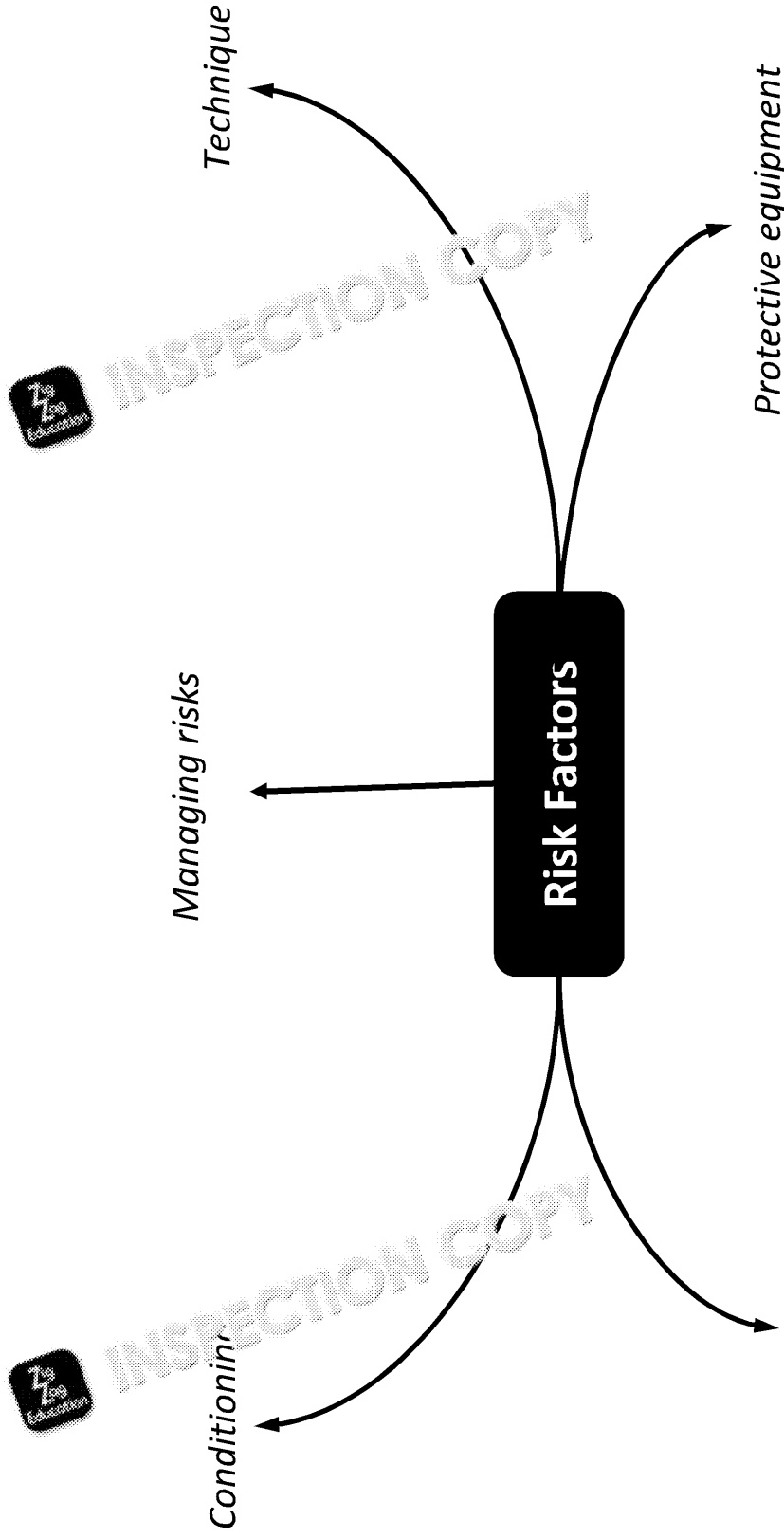




Injury Prevention: Spider Diagram



Complete the spider diagram by providing details for each preventative measure of injury.



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Activity 11 – Responding to Injury

Teacher's Notes

Starter Activity: Be the Physio	
Aim of the activity	To get the students to understand how to correctly respond to different conditions in a sporting context.
Teacher's instructions	Photocopy the activity sheet on the next page. Split the class into groups of 4-5 each student. Students are required to work in their groups to understand and respond to different types of injuries. Allow the students 10 minutes to complete each activity).

Answers:

Students could use optional answers provided by the teacher), or act and verbally explain with the steps they would take to respond to the injury.

POLICE

- **Protection:** immediately following the identification of the injured area, play should be stopped and the injured area stabilised and protected to avoid further damage caused by external factors or further movement.
- **Optimal Loading:** immediately after an injury has occurred, the athlete should be carefully supported and weight or force on the area. This weight can gradually increase as the recovery process progresses.
- **Ice:** applying ice to the injured area helps to reduce swelling.
- **Compression:** applying pressure to the injured area helps to further reduce swelling.
- **Elevation:** raising the injured body part above the level of the heart.

RICE

- **Rest:** the injured body part should not be exercised to allow full recovery.
- **Ice:** applying ice to the injured area helps to reduce swelling.
- **Compression:** applying pressure to the injured area helps to further reduce swelling.
- **Elevation:** raising the injured body part above the level of the heart.

Students should provide feedback on how well they responded to the injury using the correct procedures or parts of the assessment they perhaps identified as an area for improvement.

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Responding to Injuries: Be the P

In your groups of three give each member one of the following roles:

- The injured player (they are to act injured throughout the examination)
- The physio (they are to apply one of the two possible responses)
- The assessor (they are to assess how successfully the physio responded to the injury)

The two types of injuries are a fractured leg and a sprained ankle.

Once each member has completed one injury in their role, they are to swap roles.

The assessor should fill out the sheet below, and provide feedback to the physio.

Type of injury:

Type of response used:



What the physio did well:

What the physio could improve on:



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Activity 12 – Rehabilitating Injuries

Teacher's Notes

Starter Activity: Be the Doctor	
Aim of the activity	To get the students to understand the best rehabilitation techniques.
Teacher's instructions	Print out a copy of the activity sheet on the next page. Split the class into groups of 4. Give each group a copy to each group. Students are required to identify the possible injuries and the best rehabilitation technique would be best suited to each of the case-studies. Give the students 10 minutes to complete the activity.

Answers:

- Injury type:** Dislocation
Explanation: The two bones are displaced
Treatment: Ice baths to reduce swelling, then physiotherapy to build up strength
- Injury type:** Tennis elbow (tendonitis)
Explanation: It is caused by repetitive overuse of the tendons (i.e. playing too often)
Treatment:
 - Ice baths to reduce swelling
 - Physiotherapy to build up strength
 - Ultrasound to increase the temperature of connective tissues, to increase the range of motion at the elbow.
- Injury type:** Wrist sprain
Explanation: Heavy force on the joint has overstretched the ligaments
Treatment:
 - RICE to reduce swelling and to rest
 - Anti-inflammatories to reduce swelling
 - Stretching to improve flexibility to increase strength at the joint
 - Ultrasound to identify muscle damage and to increase flexibility

* *Recovery methods will change over time for different sporting injuries. Rehabilitation should be based on the specification; however, accept other suitable answers.*

Extension Activity 2:

Factors that can influence recovery time from injuries include:

- Severity of injury
- Age of person
- Fitness levels of person
- Diet of person
- Existing injuries or illnesses

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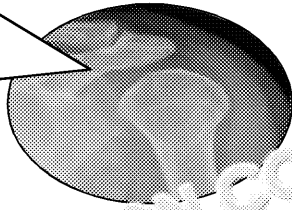


Rehabilitating Injuries: Be the Doctor

Your group is to act as a team doctor. Below are 5 different injuries, with a brief description of what happened. Discuss the type of injury and give an explanation why you have identified it. Then discuss a method of rehabilitation best suited to this type of injury and explain why you have chosen it.

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1) This player felt as though his 'shoulder joint has been moved out of position' when he tackled his opponent

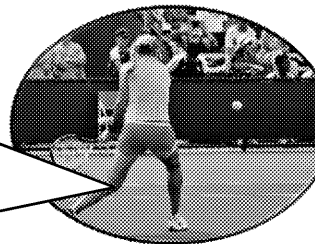


Injury type:

Explanation:

Treatment:

2) Having played in two long tournaments in quick succession, the tennis player felt soreness and pain in their elbow

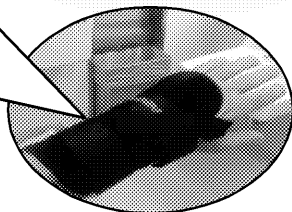


Injury type:

Explanation:

Treatment:

3) When a snowboarder fell, they put their hand down to break their fall. However they felt a sharp pain at the wrist as they landed on their hand



Injury type:

Explanation:

Treatment:

Extension Activity 1

In your exam, you may be asked a question about the advantages and disadvantages of different rehabilitation methods. You have somewhat already covered the advantages but can you think of, or find, any information about the disadvantages of any? For example, cold therapy can actually be quite painful and uncomfortable.

Extension Activity 2

Research the time frames it can take for people to recover from each type of injury. Think of any factors that will influence the time taken to recover from injuries.

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Activity 13 – Linear Motion in S

Teacher's Notes

Plenary Activity: Quiz	
Aim of the activity	To get the students to understand the topic of 'linear motion' using
Teacher's instructions	Photocopy the activity sheet on the next page and hand out a copy required to complete the quiz questions by answering the questions in silence and independently. Allow the students 30 minutes to complete complete half as a starter and half as a plenary.

Answers:

- b
- 4 marks for the following: (sub-max 2 marks if no examples given)
 - Scalar quantities are measurements regarding the amount or magnitude of something. For example, the amount of distance that has been covered.
 - Vector quantities are measurements regarding the magnitude and direction of something. For example, velocity is the rate of change in displacement in a particular direction.
- d
- A = The athlete is stationary
B = The distance is increasing at a constant rate, in relation to a constant speed
 - A = The athlete is accelerating
B = The athlete is moving at a constant pace
C = The athlete is decelerating
 - A = The athlete is accelerating
B = The athlete is decelerating
C = The athlete is accelerating in a different direction
D = The athlete is decelerating in a different direction
- 3 marks for the following: (sub-max 2 marks if no example given)
 - Distance is the total length between the starting point and end point.
 - Displacement is the shortest straight-line measurement between two points, in a particular direction, if the original position has changed.
 - For example: an 800 m athlete would travel a distance of 800 m but have a displacement of 0 m if they finish in the same place.
- Formula:**
Speed = distance/time *or* Speed = 800 m/110 s
Speed = 7.27 m/s
 - Acceleration = change in speed/time
Change in speed = 8 m/s - 0.12 m/s = 7.88 m/s
Acceleration = 7.88 m/s / 4.2 s = 1.88 m/s²

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Linear Motion in Sport: Quiz

Answer the questions below as you would in an exam:

- Which of the below is the correct definition for linear motion? Tick the box next to your answer.
 - The motion of an object around a fixed axis
 - The object's centre of mass moves along a straight line
 - The object's weight does not deviate from a straight line
 - The total change in an object's original position

- Using examples, describe the difference between scalar quantities and vector quantities.

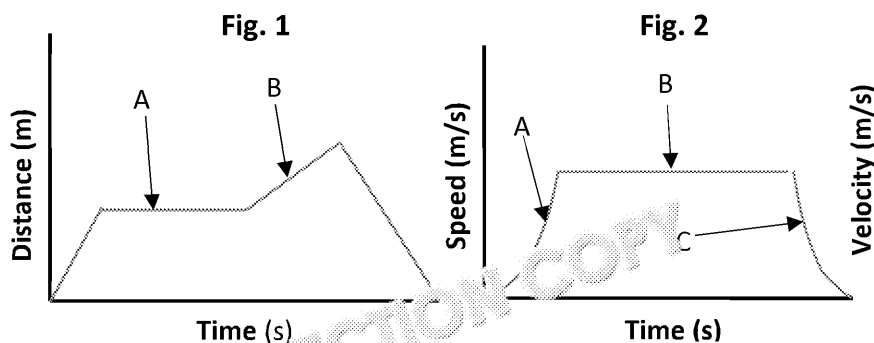
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- Which one of the following is the correct calculation for displacement? Tick the correct answer.
 - Displacement = speed x time
 - Displacement = distance x time
 - Displacement = velocity x distance
 - Displacement = velocity x time

- Figures 1–3 show different types of graph related to linear motion. Briefly describe the motion of an object at each point labelled on the graphs.



Graph:

- Fig. 1

A
B

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ii) Figure 2:

- A
- B
- C

iii) Figure 3:

- A
- B
- C
- D

5. Explain the difference between displacement and distance, using practical examples.

.....

.....

.....

6. i) An 800 m distance runner has just completed their race, taking 1 minute 40 s. What was their average speed? Show your calculation.

.....

.....

.....

.....

.....

ii) The runner's penultimate 100 m run was at a velocity of 6.14 m/s. What was the runner's average speed for the final section of the race? What was the runner's average speed for the whole race?

.....

.....

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Activity 14 – Angular Motion in Sports

Teacher's Notes

Starter Activity: Calculations and Relationships

Aim of the activity	To get students to understand the key calculations in the topic 'Angular Motion' and the relationships that exist between the different terms.
Teacher's instructions	Photocopy the activity sheet on the next page and hand out a copy to each student. Give students 15 minutes to complete the activity by completing the calculations and identifying the relationship between the values provided.

Answers:

- Angular motion is defined as the rotation of an object around a fixed axis and is sometimes referred to as **rotational motion**.
 - Moment of inertia = body mass x distance from the axis of rotation²
Definition: The resistance of an object to change its current state of rotational motion.
Units of measurement: Kg.m^2
 - Angular velocity = angular displacement / time taken
Definition: The rate of angular displacement of an object.
Units of measurement: rads/second
 - Angular momentum = moment of inertia x angular velocity
Definition: The amount of angular motion of an object
Units of measurement: $\text{kg m}^2/\text{sec}$
- Creation of angular motion can be through the application of an **eccentric** force about the axis of rotation a rotational movement can occur about. The three axes of rotation are the **longitudinal**, **transverse** and **frontal** axes. The longitudinal axis runs from the **top** to the **bottom** of a joint and allows for **pronation** and **supination**. The **frontal** axis runs from the front to the back of a joint and allows for **adduction** and **abduction**. The transverse axis runs from one side of a joint to the other and allows for **flexion** and **dorsiflexion**.

The moment of inertia of a rotating body is affected by both the **mass** of the body, and the **distance** of the mass from the axis of rotation. The greater the mass of the body, the **larger** its moment of inertia. It is harder to change the state of motion of an object that weighs a lot i.e. it requires more force to get a heavy ball rolling than a bowling ball.

The greater the **distance** of the mass of the body from the axis of rotation, the **larger** its moment of inertia.

For example, when a diver performs twists during a dive, they will bring their arms in close to their body to decrease their moment of inertia. Equally, if they extend their arms away from their body, their moment of inertia increases. When moment of inertia decreases, angular velocity (i.e. the speed of the diver's twist) increases. When moment of inertia increases, the diver's angular velocity will decrease.

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Angular Motion in Sport: Calculations and Relationships

1. Define angular motion and then use the information in the bubbles to form the equation for angular momentum, moment of inertia, angular velocity and angular momentum, provide a definition and the correct units that each is measured in.

