GCSE PE

RE-CALL QUESTION REVISION BOOKLET

Paper 1 exam – TBC

Paper 2 exam – TBC

The Weald community school and sixth form

Contents

Paper 1- The Human Body and Movement in Physical Activity and Sport

Applied Anatomy and Physiology

	Question	Answer	Mastered
1	Identify two hinge joints on the body.	Elbow and knee	
2	Identify four functions of the skeletal system	Red Blood Cell production, movement, protection, shape, support, mineral storage	
3	Identify two ball and socket joints on the body.	Hip and shoulder	
4	Which bones meet at the neck and head?	Vertebrae, cranium	
5	Which bones make up the shoulder joint?	Humerus, scapula	
6	Which bones make up the knee joint?	Femur, tibia	
7	Which bones make up the elbow joint?	Radius, ulna, Humerus	
8	Which bones make up the ankle joint?	Talus, tibia, fibula	
9	Define what is meant by abduction.	Movement of a body part away from the body	
10	Define what is meant by adduction.	Movement of a body part towards the body	
11	Define what is meant by flexion.	Decrease in the angle at a joint	
12	Define what is meant by extension.	Increase in the angle at a joint	
13	Define what is meant by rotation.	Turning a limb along its long axis	
14	Define what is meant by circumduction.	This is where the limb moves in a circle (rotation + another joint action)	
15	Give the function of a tendon	Attaches a muscle to a bone	
16	Give the function of a ligament	Attaches bone to bone	
17	Give the function of the synovial fluid	Produced by synovial membrane to lubricate the joint	
18	Give the function of cartilage	Covers the ends of bones providing smooth, friction free surface	
19	Which mineral is needed for bone formation?	Calcium	
20	Which movements are performed at hinge joints?	Flexion and extension	
21	Which movements are performed at ball and socket joints?	Flexion, extension, abduction, adduction, rotation, circumduction	
22	What is a joint?	A place where two or more bones meet	
23	Which movements can occur at the shoulder joint?	Flexion, extension, abduction, adduction, rotation, circumduction	
24	Which movements can occur at the knee and elbow joints?	Flexion and extension	
25	Which movements can occur at the hip joint?	Flexion, extension, abduction, adduction, rotation	
26	Which bones make up the hip joint?	Pelvis, femur	
27	Which bones make up the chest?	Ribs, sternum	
28	Name four muscles in the legs?	Hamstrings, quadriceps, gastrocnemius,	
29	Which muscle extends the knee?	Quadriceps	
30	Which muscle flexes at the knee?	Hamstrings	
31	When throwing a ball, which muscle is the agonist at the elbow?	Triceps	
32	When throwing a ball, which muscle is the antagonist at the elbow?	Biceps	
33	Identify the order of the pathway of air.	Nose/mouth, trachea, bronchi, bronchioles, alveoli	
34	Where does gas exchange take place?	Alveoli	
35	Which structure in the lungs is one cell thick?	Alveoli	
36	Describe gaseous exchange	Oxygen passes through alveoli into red blood cells in capillaries, oxygen combines with haemoglobin, enzyme breaks down carbon dioxide which passes through alveoli and is breathed out.	

37	Which features assist with gaseous exchange?	Large surface area of alveoli, thin walls, large blood supply, short diffusion pathway, oxygen combines with haemoglobin, gas moves from high to low concentration	
38	Name three blood vessels involved in the transport of blood?	Veins, arteries, capillaries	
39	Identify three characteristics of veins	Carry deoxygenated blood back to the heart, thinner and less elastic walls, have valves to prevent backflow of blood	
40	Identify three characteristics of arteries	Have thick walls, carry oxygenated blood at high pressure away from heart, have no valves, have more elastic walls, arterioles	
41	Identify three characteristics of capillaries	Small, allow carbon dioxide, water and waste products to pass through, have thin walls	
42	Define vasodilation	Widening of the diameter of a blood vessel to increase blood flow	
43	Define vasoconstriction	Narrowing of the diameter of a blood vessel to decrease blood flow	
44	Define systolic blood pressure	When the heart is contracting	
45	Define diastolic blood pressure	When the heart is relaxing	
46	Define hypertension	High blood pressure in the arteries	
47	Describe the cardiac cycle	The process of the heart going through the stages of systole and diastole in the atria and ventricles	
48	Identify the formula for Cardiac Output (Q)	Cardiac Output (Q) = stroke volume x heart rate	
49	What is meant by cardiac output?	The amount of blood pumped from the heart in one minute	
50	What is meant by stroke volume?	Amount of blood pumped out of the heart by each ventricle during one contraction	
51	Define heart rate	The number of times the heart beats (measured in BPM)	
52	Define tidal volume	The volume of air inspired or expired in each breath	
53	Describe the difference between aerobic exercise and anaerobic exercise.	Aerobic is with oxygen, anaerobic is without	
54	Describe aerobic exercise	Occurs during the presence of oxygen, occurs when exercising for long periods of time e.g. marathon runner, swimming, cycling, 800m	
55	Describe anaerobic exercise	Occurs when no oxygen is available, used only for short periods of time, short intense bursts of activity e.g. 100m, 200m sprinting	
56	What is lactic acid?	Mild poison that builds up in muscles due to anaerobic exercise and can cause pain, fatigue and cramp	
57	Identify three immediate effects of exercise (during exercise)	Increased heart rate, sweaty, increase in breathing	
58	Identify three short term effects of exercise (24-36 hours after exercise)	Tired, fatigue, nausea, headaches, aching, DOMS, cramp	
59	What does DOMS stand for?	Delayed Onset of Muscle Soreness	
60	Identify three long term effects of exercise (months and years of exercise)	Change in body shape, build strength, improve muscular endurance, increase size of heart, lower resting heart rate, improved flexibility, improved stamina	

