

Clear**Revise**[®]

Edexcel GCSE

Physical Education 1PE0

Illustrated revision and practice

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DT2 7EW
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sales@pgonline.co.uk
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PREFACE

Absolute clarity! That's the aim.

This is everything you need to ace the exams and beam with pride. Each topic is laid out in a beautifully illustrated format that is clear, approachable and as concise and simple as possible.

Each section of the specification is clearly indicated to help you cross-reference your revision. The checklist on the contents pages will help you keep track of what you have already worked through and what's left before the big day.

We have included worked exam-style questions with answers. There is also a set of exam-style questions at the end of each section for you to practise writing answers. You can check your answers against those given at the end of the book.

LEVELS OF LEARNING

Based on the degree to which you are able to truly understand a new topic, we recommend that you work in stages. Start by reading a short explanation of something, then try to recall what you've just read. This will have a limited effect if you stop there but it aids the next stage. Question everything. Write down your own summary and then complete and mark a related exam-style question. Cover up the answers if necessary but learn from them once you've seen them. Lastly, teach someone else. Explain the topic in a way that they can understand. Have a go at the different practice questions – they offer an insight into how and where marks are awarded.

ACKNOWLEDGEMENTS

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With contributions from R Howitt

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THE SCIENCE OF REVISION

Illustrations and words

Research has shown that revising with words and pictures doubles the quality of responses by students.¹ This is known as ‘dual-coding’ because it provides two ways of fetching the information from our brain. The improvement in responses is particularly apparent in students when they are asked to apply their knowledge to different problems. Recall, application and judgement are all specifically and carefully assessed in public examination questions.

Retrieval of information

Retrieval practice encourages students to come up with answers to questions.² The closer the question is to one you might see in a real examination, the better. Also, the closer the environment in which a student revises is to the ‘examination environment’, the better. Students who had a test 2–7 days away did 30% better using retrieval practice than students who simply read, or repeatedly reread material. Students who were expected to teach the content to someone else after their revision period did better still.³ What was found to be most interesting in other studies is that students using retrieval methods and testing for revision were also more resilient to the introduction of stress.⁴

Ebbinghaus’ forgetting curve and spaced learning

Ebbinghaus’ 140-year-old study examined the rate at which we forget things over time. The findings still hold true. However, the act of forgetting facts and techniques and relearning them is what cements them into the brain.⁵ Spacing out revision is more effective than cramming – we know that, but students should also know that the space between revisiting material should vary depending on how far away the examination is. A cyclical approach is required. An examination 12 months away necessitates revisiting covered material about once a month. A test in 30 days should have topics revisited every 3 days – intervals of roughly a tenth of the time available.⁶

Summary

Students: the more tests and past questions you do, in an environment as close to examination conditions as possible, the better you are likely to perform on the day. If you prefer to listen to music while you revise, tunes without lyrics will be far less detrimental to your memory and retention. Silence is most effective.⁵ If you choose to study with friends, choose carefully – effort is contagious.⁷

1. Mayer, R. E., & Anderson, R. B. (1991). Animations need narrations: An experimental test of dual-coding hypothesis. *Journal of Education Psychology*, (83)4, 484–490.
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3. Nestojko, J., Bui, D., Kornell, N. & Bjork, E. (2014). Expecting to teach enhances learning and organisation of knowledge in free recall of text passages. *Memory and Cognition*, 42(7), 1038–1048.
4. Smith, A. M., Floerke, V. A., & Thomas, A. K. (2016) Retrieval practice protects memory against acute stress. *Science*, 354(6315), 1046–1048.
5. Perham, N., & Currie, H. (2014). Does listening to preferred music improve comprehension performance? *Applied Cognitive Psychology*, 28(2), 279–284.
6. Cepeda, N. J., Vul, E., Rohrer, D., Wixted, J. T. & Pashler, H. (2008). Spacing effects in learning a temporal ridgeline of optimal retention. *Psychological Science*, 19(11), 1095–1102.
7. Busch, B. & Watson, E. (2019), *The Science of Learning*, 1st ed. Routledge.

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MARK ALLOCATIONS

Green mark allocations^[1] on answers to in-text questions throughout this guide help to indicate where marks are gained within the answers. A bracketed '1' e.g. ^[1] = one valid point worthy of a mark.

In longer answer questions, a mark is given based on the whole response. In these answers, a tick mark [✓] indicates that a valid point has been made. For a mark, a judgement should be made using the levels-based mark scheme on **page 123**.

There are often many more points to make than there are marks available so you have more opportunity to max out your answers than you may think.

TOPICS FOR PAPER 1

Fitness and body systems (1PE0/01)

Information about Component 1

Mandatory written exam: 1 hour 30 minutes

80 marks

36% of the qualification grade

Externally assessed.

All questions are mandatory.

Use black ink. You can use an HB pencil, but only for graphs and diagrams.

Calculators are permitted in this examination.

Specification coverage

Topic 1: Applied anatomy and physiology

Topic 2: Movement analysis

Topic 3: Physical training

Topic 4: Use of data (Page 108)