Angular motion is

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Body mass

Angular momentum

X

Displacement

Angular velocity

=

Angular velocity

Angular displacement

=

X

Moment of inertia

X

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i. **Moment of inertia =**

Definition:

Unit of measurement:

ii. **Angular velocity =**

Definition:

Unit of measurement:

iii. **Angular momentum =**

Definition:

Unit of measurement:

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Activity 15 – Angular Motion in Sp

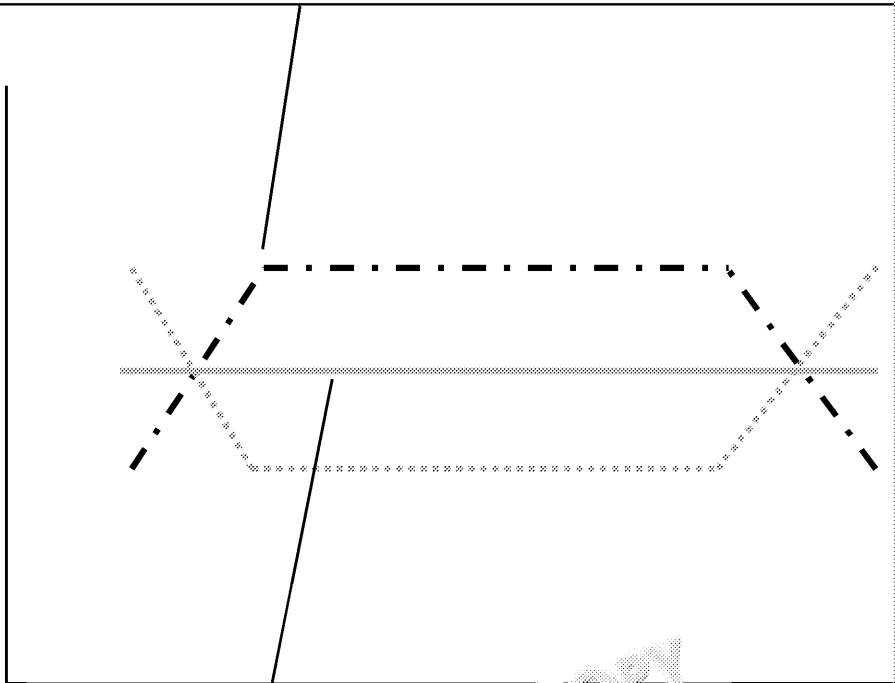
Teacher's Notes

Plenary Activity: Complete the Graph	
Aim of the activity	To get students to understand the key relationships that exist between angular velocity and moment of inertia.
Teacher's instructions	Photocopy the activity page and give one to each student. Students are to complete the graph in order to represent the relationship between angular velocity, moment of inertia and then annotate the graph to explain the relationship. They then complete the activity.

Answers:

- As demonstrated by the equation; angular momentum = moment of inertia \times angular velocity, there is a direct relationship that exists between moment of inertia and angular velocity.
- The relationship is an inverse one: as moment of inertia is increased, angular velocity decreases. This is better explained by rearranging the above equation into:

$$\text{Angular velocity} = \text{Angular momentum} / \text{moment of inertia.}$$



- Due to this inverse relationship between angular velocity and moment of inertia, the angular momentum remains constant throughout flight.
- This is consistent with the angular analogue of Newton's first law of motion: an object will continue in its current state of rotation unless an external force is exerted on it.
- This demonstrates that without this external force, the angular momentum remains unchanged. This is known as the **conservation of angular momentum**.

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Angular Motion in Sport 2: Complete

Complete the graph below in order to show the relationship between **angular momentum** and **angular velocity**. Then annotate the graph to explain the relationship. Make sure you include an equation linking these three components together.

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Activity 16 – Projectile Motion in

Teacher's Notes

Starter Activity: Optimising Flight Distance

Aim of the activity	To test students' understanding of the factors that can affect projectile motion.
Teacher's instructions	Photocopy the activity sheet on the next page, and hand out a copy to each student. Students are required to annotate the picture of the discus thrower with factors that affect the distance that the thrower can achieve, and why. Allow them 10 minutes.

Answers:

Factor: Velocity of release

If the thrower throws the projectile with a greater velocity, they will be able to achieve a further distance.

Reason: Gravity will take a longer time to take effect, lengthening the time that the projectile is in the air.

Factor: Angle of release

The optimal angle is 45° .

Reason: It allows for a greater height to be achieved than a throw at less than 45° , and it allows for a greater horizontal distance than a throw at more than 45° .

Factor: Height of release

A greater height of release allows a greater horizontal distance.

Reason: The projectile has a longer time in the air (flight time), before it hits the ground.

Factor: Angle of attack / Bernoulli's principle

An angle of attack will result in a greater horizontal distance of a projectile.

Reason: The air has further to travel above the projectile. This lowers the air pressure above the projectile, and the air pressure below is increased. There is a higher air pressure under the discus, moving the discus from a low pressure area to a high pressure area.

Technique modification

Use of high-speed video cameras to assess kinematic variables*, such as the angle of release and the velocity of release of the discus.

* *Kinematics is a branch of biomechanics*

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Projectile Motion in Sport: Optimising Flight

Annotate the image of the discus thrower below to suggest how a coach could instruct the athlete to enable the athlete to maximise the horizontal distance of the flight path of the discus.

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Activity 17 – Projectile Motion in Sports

Teacher's Notes

Plenary Activity: Lift and Spin	
Aim of the activity	To test students' understanding of the factors that can affect projectile motion.
Teacher's instructions	Photocopy the activity sheet on the next page, and hand out a copy to each student. They should draw and annotate the free body diagrams, annotate the Formulae for the Magnus effect in tennis, football and golf. Allow them 10 – 15 minutes to complete the activity.

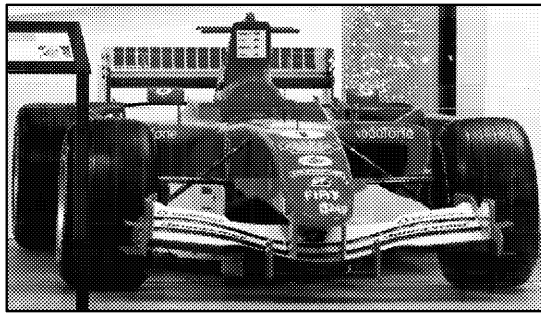
Answers:

- 1) a. Shot put – parabolic flight path
b. Shuttlecock / badminton – non-parabolic flight path

2)

The angle of the nose is pointing downwards

The angle of the wing is pointing downwards



The downward angle of the nose and the downward angle of the wing allow the car to travel a longer distance than it would otherwise. The car is moving so fast that the air pressure is creating a low pressure area behind the car as it moves.

- 3)
 - Tennis: topspin, sidespin, backspin
 - Football: sidespin
 - Golf: Hook and slice
 - A Magnus effect occurs when an eccentric force is imparted on a ball. As a result, the ball moves in the opposite direction to the air that passes over it. The air passing over this side of the ball has a higher pressure. When the air moves from this area of high pressure to the other side of the ball, it causes the ball to deviate from its normal flight path.
 - The Magnus effect can lift a ball, prolonging its flight path if backspin is applied.
 - The Magnus effect can decrease a ball's flight path if topspin is applied (e.g. in tennis).
 - The Magnus effect influences the bounce of a ball because spin can impact on the way a ball bounces off the ground; for example, topspin on a tennis ball causes the ball to bounce at a lower angle than it entered and backspin on a tennis ball causes the ball to bounce at a higher angle than it entered.

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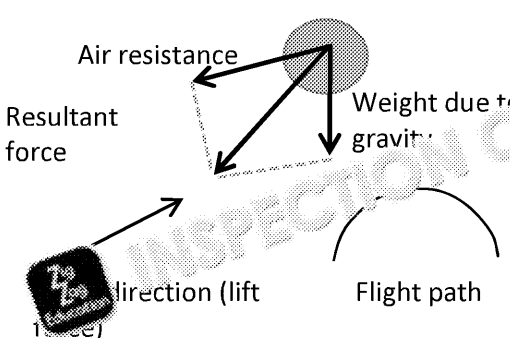
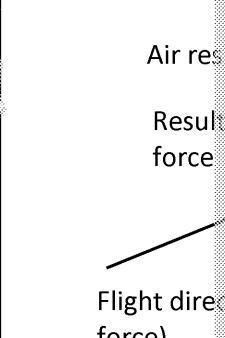
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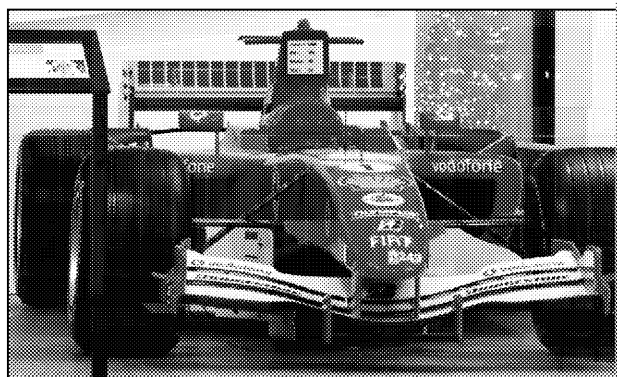


Projectile Motion in Sport 2: Lift a

1. The diagrams below show the patterns of flight path as a consequence of the lift and weight. Identify the names of the two different flight paths and the sports they represent.

<p>a. Flight Path:</p> <p>Sport Example:</p>  <p>Flight direction (lift force)</p>	<p>b. Flight Path:</p> <p>Sport Example:</p>  <p>Flight direction (lift force)</p>
--	---

2. Annotate the photograph of a Formula One car to explain how it produces a



3. Identify the types of spin that can be created in tennis, football and golf and create spin and impact on flight path or bounce.

Tennis:

Football:

Golf:

Mag

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Activity 18 – Fluid Mechanics in S

Teacher's Notes

Plenary Activity: Complete the Spider Diagram

Aim of the activity	To get students to understand the factors that influence air resistance in the study of aerodynamics and hydrodynamics.
Teacher's instructions	Photocopy the spider diagram on the next page and hand a copy to each student required to complete the spider diagram by identifying and describing the magnitude of air resistance or drag. Allow them 10 minutes to complete.

Answers:

Velocity

The higher the velocity of an object, the less of a magnitude that air resistance or drag would have.

Mass

The heavier the object, the less of a magnitude that air resistance or drag would have.

Frontal cross-sectional area

The larger the frontal cross-sectional area of an object, the greater the magnitude of air resistance or drag the object would experience.

Streamlining and shape

If an object has a streamlined shape, the magnitude of air resistance or drag impact would be reduced.

Smooth shape surface characteristics

The smoother the shape surface characteristics of an object, the less of an impact air resistance or drag would have on the object.

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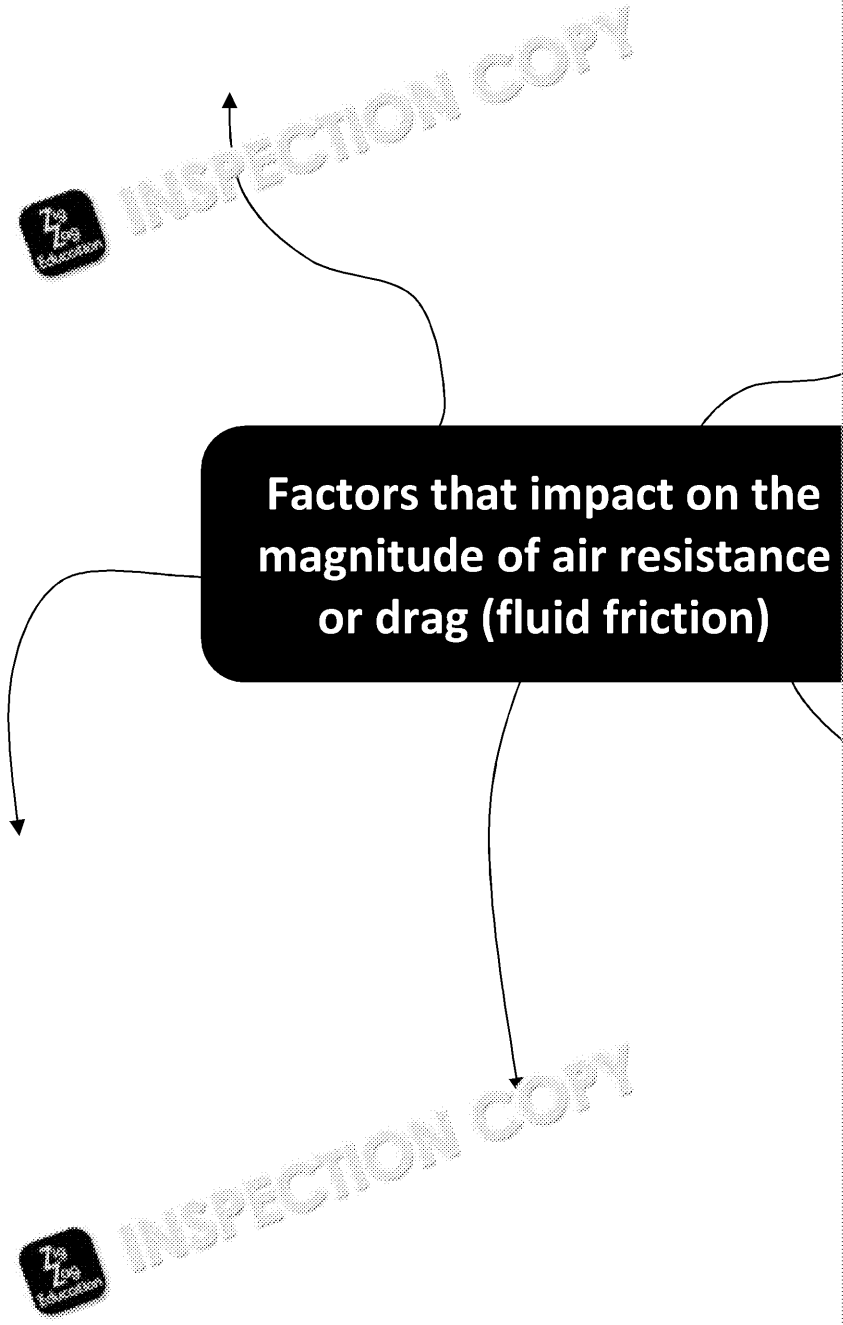
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Fluid Mechanics in Sport: Complete the Spider Diagram

Complete the spider diagram by identifying and describing the factors that impact resistance (on land) or drag / fluid friction (in water).



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Activity 19 – Bernoulli’s Principle and Technology

Teacher’s Notes

Plenary Activity: Offering A Lift	
Aim of the activity	To test students’ knowledge of Bernoulli’s principle and its impact on technology
Teacher’s instructions	Photocopy the two activity pages and hand one photocopy to each student. Students should first complete the first worksheet by filling in the boxes, explaining how a jumper works. Then, working in pairs, students should fill in the table using their understanding of fluid mechanics to identify and describe technology that is a result of fluid mechanics. Give students 10 minutes to complete the table.

Answers:

1. **Velocity** – the velocity of a projectile (object moving through the air) increases, and the pressure difference between the upper and lower surfaces of the object.

Angle of attack – at the correct angle (approximately 45°), air is forced to travel a greater distance over the upper surface, this increases the speed of the air, lowering the air pressure further.