Aerobic exercise takes place in the presence of oxygen. When exercise is over a long period of time, not too fast and is steady, the heart can supply all the oxygen the working muscles need.

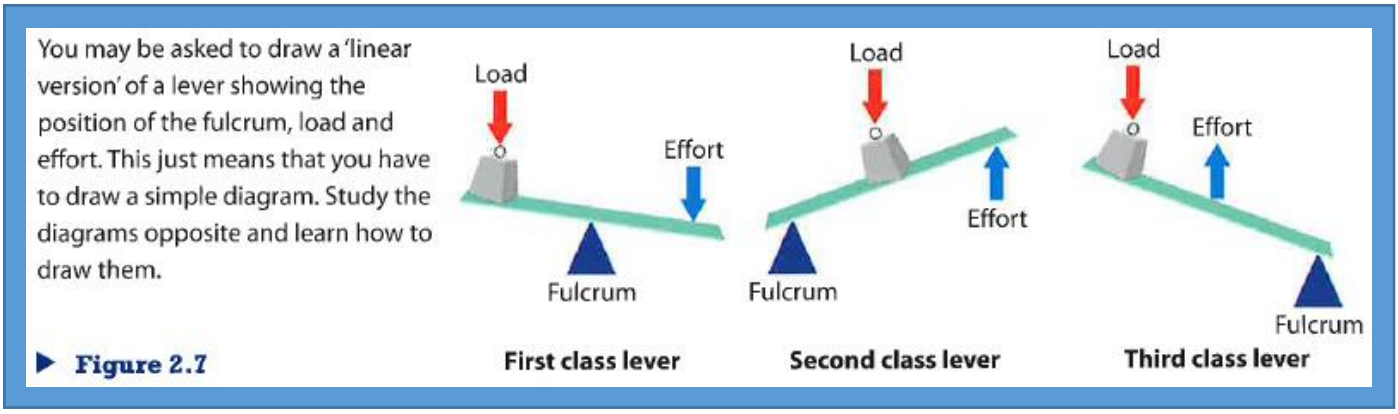
Glucose + oxygen -> energy + carbon dioxide + water