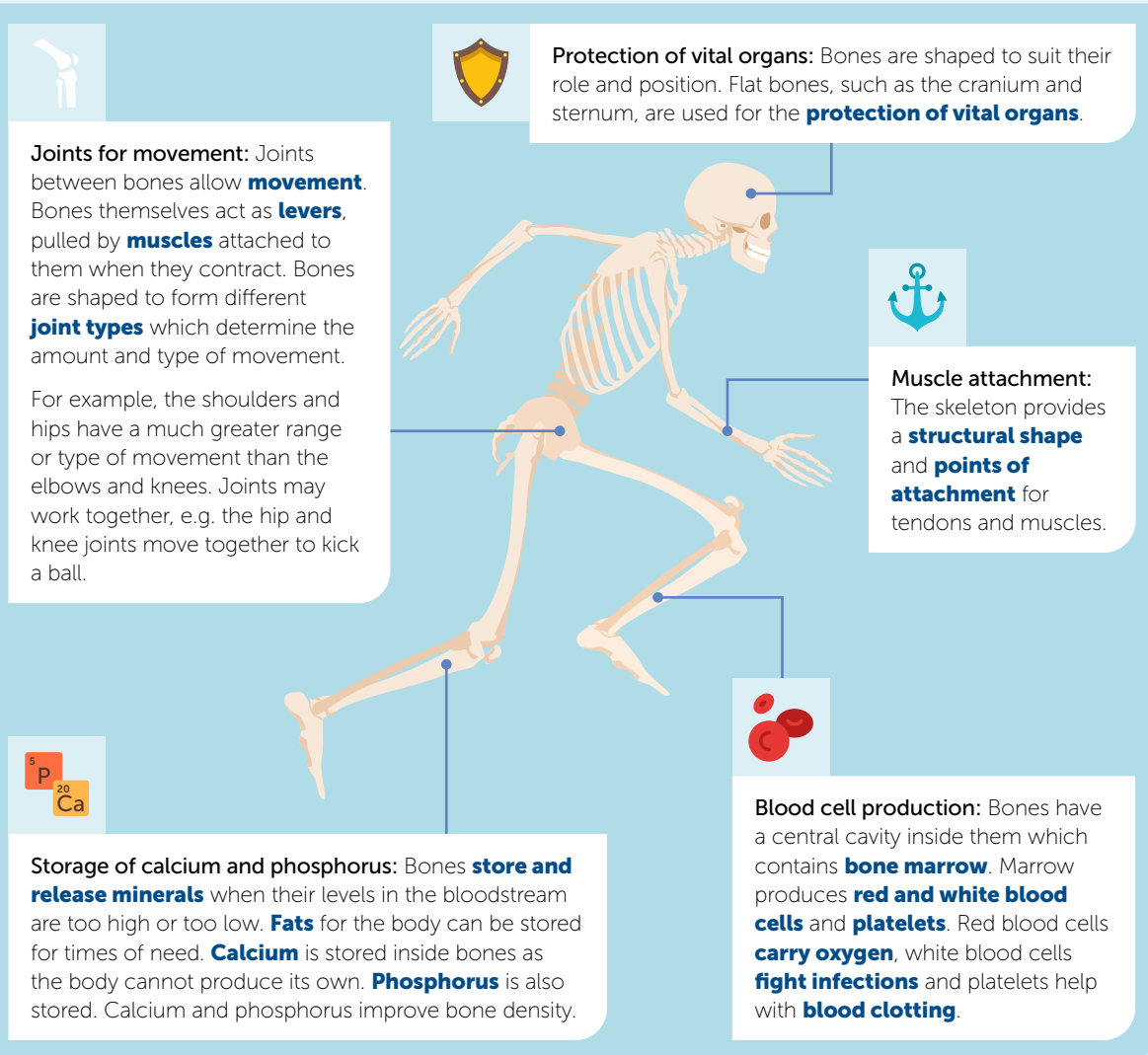
Questions

The assessment consists of multiple-choice, short-answer, long-answer and one extended writing question.

The use of data is embedded throughout the paper where appropriate.

THE FUNCTIONS OF THE SKELETON

The skeletal system provides a framework for movement. The muscular system attaches to the skeleton. When muscles contract, they pull the bones.



Joints for movement: Joints between bones allow **movement**. Bones themselves act as **levers**, pulled by **muscles** attached to them when they contract. Bones are shaped to form different **joint types** which determine the amount and type of movement.

For example, the shoulders and hips have a much greater range or type of movement than the elbows and knees. Joints may work together, e.g. the hip and knee joints move together to kick a ball.

Protection of vital organs: Bones are shaped to suit their role and position. Flat bones, such as the cranium and sternum, are used for the **protection of vital organs**.

Muscle attachment: The skeleton provides a **structural shape** and **points of attachment** for tendons and muscles.

Blood cell production: Bones have a central cavity inside them which contains **bone marrow**. Marrow produces **red and white blood cells** and **platelets**. Red blood cells **carry oxygen**, white blood cells **fight infections** and platelets help with **blood clotting**.

Storage of calcium and phosphorus: Bones **store and release minerals** when their levels in the bloodstream are too high or too low. **Fats** for the body can be stored for times of need. **Calcium** is stored inside bones as the body cannot produce its own. **Phosphorus** is also stored. Calcium and phosphorus improve bone density.

Maya plays rugby union.

- (a) State **one** way in which Maya's skeleton protects her vital organs during a game. [1]
- (b) Explain, with the use of a related sporting example, how Maya's bones allow movement. [2]

- (a) Her ribs will protect her heart and lungs in a scrum or tackle.^[1] Her skull helps to protect her brain in a tackle.^[1] Her sternum will protect her chest in a tackle.^[1]
- (b) The femur acts as a lever^[1] to generate speed when running to gain ground.^[1] Muscles attached to bones pull the ulna/radius/femur to impart a force / range of motion on the ball when kicking / passing.^[1] This allows Maya to pass more quickly / take longer penalties to benefit gameplay.^[1]

ANTAGONISTIC PAIRS OF MUSCLES

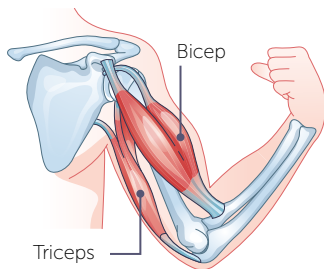
The major muscles of the body work in **antagonistic** pairs. As one muscle (the **agonist**) contracts to pull a bone, the opposite muscle (the **antagonist**) relaxes, to allow the bone to be pulled. This allows movements to take place and sporting actions to be executed.

Antagonistic muscle pairs

The major muscles and muscle groups working together at each major joint:

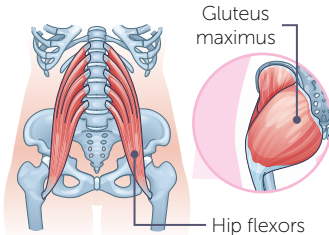
Elbow

Biceps and **triceps**.
Flexion and extension.



Hip

Hip flexors and **gluteus maximus**.
Flexion and extension.



Knee

Hamstrings and **quadriceps**.
Flexion and extension.

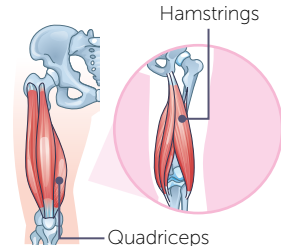


Figure 1



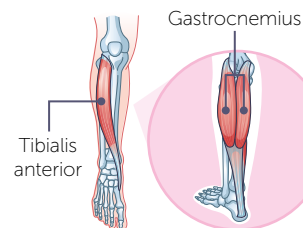
Figure 1 shows a basketball player taking a free throw.

- Name the agonist muscle and the antagonist muscle acting at the elbow when performing the throw. [2]
- Name the agonist muscle and the antagonist muscle acting at the knee when performing the jump. [2]

(a) Agonist: *triceps*.^[1] Antagonist: *biceps*.^[1]
(b) Agonist: *Quadriceps*.^[1] Antagonist: *hamstrings*.^[1]

Ankle

Tibialis anterior and **gastrocnemius**.
Plantar flexion and dorsiflexion.



Agonists are the first muscle to start a movement (the **prime movers**).

While the agonist (think pain and agony) contracts, the antagonist relaxes. The bicep may be the agonist in a pull-up, but the antagonist in a press-up.

CHARACTERISTICS OF FAST AND SLOW TWITCH MUSCLE FIBRE TYPES

Voluntary muscles are made of elastic fibres which behave in different ways according to their make up and oxygen supply.

Slow twitch fibres (Type I)

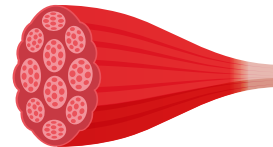
Slow twitch fibres have a strong oxygen-rich blood supply making them redder in colour. These **Type I** fibres support aerobic activities such as long-distance running and endurance sports. They provide slower, less powerful contractions but they are much more resistant to fatigue than fast twitch fibres.