Air flow above the projectile – air flows more quickly above the projectile, creating a lower pressure area (upper surface).

Air flow below the projectile – air flows more slowly below the projectile, creating a higher pressure area (lower surface).

This causes a pressure gradient between the upper surface (low pressure) and lower surface (high pressure). This pressure gradient forces air to move from areas of high pressure to areas of low pressure, creating lift.

2. Accept any other suitable examples

Principle	Sporting examples	Changes in technology	Impact on performance
Aerodynamics	Sprinting	Changes in materials and designs of running clothes, for example, Lycra	Decreases air resistance, reducing the energy cost of running
	Cycling	<ul style="list-style-type: none"> Lighter materials used to make bikes (Sprinting) bikes have fewer spokes on front wheel and no spokes on rear wheel Handlebars have changed shape 	Overcomes air resistance, therefore the cyclist can maintain a higher speed of air
	Rowing	<ul style="list-style-type: none"> Helmets and suits made of new materials to reduce air resistance (e.g. Lycra) 	Lower air resistance, therefore rowers can maintain a higher speed of air
Hydrodynamics	Swimming	<ul style="list-style-type: none"> Swimming hats and suits made from Lycra or latex Some swimmers choose to shave their entire body 	Reduces water resistance, therefore swimmers can maintain a higher speed of water
	Sailing (or other boating events)	<ul style="list-style-type: none"> Boats made of optimal materials Shapes of boats have been adapted 	Reduces water resistance, therefore boats can maintain a higher speed of water

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Principle	Sporting examples	Changes in technology	
Bernoulli's principle	Discus		Athletes maximize
	Ski jumping		Athletes maximize
	F1 racing	More advanced car designs (predominantly spoilers)	Sportswear keeps speed
Magnus effect	Cricket/tennis		Players take a back
	Football		Footballers take a different goal



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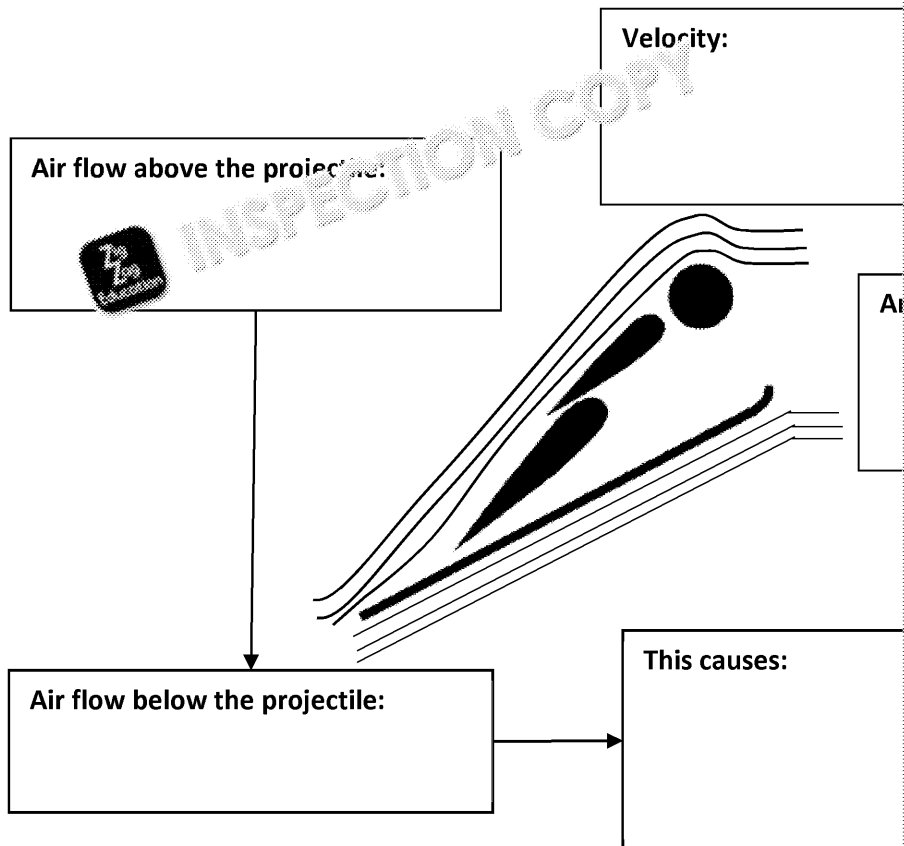
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Bernoulli's Principle and Technological Advancements: Offering a Lift

1. Below is an image of a ski jumper. Working in pairs, fill in the boxes surrounding the different aspects of Bernoulli's principle cause lift force in the ski jumper.



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2. In your pairs, fill in the table below to identify technological advancements in sports and the impact of these advancements on performance.

Principle	Sporting examples	Changes in technology	
Aerodynamics	Sprinting		
	Cycling		
	Bobsleigh		
Hydrodynamics	Swimming		
	Sailing (or other boating events)		
Bernoulli's principle	Discus		
	Ski jumping		
	F1 racing		
Magnus effect	Cricket/tennis		
	Football		

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Activity 20 – Information Processing

Teacher's Notes

Plenary Activity: Annotate and Apply	
Aim of the activity	To understand the processes of Whiting and Welford's model of information processing
Teacher's instructions	Split the class into pairs and hand each pair a photocopy of the activity. Give students 10 minutes to complete the questions and to annotate the diagrams.

Answers

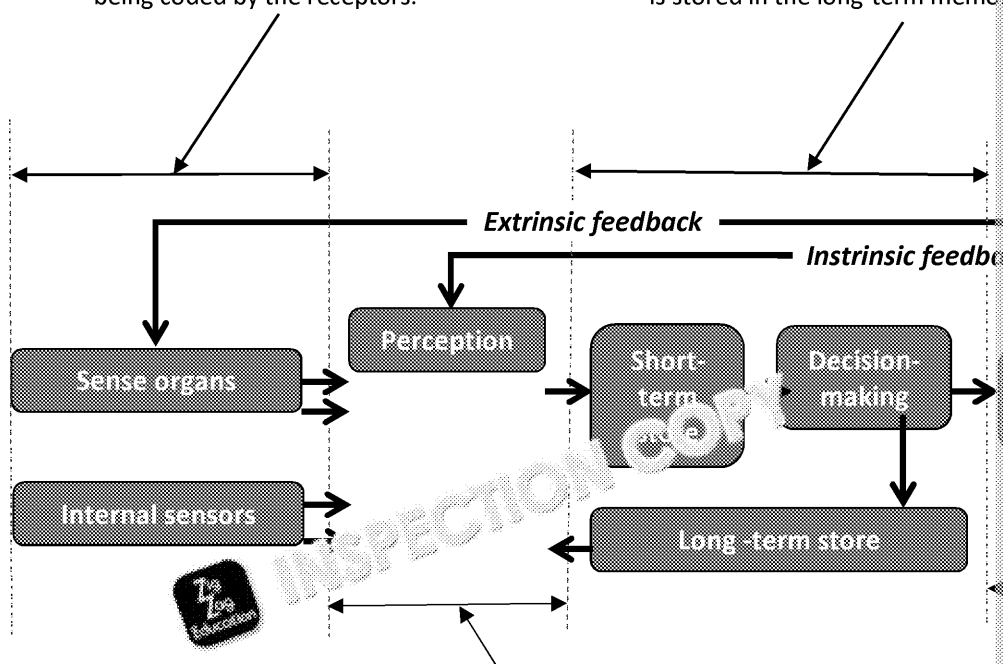
(a) The general view of information processing is that it occurs broadly in three phases: **detect**, **compare** and **recognise**. These are the three phases.

- **Detect**: an athlete will detect information from their **surroundings**, starting the information processing.
- **Comparison**: an athlete can compare the information to **previous experiences** in their long-term memory.
- **Recognition**: the stimuli are recognised as being similar to ones in the long-term memory. A decision can be made.

(b) **Welford and Whiting's Model**

Input – The input stage involves receiving the information that you receive from the senses, such as sight and auditory (hearing), which are external senses, and balance, touch and kinesthesia (perception of movement), which are internal senses, with this information being coded by the receptors.

Decision-making and response selection – This stage allows the athlete to decide what to do. Translatory mechanisms convert the information from the senses (short-term memory) into a decision (long-term memory), and this is used in the next stage. Once a decision has been made, called **response selection**, it is stored in the long-term memory.



Selective attention and perception – Perception (understanding and interpreting the information) and selective attention occur in this stage. Perception requires performers to retrieve information from the long-term memory stores; the memories of which allow the athlete to understand what they are faced with. Selective attention is the process of filtering out unimportant information gained from the senses.

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Information Processing: Annotate a

- 1) In your pairs, complete the sentences below by filling in the missing information in the diagram on the following page to provide further explanations to the process.
- 2) Once you have annotated your diagram, explain your model in relation to the sport of your choice.
 - (a) The general view of information processing is that it occurs broadly in the _____ and _____. These are called the DCR phases.
 - _____: an athlete will detect information from their _____ information processing cycle.
 - _____: an athlete can compare the information to _____.
 - _____: the stimuli are recognised as being similar to ones in memory. An appropriate _____ can be made.

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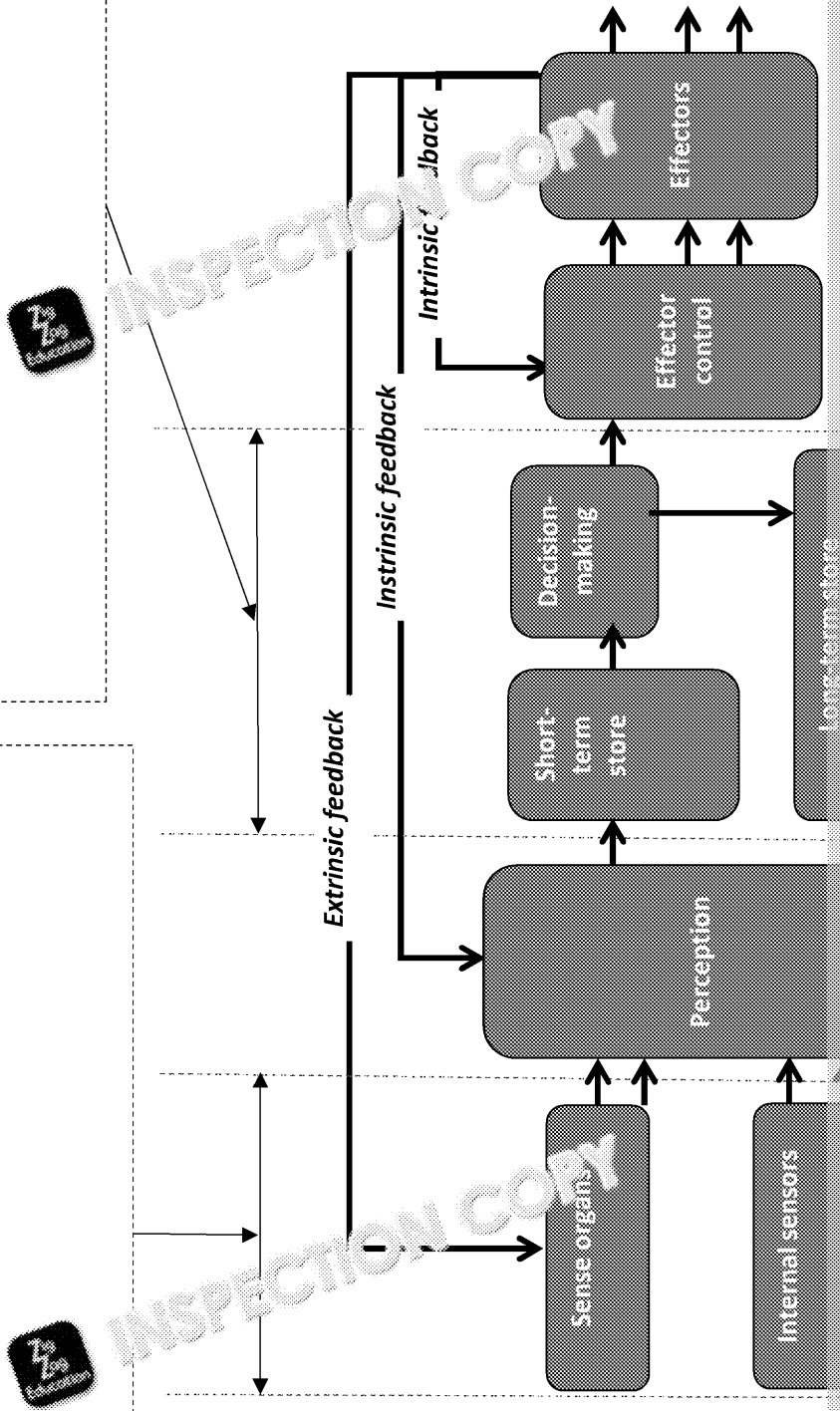


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(b) Welford and Whiting's Model



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Activity 21 – Memory Systems in Sport

Teacher's Notes

Plenary Activity: Scenario Application	
Aim of the activity	To test students' knowledge and application of memory stores in sport.
Teacher's instructions	Photocopy the activity sheet on the next page and give one copy to each student. Individually, allow each student 10 minutes to complete the worksheet. Discuss the students' knowledge of memory stores in sport.

Answers

- 1) Encoding is the process of giving information meaning, so that an athlete understands the information, allowing it to be stored more easily in the long-term memory.
- 2) Chunking is breaking down large pieces of information (e.g. a sporting movement) into smaller pieces, which can be more easily stored in the memory.

The Atkinson–Shiffrin multistore memory model

Accept suitable sporting examples related to the cricket example.