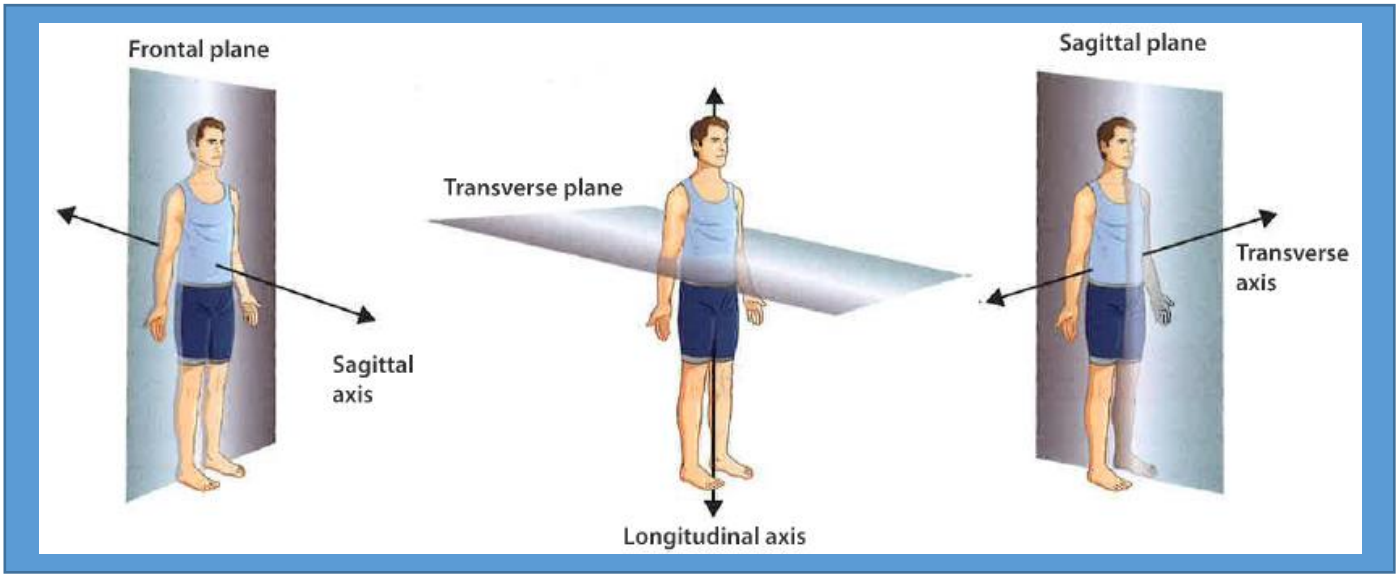
Anaerobic exercise take place in the absence of enough oxygen. When exercise is short in duration and at high intensity, the heart and lungs cannot supply enough blood and, therefore, oxygen to the working muscles. Glucose is converted into energy without the presence of oxygen:

Glucose -> energy + lactic acid

Movement Analysis

61	Describe a first class lever system	Fulcrum lies between the effort and the resistance e.g. elbow joint	
62	Describe a second class lever system	The fulcrum lies at one end with the effort at the other end and the resistance in the middle e.g. the ankle joint - set shot	
63	Describe a third class lever system	The fulcrum lies at one end and the resistance is at the other end with the effort located between the fulcrum and the resistance e.g. elbow joint	
64	Describe what is meant by mechanical advantage	The efficiency of a working lever, calculated by effort/weight (resistance) arm	
65	Identify the three parts of a lever system	Load (resistance), fulcrum, effort	
66	Identify three planes of the body	frontal, transverse, sagittal	
67	Identify three axes of the body	sagittal, transverse, longitudinal	
68	Describe sagittal axis	Through the belly button	
69	Describe transverse axis	Through the hips	
70	Describe longitudinal axis	Head to toe	
71	Describe sagittal plane	Forwards and backwards	
72	Describe frontal plane	Left or right	
73	Describe transverse plane	Rotation along the longitudinal axis	