Fast twitch fibres (Types IIa and IIx)

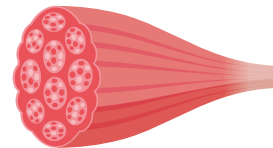
Fast twitch fibres work well anaerobically (without oxygen). **Type IIx** muscles have the most powerful contractions which provide the largest amount of force for short bursts before they tire.

Type IIa fibres are a hybrid of Type I and Type IIx with aerobic and anaerobic characteristics. They are useful for sustained high intensity activity. Performers with more fast twitch fibres than slow twitch fibres tend to be best suited to sprinting and high energy sports.

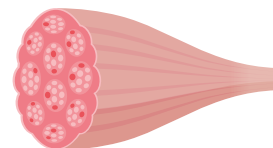
Type I fibres



Type IIa fibres



Type IIx fibres



People are born with a set percentage of slow and fast twitch fibres which make them naturally suited to some activities more than others.

The image below shows a long jumper in mid-flight.

Explain which muscle fibre type is most likely to have been used in the legs when jumping from the take off board. [3]



Fast twitch type IIx^[1] as this provides the greatest power for an explosive push off the board / supports a high intensity action.^[1] The fibre contracts more quickly than other types of muscle fibre.^[1]

STRUCTURE OF THE CARDIOVASCULAR SYSTEM

The **heart** is an organ that pumps blood around the body using a **double circulatory** system.

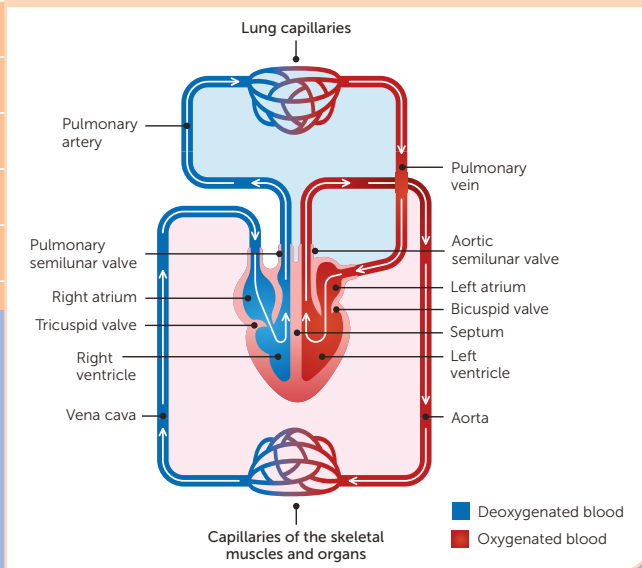
The heart

The heart has walls made of cardiac muscle with **four chambers** and four valves inside. The left and right sections are separated by the **septum** to ensure that oxygenated and deoxygenated blood do not mix.

The **right ventricle** pumps deoxygenated blood around the pulmonary loop to the lungs, where gas exchange takes place. (See **page 20**.) The **left ventricle** pumps blood around the rest of the body in the systemic loop. The **atria** collect blood as it returns to the heart and pump it into the ventricles. The atria contract just before the ventricles contract.

Oxygen-rich blood is carried away from the heart through **arteries**. Blood that has given up its oxygen to body cells is carried back to the heart through **veins** – it is deoxygenated. The blood shown as red has been oxygenated in the lungs. **Valves** between the atria and ventricles, and as the blood exits the heart, open and close with pressure, to prevent blood flowing backwards.

Double circulatory system of the heart



Complete the figure to show the pathway of the blood around the heart. [5]

Starting at the right ventricle, reorder statements 2–6 to show the pathway of the blood:

1. Deoxygenated blood fills the right atrium

1

↓

2. Then into the left ventricle through the bicuspid valve

↓

3. Gas exchange occurs (blood is oxygenated)

↓

4. It then flows into the right ventricle

↓

5. Pulmonary vein transports oxygenated blood into the left atrium

↓

6. The pulmonary artery then transports deoxygenated blood to the lungs

↓

7. Oxygenated blood is ejected and transported to the body via the aorta.

7

One mark for each statement in the correct order: 1, 4, ^[1]6, ^[1]3, ^[1]5, ^[1]2, ^[1]7.



EXAMINATION PRACTICE

1. **Figure 1** shows a rugby player about to make a conversion.



Figure 1

Which **one** of the following lever systems is acting at the knee to kick the ball? [1]

- A – First class lever
 B – Second class lever
 C – Third class lever
 D – Both A and B

2. Which **one** of the following lever systems would result in mechanical advantage? [1]

- A – A longer load arm than effort arm
 B – The effort closer to the fulcrum than the load
 C – The fulcrum centred in between the load and the effort
 D – The load in between the effort and the fulcrum

3. **Figure 2** shows a diagram of a diver performing a piked somersault.

(a) State the plane and axis of movement used in the somersault. [2]



Figure 2

(b) Identify the class of lever acting at the ankle on take-off. [1]

(c) Draw a fully labelled diagram to show the class of lever identified in part (b). [2]

(d) Explain why a class three lever has no mechanical advantage. [2]

THE COMPONENTS OF FITNESS

Each of the components of fitness can be linked to various sports. They can help to plan, carry out, monitor and evaluate exercise and training programmes to suit individual needs.

Agility – The ability to move and change direction quickly (at speed) whilst maintaining control.



Rugby players need agility to side step around opposing defence players to avoid a tackle and gain territory.

Cardiovascular fitness / aerobic endurance – The ability of the heart and lungs to supply oxygen to the working muscles.



Marathon and endurance runners need to be able to maintain a high volume of oxygenated blood to the working muscles for a long period.

Muscular endurance – The ability of a muscle or muscle group to undergo repeated contractions, without fatigue.

Triathletes require muscular endurance for running, swimming and cycling to reduce fatigue in muscles repeatedly contracting.



Balance – The maintenance of the centre of mass over the base of support. Balance may be static (still) or dynamic (whilst moving).

Windsurfers and horse riders need excellent balance to continually adjust their centre of mass to stay on top of their boards or horses as they move.



Coordination – The ability to use two or more body parts together smoothly and efficiently.



Ball and racket sports require excellent hand, eye and body coordination in order to strike the ball cleanly on a consistent basis.

Flexibility – The range of movements possible at a joint.



Gymnasts, divers, martial artists and figure skaters require excellent flexibility to increase their range of movement and to reduce injury.

Reaction time – The time taken to initiate a response to a stimulus.



Sprint racers need to react to a starting gun quickly. **Boxers** need to avoid punches.

FITNESS CLASSES

A variety of fitness classes are available to improve specific components of fitness, physical activity and sport.

Body pump



Body pump is a group fitness class involving high repetition actions such as squats, curls and lunges with the use of low weights to add resistance.

Core fitness components:

Cardiovascular fitness, body composition, muscular endurance and strength.

Pilates



Pilates focuses on building strength and stability through repetitive resistance exercises. It commonly involves the use of mats, resistance bands and other specialist equipment.

Core fitness components:

Muscular endurance, flexibility and core strength.