Short-term sensory store (STSS)	<p>The sensory memory, or short-term sensory store, takes in the information by the sensory receptors. Very large quantities of information can be stored for a few seconds.</p> <p>e.g. the fielder receives information from the environment by the senses. For example, the fielder knows that the ball has been struck and its flight path, the noise of the ball striking the bat, and the noise of the crowd as the ball travels high up into the air.</p>
--	--



Short-term memory (STM)	<p>This information, if attended to, is encoded and moves into the long-term memory. If not attended to, the information is lost. This is where selective attention operates. Information can be stored for approximately 15–30 seconds.</p> <p>e.g. the fielder disregards unimportant information (noise from the crowd) and focuses on important information (noise of the ball striking the bat and the ball's flight path).</p>
--------------------------------	--



Long-term memory (LTM)	<p>If this information is attended to and rehearsed, it moves to the long-term memory. If not attended to and rehearsed, the information is lost. The information in the long-term memory is unlimited in duration and capacity, to be recalled when needed. Information that has been encoded can also be stored and recalled for a long time.</p> <p>e.g. the skill of catching the ball is performed. If this is a skill that the fielder will store this skill in the long-term memory. If the skill is needed, information from the long-term memory is retrieved to carry out the skill.</p>
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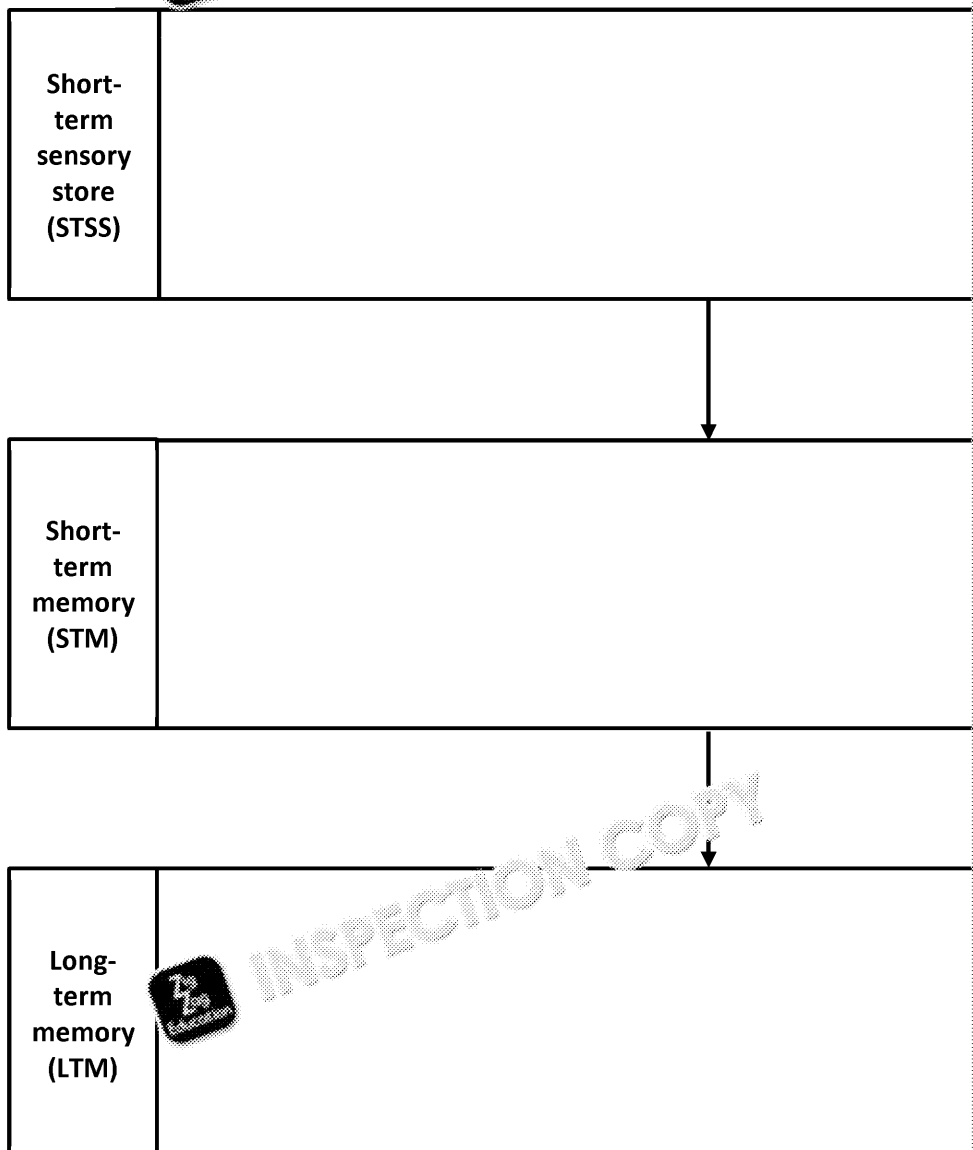
Memory Stores: Scenario Application

Working individually, define the terms *encoding* and *chunking* and explain each of their uses when performing a sporting skill. Use the cricket example given to you, of a batsman, to help you explain the information pathway, as proposed in the multistore memory model. State the capacity and duration (of information stored) in each of the three stages!

1) Encoding is...

2) Chunking is...

The Atkinson-Shiffrin multistore memory model



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Activity 22 – Reaction Time, Response Time and Movement Time

Teacher's Notes

Starter Activity: Identifying Factors	
Aim of the activity	To understand the difference between reaction time, response time and movement time and the relationship between them.
Teacher's instructions	Split the class into pairs and hand both worksheets to each pair. They will answer for lacrosse and who will answer for 100 m sprinting. They will then answer the different sections, explaining the different terms of reaction time, response time and movement time. They will also identify in which sport response time is psychological refractory period and single channel hypothesis and highlight the key terms in prompt boxes with information.

Answers

Technology:

Answers could include timing gates, the ruler drop test, slow motion capture (high speed video), starting blocks.

Reaction time:

This is the time it takes from the onset of a stimulus to making the decision about what response to make. It can be simple if there is one response or a choice if there are multiple potential responses.

- A 100 m sprinter will have simple reaction time when reacting to the gun by initiating play.
- A lacrosse player will have a choice reaction time when reacting to an onrushing player.

Response time:

This is how long it takes from the onset of a stimulus to the athlete completing the performance.

- A 100 m sprinter's response time will be how long it takes them to push out of the blocks.
- A lacrosse player's response time could be how long it takes them to move their arm to pass to a teammate prepare to pass to them.

Movement time:

This is how long it takes an athlete to move a body part into the desired position. For example:

- The movement time of a 100 m sprinter is how long it takes them to move their first foot forward to perform the sprint start.
- The movement time of a lacrosse player is how long it takes them to pull their arm back to pass to a teammate.

Relationship between the terms:

Response time is made up of an athlete's reaction time and movement time. For example:

- A 100 m sprinter's response time is how long it takes them to hear the gun, decide what movement pattern required to take off from the blocks.
- A lacrosse player's response time is how long it takes them to see that their teammate has the ball, decide what to do and perform the movement pattern required to move into the correct position.

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Hick's law:

The more choices an athlete has, the longer it will take them to respond. For example:

- A 100 m sprinter has no choices to make and will only need to respond to the sound of the starting gun.
- A lacrosse player will have numerous decisions to make in a match, such as where the opposition's players are, where the space is and, therefore, may take more time to respond.

Psychological refractory period:

When another stimulus occurs before the first has been responded to, the response time is affected.

- A 100 m sprinter won't be affected by the psychological refractory period as much, as they only have one stimulus to respond to and can concentrate on one stimulus (the starting gun).
- An example of the psychological refractory period in lacrosse is when a player sells a pass before they have made a decision to respond to the opposition's first movement, and now they have to respond to a second movement.

Single-channel hypothesis:

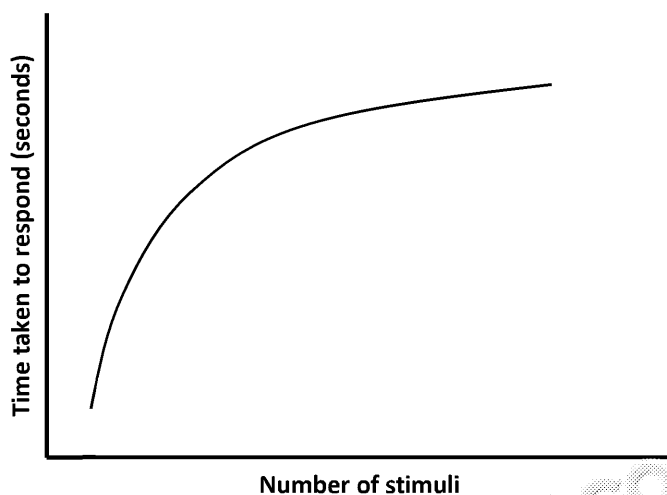
An athlete can only respond to one stimulus at a time when there are multiple stimuli. For example:

- A 100 m sprinter will only focus on the starting gun and can only respond to that, being able to ignore other stimuli around them.
- A lacrosse player can only respond to one piece of information at a time and in a match with several pieces of information, this causes a bottleneck which slows their response time.

Strategies to increase response time:

- Ensure they identify the cue clearly, e.g. 100 m sprinter should detect the sound of the starting gun.
- Effective warm-ups can ensure systems are ready and alert and muscles can respond quickly.
- Psychological preparation can increase motivation.
- Improve decision-making through effective practice structures, e.g. a lacrosse player can practice the decisions they will face in a match, so decisions become second nature.
- Reduce anxiety through effective somatic and cognitive control methods.

Graph of Hick's law:



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Reaction Time, Response Time and Motor Identifying Factors

- 1) With your partner decide who will complete the table for the 100 m athlete and who will answer for the lacrosse player.
- 2) Then 'respond' to the sections of the table below, making notes and referring to your sport in your answers. After 10 minutes come back together and discuss each of the stages and compare the difference in your answers and how each of the terms differs between the two sports.

100 m sprinter	
Technology that could be used to measure reaction time	
Reaction Time	Response Time
Relationship between reaction time, response time and motor time	
Impact of Hick's law:	
Impact of psychological refractory period:	
Impact of single-channel hypothesis:	
Strategies to improve response time:	

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'Respond' to the sections of the table below, making notes and referring to your sport in your answers. After 10 minutes come back together and discuss each of the stages and compare the difference in your answers and how each of the terms differs between the two sports.

Lacrosse athlete	
Technology that could be used to measure reaction time	
Reaction Time	Response Time
Relationship between reaction time, response time and movement	
Impact of Hick's law:	
Impact of psychological refractory period:	
Impact of single-channel hypothesis:	
Strategies to improve response time:	

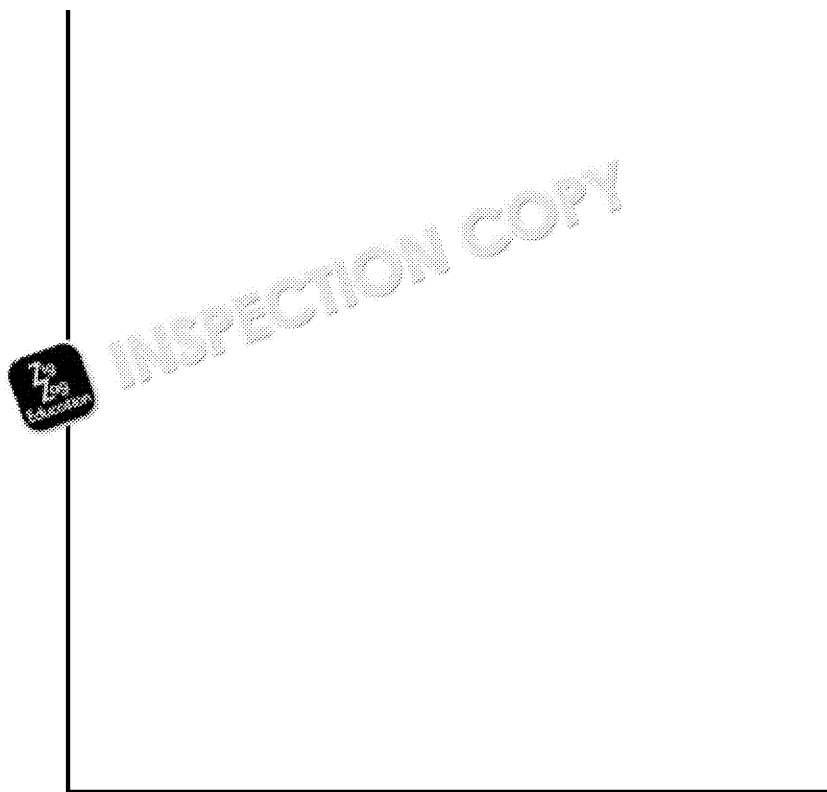
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- 3) After you have filled out your tables, work as a pair to decide how to draw a graph.

Graph of Hick's law:



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Activity 23 – Schmidt's Schema Theory

Teacher's Notes

Plenary Activity: Applying the Theory	
Aim of the activity	To understand Schmidt's schema theory and apply it to a sporting situation.
Teacher's instructions	Give each student a copy of the activity sheet and give them 5–10 minutes. The students should fill in the table by identifying how each component of the theory can be related to the action of receiving a short corner in hockey.

Answers

- **Description:**
Motor programmes can be adapted to enable an athlete to respond to different situations. Information about a situation adapted is then stored in long-term memory to be used in the future.
- **Initial conditions:**
The hockey player will take in information from their surroundings in order to understand the situation in relation to the goal, their teammates, their opponents and the ball.
- **Recall schema:**
The hockey player will have a vast memory of previous knowledge about the situation. This memory will include similar positional information and information about the possible movements. Their recall schema consists of 'initial conditions' and 'response specifications'.
- **Response specifications**
The hockey player will have an understanding of what they are trying to achieve and the order in which they need to perform in order to complete a skill successfully.
- **Recognition schema**
The hockey player is able to create new schema by identifying how well they performed from the short corner. This is achieved by evaluating the sensory consequences and the response outcomes.
- **Sensory consequences:**
The hockey player will receive kinaesthetic feedback about how their performance was.
- **Response outcomes:**
The hockey player will receive external feedback about the outcome of the skill, e.g. 'Did you score from the short corner by performing in the way that they did this time?'
- **Response outcomes:**
The hockey player will receive external feedback about the outcome of the skill, e.g. 'Did you score from the short corner by performing in the way that they did this time?'
- **Use of schema by a coach:**
A coach should identify skills that the athlete is competent at. Drills could then be designed to help the athlete use these skills in changing, competitive environments. This means that during actual play the athlete will have responses to similar situations stored in their memory.

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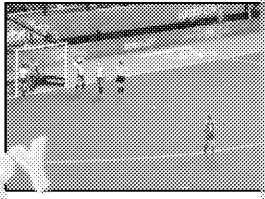


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Schmidt's Schema Theory: Applying

Fill in the table below with information about the different components of Schmidt's schema theory for the skill described.

	<p>A hockey player receiving the ball</p> 
<p>A brief description of Schmidt's Schema Theory</p> 	
<p>Initial conditions</p>	
<p>Recall schema</p>	
<p>Response specifications</p>	
<p>Recognition schema</p>	
<p>Sensory consequences</p>	
<p>Movement outcomes</p> 	
<p>How a coach could use Schmidt's schema theory to improve an athlete's performance</p>	

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Activity 24 – Attribution Theor

Teacher's Notes

Plenary Activity: Locus of Control	
Aim of the activity	To allow students to test their understanding of Weiner's model of attribution and mastery orientation.
Teacher's instructions	Photocopy the activity sheet on the next page and hand a copy to each student. Give students 5 minutes to complete the activity individually and complete the table of attribution in each scenario and explaining the advantages and disadvantages. Students should then complete the two sentences relating to learner orientation.

Answers

	Attribution	Advantages	
i)	Attributing failure to external /uncontrolled factors (Chance)	Makes the performer believe that a poor performance was not their fault, helping to stabilise their confidence and motivation.	It means the performer can't control the situation, so they can't blame themselves. This helps them to stay motivated and confident for the future.
ii)	Attributing success to internal/controlled factors (Effort)	Makes the performer believe that they have the ability to successfully complete the task, i.e. it improves their self-efficacy.	Can make the performer believe they can do more and not suffer from a lack of confidence in the future.
iii)	Attributing success to external/controlled factors (Task difficulty)	Makes performer believe that they do not have to worry about uncontrollable factors, as these are favourable / have been favourable in the past.	As these are external factors, the performer can rely on them consistently. This also helps to maintain motivation and confidence in their ability to succeed.
iv)	Attributing failure to internal /controlled factors (Ability)	Makes the performer believe that they can improve on the factors making them fail, giving them a chance to perform successfully in the future.	This reduces the performer's confidence as the performer believes they lack the ability to succeed.

Attribution retraining can be used by... attempting to change how an athlete perceives their success and failure. A low achiever (unsuccessful athlete) tends to attribute their failure to internal factors, which means they blame their own ability and effort. They then attribute success to external factors such as task difficulty. Therefore, they do not acknowledge that their own skills may have led to success. Attribution retraining coaches to convince a low achiever that their success was due to internal factors and failure to external factors. Coaches would attempt to retrain attribution by setting the athlete achievable goals. When the athlete achieves these goals, they will sense a level of success when they meet these goals. Coaches could also provide the athlete with constant reinforcement, encouraging them to keep trying despite failure.