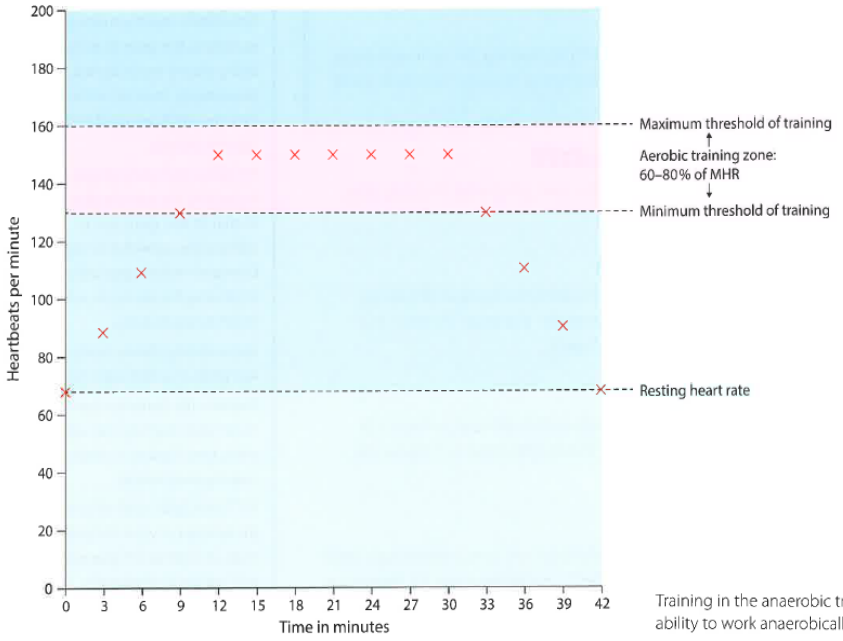
Physical Training

74	Define health.	A state of complete physical, mental and social well-being and not merely the absence of disease	
75	Define fitness.	The ability to meet the demands of the environment	
76	Define agility	The ability to move and change direction quickly whilst maintaining control	
77	Define coordination	The ability to use different parts of the body together	
78	Define balance	the maintenance of the centre of mass over the base of support	
79	Define speed	the maximum rate at which an individual is able to perform a movement in a period of time	
80	Define muscular endurance	the ability of muscles to undergo repeated contractions without tiring	
81	Define cardiovascular endurance	the ability of the heart and lungs to supply oxygen to the working muscles	
82	Define strength	the ability to overcome a resistance	
83	Define power/explosive strength	the product of strength x speed	
84	Define flexibility	the range of movement at a joint	
85	Define reaction time	the time taken to initiate a response to a stimulus to starting a response	
86	Name the test for agility	Illinois agility test	
87	Name the test for coordination	Wall toss test	
88	Name the test for power	Vertical jump test	
89	Name a test for strength	handgrip dynamometer test	
90	Name a test for balance	Stork balance test	
91	Name a test for speed	30 metre sprint test	
92	Name a test of muscular endurance	Sit up bleep test	
93	Name a test for cardiovascular endurance	Multi stage fitness test (MSFT)	
94	Name a test for reaction time	Ruler drop test	
95	Name a test for flexibility	Sit and reach test	
96	Give three reasons for fitness testing	motivate, monitor improvement, set goals, inform training, provide variety to training	
97	Give three limitations of fitness testing	not sport specific, may not replicate movements of activity, must be carried out with correct procedures	
98	Name a test for maximal strength	One rep max test	
99	Describe the test protocol for the Illinois agility test	Arrange cones in 10x5m rectangle with 4 cones in middle. Start face down on floor. Run around the cones as fast as possible. Time in seconds.	
100	Describe the test protocol for the wall toss test	Start 2m from the wall. Throw ball from left hand against wall to right hand. Repeat as many times as possible in 30 secs.	
101	Describe the test protocol for the vertical jump test	Feet flat, stand and push the wall ruler with the fingertips as high as possible to provide 0 score. Mark with chalk. From standing jump as high as possible and chalk the wall. Record the in cm.	

102	Describe the test protocol for the multi stage fitness test	Run over a distance of 20m. Progressively gets harder. Run in time with bleeps. Time gets shorter as level increases. Run until they cannot keep up with bleeps. Record level.	
103	Describe the test protocol for the one rep max test	Use a barbell or bench. Lift weight once with correct technique. Attempt a heavier weight until max heaviest weight the individual can lift is completed.	
104	Describe the test protocol for the hand grip dynamometer test	Hold in dominant hand. Arm 90 degrees with elbow against body. Squeeze with maximum effort and record score. Repeat three times.	
105	Describe the test protocol for the ruler drop test	Hold ruler at zero point vertically. Place thumb and index finger around ruler. React to the dropped ruler with their fingers. Record the score in cm	
106	Describe the test protocol for the stork balance test	Lift one leg to touch knee of other leg. Hands on hips. Raise heel. Balance for as long as possible until they lose balance. Record time in seconds.	
107	Describe the test protocol for the sit up bleep test	Lie on a mat in sit up position. Partner supports. Sits up on the bleep and down on the bleep in time. Beeps get faster. Progressive. Record score.	
108	Describe the test protocol for the 30 metre sprint test	Two cones 30m apart. Use flying start. Time how fast run in 30m. Record in seconds.	
109	Describe the test protocol for the sit and reach test	Sit with legs straight. Remove shoes with feet against board. Reach and push slider as far as possible. Keep legs straight.	
110	What does SPORT stand for? (Principles of Training)	Specificity, Progressive Overload, Reversibility, Tedium	
111	Define Specificity	Making training specific to the sport being played/movements/muscles used	
112	Define progressive overload	Gradual increase in the amount of overload so that fitness gains occur. Apply FITT principle.	
113	Define reversibility	Losing fitness levels when you stop exercising	
114	What does FITT stand for?	Frequency, Intensity, Time, Type	
115	What is meant by frequency?	How often you train	
116	What is meant by intensity?	How hard you train	
117	What is meant by time?	How long you spend training	
118	What is meant by type?	The type of training being used	
119	Describe circuit training	Training method consisting of a number of different exercises or activities arranged in a circuit	
120	Describe plyometrics	Training that includes hopping, jumping, bounding exercises designed to improve power.	
121	Describe continuous training	Taking part in sustained exercise at a constant rate without rest. Minimum of 20 mins.	
122	Describe fartlek training	Means 'speed play' Uses a variety of speed, terrain and work/rest ratios.	
123	Describe interval training (HIIT)	Also known as HIIT (high intensity interval training). Period of work followed by period of rest.	
124	Describe weight training	Method used to improve strength, power or speed. Includes sets and repetitions.	
125	How do you calculate somebody's maximum heart rate?	220-age	