Yoga



Yoga is a physical, mental and spiritual practice using floor mats upon which participants hold different postures and perform breathing exercises. This can have a positive impact on health and well-being as well as fitness.

Core fitness components:

Muscular endurance, flexibility, balance and core strength.

Aerobics



Aerobics involves exercising to music, combining a variety of movements and actions.

Core fitness components:

Cardiovascular fitness and flexibility.

Spinning



Spinning classes use exercise bikes, commonly with music and a group instructor to motivate participants.

Core fitness components:

Cardiovascular fitness, muscular endurance, body composition.



PERFORMANCE-ENHANCING DRUGS (PEDs)

Performance-enhancing drugs (PEDs) are substances that are designed to improve performance. They are often prohibited (banned) and when taken, break the contract to compete.

Remember that drugs can be addictive (as a negative side-effect).

Anabolic steroids

Sprinting, weightlifting, boxing

- + Increases rate and amount of muscle growth
- + Increases power and strength
- + Allows you to train harder for longer
- + Speeds up recovery so more training can be done
- + Increases aggression and competitiveness.

- Causes a hormonal imbalance
- Raises blood pressure
- Damages the liver, kidneys and heart.

Stimulants

Power sports, combat sports

- + Increases alertness
- + Reduces tiredness
- + Increases aggression
- + Speeds up parts of the body, for example a 100m sprinter will react and move more quickly out of the blocks.

- Causes high blood pressure
- Increases chance of strokes, heart and liver problems
- Increases the likelihood of performing with an injury.

Beta-blockers

Archery, diving, shooting

- + Reduces anxiety
- + Reduces muscle tremors and shaking, improving precision
- + Reduces heart rate.

- Slows the heart rate reducing oxygen to the brain and muscles
- Fatigue and drowsiness.

Narcotic analgesics

Martial arts, general sports

- + Masks pain or injury to continue performing.

- Lowers blood pressure
- Lowers concentration, leading to coma
- Causes constipation
- Creates a temptation to compete whilst injured.

Blood doping

Marathon running, distance cycling, triathlon

- + Increases red blood cell count
- + Increases oxygen delivery to the muscles
- + Can work aerobically for longer.

Diuretics

Boxing, horse riding, martial arts

- + Causes rapid weight loss
- + Dilutes the presence of illegal substances
- + Removes excessive fluid.

- Causes dehydration
- Lowers blood pressure
- Causes muscle cramps.

Peptide hormones (Erythropoietin – EPO) (Growth hormones – GH)

Distance athletes

- + Increases red blood cells
- + Increases oxygen delivery to the muscles
- + Can work aerobically for longer
- + Increases muscle growth.

- Increases the viscosity (thickening) of the blood
- Increases stress on the heart
- Increases the risk of stroke.

- Thickens the blood
- Potential infection
- Danger of an embolism (blockage of a blood vessel)
- Potential for heart attack

1. Give **one** visible effect of taking anabolic agents. [1]

1. *Positive effect: increased muscle mass.^[1] Negative effect (caused by a hormonal imbalance): shrinking testicles / deeper female voice / increased female body hair / smaller breasts.^[1]*



You are required to know the name, positive effects and negative side-effects of each type of PED.

You do not need to learn examples of each PED type.

The process of blood doping

Blood doping involves the use of techniques or substances to increase a performer's red blood cell (RBC) count.

- 1** Blood is removed from an athlete several weeks before competition.



- 2** The blood is frozen.



- 3** The body makes more red blood cells to replace the ones that have been removed.



- 4** 1–2 days before competition, the frozen blood is thawed and injected back into the performer, thus increasing their red blood cell count.



- 5** The performer now has more red blood cells which increases their oxygen carrying capacity and aerobic performance.



Note

Caution! Blood doping comes with many negative side effects: thickening of the blood (viscosity), potential infection, potential for heart attack, and an embolism (blockage of a blood vessel).

2. Suggest which component of fitness is improved by using the prohibited method of blood doping.

Justify your answer with a sporting example.

[4]

2. *Cardiovascular endurance.^[1] Example: long-distance athletes.^[1] Justification: Any two from: to increase red blood cell count^[1] so their oxygen carrying capacity in the blood is increased.^[1] Improves the efficiency of the aerobic system.^[1] Maintains performance without suffering from fatigue / excess lactic acid.^[1]*



TOPICS FOR PAPER 2

Health and Performance (1PE0/02)

Information about Component 2

Mandatory written exam: 1 hour 15 minutes

60 marks

24% of the qualification grade

Externally assessed.

All questions are mandatory.

Use black ink. You can use an HB pencil, but only for graphs and diagrams.

Calculators are permitted in this examination.

Specification coverage

Topic 1: Health, fitness and well-being

Topic 2: Sport psychology

Topic 3: Socio-cultural influences

Topic 4: Use of data

Questions

The assessment consists of multiple-choice, short-answer, long-answer and one extended writing question.

The use of data is embedded throughout the paper where appropriate.

THE ROLE AND IMPORTANCE OF MACRONUTRIENTS

Macronutrients are the major food types that are consumed to maintain a healthy balanced diet.

Macronutrients



Carbohydrates

Carbohydrates are the main and preferred **energy** source for all types of exercise. They also provide energy when working at any level of intensity.



Protein

Protein is for the **growth and repair** of muscle tissue, developing muscular strength.



Fat

Fats are essential for the body, though some types are better than others. Fat provides more **energy** than carbohydrates but only at **low intensity**, for example walking or jogging.

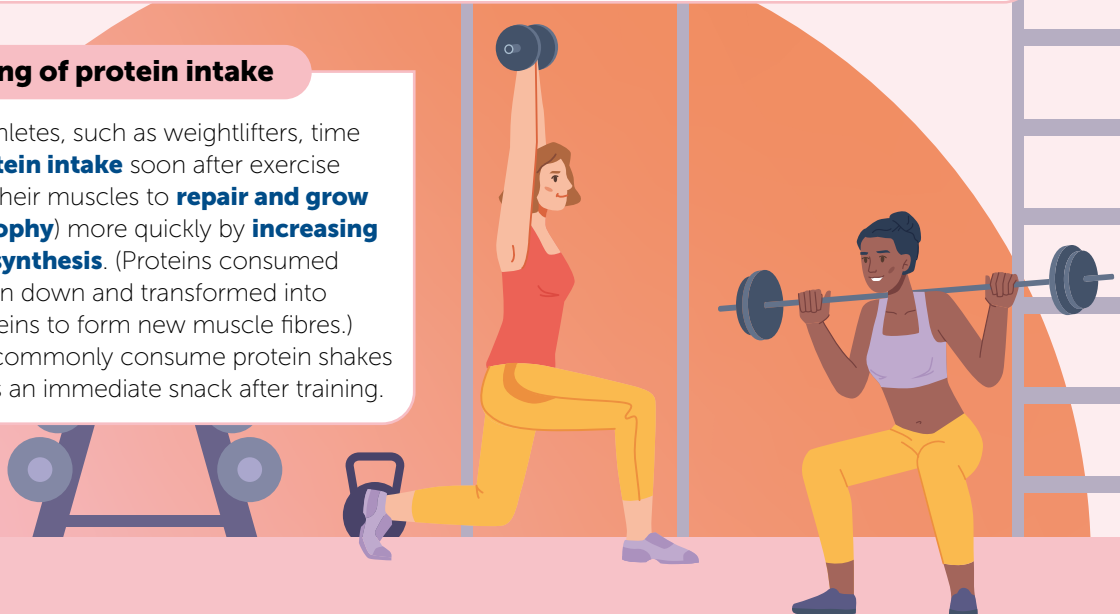
Fat provides **insulation** for the body, it protects vital organs with additional **cushioning** and supports **cell growth**.

