



# Malbank PE Department

## Quality of Education

### Handbook- AQA GCSE

#### PE



#### PE Curriculum Intent

Our intent is to develop the holistic child through a broad, diverse and challenging curriculum that empowers students to recognise their strengths and take responsibility for their own personal growth.

Through regular participation in physical activity pupils would be expected to develop character, confidence, resilience and physical literacy, enabling students to make informed choices for lifelong engagement in physical activity. Our curriculum is designed to ensure every child is very much at the centre of all that we do by providing opportunities for their holistic development. We very much see physical activity and school sport as the vehicle through which such skills should be nurtured.

# AQA GCSE PHYSICAL EDUCATION

# Key Stage 4 Examination Curriculum

Lesson	Paper 1 Topics	Head	Heart	Hand
<b>PHYSICAL TRAINING (FITNESS)</b>				
1a	Relationship between health & fitness	Definitions of health and fitness. <b>Decreased fitness because of ill health, ie poor health can result in an inability to train, lowers fitness. Increased fitness despite ill health, ie unhealthy but able to train, increases fitness.</b>	Inspire pupils' to show commitment to learning theory by making lessons as practical as possible.	Motivate pupils by combining theory content with practical lessons for all fitness tests.
1b-3	Components of fitness	Definitions of the following components of fitness: <ul style="list-style-type: none"> <li>• agility</li> <li>• balance</li> <li>• cardiovascular endurance (aerobic power)</li> <li>• coordination</li> <li>• flexibility</li> <li>• muscular endurance</li> <li>• power/explosive strength (anaerobic power)</li> <li>• reaction time</li> <li>• strength (maximal, static, dynamic and explosive)</li> <li>• speed.</li> </ul>	Motivate pupils to learn new terminology and concepts through a practical context.  Nurture an environment of mutual respect within the class through whole class and partner discussions on examples of relationship between health and fitness.	Reinforce knowledge by completing protocol worksheets immediately after test.
1b-3	Linking components of fitness to sport	Understand and justify why the components of fitness (as stated above) may or may not be needed when performing certain physical activities and sports.	Incorporate group tasks to build knowledge maps in mixed confidence groups.	
4	Fitness testing (reasons for) - how to collect data, quantitative & qualitative data	Reasons for fitness testing: <ul style="list-style-type: none"> <li>• to identify strengths and/or weaknesses in a performance/the success of a training programme</li> <li>• to monitor improvement</li> <li>• to show a starting level of fitness</li> <li>• to inform training requirements</li> <li>• to compare against norms of the group/ national averages</li> <li>• to motivate/set goals</li> <li>• to provide variety in a training programme.</li> </ul>	Empathy- how results of fitness tests can impact upon a player.	
5-7	Measuring components of fitness & data collection	Knowledge of the main procedures of the tests used to measure the following components of fitness: <ul style="list-style-type: none"> <li>• agility – Illinois Agility Test</li> <li>• balance – Stork Stand Test</li> <li>• cardiovascular endurance (aerobic power)</li> </ul>		