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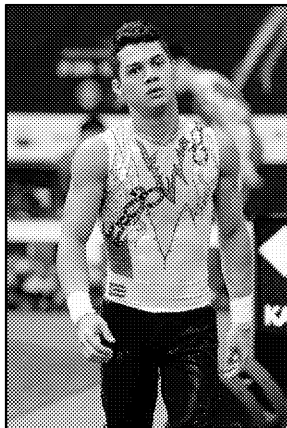
Attribution Theory: Locus of Control

The following scenarios relate to the different attributes different performers attribute failures to. Using Weiner's model of attribution, identify which factors are given credit for success or failure in each of the sporting scenarios below and explain the advantages and disadvantages of each.

Diagrammatic summary of Weiner's (1985) Locus of Control

		Locus of Cause	
		Internal/Perceived Locus	External
Locus of Stability	Stable	Ability	
	Unstable	Effort	

i)



I did not place highly in my gymnastics competition during my floor routine. Everything had been going well until I fell during my dismount, which cost me a high-placed finish.

Attribution of success/failure to:	
Advantages:	Disadvantages:

ii)



I won my last tennis competition because my serve has been really good. I have been training really hard to improve my serve, and this was the result of that hard work.

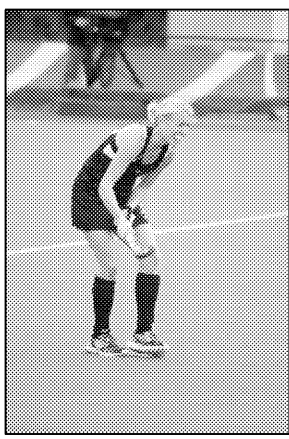
Attribution of success/failure to:	
Advantages:	Disadvantages:

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iii)



We won last week and I thought that I played
worst team in the league and the match was so
to play our best team

Attribution of success/failure to:	
Advantages:	Disadvantages:

iv)



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We lost on the weekend because I made a big mistake
ball from a corner right at the end of the game and
goal. I felt so bad



Attribution of success/failure to:	
Advantages:	Disadvantages:

Now explain how attribution retraining can be used to change an athlete's percepti

Attribution retraining can be used by...

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Activity 25– Confidence and Self-efficacy in Sp

Teacher's Notes

Starter Activity: Verbal Tennis	
Aim of the activity	To allow students to test their understanding of the content covered in this topic.
Teacher's instructions	Photocopy the table on the next page and hand a copy to each student. Allow five minutes for the students to individually write down as many topics. You may supply points to students who are struggling. Then give a game of verbal tennis by stating one point at a time until one person has to make the last point wins the set.

Answers

Set	Topic	Possible points
1	Definition of sports confidence	<ul style="list-style-type: none"> A belief that a person has Regarding their ability to perform High sports confidence means that a person believes that they can succeed in a sporting situation
2	Definition of self-efficacy	<ul style="list-style-type: none"> A belief that a person has regarding their ability to perform High self-efficacy means that a person believes that they can succeed in a situation
3	Definition of self-concept and self-confidence (humanist theory)	<ul style="list-style-type: none"> Self-confidence is the belief someone has in themselves, their tasks, their strengths and judgements. Describes the conditions required for an athlete to achieve this is called self-actualisation. Self-actualisation is achieved through a process of growth. The athlete must have a sincere desire to reach their full potential. The athlete must be surrounded by other people who are supportive. Acceptance allows the athlete to follow their dreams without being hindered by their surroundings. The joint effect of the athlete's genuine desire and the acceptance of others is self-concept. Self-concept is how the athlete sees themselves.
4	Impact of high sports confidence on performance	<ul style="list-style-type: none"> Feel prepared for competition Counteracts negative impacts of stress Raises arousal levels towards an optimal level Provides a sense of freedom Allows risks to be taken Will likely lead to improved performance
5	Impact of high sports confidence on participation	<p>With high sports confidence:</p> <ul style="list-style-type: none"> people are more likely to participate people do not fear failure people do not mind humiliation people are more resilient people will bounce back from failure more easily <p>With low sports confidence:</p> <ul style="list-style-type: none"> people are more likely to drop out people will have lower persistence

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Set	Topic	Possible points
6	Impact of sports confidence on self-esteem	<p>High sports-confidence:</p> <ul style="list-style-type: none"> • leads to increased self-esteem • creates a sense of positivity • increases the belief that an athlete has in the ability to perform <p>Low sports-confidence</p> <ul style="list-style-type: none"> • leads to reduced self-esteem • creates a sense of negativity • creates a sense of helplessness
7	Vealey's model of sports confidence	<ul style="list-style-type: none"> • shows how sports confidence can be influenced by different factors • splits sports confidence into state and trait confidence • trait sports confidence is the global belief in their ability • state sports confidence is a specific belief in ability based on the current situation • state sports confidence is the determining factor which influences performance • state sports confidence is influenced by trait sports confidence • state sports confidence is influenced by the objective sporting situation • competitive orientation is the likelihood of the athlete expecting to win • the objective sporting situation is the type of skill that will be performed and the environment in which these skills will be performed • state and trait sports confidence can be positively and negatively affected • athlete perceives the outcome of their performance
8	Bandura's theory of self-efficacy	<p>There are four factors which contribute to self-efficacy.</p> <p>The four factors are:</p> <ul style="list-style-type: none"> • Performance accomplishments (history) • Vicarious experiences (situation) • Verbal persuasion • Emotional arousal (personality) <p>Performance accomplishments (history):</p> <ul style="list-style-type: none"> • The level of success experienced previously • In similar situations to the current one faced • Self-efficacy will be increased if they have successfully performed the task <p>Vicarious experiences (situation):</p> <ul style="list-style-type: none"> • Viewing another person • Watching someone perform a similar action • Self-efficacy is increased by watching others perform the task • The impact is greatest when the performer is similar to the observer <p>Verbal persuasion:</p> <ul style="list-style-type: none"> • Verbal feedback • Provided prior to, during or after performance • Used to encourage the athlete • Used to highlight things the athlete does well • Shows the athlete that others have confidence in them • Can have a negative effect if negative verbal feedback is given <p>Emotional arousal (personality):</p> <ul style="list-style-type: none"> • Interpretation of physiological symptoms of arousal • Symptoms include increased heart rate and breathing rate • If these symptoms are considered beneficial, then self-efficacy will be increased • If these symptoms are considered to negatively affect the athlete, then self-efficacy will be reduced
9	Explanation of learned helplessness	<ul style="list-style-type: none"> • An athlete's feeling that they will fail in a task, no matter how hard they try • Can result from athletes attributing failure to internal or personal factors • Two types of learned helplessness: global and specific • Global learned helplessness is when an athlete believes that they will fail in all activities/sports due to one negative experience • Specific learned helplessness is when an athlete believes that they will fail in a specific task due to a bad experience

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Confidence and Self-efficacy in Sports Performance: Verbal Tennis

In your pairs, independently note down as many bullet points as you can for each more points you can think of, the more shots you will have for the game.



Once you have all your points noted down, take it in turns to say one point each person to run out of points to say on the topic will lose the set.

Set	Topic	Your 'Bullet' Points
1	Definition of sports confidence	
2	Definition of self-efficacy	
3	Definition of self-concept and self-confidence (humanist theory)	
4	Impact of sports confidence on performance	
5	Impact of high sports confidence on participation	

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Set	Topic	Your 'Bullet' Points
6	Impact of sports confidence on self-esteem	
7	 Vealey's model of sports confidence	
8	Bandura's theory of self-efficacy	
9	Explanation of learned helplessness 	

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Activity 26 – Leadership in Sport

Teacher's Notes

Plenary Activity: Tri-answers	
Aim of the activity	To get students thinking about the different styles of leadership, and effective.
Teacher's instructions	Get students into small groups of, roughly 2–4 and hand each group. Allow the students 10 minutes to complete the activity by discussing leadership in sport, in order to complete the triangle of answers. The answers as a class.

Answers

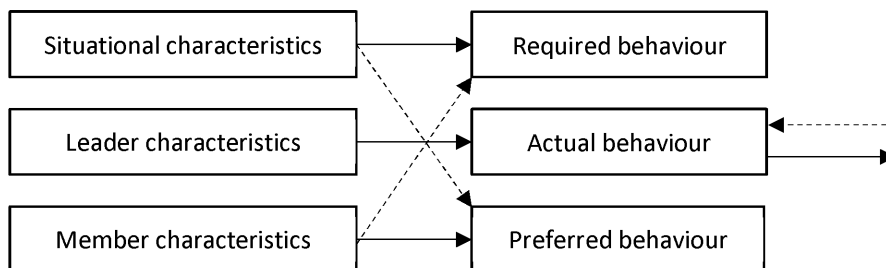
Characteristics of an effective leader:

- Highly motivated
- Inspirational
- Approachable
- Organised
- Highly skilled
- Can motivate teammates
- Empathetic
- Enthusiastic
- Good decision-maker

Characteristics of leadership styles:

Autocratic	Democratic
<ul style="list-style-type: none"> • Leader has complete control over the group • Task-oriented • Makes group decisions themselves • Not people-centred 	<ul style="list-style-type: none"> • People-centred, with an emphasis on developing inter-team relationships • Approachable • Allows group to make decisions • Less authoritative than autocratic style

Chelladurai's multidimensional model of sports leadership



Fielder's contingency theory suggests that there is no leadership style that suits every situation. Leaders must adapt and change their style to that required by their group.

Theories of leadership:

- **Trait 'great man' theory** suggests that effective leaders are born with the skills required to lead.
- **Social learning theory** suggests that a leader learns the skills required to lead from others who possess these skills. This theory ignores any natural characteristics that a leader may have.
- **Interactionist theory** suggests that the leadership qualities displayed by an individual are a result of their natural characteristics and learned behaviours combining to form their actual behaviour in order to meet the demands of different situations.

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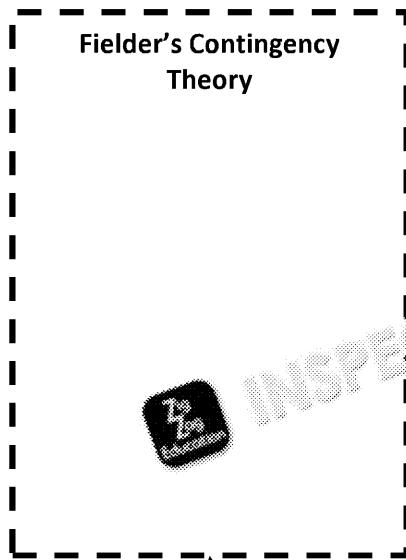
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Leadership in Sport: Tri-answ

In your groups, answer the relevant questions and complete the triangle of information. Try to provide as much information as you can for each. After 10 minutes you will come back together to discuss your answers.



Chelladurai

Characteristic of an effective leader

Characteristics of leadership styles

Autocratic

Democratic

Laissez-faire

Trait theory 'great man':

Social learning

Interact



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Theories of leadership

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Activity 27 – How has Sport been Commercialised?

Teacher's Notes

Starter Activity: Annotate and Explain

Aim of the activity	To get students to understand the factors which have led to the commercialisation of contemporary physical activity and sport.
Teacher's instructions	Photocopy the activity sheet on the next page and hand out a copy to each of the students 10 minutes to complete the activity by explaining the factors which have led to the commercialisation of sport.

Answers

Accept any other suitable answers

Advertising:

- Using sport to promote products and services to the millions who watch it live and on TV
- Advertising provides revenue for sports and sports clubs
- Advertisements are used to promote the sport

More media interest:

- The audience can become more involved in sporting events
- There is access to post-match interviews and analysis
- Allows for increased understanding of the sport
- Allows sport to become more accessible to the general public

Growing public interest / spectatorship:

- Growing interest has led to greater levels of spectators
- Sports and clubs were required to function in a more business-like manner in order to increase spectatorship
- Standards had to be increased in order to ensure that paying customers were satisfied
- The match-day experience also had to be improved in order to ensure that customers were satisfied

Sponsorship:

- Providing funds to sports clubs and/or athletes to support individuals or events in return for advertising
- Companies use sports to promote their brands
- This provides clubs and sports with more money to develop the quality of the sport
- Sponsors can provide equipment or facilities which allow the quality of the sport to improve
- Being associated with popular brands can also increase public interest in the sport

Professionalism:

- The standard of performance can be increased by a professional approach
- Paying wages to the players ensures that they can take part in the sport full-time
- Full-time involvement allows the players to train more effectively, therefore, increase their performance
- Improved levels of performance result in a product which is more appealing to the general public

Commodities:

- As sport has become more professional and commercialised, top-quality facilities, equipment and services are seen as commodities
- Some products are used to increase sales, based on their personal 'brand', e.g. a 'poster' for a sports club

Endorsement:

- Giving approval to a product or service and receiving payment for doing so
- The public support of brands by teams or players increases sales for that particular brand, as a result of the strength of the relationship between sport and commercialisation.

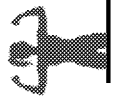
Merchandising:

- The practice of taking the brand of one product to sell another
- Placement of products used in sport is used as a means of advertising, for example, a sports club's logo on the match-day ball

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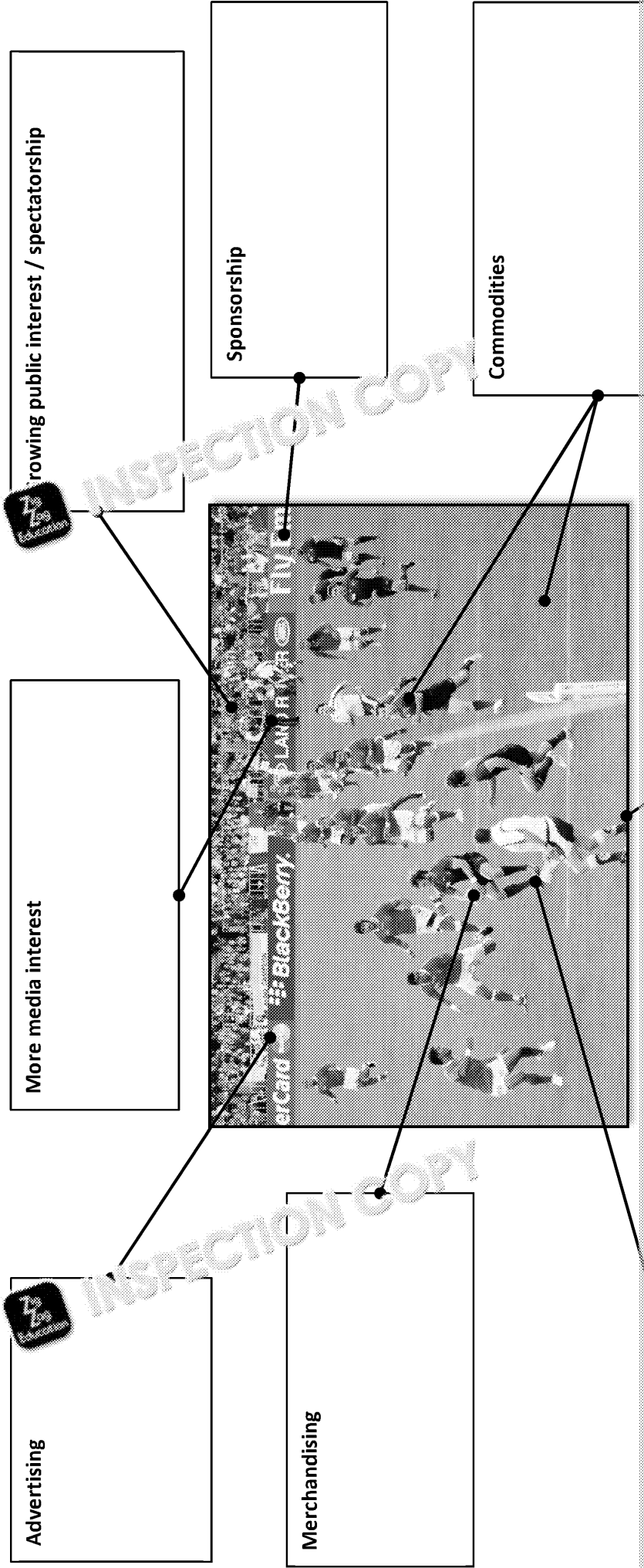




How has Sport been Commercialised? Annotate and Explain



For each of the annotations on the image below, explain how each factor has led to the commercialisation of contemporary physical activity and sport.