Carbohydrate loading

Carbohydrate loading is a strategy used by distance or endurance athletes to increase energy stores before a major event. They commonly reduce their training levels and consume large amounts of carbohydrates before a race to preserve the existing glycogen stores in their muscles and boost additional reserves. This means that they can maintain their pace for longer, improving their overall performance.

Timing of protein intake

Power athletes, such as weightlifters, time their **protein intake** soon after exercise to allow their muscles to **repair and grow (hypertrophy)** more quickly by **increasing protein synthesis**. (Proteins consumed are broken down and transformed into new proteins to form new muscle fibres.) Athletes commonly consume protein shakes or bars as an immediate snack after training.



TYPES OF GUIDANCE

Coaches need to identify the most appropriate methods to provide guidance to beginners or elite level performers to aid the learning of a skill.

Types of guidance



Visual (seeing)

Visual guidance involves the use of demonstrations that allow the performer to 'see' the skill. This includes watching an instructor, video, images or diagrams.

- + Quick and concise which is good for beginners to create a mental picture that they can copy
- + Slow motion replays can be used for detailed analysis of complex skills
- Complex skills can be difficult to demonstrate clearly
- Performers need to be paying close attention.



Verbal (hearing)

Coaches or instructors will provide explanations of how to do things, or audible cues on when to move or hold a position.

- + Can be provided whilst a sporting action is being performed
- + Easily combined with other forms of guidance
- Less suitable for beginners if technical language is used
- Complex skills are difficult to explain in words.

ENGAGEMENT PATTERNS OF DIFFERENT SOCIAL GROUPS IN PHYSICAL ACTIVITY

Different factors affect the levels of participation and engagement of different social groups in exercise and activity based on their **personal factors**.

Social grouping by Age

Examples of factors affecting participation:

Cost

Younger people may not have the money to afford to take part in certain activities. Older people may have increased financial commitments and living costs that lower their disposable income available for activity.

Education

Time for schoolwork may come before time for evening sports clubs. Some schools offer greater sporting provision than others. People may simply not know what is available to them.

Discrimination

Not all clubs and memberships are available to all **ages** – some may not allow children.

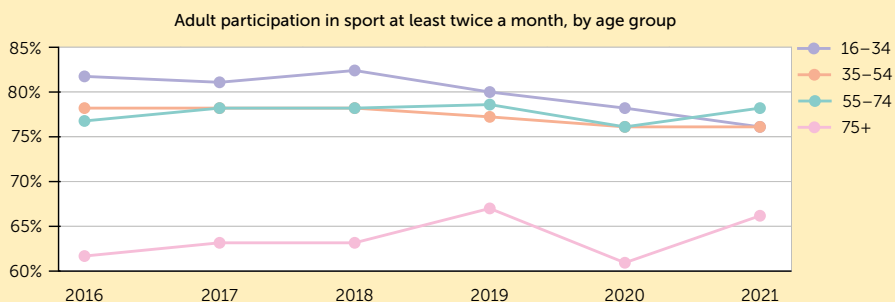


Media coverage

An increase in media coverage of older sports performers may motivate older people to take part. Most active sports people disappear from the media when they retire which is usually only in their 30s.

1. The adult participation in sporting activities for different age groups is shown in **Figure 1**. Give **two** reasons why the over 75s have significantly lower levels of participation. [2]

Figure 1



1. Answers may include: illness / obesity / poor health,^[1] poor mobility,^[1] friends or social group do not participate,^[1] lack of older role models,^[1] self conscious / feel too old,^[1] fear of injury,^[1] lack of elderly sports groups / provision,^[1] discrimination against the elderly.^[1]

EXAMINATION PRACTICE

For questions 1 and 2, use the information in Figure 1 to decide if A, B, C or D is correct.

Figure 1 shows an approximate popularity of different sports and activities.

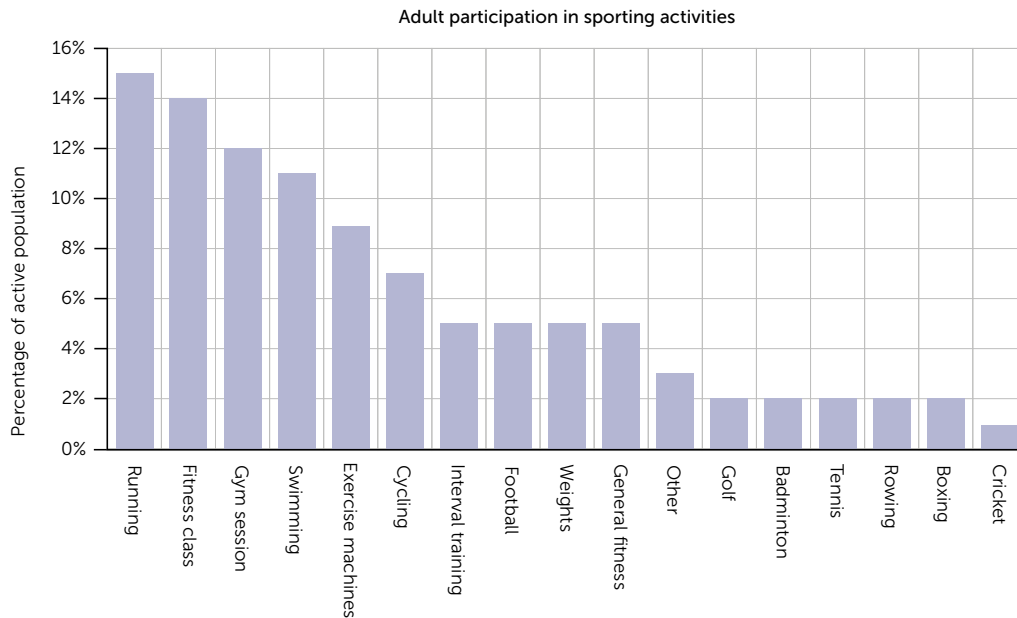


Figure 1

- Identify the sport with the greatest participation rate. [1]
 A – Cricket
 B – Cycling
 C – Football
 D – Running
- Which **one** of the following sports or activities has the same participation rate as golf? [1]
 A – Badminton
 B – Fitness classes
 C – Football
 D – Interval training
- Participation in sport by those with a disability is around 20% lower than that of able-bodied adults. Evaluate the impact of **three** different factors in encouraging an increase in participation for disabled performers. [9]

THE USE OF DATA

Specification coverage

The use of data analysis skills are spread across the components and topics.