126	How do you calculate the aerobic training zone?	60-80% of MHR	
127	How do you calculate the anaerobic training zone?	80-90% of MHR	
128	How do you prevent injury in sport?	Warm up, correct technique, appropriate clothing, hydration, taping/bracing	
129	What are the components of a warm up?	Gradual pulse raising activity, stretching, skill activity, mental preparation	
130	What should a cool down include?	Gradual reduction in intensity, maintain breathing and heart rate, stretching	
131	What are the benefits of warming up?	Psychological preparation, prevent injury, increased flexibility, body temperature	
132	What are the benefits of cooling down?	Body recovery, removal of lactic acid/CO2, prevent DOMS	

Training in the aerobic training zone allows the performer to develop their ability to work aerobically.



▲ **Figure 3.25** A graph to illustrate the changes in heart rate when a 20-year-old male performs continuous training in the aerobic training zone

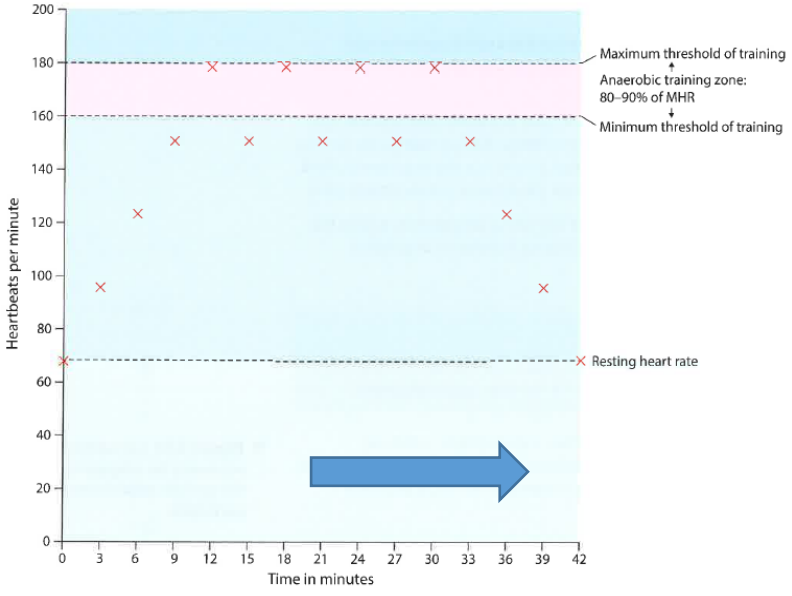
Aerobic training zone:

60-80% of MRH

Anaerobic training zone:

80-90% of MRH

Training in the anaerobic training zone allows the performer to develop their ability to work anaerobically.



▲ **Figure 3.26** A graph to illustrate the changes in heart rate when a 20-year-old male performs high intensity interval training. The work takes place in the anaerobic training zone and the active recovery takes place in the aerobic training zone