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Activity 28 – Advantages and Disadvantages of in Sport

Teacher's Notes

Starter Activity: Verbal Tennis	
Aim of the activity	To get students thinking about the advantages and disadvantages of com
Teacher's instructions	Photocopy the activity sheet on the next page and hand a copy to each minutes to complete the activity individually. You may provide points if should then play a game of verbal tennis with a partner by working thro in turns to state one point each until one person runs out of points. The wins the set.

Answers

Set	Impact	Positive	
1	Society	<ul style="list-style-type: none"> Can improve the quality of sport Helps to advertise a healthy active lifestyle Increases the coverage that sport gets, encouraging higher participation rates in the society 	<ul style="list-style-type: none"> Hinders p sedentary playing s Increases become a encourage Less of a c A sense of some in t sport alto
2	Individual sports	<ul style="list-style-type: none"> Improved coverage for the sport Increased revenue The range of competitions on offer is increased The structure of the sport is improved 	<ul style="list-style-type: none"> Minority s If the med sport, th Business s
3	Performers	<ul style="list-style-type: none"> Successful athletes are more likely to achieve role-model status Personal income can be increased Improved quality of personal resources due to improved financial backing 	<ul style="list-style-type: none"> There is a successful the media Increased games ca
4	Supporters	<ul style="list-style-type: none"> An increased range of sports to watch An increased amount of a particular t to watch 	<ul style="list-style-type: none"> Alteration games m that enjoy They can adverts, a opportu

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Advantages and Disadvantages of Commercialisation in Sport: Verbal Tennis

In your pairs, decide who will play for positive and who will play for negative impact of commercialisation in sport and then independently note down as many bullet points as you can for each of the topics (sets) below. The more points you can think of, the more points you will have for the game.

Once you have all your points noted down, take it in turns to say one point each. The person who runs out of points to say on the topic will lose the set.

Set	Impact	Positive	Negative
1	 Spectators		
2	Individual sports		
3	Performers		
4	 Sponsorship		

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Activity 29 – Historical and Social Context of C

Teacher's Notes

Starter Activity: Pyramid Factors	
Aim of the activity	To get students thinking about the historical and social factors that influenced sport.
Teacher's instructions	Photocopy the activity sheet on the next page and hand a copy to each student. Give students 5-10 minutes to complete the activity individually. You may want to discuss the points students have made, and to ensure all points have been covered.

Answers

Broken time payments:

- In the late 1800s, northern rugby clubs pushed for 'broken time' payments for their players.
- Broken time payments were the wages given to workers who had to miss work to participate in a sport.
- The southern clubs and the RFU refused this prospect, meaning that players were missing out on wages.
- This caused the eventual split of the northern rugby clubs from the RFU, who went on to form the Rugby Football Union.
- This created a dramatic drop in the number of rugby union clubs, as players were no longer able to receive a wage for playing.

Spectatorism:

- Spectatorism was born from the introduction of a fee, allowing the public to watch matches as 'gate money'.
- Gate money gave clubs an income and allowed sport and individual clubs to become professional.
- Gate money allowed clubs to recruit and pay the very best players, buy equipment and improve their facilities.
- This was the birth of the modern professional era.

Developments in the media*:

- Communication of sporting events and news during the era of popular recreation was primarily through word-of-mouth.
- Widespread development of the written press during the Industrial Revolution meant that news was reported to a much larger audience.
- Newspapers still exist and are sold to the masses today, with back pages dedicated to sports news and newspapers increasing in popularity too.

*Media developments will be covered in more detail in later activities.

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Historical and Social Context of Commercialisation of Sport

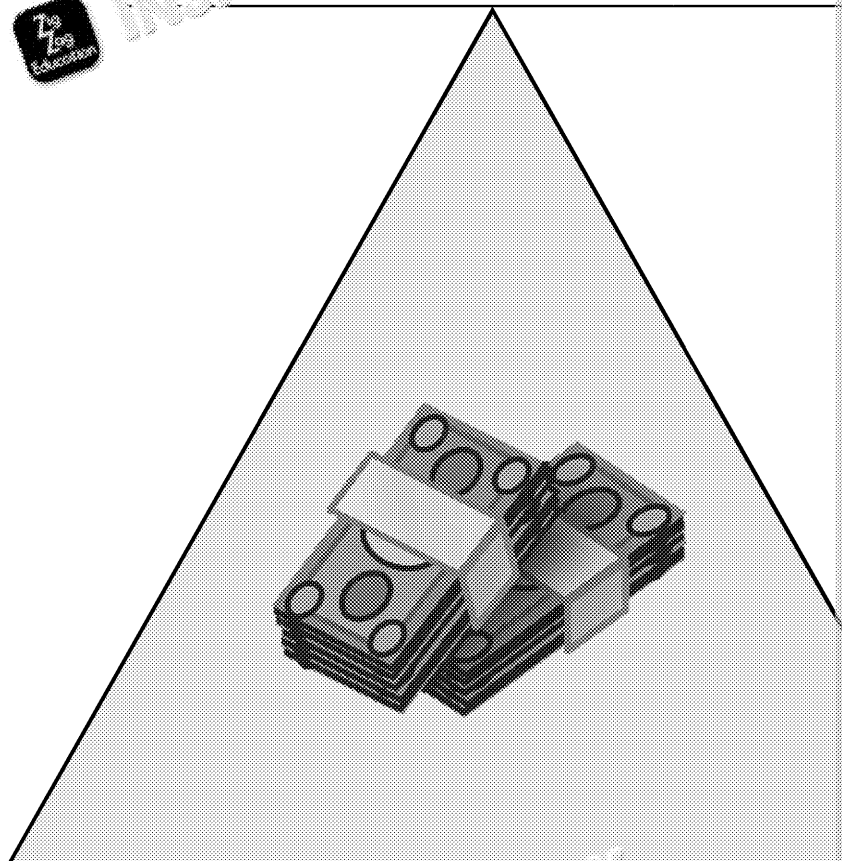
Pyramid Factors

Fill in the boxes below, providing explanations of how the three historical and social factors below have contributed towards the overall commercialisation of sport.

Broken time payments:



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Developments in the media:



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Spectatorism:

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Activity 30 – Commercialisation and the Mode

Teacher's Notes

Plenary Activity: Table Fill	
Aim of the activity	To get students showing an understanding of the events of previous Olympic Games on modern-day sport.
Teacher's instructions	Photocopy the table on the next page and hand a copy to each student. Give students 10 minutes to complete the activity individually. You may provide pointers if struggling.

Answers

Olympic Games	What Happened?	
Mexico City, 1968	<ul style="list-style-type: none"> Protests regarding racial discrimination in the USA were rising. To protest this discrimination, two black US athletes, Tommie Smith (gold) and John Carlos (bronze), caused political controversy when they collected their medals. They each raised one arm with an outstretched fist, performing a black power salute. 	
Munich, 1972	<ul style="list-style-type: none"> The 1972 Olympics were devastated by a terrorist attack known as the Munich massacre. Palestinian terrorists forced their way into the Olympic Village and took 11 Israeli athletes and coaches hostage. During a failed rescue mission, the 11 hostages were killed. This ultimately led to the suspension of the Games, for the first time since 1948. It also impacted majorly on the volume of security measures for the 1976 Games, with counter terrorism strategies commonplace with the 2000 and 2004 Games. 	
Montreal, 1976	<ul style="list-style-type: none"> The 1976 Olympics Games are reported to have cost 1.5 billion Canadian dollars (equivalent to 1.5 billion day money). To pay off the debt, people living in Québec (a Canadian province) had to pay increased taxes for 30 years after the Games. Although the Games are remembered for great sporting achievements, they were also seen as a financial disaster. 	
Los Angeles, 1984	<p>What Happened?</p> <ul style="list-style-type: none"> In response to the boycott of the Moscow Olympics by the USA, the Soviet Union led a boycott of the 1984 Olympics held in Los Angeles. The Soviets claimed the boycott was due to their fears over security and the commercialisation of the Games. 	<p>Influences</p> <ul style="list-style-type: none"> Ueberroth's success in securing Olympic support from private sponsors. This was a major factor in the success of the Games (the first time a private sponsor was allowed). Ueberroth's financial success remained a model for future Olympic Games to be reinvested in the development of the athletes.
	<ul style="list-style-type: none"> Peter Ueberroth was placed in charge of organising the entirety of the 1984 Olympic Games. Ueberroth identified the flaws in previous Olympic Games – whether they be political or financial – and attempted to turn the Olympic Games into a financial tool. 	

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Commercialisation and the Modern Olympic Games

Table Fill

Fill in the table below, describing the major events of each of the named Olympic Games. You should also include information on how the Games were used for financial gain, through commercialisation.

Olympic Games	What Happened?
Mexico City, 1968	
Munich, 1972	
Montreal, 1976	

How these Olympic Games influenced the 1984 Los Angeles Games

Olympic Games	What Happened?	How these Olympic Games influenced the 1984 Los Angeles Games
Los Angeles, 1984		

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Activity 31 – Relationship between Sport and Media

Teacher's Notes

Plenary Activity: Building Relationships	
Aim of the activity	To get students to understand the relationship between sport, media and technology.
Teacher's instructions	Photocopy the activity sheet on the next page. Split the class into groups of 4-5 students. Give each student 15 minutes to complete the activity. Discuss the relationship between sport, sponsorship, or sport representative, and discussing their relationship with the media.

Answers

Sport and Media

- Sport receives revenue from the media via broadcasting rights. This provides sport with the quality of performance by using new technology and equipment, etc. It also enables sport to attract more quality international competitions.
- The media views sport as a commodity, due to its wide-reaching effect. This means that sport will benefit greatly from the high number of viewers. Due to this, the media can often be used to maximise viewing potential.

Sport and Sponsorship

- Sport uses sponsorship funding to finance either the sport as a whole (i.e. when a national team is sponsored), or individual teams use their own sponsorship to improve both the appearance and performance of the team.
- Sponsorship benefits from sport as it allows their brand to be seen by a huge number of people. Also, as sport is viewed as having a positive image, an associated sponsor is more likely to be seen positively by the population.

Media and Sponsorship

- Sponsors use the media as a platform to advertise from. The use of advertising breaks allows sponsors to target the large number of viewers who are watching a match. This also allows sponsors to target specific demographics towards sports fans.
- For showing the sponsors messages/advertisements, the media receives money from sponsors. This helps the media to have greater financial strength when covering and organising sporting events.

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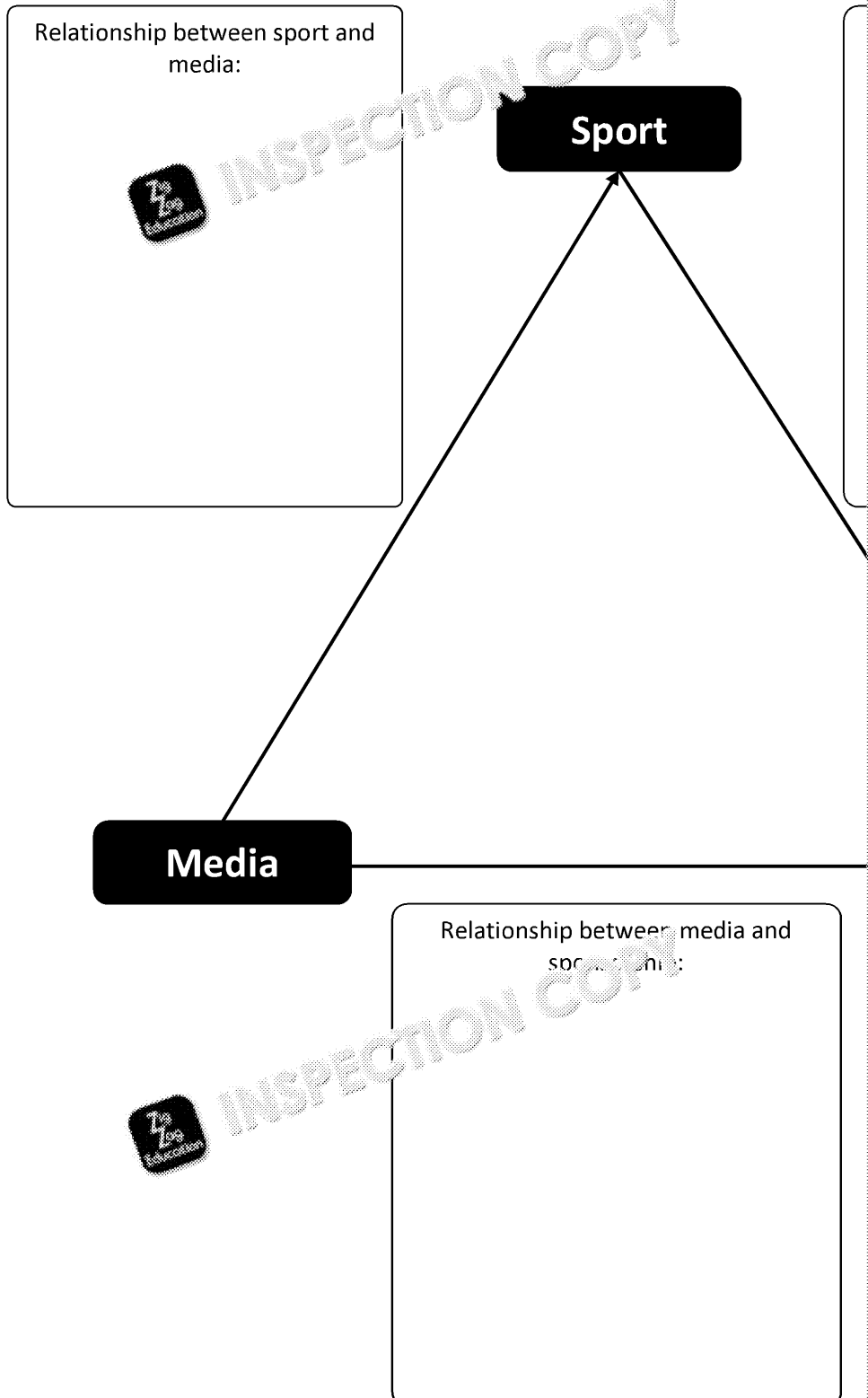
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Relationship between Sport and the Building Relationships

1. In your groups of three, nominate one person to act as a representative from sponsorship representative and one person representing sport.
2. You should each discuss your importance to each other by stating why you should be important to each other.
3. When the other two members of your group are discussing, make notes on the triangle below.