Requirements

Demonstrate an understanding of how data is collected – both qualitative and quantitative

Present data, including graphs and tables.

Analyse and evaluate data, including graphs and tables.

UNDERSTANDING HOW DATA IS COLLECTED

The collection of data is crucial to analysis and the formation of conclusions. How data is collected often depends on the type of data that is required.

Quantitative data

Quantitative data is objective information which can be defined without opinion. It deals with numbers for example a score, distance, time or level. For this reason, it is more easily statistically analysed. Methods for collecting quantitative data commonly include **questionnaires** and **surveys**.

In a survey of 100 members of a local sports club, a questionnaire asked for the number of hours of exercise that respondents undertook each week. It also asked for their resting heart rate. Question 1 was segmented by hour to allow for easier analysis.

1. In the average week, how many hours of vigorous exercise do you complete?

0	1	2	3	4	5	6	7	8	9+
---	---	---	---	---	---	---	---	---	----

2. After a period of 20 mins after exercise, what is your resting heart rate in BPM?

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Qualitative data

Qualitative data involves subjective information and deals with descriptions. This includes opinions and emotions.

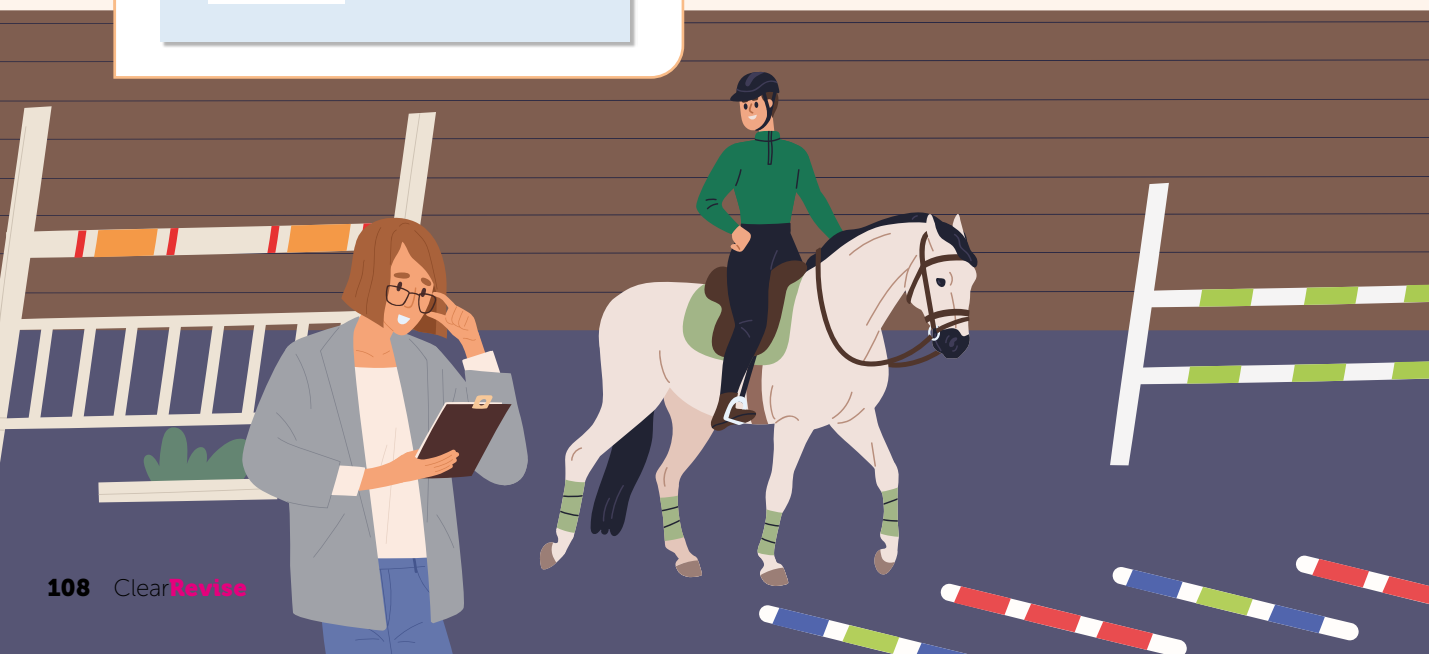
Interviews and **observations** allow for more detailed and descriptive responses.

Whilst conducting the same survey, interviews with some members collected the following response to exercise patterns:

"I love running on cold mornings, but I tend not to bother if it is raining."

Observations can be used to judge human behaviour over time to find patterns. The manager of the sports club observed that sports club members tended to change their use over time.

"A lot of people have high levels of exercise in January but that quickly tails off until the summer when longer evenings bring more people outside."



NON-EXAM ASSESSMENT (NEA)

Practical performance and PEP

Information about the non-examined assessment:

Assessed by teachers

125 marks

40% of the qualification grade

Component 3: Practical performance – 30% of the total GCSE: 105 marks

The three activities that you choose must come from the lists below and should include:

- A team activity,
- An individual activity, **and**
- Any other activity of your choice

Team sports:

Acrobatic gymnastics, association football, badminton, basketball, camogie, cricket, dance, figure skating, futsal, Gaelic football, handball, hockey, hurling, ice hockey, inline roller hockey, lacrosse, netball, rowing, rugby league, rugby union, sailing, sculling, squash, table tennis, tennis, volleyball, water polo.

Specialist sports: blind cricket, goalball, powerchair football, table cricket, wheelchair basketball, wheelchair rugby.

Individual sports:

Amateur boxing, athletics, badminton, canoeing / kayaking (slalom or sprint), cycling, dance, diving, equestrian, figure skating, golf, gymnastics, rock climbing, sailing, sculling, skiing, snowboarding, squash, swimming, table tennis, tennis, trampoline, windsurfing.

Specialist sports: Boccia, polybat.

Component 4: Personal Exercise Programme (PEP) – 10% of the total GCSE: 20 marks

PRACTICAL PERFORMANCE

Your non-examined assessment requires you to take part in **three** different activities. For each activity, you should evidence specific skills and your performance in conditioned practices and in the full context of the sport.

Skills in isolation

Each of the activities have a list of **skills** and **techniques in isolation**.

In most activities you will need to complete 4 of the 5 listed skills although in some activities like cricket, you are required to complete all the listed skills for your position.

You are assessed in your ability to perform each skill with accuracy, control and fluency. Assessment incorporates the preparation to perform, the exertion of and the recovery process for each skill.

Look at the relevant page in the practical performance assessment criteria booklet for more detail relevant to your chosen activity.

Performance in conditioned practices and in the full context

You are expected to demonstrate application of the skills, techniques and decision making required whilst under pressure in conditioned situations and in the full formal version of the sport.