Paper 2 - Socio-cultural influences and well-being in physical activity & sport

Sports Psychology

133	Define Skill	Learned actions or learned behaviours with the intention of bringing about predetermined results	
134	Define Ability	Inherited, stable traits that determine an individual's potential to learn or acquire a skill	
135	Identify 3 characteristics of a skilful performance	Pre-determined, aesthetically pleasing, fluent, co-ordinated, efficiency	
136	Give an example of a simple skill from a team game.	Short passing, basic catching or ball control.	
137	Identify a characteristic of a complex skill	Involves lots of decision making, performed by more experienced performers	
138	Give an example of a complex skill	Pole vault, long jump, triple jump	
139	Identify a characteristic of an open skill	Skill performed in an unstable changing environment, externally paced, depends on opponents/others	
140	Give an example of an open skill	Tackling in rugby, dribbling in basketball, shooting in hockey	
141	Identify a characteristic of a closed skill	Stable environment, self-paced, skill performed same way each time as not affected by environment	
142	Give an example of a closed skill	Gymnastics routine, javelin throw, penalty in football	
143	What does SMART stand for?	Specific, measurable, accepted, realistic, time bound	
144	Describe what is meant by a specific goal.	Goal must be specific to the demands of the sport or the muscles/movement used	
145	Describe what is meant by a measurable goal.	It must be possible to measure whether the goals set have been met	
146	Describe what is meant by an accepted goal.	Goals that are accepted by the performer and others e.g. coach, parents, teacher	
147	Describe what is meant by a realistic goal.	the goals must actually be possible to complete or achieve	
148	Describe what is meant by a time bound goal.	A set period of time must be imposed e.g. by the end of the season	
149	Identify four types of guidance	Visual, verbal, manual, mechanical	
150	Explain verbal guidance	This involves using your sense of hearing and could involve listening to a coach give instructions.	
151	Explain visual guidance	This involves the performer being able to actually see something using sight which could be a demonstration, a video, you tube clip or photograph, chart, court markings.	
152	Explain mechanical guidance	This involves the use of objects or aids such as RoboGolfPro machine for golfers to practice the golf swing, floats in swim.	
153	Explain manual guidance	This is where the performer can be assisted in a physical movement e.g. supporting somebody do a gym vault.	
154	Give an example of manual guidance	Gymnastic vault	
155	Give an example of visual guidance	Looking at a demo of how to serve in badminton, looking at pictures, watching you tube videos	
156	Give an example of verbal guidance	Listening to a coach give instructions of how to move the arms in back crawl	
157	Give an example of mechanical guidance	Using a float in swimming, , RoboGolfPro machine	

158	Identify six types of feedback	Positive, negative, extrinsic, intrinsic, knowledge of results, knowledge of performance	
159	Describe extrinsic feedback	Received from outside of the performer e.g. coach	
160	Describe intrinsic feedback	Feedback received from within themselves e.g. how a shot at goal felt	
161	Describe knowledge of results	This is feedback the performer gets through the end result of a performance e.g. the score, how many runs made	
162	Describe knowledge of performance	This is how the performer feels about their actions from the performance that has just taken place	
163	Describe what is meant by positive feedback	Feedback about what was good and correct about a performance	
164	Describe what is meant by negative feedback	Feedback about what was bad or incorrect about a performance	
165	Explain positive self-talk	This involves you mentally reflecting and reframing your thoughts replacing negative thoughts with positive ones	
166	Explain visualisation/imagery	Changing the way you think in order to change the way you behave. Recalling a positive outcome.	

Classifications of skill

Skills can be classified in a number of different ways, depending on the characteristics they share. Classifying skills can be helpful when thinking about how particular skills should be taught so that performers can achieve the best results. The classifications you need to be aware of are:

- Basic — Complex
- Open — Closed
- Self paced — Externally paced
- Gross movement — Fine movement

S pecific: The target must be specific to the demands of the sport, muscles used or movements used.

M easurable: It must be possible to measure whether the specific target set has been met.

A ccepted: The target must be accepted by the performer and others involved in training and competition, such as the performer's coach.

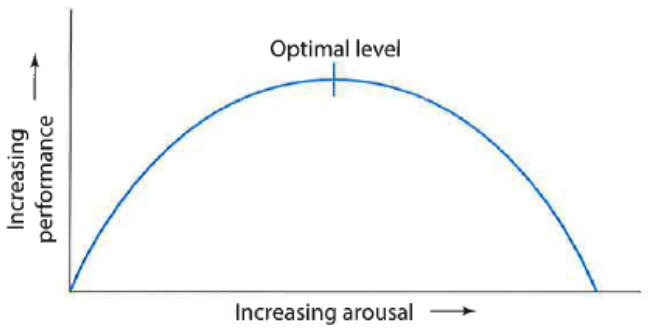
R ealistic: The target must actually be possible to complete and attain.

T ime-bound: The target covers a set period of time so that the performer knows whether or not they have achieved it.

The 'inverted-U' theory

Arousal is a physical (or 'physiological') and mental (or 'psychological') state of alertness or readiness. At any one moment in time, a person is on a continuum, from very aroused – feeling alert, excited and ready for anything – at one end, to being in a state of very low arousal – in a very deep sleep – at the other end.

The 'inverted-U' theory states that an optimal performance occurs when a performer reaches an optimal level of arousal. You are more likely to perform at your best when you are in the best possible physical and mental state.