		Head	Heart	Hand
		<ul style="list-style-type: none"> <li>– Multi Stage Fitness Test</li> <li>• coordination – Wall Toss Test</li> <li>• flexibility – Sit and Reach Test</li> <li>• muscular endurance – Sit-Up Bleep Test</li> <li>• power/explosive strength (anaerobic power) – Vertical Jump Test</li> <li>• reaction time – Ruler Drop Test</li> <li>• maximal strength – One Rep Max Test</li> <li>• speed – 30 Metre Sprint Test</li> <li>• strength – Handgrip Dynamometer Test.</li> </ul> <p>Testing procedures refers to 'how each test is carried out' and includes reference to how the test is organised (when applicable) in relation to the following:</p> <ul style="list-style-type: none"> <li>• the facilities and the equipment needed to set it up</li> <li>• the procedures that have to be followed – the tasks and the rules</li> <li>• the measurements that are used to score the performance</li> <li>• the way conclusions are drawn from the scores/results.</li> </ul> <p>Evaluate whether or not these tests are relevant to performers in different sporting activities.</p>	<p>Ethically question through discussion why fitness tests are necessary.</p>	
8a	Analysing and evaluating data	<p>Understanding of how test scores are measured/recorded (eg in seconds, levels, centimetres, numbers). Definitions of the terms qualitative and quantitative, in relation to the collection of fitness testing data. Understanding that the quantitative data collected during fitness testing can be compared to national averages.</p>		
8b	Limitations of fitness testing & suitability of tests for different sports	<p>Limitations of fitness testing:</p> <ul style="list-style-type: none"> <li>• tests are often not sport specific/too general</li> <li>• they do not replicate movements of activity</li> <li>• they do not replicate competitive conditions required in sports</li> <li>• many do not use direct measuring/submaximal – therefore inaccurate/some</li> <li>• need motivation/some have questionable reliability</li> <li>• they must be carried out with the correct procedures to increase validity.</li> </ul>		

## PHYSICAL TRAINING (TRAINING)

9-10	Types/methods of training	<p>Understand the distinctions between different types of training.</p> <p>Circuit training – consider space available, equipment available, number of circuit stations, work:rest ratio, the content/demand of the circuit can be altered in order to improve different components of fitness.</p> <p>Continuous training – sustained exercise at a constant rate (steady state) without rests, involving aerobic demand for a minimum of 20 minutes, eg running, swimming, rowing, cycling.</p> <p>Fartlek training – varying speed, terrain and work:recovery ratios.</p> <p>Interval training/high intensity interval training – periods of exercising hard, interspersed with periods of rest or low intensity exercise.</p> <p>Static stretching – a way to stretch to increase flexibility, held (isometric) for up to 30 seconds, using correct technique, advisable to avoid over stretching.</p> <p>Weight training – choice of weight/exercise depends on fitness aim, eg strength/power training or muscular endurance, the importance of safe practice/lifting technique, the need for spotters.</p> <p>Plyometric training – use of plyometric exercises, eg bounding, depth jumping, to increase power. Basic physiological understanding (eccentric contraction followed by larger concentric contraction).</p> <p>Any training (and practice) method must take account of the following:</p> <ul style="list-style-type: none"> <li>• the training purpose(s), training thresholds/training targets/training zones (see calculating intensities below)</li> <li>• rest/recovery.</li> </ul>	<p>Nurture an environment of mutual respect within the class through whole class and partner discussions on examples of relationship between sports and training types used.</p> <p>Incorporate group tasks to build knowledge maps in mixed confidence groups.</p> <p>Ethically look into over training effects through class discussion and case studies.</p> <p>Case study analysis of high-altitude training and question its ethical effects?</p>	<p>Experience all the methods of training practically.</p> <p>Group work on designing training programmes and circuits used for specific sports. Eg; design an appropriate circuit that could be used by a football player.</p> <p>Pupils will calculate their own intensity heart rates and practically experience working to move between training zones.</p> <p>Application of the principles of training to sporting examples.</p>
11	Principles of training	<p>Key principles of training.</p> <p>SPORT to include:</p> <ul style="list-style-type: none"> <li>• specificity</li> <li>• progressive overload</li> <li>• reversibility</li> <li>• tedium.</li> </ul> <p>Key principles of overload.</p> <p>FITT to include:</p>		