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Activity 32 – Franchises, Power Shifts, American Global Sport

Teacher's Notes

Plenary Activity: Post-it Notes	
Aim of the activity	To get students to think back to what they have learnt and any questions for the next lesson regarding the commercialisation of sport.
Teacher's instructions	Photocopy the activity sheet on the next page and hand out a copy to each student. Students' worksheets at the end of the lesson. The questions will be discussed in the following lesson. Students are required to write up their learning by way of a question that they will ask in the lesson. They are also required to think of a question that they will ask in the next lesson.

Answers:

Note: these are suggested answers (answers will vary for each student).

Franchises / Commercialisation of sport

- A franchise is a company or organisation that allows individuals to carry out commercial activities on its behalf, for a share of the profit. Ultimately, however, the organisation has control of the business.
- In sport, franchises are normally associated with American sports teams.
- Each sports team is overseen by the sports association (e.g. the NFL / the NBA). They are a franchise of the sporting organisation. This means that a share of every team's profit goes to the franchising organisation.
- This allows the franchising organisation to control money, almost guaranteeing them a profit from all of their franchises (the teams) from suffering financially.
- In American sports leagues, teams do not get relegated, meaning there are fewer financial losses for sports teams, if they have a bad season.
- In the UK, sports teams are generally seen as individual businesses (e.g. football teams).
- In the UK, teams get promoted and relegated each season, which can have significant financial implications (income).

Sports stars as global stars

- In modern sport, and within franchises (teams), one player is consistently the focus of attention.
- Merchandise, gifts or games can be built around one individual – making them a global star.
- This is the franchising of an individual player.

Power shift from governing bodies to the media

- Sport is now seen as a business opportunity by many within the media, as the benefits of sport as a commodity have been recognised.
- The national and club competitions, alongside the elite performers, provide many opportunities for the media to generate income.
- The media inputs large amounts of money into sport, giving teams greater financial resources, making these teams, and the sport, even more marketable for large businesses.
- Competition between major media companies for the broadcasting rights of the major sports events has increased the amount of money each season.
- However, the media tends to demand more control over the organisation of sporting events, leading to more commercial numbers and therefore, potentially, higher annual earnings.
- This can lead to the events being held at less popular times. This demonstrates the ongoing power shift from governing bodies to the media.

Competitive fixtures and tours across continents

- Technological advancements (e.g. transport and communication methods) allow sports to be more global.
- Sport can now be broadcast worldwide.
- Smaller or less-popular sports have greater opportunities to have some form of coverage.
- The popularity of some sports associated with particular countries is now spreading globally, e.g. American Football and Tour de France.
- International competitions help to increase the standard of players as they are exposed to higher levels of competition.

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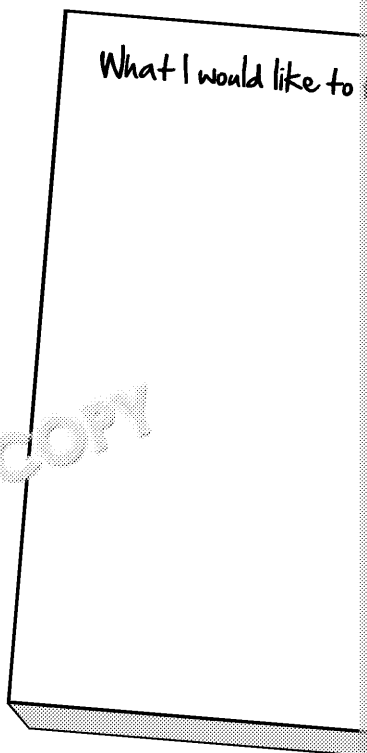
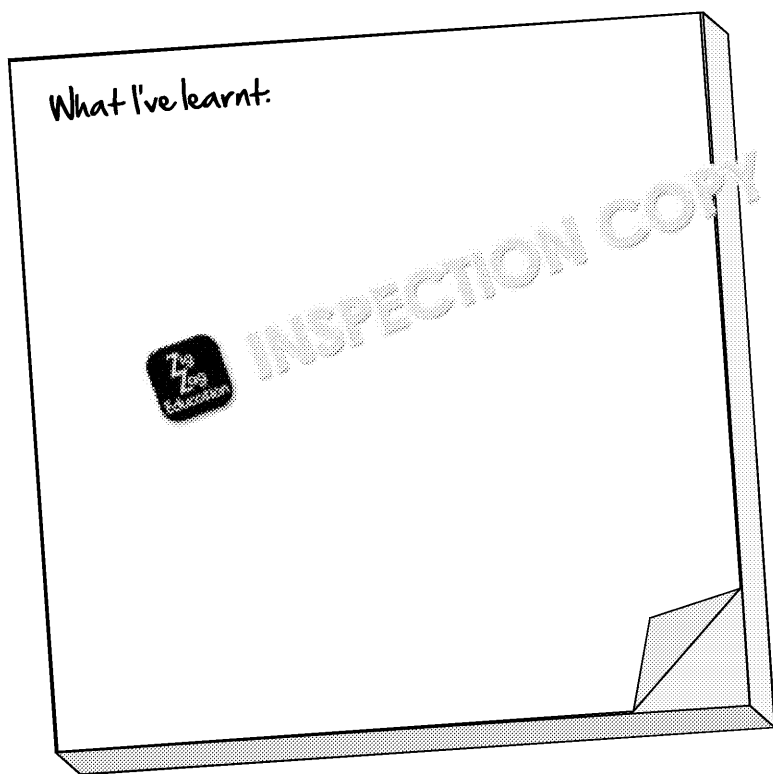
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Franchises, Power Shifts, Americanisation Global Sport: Post-it Notes

Write down one key thing that you have learnt from the lesson. Also write down commercialisation of sport that you would like answered in the next lesson.



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Activity 33 – Drugs and Doping in

Teacher's Notes

Plenary Activity: Tri-answer	
Aim of the activity	To allow students to test their understanding of drugs and doping in
Teacher's instructions	Photocopy the activity sheet on the next page and hand a copy to each student. Give students 10 minutes to complete the activity by completing as much of the tri-answer as they can. Bring the class back together to discuss their answers.

Answers

Types of supplement / doping methods

Legal:

- Caffeine
- Creatine
- Bicarbonate
- Protein supplements
- Some pain relief (e.g. paracetamol)

Illegal:

- Anabolic steroids
- Orogenic steroids
- Diuretics
- Stimulants
- Hormone modulators
- Metabolic modulators
- Beta blockers
- Blood doping/transfusions
- Some narcotic pain-relieving medication (e.g. morphine and heroin)

Reasons why performers take drugs (accept other suitable answers):

- To excel in their sport due to the physiological adaptations/improvements gained from drugs
- They do not fully understand the risks
- To be recognised as a top athlete
- They feel as though all of their competitors are taking drugs
- They do not feel that they can compete at an elite level just on ability
- They want the financial gain that comes from winning events

Consequences of taking drugs (accept other suitable answers):

Sport	
<ul style="list-style-type: none"> • The sport's reputation can be ruined. • Fewer people may want to participate in the sports associated with drug cheats. • Performers using drugs can take the place of talented performers, lessening the number of genuinely talented performers reaching the elite level in the sport. • Sponsors can withdraw from sponsoring a sport as they do not want their brand associated with a negatively perceived sport. 	<ul style="list-style-type: none"> • Damage to health • Can be banned from competing using drugs. • Reduce chances of breaking world record for doping • They can lose sponsorships • They can no longer compete at an elite level

The strategies to stop the use of illegal substances and doping:

- Strict drug-testing policies
- Using the latest drug-testing procedures
- Punishing athletes who test positive for banned substances with bans and fines
- Increasing the frequency of drug testing
- Educating athletes about the dangers of using illegal substances
- Educating athletes about which substances are legal and illegal so that they have a better understanding of what they should avoid

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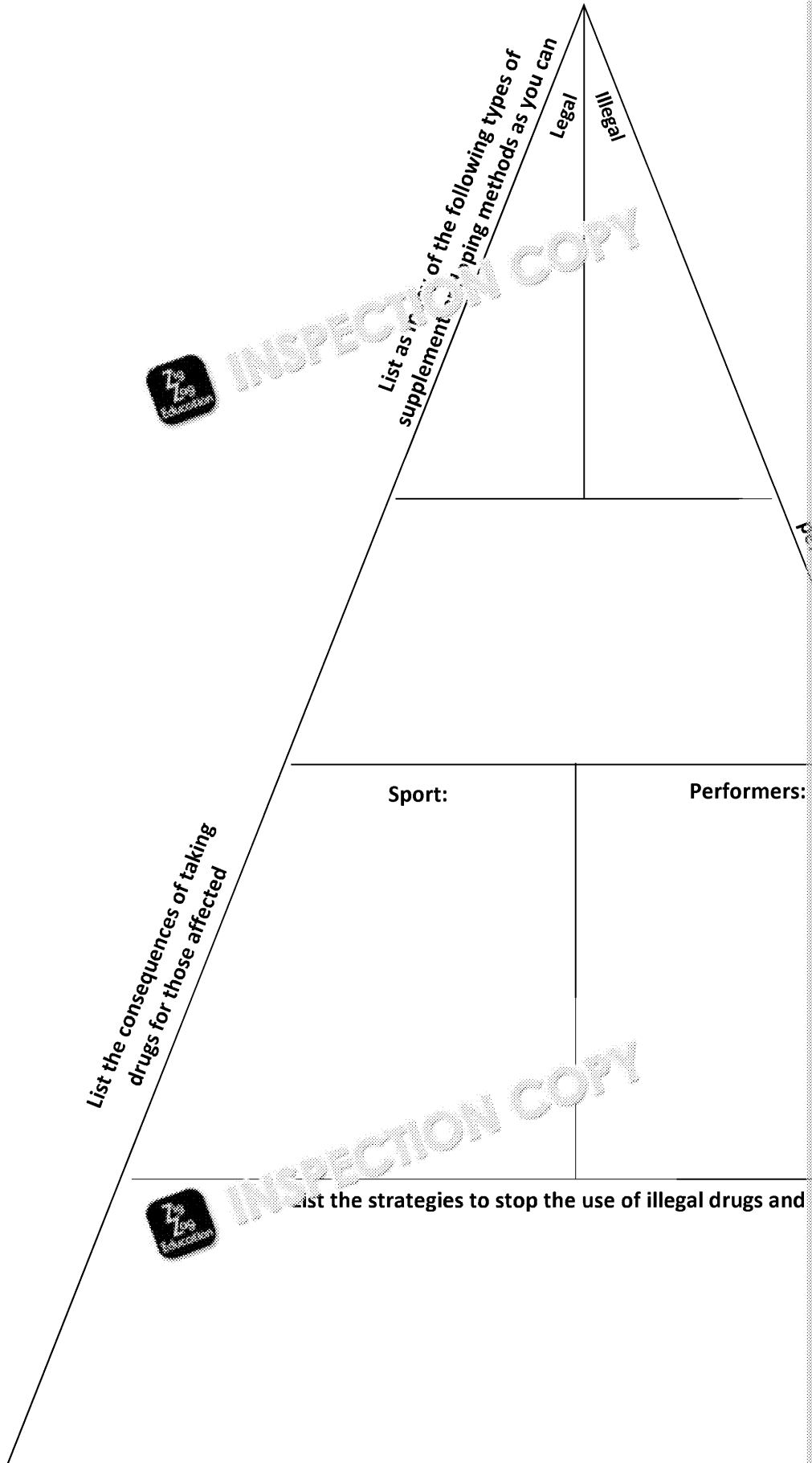
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Drugs and Doping in Sport: Tri-a

Work with a partner to complete the questions below that outline the use and im



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Activity 34 – Sportsmanship, Gamesmanship and Forms of Deviance

Teacher's Notes

Starter Activity: Interviews	
Aim of the activity	To get the students to identify examples of ethics and deviance in sport.
Teacher's instructions	Print out a copy of the activity sheet on the next page. Split the class into groups of 4-5 and give each group a copy to each group. Students are required to identify the examples demonstrated by each athlete, and justify their answer by describing the behavior. Allow the students 10 minutes to complete the activity.

Answers

- Factor identified:** Simulation

Justification: Simulation is where an athlete acts in a manner to deceive the opponent.
- Factor identified:** Betting syndicates

Justification: Betting syndicates are illegal in some countries. People without a license offer bets to athletes (via a bribe/payment) to influence the outcome of a game. A betting syndicate can make more money from lost bets.
- Factor identified:** Sportsmanship

Justification: Sportsmanship is displaying good etiquette, e.g. showing respect to opponents, following the rules of the game fairly. Sponsors are more likely to support an athlete as a fair, honest person.
- Factor identified:** 'Bungs'

Justification: 'Bungs' are lump sums of cash given to influential people to persuade them to complete a party.
- Factor identified:** Gamesmanship

Justification: Gamesmanship is gaining an advantage over your opponents by using tactics that are not remaining within them.
- Factor identified:** Match-fixing / bribery

Justification:

 - Match-fixing is deliberately influencing the outcome of a game (e.g. gamblers / betting syndicates).
 - Bribery is offering someone (e.g. an athlete) a lump sum of money to do something that you want them to.

Extension Activity:

Examples of answers given below. Accept suitable answers.

- e.g. athletes are more likely to exhibit good sportsmanship as they are more likely to be seen in a positive light. If they display good sportsmanship, otherwise, they risk being seen in a negative light.
- e.g. the financial rewards for being successful in sport mean more and more athletes are tempted to cheat, for example, time-wasting in football.

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Sportsmanship, Gamesmanship and Commercialisation Forms of Deviance: Interview

In your groups, imagine you have interviewed a group of athletes. You are collecting quotes from modern-day athletes who are acting regarding deviance, gamesmanship and sportsmanship. Identify whether the athlete is referring to sportsmanship, gamesmanship or commercialisation. Justify your answer by describing the factor you have identified.

<p>1. 'In our last football match an opponent fairly tackled me inside their box. I took the opportunity to go to ground and claim a penalty'</p>	<p>Factor identified:</p> <p>Justification:</p>
<p>2. 'A manager from another club approached me and tried to convince me to 'throw' a golf match so he could make more money.'</p>	<p>Factor identified:</p> <p>Justification:</p>
<p>3. 'I am an up-and-coming tennis player with my first sponsorship deal. To maintain my image and sponsorship deal, I always try to be honest in matches, such as being honest if an umpire has incorrectly called a serve "out".'</p>	<p>Factor identified:</p> <p>Justification:</p>
<p>4. 'My manager received a lump-sum payment to push through a deal to transfer me to another club.'</p>	<p>Factor identified:</p> <p>Justification:</p>
<p>5. 'To win our football league we just needed a draw in our final game. As a team, we took slightly longer to take free kicks, throw-ins and goal-kicks, to run the clock down.'</p>	<p>Factor identified:</p> <p>Justification:</p>
<p>6. 'I am a professional snooker player but am very low on the rankings. I recently received a large sum of cash to deliberately miss a pot on the black ball to lose a frame.'</p>	<p>Factor identified:</p> <p>Justification:</p>

Extension Activity

Discuss in small groups, or as a class, the impact that commercialisation has on (i) the sportsmanship ethic and (ii) growth of gamesmanship in the UK.