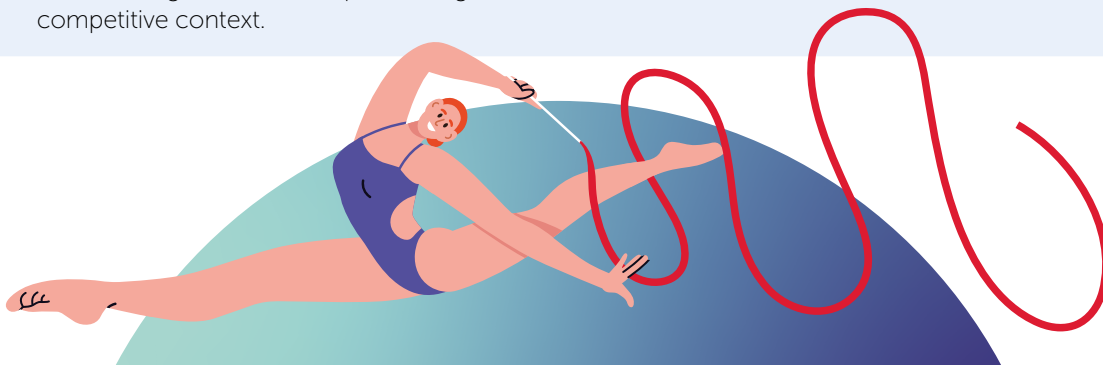
Be aware that:

- In team games, you would normally be seen in the full sided version but for moderation it can be in a slightly lower number in each team (as per NGB guidelines).
- You should demonstrate a range of skills.
- Your physical attributes e.g., components of fitness will form part of the assessment.
- You must demonstrate suitable decision making and problem solving in the competitive context.
- You should select and apply suitable tactics with the aim of outwitting others.
- You should have appropriate knowledge of the rules and regulations when performing in the competitive context.



Note

Moderation can occur live if your centre has 15 or more candidates. Live moderation will be filmed by the teachers in the centre. If external video evidence is being used (for example if your centre has 14 or fewer candidates) this evidence should fully meet the criteria and be uploaded onto Edexcel's digital platform.



EXAMINATION PRACTICE ANSWERS

Paper 1, Topic 1

1. A – Femur. [1]
2. D – The movement of the arm away from the midline of the body. [1]
3. B – Cervical. [1]
4. C – Increased heart rate. [1]
5. A – Left atrium → left ventricle → right atrium → right ventricle. [1]
6. (a) Blood clotting / healing a wound. [1]
(b) Oxygen. [1]
7. Support [1], protection of vital organs by flat bones [1], movement [1], to provide a structural shape [1], provide points for muscular attachment [1], for mineral storage [1] and blood cell production. [1] [3]
8. Ligaments are less elastic than tendons. [1] Ligaments connect bone to bone / tendons connect bone to muscle. [1] Ligaments provide support and stability to a joint whereas tendons are designed to move the bone at a joint. [1] [2]
9. Tricep. [1]
10. Weight bearing / strong. [1] Spread the load / impact across the rest of the foot of a jump on take-off or landing / or strike as they run. [1] [2]
11. (a) [2]

Joint	Classification of joint	Range of movement possible
Neck (A)	Pivot [1]	Rotation [1]
Wrist (B)	Condyloid [1]	Flexion to extension [1] / Abduction and adduction [1]

- (b) Protection of the brain [1] in a header. [1] [2]
- (c) Voluntary muscles require conscious thought and effort [1] which enables the player to adjust their throwing action appropriately [1] to suit the context. [1] [2]
- (d) Type IIx fibres are used for short, powerful bursts of movement. [1] Type IIx fibres provide the most powerful contractions to throw the ball with force / or to jump to gain height. [1] Type IIx fibres are essential to be able to make a powerful throw / throw over a greater distance to a team player that has less chance of being defended. [1] [3]
12. (a) Muscles are attached to bones by tendons. [1] When muscles contract, they pull on the tendon, which moves the bone. [1] Muscles work in antagonistic pairs. [1] As one contracts, the other relaxes. [1] Bones create lever systems which can be moved. [1] [3]
- (b) Tidal volume shows the change in lung volume during a normal breath, in or out. [1]
- (c) It increases. [1]
- (d) Adrenaline may have caused it to increase. [1] A quick warm up on the side lines may have caused it to increase. [1]
- (e) Intercostal muscles. [1] Sternocleidomastoid muscle. [1] [1]
- (f) Alveoli provide a large surface area for gas exchange to take place. [1] Walls are only one cell thick so gas molecules have a short distance to travel. [1] Oxygen moves from a higher concentration in the alveoli to the blood in the capillaries. [1] Carbon dioxide moves from the capillaries into the alveoli and into the lungs to be exhaled. [1] [3]
- (g) Can play basketball for longer / move around the court more without getting tired. [1] Can play at a higher intensity for longer without getting tired. [1] [1]
- (h) Carbohydrates. Allow glucose/glycogen. [1]

LEVELS-BASED MARK SCHEME FOR EXTENDED RESPONSE QUESTIONS

What are extended response questions?

Extended response questions are worth 6 or 9 marks. These questions are likely to have command words such as 'compare', 'discuss', 'explain' or 'evaluate'. You need to write in continuous **prose** when you answer one of these questions. This means you must write in full sentences (rather than in bullet points), organised into paragraphs if necessary.

You may need to bring together skills, knowledge and understanding from two or more areas of the specification. To gain full marks, your answer needs to be logically organised, with ideas linked to give a sustained line of reasoning.

Example level descriptors

Level descriptors vary, depending on the question being asked. Level 3 is the highest level and Level 1 is the lowest level. No marks are awarded for an answer with no relevant content. The table gives examples of the typical features that examiners are asked to look for in 6 and 9 mark questions.

Level	6 Marks	9 Marks	Descriptors for a method
3	5-6	7-9	<ul style="list-style-type: none"> • Response contains detailed and accurate knowledge and understanding. Comments are relevant to the context of the question. • Accurate use of technical language and specialist vocabulary. • Responses are always clear, showing correct application of knowledge to the context of the question. Several relevant points, views, or opinions may be presented. • Effective analysis, discussion and development of relevant points, drawing on other relevant areas of the specification. • Comparisons and contrasts may be discussed with a conclusion. • A clear and well-developed line of reasoning has been demonstrated.
2	3-4	4-6	<ul style="list-style-type: none"> • Response contains mostly accurate knowledge and understanding relating to the question. • Technical language used with some accuracy. • Some responses correctly apply knowledge and reasoning to the context of the question. • Some relevant information referenced in the development of a response but there will be limited analysis of any relevant factors related to the question. • More than one relevant response will have been included supported by a line of reasoning with some structure and an attempt at a conclusion.
1	1-2	1-3	<ul style="list-style-type: none"> • Basic or isolated knowledge and understanding. • Limited use of or relevance of technical terms. • Responses rarely apply any knowledge to the context of the question. • Little or no reference to other information or attempt to develop a point. • Responses are unstructured and supported by limited evidence.
0	0	0	No answer given or nothing worthy of credit.

NOTES, DOODLES AND EXAM DATES

A large rectangular area with a light green border, containing 20 horizontal dotted lines for writing notes.