▲ **Figure 4.15** A graph illustrating the 'inverted-U' theory

Paper 2 - Socio-cultural influences and well-being in physical activity & sport

Socio-cultural influences

167	Describe the engagement patterns of the social group: Gender	Women have more body fat up to 30% more, women have 2/3 of the strength of men, flexibility tends to be greater in women, boys overtake women in height, weight and strength	
168	Describe the engagement patterns of the social group: Age	Reaction time decreases as you get older, strength increases with age until 30s, young children cannot cope with difficult tasks, injury and disease are more common as you get older	
169	Describe the engagement patterns of the social group: Disability	Adapted activities, adapted equipment, disability classifications, provision	
170	Identify a range of factors that can affect engagement	Attitudes, role models, education, media coverage, familiarity, income, inclusiveness, religion, sexism, family commitments	
171	Describe the engagement patterns of the social group: Family/friends	Peers may encourage you or discourage you from participation, parents often pay for travel, memberships, costs, peer pressure	
172	Describe the engagement patterns of the social group: Race/religion/culture	Women's boxing, single se rules in sport, dress codes, head and hair codes e.g. Sikh faith, religious dietary guidelines	

Paper 2 - Socio-cultural influences and well-being in physical activity & sport

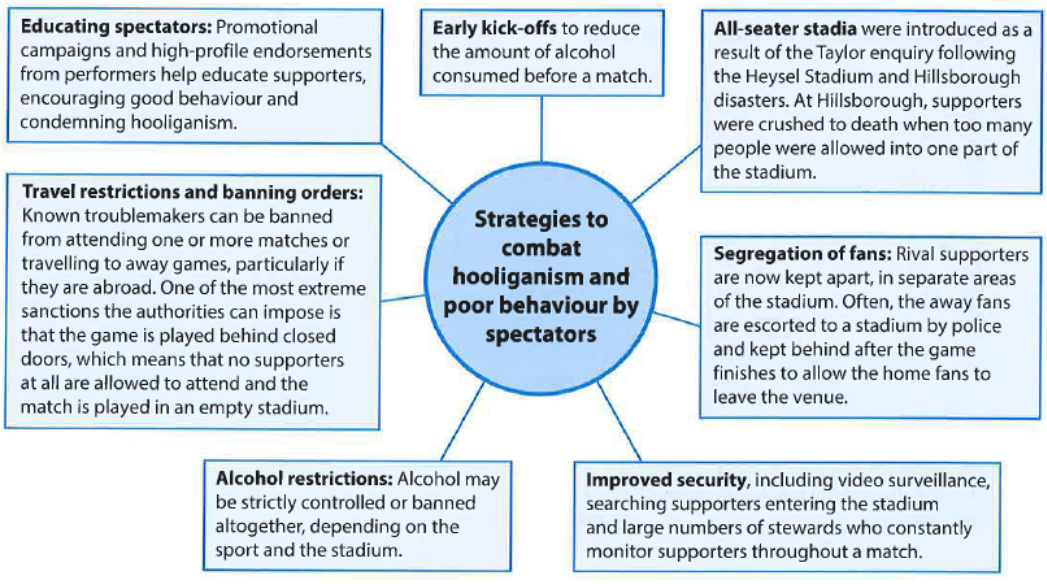
Commercialisation of physical activity and sport

173	What is the Golden triangle?	The financial relationship between sport, sponsorship and the media	
174	Define commercialisation	Managing or exploiting an organisation or activity in a way designed to make a profit	
175	What is meant by sponsorship?	Where a company pays money to a team or individual in return for advertising their goods	
176	Which sort of people can get sponsorship?	Individuals, teams, events, specific sport, competitions	
177	Identify different types of sponsorship	Financial, clothing, equipment, facilities	
178	What are the positive effects of sponsorship on the performer/sport?	Sponsorship deals, promotion, more prize money, improves profile and image of the sport	
179	What are the negative effects of sponsorship on the performer/sport?	Withdrawal of sponsorship, change of dates of events, clothing and equipment restrictions, inequality	
180	What are the positive effects of sponsorship for the sponsor?	Advertising, image, tax relief, research and development	
181	What is meant by the media?	The main ways that people communicate e.g. TV, radio, internet	
182	Identify different types of the media	Social media, television, radio, the press, internet	
183	What are the positive effects of the media on sport?	Promotes sport, raises popularity, increases participation, increased revenue, sponsorship, education	
184	What are the negative effects of the media on sport?	Media pressure, TV directors influence, popularity, undermines officials, intrusion	