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Activity 35 – Combating Deviance in Sport

Teacher's Notes

Starter Activity: Explain the Factors	
Aim of the activity	To get the students to understand the role and effectiveness of WADA
Teacher's instructions	Photocopy the activity sheet on the next page and hand out a copy to each student. Give them 15 minutes to think of as many points as they can, regarding the role of government and the effectiveness of WADA and technology in combating deviance in sport.

Answers

National and international governing bodies:

- National and international governing bodies of sport have a responsibility to protect their sport from deviance.
- They must act to combat deviance in sport, to prevent their sport being seen in a negative light.
- Being seen as a 'cheating' sport may negatively impact on participation rates in that sport.
- Governing bodies have further responsibility to ensure that the laws of games are being followed, such as cheating – in sport (e.g. simulation / diving in football). This is achieved through various means.

Governments:

- A political party may be regarded negatively if they are in power during a doping scandal.
- A government will not want their nation associated with cheating.

Use of technology to combat deviance:

- Doping labs – laboratories that perform independent tests on samples from athletes to determine if they have been doping
- Investment into new methods of detecting illegal substances in athletes
- Use of video technology (e.g. in rugby) that can help identify deviant behaviour with the naked eye.

Role of WADA (World Anti-Doping Agency):

- Works independently (i.e. without bias / objectively) to globally test athletes for doping
- WADA is the board at the forefront of preventing athletes from taking illegal drugs
- Invests large amounts of money into detecting drug cheats
- Helps to ban cheating athletes from sport
- Runs initiatives to maximise their impact and role in the prevention of deviance. Initiatives include: Modelling, Education, Science and Medication, Anti-Doping Coordination, Law Enforcement, and Outreach Programmes (more information can be found at www.wada-ama.org/en/)

Effectiveness of WADA

Strategies	Positives (effective)
<ul style="list-style-type: none"> • Independent drugs tests • Invests millions into testing, detecting and advancing drug testing technology • Helps to impose suspensions and fines for athletes who fail drugs tests • Helps implement fines for athletes who miss drugs tests • Performs spot checks • Runs a number of initiatives to prevent deviance in sport (see <i>Role of WADA</i>). 	<ul style="list-style-type: none"> • Invests money to keep up to date with latest drugs and methods of testing for those drugs • Acts to prevent drug use through athletes' fear of fines or bans • Remains independent, so is not influenced by governments/athletes/bribery, etc.

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Combating Deviance in Sport: Explain

- 1) Working individually, explain the reasons why governments and national and international governing bodies attempt to combat deviance in sport. Then, identify and describe some of the ways in which they use technology to combat deviance in sport.

National and international governing bodies:	Governments:
Use of technology to combat deviance:	

- 2) Explain the role of WADA in combating drug use in sport, discussing the effectiveness of the strategies used to combat drug use.

Role of WADA:

Effectiveness of WADA:

Strategies	Positives (effective)

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Activity 36 – Coverage of Sport by the Media

Teacher's Notes

Starter Activity: Reasons for Change	
Aim of the activity	To get students to understand how sport is covered by the different media and how this has changed.
Teacher's instructions	Photocopy the activity sheet on the next page and hand out a copy to each student. Give students 15 minutes to complete the activity by outlining changes in the way sport is covered by the media and reasons for these changes.

Answers

Television:

- Terrestrial TV has the right to regular sporting events but it does not have the right to show some events (e.g. the Olympic Games) due to them being prohibited by law from being shown on terrestrial TV.
- Satellite TV has the rights to a range of sporting competitions and requires viewers to pay for the service (pay-per-view) in order to be able to watch these events.
- Pay-per-view TV has the rights to some very popular events such as boxing matches in order to be viewed. However, not everyone can afford to watch these events.
- The increased coverage provided by satellite TV channels has led to increased subscription to satellite TV since the 1980s. However, not everyone can afford these packages to be viewed.
- Generally, improvements in television coverage have caused a decline in the demand for live sporting events – this means clubs can lose money due to a reduction in the number of spectators.

Radio:

- Dedicated sports stations have been created which provide around-the-clock coverage of sports news.
- Local radio stations provide coverage of local sporting events which would otherwise be covered by national programmes.
- The invention of DAB radio has increased sporting coverage on the radio in modern times, particularly since the 1980s.

Written press:

- Newspapers provide match reports and sport-related news.
- Magazines provide in-depth analysis of sporting events as well as interviews with sports stars.
- The popularity of the written press has been reduced since the 1980s due to the emergence of television and the Internet for sporting news.

Internet:

- The Internet provides a source of information for team news, results and the latest news on sports.
- Live matches can be streamed on the Internet.
- In-depth analysis can be read.
- Forums allow spectators to discuss sporting events with each other.
- The Internet has emerged as the most popular media source due to the increased number of computers, the increased provision of Internet, and the invention of smartphones and tablets since the 1980s.

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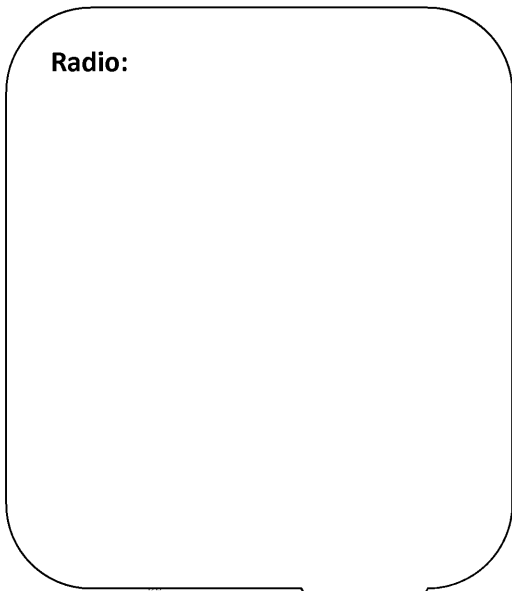
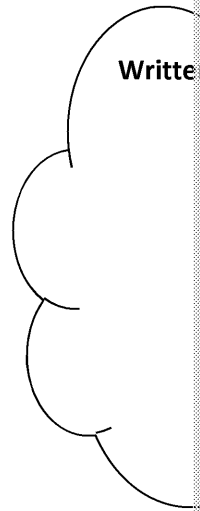
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Coverage of Sport by the Media: Reason

For each of the different media types below, outline its role in the coverage of sport development.



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Activity 37 – Implications of Media and S

Teacher's Notes

Plenary Activity: Table Fill	
Aim of the activity	To get students to consolidate their knowledge of the impact of media
Teacher's instructions	Photocopy the table on the following page and hand one copy to each student. Allow the students 15 minutes to complete the activity by identifying the impact of media and social media on sport, performers and supporters.

Answers

Impact on...		
Individual sports	<ul style="list-style-type: none"> Increased popularity results in higher participation rates Promotes a healthy, active lifestyle Improves the brand of popular teams Social media provides a platform for less-popular sports, that aren't bought by companies such as Sky Sports 	<ul style="list-style-type: none"> Minority sports Less money entering the sport Fewer men
Performers	<ul style="list-style-type: none"> Increased potential to become a role model Increased earning potential Comments from social media can motivate a performer to improve their performance Consistently talking to the media helps to improve communication and public relations skills 	<ul style="list-style-type: none"> Increased pressure Lead to increased likelihood of injury A greater income means that performers are less likely to be influenced by the media Some sports are more fashionable than others
Supporters	<ul style="list-style-type: none"> Increased range of viewing opportunities Gain a greater understanding of the sport Role models can inspire participation Watching elite performers can help improve their own technique Social media provides a cheaper (often free) way to watch different sports 	<ul style="list-style-type: none"> Fewer spectators They may be physically exposed They may be physically injured Misunderstanding of the sport due to a lack of knowledge

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Implications of Media and Social Media

Working individually or in pairs (as instructed by your teacher), fill out the table by listing the positive and negative impacts of social media on individual sports, the performers and the support staff.

Impact on...	Positive	Negative
Individual sports		
Performers		
Support staff		

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Activity 38 – Modern Technology and Entertainment

Teacher's Notes

Starter Activity: Weighing Things Up	
Aim of the activity	To get students to understand the positive and negative impact that modern technology has on sporting entertainment.
Teacher's instructions	Photocopy the activity sheet on the next page. Split the students into groups of four or five. Give each group one student. Allow the students 10 minutes to complete the activity by each person to list the positive impacts of modern technology on entertainment and the negative impacts of technology on entertainment. After 10 minutes, have each group present their points with each other, and hold a debate on which side has the most points they list.

Answers

Positive impacts

- **Action replay** – Enable the viewer to watch the most exciting parts of the match again for greater detail of each skill to be shown, allowing these to be more easily replicated.
- **Multiple camera angles** – Allow the skills to be shown from a different perspective. This allows the viewer to see the game in a greater detail, e.g. the relative positions of the different players, the technique of the different sports personnel.
- **Slow-motion technology** – Enables a complex skill to be slowed down so its subtleties are easier to see, aiding replication. It also provides a clearer view of decisions that have been made, e.g. whether a foul was committed in slow motion compared to normal speed.
- **Improved analysis** – Improved software which can generate data on performance for each player. This data on speed and position aids the in-game and post-match analysis. This enables for easier analysis, making the game easier to follow and more entertaining.
- **Punditry** – Provides opinion which can spark debate between friends. Radio call-in shows provide expert opinion. Retired professionals can give an interesting insight into the games, increasing the viewer's interest and entertainment.

Negative impacts

- **Interruption and delay** – Reviews of decisions during the match can disrupt the flow of the game. This can reduce the quality and entertainment of the game. Lengthy stoppages can leave the viewer feeling frustrated and bored, making them more likely to turn their attention elsewhere.
- **Reduced live attendances** – As more sport is available to watch due to the large amount of live coverage, fewer people are willing to pay to watch the games live. This can make the sport seem less exciting and reduce the amount of revenue for the sport clubs.
- **Television and pay-per-view subscriptions** – many people cannot afford to watch live sport due to the ongoing cost of subscriptions and expensive one-off events.

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Modern Technology and Entertainment Weighing Things Up

In your pairs decide who will cover the positive impacts of technology on entertainment and who will cover the negative impacts of technology on entertainment. Each should spend 10 minutes writing down their argument and bullet-pointing notes below.

After 10 minutes rejoin with your partner and hold a debate regarding the impact of technology on entertainment. Make notes on the points your partner comes up with in the appropriate box.

The negative impacts of technology on entertainment:



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The positive impacts of technology on entertainment:



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Activity 39 – Routes to Sporting Excellence

Teacher's Notes

Starter Activity: Provide the Strategies	
Aim of the activity	To get students thinking about the different routes to sporting excellence, the historical context given by East German sport, and the role that different educational facilities play in the development of sporting excellence.
Teacher's instructions	Print out a copy of the activity sheet and hand a copy to each student and assign each group one of the three nations. Students should use iPads, mobile phones, etc., to research the routes to sporting excellence in their nation. Students should write down as much information as they can for a class discussion afterwards.

Answers

The specific answer is the UK and Australia sporting programmes as 'contemporary time'. You should keep up-to-date with any changes in approach taken by these nations.

Sport in the United Kingdom

School, clubs, universities

- Many have extracurricular clubs and activities which enable students to try a wide range of sports.
- Schools help provide an introduction to sport, teaching and building upon basic motor skills.
- Universities give students an opportunity to not only play in teams, but to lead and manage teams.
- An avenue into sport for many that do not enjoy the participation side of sport as much.
- Have regular fixtures, encouraging competitiveness.
- Universities have high standard of facilities, and matches are sometimes watched by thousands.

Talent identification programmes

- Identify those that have the potential to progress to an elite standard of sport.
- Identify and compare both physiological and psychological performance data.
- Aid the progression through the Sport Development Continuum.
- Those that are spotted are encouraged to compete.

UK Sport

- Uses lottery funding.
- Improves areas such as sporting facilities, sport-science support and higher education.
- Sets out policies which help to eliminate drug cheats, use updated technology, etc.
- A high standard of coaching is used.
- Global sporting events are brought to the nation.
- Initiatives such as the World Class Programme which sets either four-year or eight-year cycles for the Olympic Games (podium – 4 years; podium potential – 8 years) and distributes funding.

National institutes of sport

- Four British national institutes – English Sports Institute, Scottish Sports Institute, Welsh Sports Institute, Northern Ireland Sports Institute.
- Campaigns to increase sports participation.
- Sport science / sport medicine / nutritional / individual athlete / psychological support.
- A high standard of coaching is used.
- High standard of facilities are maintained.

Strategies to address drop-out

- Campaigns for young children to encourage participation.
- Sporting board initiatives.
- Support for individual athletes.
- The use of sport psychologists.
- Education about healthy active lifestyle.

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Sport in Australia

- Australian Institute of Sport (AIS) was created
- Nationwide searches for talent in children began
- A pool of potentially successful children was created
- Children sent to AIS sporting institutes with the latest technology to mould them into elite athletes
- Australia runs a *High Performance Strategy* which has the following aims:
 - consistent and sustainable success for Australian athletes and teams on the world stage
 - greater levels of accountability for performance results
 - improved governance structures and contemporary reporting and monitoring
 - engaging, uniting, inspiring and motivating all Australians

Sport in East Germany

- Primary school children assessed for signs of sporting success
- Identified children sent to sporting schools
- Very best sporting students advanced to elite institutes to train for East German national sports
- They trained full-time to compete at the highest level



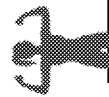
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Routes to Sporting Excellence in the UK: Provide the Strategies

Different countries have different routes to sporting excellence. Each of these countries have different organisations with numerous roles which help to provide the opportunity for talented individuals to reach an elite standard of sport.

Outline the strategies that each of the countries use in enabling a talented performer to reach an elite level of sport, in the spaces provided below. Then, outline some strategies that could be used to address drop-out rates. Finally, compare the UK's approach to those taken by Australia and East Germany, the former country of East Germany.



Great Britain

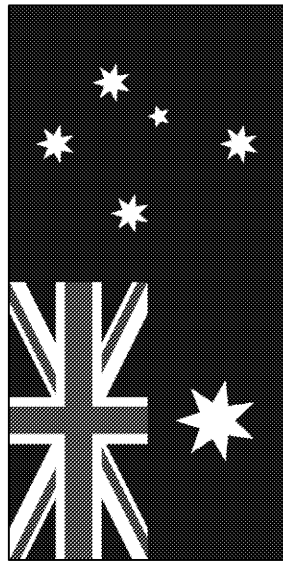
Useful links:

www.uk sport.gov.uk

www.teamgb.com

www.sportengland.org

Notes:

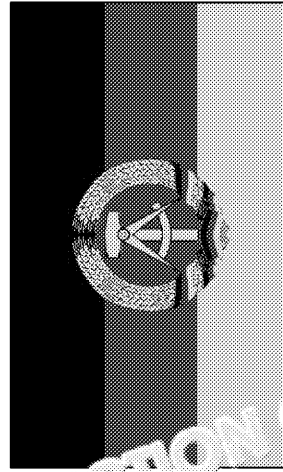


Australia

Useful links:

www.ausport.gov.au

Notes:



East Germany

Notes:

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