		Head	Heart	Hand
		<ul style="list-style-type: none"> <li>• frequency</li> <li>• intensity</li> <li>• time</li> <li>• type.</li> </ul> <p>Students should be taught the terms and what they mean.</p>		
12	Application of POT to methods of training	How the principles of training can be applied to bring about improvements in fitness.		
13	Calculating intensities to optimise training	<p>Definition of training threshold.</p> <p>Calculate the aerobic/anaerobic training zone:</p> <ul style="list-style-type: none"> <li>• calculate maximum heart rate (220 minus age)</li> <li>• calculate aerobic training zone (60–80% of maximal heart rate)</li> <li>• calculate anaerobic training zone (80– 90% of maximal heart rate).</li> </ul> <p>For circuit training, altering the time/rest/content of the circuit will determine the fitness aim.</p> <p>How to calculate one repetition maximum (one rep max) as part of weight training and how to make use of one rep max, with reference to:</p> <ul style="list-style-type: none"> <li>• strength/power training (high weight/low reps – above 70% of one rep max, approximately three sets of 4–8 reps)</li> </ul> <p>muscular endurance (low weight/high reps – below 70% of one rep max, approximately three sets of 12–15 reps).</p>		
14	Preventing injury	<p>The training type/intensity should match the training purpose (eg aerobic or anaerobic).</p> <p>Where applicable, the following factors should be taken into account in order to prevent injury:</p> <ul style="list-style-type: none"> <li>• a warm up should be completed</li> <li>• over training should be avoided, eg appropriate weight</li> <li>• appropriate clothing and footwear should be worn</li> <li>• taping/bracing should be used as necessary</li> <li>• hydration should be maintained</li> <li>• stretches should not be overstretched or bounce</li> <li>• technique used should be correct, eg lifting technique</li> </ul> <p>appropriate rest in between sessions to allow for recovery.</p>		

		Head	Heart	Hand
15a	Specific training techniques – altitude training	<p>How high altitude training is carried out:</p> <ul style="list-style-type: none"> <li>• train at high altitude</li> <li>• there is less oxygen in the air and oxygen carrying capacity is reduced</li> <li>• the body compensates by making more red blood cells to carry oxygen.</li> </ul> <p>Students should be taught to evaluate the benefits and the limitations of altitude training for different sports performers. Students do not need to be taught how to calculate intensities for altitude training.</p>		
15b	Seasonal aspects – periodization	<p>Names of the three training seasons:</p> <ul style="list-style-type: none"> <li>• pre-season/preparation</li> <li>• competition/peak/playing season</li> <li>• post-season/transition.</li> </ul> <p>An understanding of what each of the seasons entails (aims):</p> <ul style="list-style-type: none"> <li>• pre-season/preparation – general/aerobic fitness, specific fitness needs</li> <li>• competition/peak/playing season – maintain fitness levels, work on specific skills</li> <li>• post-season/transition – rest and light aerobic training to maintain a level of general fitness.</li> </ul> <p>An understanding of the benefits of each season to the performer. Students should be taught to apply and justify the characteristics of the seasonal aspects to different sporting activities.</p>		
16	Warming up & cooling down	<p>The constituent parts of warming up and cooling down.</p> <p>Warming up should include:</p> <ul style="list-style-type: none"> <li>• gradual pulse-raising activity</li> <li>• stretching</li> <li>• skill based practices/familiarisation</li> <li>• mental preparation</li> <li>• increase amount of oxygen to the working muscles.</li> </ul> <p>Cooling down should include:</p> <ul style="list-style-type: none"> <li>• maintaining elevated breathing and heart rate, eg walk, jog</li> <li>• gradual reduction in intensity</li> <li>• stretching.</li> </ul>		