Doodles

A large rectangular area with a light green border, intended for drawing doodles.

Key dates

Paper 1:

.....

Paper 2:

.....



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EXAMINATION TIPS

When you practice examination questions, work out your approximate grade using the following table. This table has been produced using a rounded average of past examination series for this GCSE. Be aware that boundaries vary by a few percentage points either side of those shown.

Grade	9	8	7	6	5	4	3	2	1	0
Boundary	77%	73%	68%	61%	55%	48%	37%	26%	14%	0%

1. Read each question carefully. This includes any information such as tables, diagrams and graphs.
2. Remember to cross out any work that you do not want to be marked.
3. Answer the question that is there, rather than the one you think is there. In particular, make sure that your answer matches the command word in the question. For example, you need to recall something accurately in a **describe** question but not say why it happens. However, you do need to say why something happens in an **explain** question.
4. Use connective words in your answers, for example, 'because', 'such as', or 'so that' as these force you to give an explanation for your answer, commonly gaining an additional mark in questions worth two or more marks.
5. Ensure that your responses have the appropriate amount of depth based on the number of marks provided and avoid repeating the same point in a variety of ways.
6. Ensure any sporting examples are relevant to the context of the question.
7. In longer answer questions involving levels of response, be sure to include AO1 (knowledge and understanding), AO2 (application of knowledge) and AO3 (analysis and / or evaluation). Give detailed reasons and focus on the impact in AO3. These questions also commonly include knowledge from both sections of the theory specification.
8. Both the examination papers will include multiple-choice questions (MCQs). Make sure you neatly tick the answer you want to be marked. If you change your mind, put a cross in the box (from corner to corner). If you change your mind back again, put a circle neatly around the box.
9. Show all the relevant working out in calculations. If you go wrong somewhere, you may still be awarded some marks if the working out is there. It is also much easier to check your answers if you can see your working out. Remember to give units when asked to do so.
10. Plot the points on graphs accurately and use a ruler. Ensure that you are drawing the type of graph asked for in the questions. Do not confuse bar charts with line graphs. Label all lever diagrams, graphs and charts fully.
11. Write legibly! Candidates often lose marks where examiners are unable to read their handwriting.
12. Write your answers on the lines provided. The lines are usually a good indicator of the length of the expected answer. If you need more space, use additional paper to complete this, clearly numbering the response with the question number. Make it clear that you have used extra paper in the answer space provided.

Good luck!

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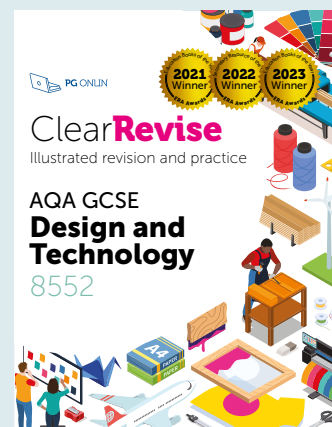
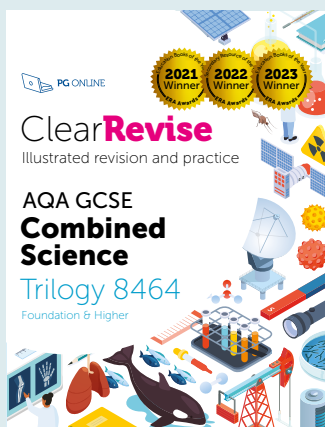
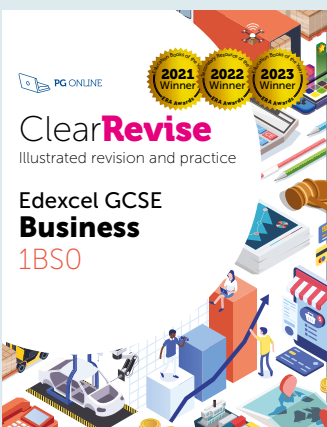
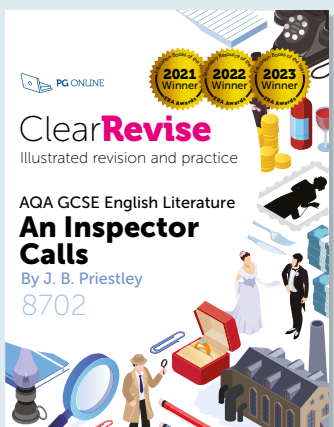
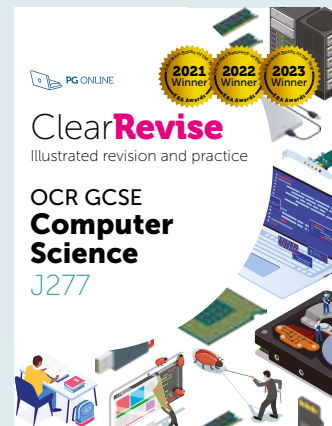
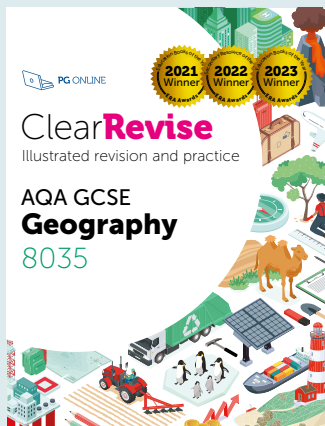
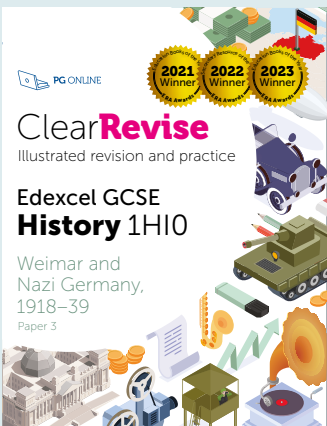
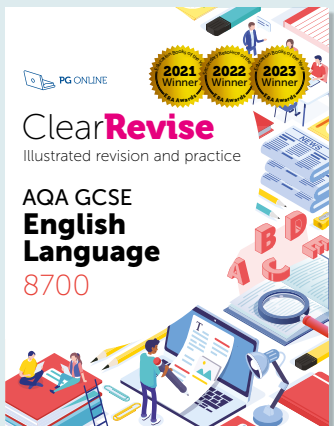
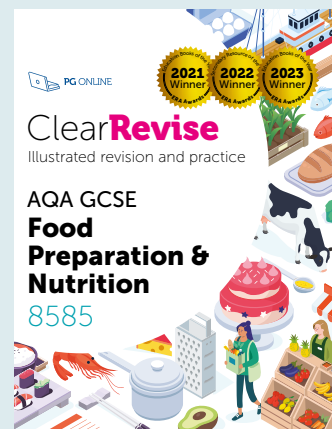
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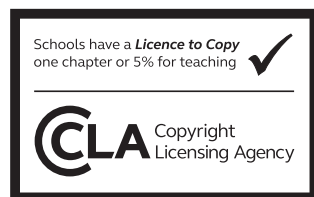
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