Paper 2 - Socio-cultural influences and well-being in physical activity & sport

Ethical Issues

185	Define sportsmanship	Appropriate, polite and fair behaviour while participating in a sporting event	
186	Define gamesmanship	The use of dubious methods that are not strictly illegal to gain an advantage	
187	What is meant by contract to compete?	Agreeing to play by the rules, trying to win but also allowing your opponent to play	
188	What is the function of stimulants?	They affect the central nervous system. Increase alertness, reduce fatigue and can increase competitiveness	
189	Who would benefit from using stimulants?	Sprinters, speed swimmers	
190	What are the negative side effects of using stimulants?	Death, high blood pressure, anxiety, strokes, irregular heartbeat, addiction	
191	What is the function of anabolic steroids?	Increase muscle strength, help them train longer and harder	
192	Who would benefit from using anabolic steroids?	Weight lifters	
193	What are the negative side effects of using anabolic steroids?	Liver damage, heart disease, addiction, aggression, sexual problems, deeper voice, kidney damage	
194	What is the function of beta blockers?	Reduce heart rate, muscle tension, and blood pressure, reduces effects of adrenaline, improve preciseness	
195	Who would benefit from using beta blockers?	Snooker players, archery, shooting events, darts	
196	What are the negative side effects of using beta blockers?	Nausea, weakness, heart problems	
197	What are the advantages of taking PEDs?	Success, fame, wealth, level playing field	
198	What are the disadvantages of taking PEDs?	Cheating, immoral, health risks, fines, bans, damage to reputation, credibility	
199	What are the positive influences of spectators at matches?	Atmosphere, home field advantage	
200	What are the negative influences of spectators at matches?	Negative affect on performance due to pressure, hooliganism, crowd trouble, negative affect on participation numbers, safety costs	



Paper 2 - Socio-cultural influences and well-being in physical activity & sport

Health and Fitness

201	Identify 5 reasons for having good physical health and well being	Improves efficiency of body systems, reduces risk of illnesses, able to do everyday tasks, helps avoid obesity, improves heart function	
202	Identify 3 reasons for having good mental health and well being	Reduces stress/tension, able to control emotions, releases serotonin	
203	Identify four reasons for having good social health and well being	Cooperation, teamwork, socialise, make friends	
204	What is meant by a sedentary lifestyle?	An inactive lifestyle, lack of regular exercise	
205	What are the consequences of a sedentary lifestyle?	Weight gain/obesity, heart disease, diabetes, lethargy, poor sleep, poor self-esteem, hypertension	
206	Define obesity	Obesity is a term used to describe people who are overweight. A BMI of over 30 would be considered as being obese.	
207	Identify how obesity can affect performance	Limits flexibility, lack of stamina, limits agility, limits speed/power	
208	Identify how obesity can affect physical health	Heart disease, heart attacks, cancer, diabetes, high cholesterol	
209	Identify how obesity can affect mental health	Depression, loss of confidence, poor self esteem	
210	Identify how obesity can affect social health	Inability to socialise, inability to leave home	
211	What is energy measured in?	Calories (kcal)	
212	What is the average calories required by males in a day?	2500	
213	What is the average calories required by females in a day?	2000	
214	What factors can affect energy usage?	Age, gender, height, exercise levels	
215	What is meant by a balanced diet?	Eating the right amount of calories according to how much you are exercising and different food types to provide nutrients	
216	Why is it important to have a balanced diet?	Unused energy is stored as fat, body needs nutrients for energy, growth and hydration	
217	What percentage of a balanced diet should come from fat?	25-30%	
218	What percentage of a balanced diet should come from protein?	15-20%	
219	What percentage of a balanced diet should come from carbohydrates?	55-60%	
220	What is the function of carbohydrates?	Main energy source of the body. Stored as glycogen in the liver and muscles.	
221	What is meant by carbo loading?	Eating foods that are high in starch to increase carbohydrate reserves in the muscles	

222	What is meant by a high protein diet?	Eating foods that contain a lot of protein while reducing the intake of carbohydrates and fats.	
223	What is the function of protein?	Growth and repair of muscle tissue	
224	What is the function of fats?	A source of energy and help insulate the body	
225	What is the function of vitamins and minerals?	Essential to help the body with good health.	
226	Define dehydration	Excessive loss of body water	
227	How does dehydration affect the body	Blood thickens (blood viscosity) which slows blood flow, increases heart rate which has to work harder, increase in body temperature, overheat	
228	How does dehydration affect the performance	Fatigue, cramps, slower reactions, loss of concentration, poorer decisions