		Head	Heart	Hand
		<p>Students should be taught to understand and justify appropriate elements of a warm up and a cool down for different sporting activities.</p> <p>The benefits of warming up:</p> <ul style="list-style-type: none"> <li>• effect on body temperature</li> <li>• range of movement increased</li> <li>• gradual increase of effort to full pace</li> <li>• psychological preparation</li> <li>• practice of movement skills through the whole range of movement</li> <li>• injury prevention.</li> </ul> <p>The benefits of cooling down:</p> <ul style="list-style-type: none"> <li>• allowing the body to recover</li> <li>• the removal of lactic acid/CO<sub>2</sub>/waste products</li> <li>• prevent (delayed onset) muscle soreness/ DOMS.</li> </ul>		
<b>APPLIED ANATOMY AND PHYSIOLOGY (SKELETAL &amp; MUSCULAR SYSTEMS)</b>				
17a	Bones	<p>Identification of the bones at the following locations:</p> <ul style="list-style-type: none"> <li>• head/neck – cranium and vertebrae</li> <li>• shoulder – scapula and humerus</li> <li>• chest – ribs and sternum</li> <li>• elbow – humerus, radius and ulna</li> <li>• hip – pelvis and femur</li> <li>• knee – femur and tibia (students should also know that the patella sits in front of the knee joint)</li> </ul> <p>ankle – tibia, fibula and talus.</p>	<p>Maintain students commitment and effort to learning by making lessons as practical as possible and utilise as many as possible different learning styles.</p> <p>Group work to create a full body diagram labelling all joints, bones, muscles and annotate with bone types, functions, antagonistic muscles pairings and movements</p>	<p>In pairs work together to write as many bones as possible one per post it note. Then partner has to place post it note on partner in correct place. Put a time limit on it and compete against other pairs. Then swap over and repeat.</p>
17b	Structure of the skeleton	<p>How the skeletal system provides a framework for movement (in conjunction with the muscular system):</p> <ul style="list-style-type: none"> <li>• the skeletal system allows movement at a joint</li> <li>• the shape and type of the bones determine the amount of movement (short bones enable finer controlled movements/ long bones enable gross movement)</li> <li>• flat bones for protection of vital organs</li> <li>• the different joint types allow different types of movement</li> </ul> <p>the skeleton provides a point of attachment for muscles – when muscles contract they pull the bone.</p>		<p>Complete student work sheets and booklet on location of bones and muscles</p> <p>In pairs work together to write as many muscles as</p>



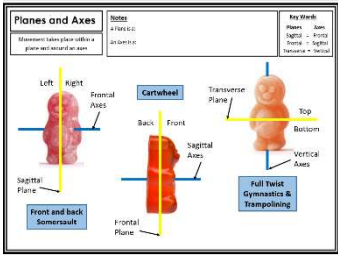
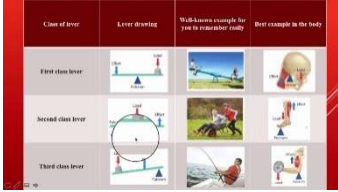
		Head	Heart	Hand
17c	Function of the Skeleton	<ul style="list-style-type: none"> <li>• support</li> <li>• protection of vital organs by flat bones</li> <li>• movement</li> <li>• structural shape and points for attachment</li> <li>• mineral storage</li> <li>• blood cell production.</li> </ul> <p>Functions should be applied to performance in physical activity.</p>	possible at each joint.	possible one per post it note. Then partner has to place post it note on partner in correct place. Put a time limit on it and compete against other pairs. Then swap over and repeat.
18a	Types of freely moveable joint & movements	<p>Identification of the types of joints with reference to the following:</p> <ul style="list-style-type: none"> <li>• elbow, knee and ankle – hinge joint</li> <li>• hip and shoulder – ball and socket.</li> </ul>		
18b	Structure of synovial joints	<p>Identification of the following structures of a synovial joint and how they help to prevent injury:</p> <ul style="list-style-type: none"> <li>• synovial membrane</li> <li>• synovial fluid</li> <li>• joint capsule</li> <li>• bursae</li> <li>• cartilage</li> <li>• ligaments.</li> </ul>		
19	Muscles	<p>Identification of the following muscles within the body:</p> <ul style="list-style-type: none"> <li>• latissimus dorsi</li> <li>• deltoid</li> <li>• rotator cuffs</li> <li>• pectorals</li> <li>• biceps</li> <li>• triceps</li> <li>• abdominals</li> <li>• hip flexors</li> <li>• gluteals</li> <li>• hamstring group (not individual names)</li> <li>• quadriceps group (not individual names)</li> <li>• gastrocnemius</li> <li>• tibialis anterior.</li> </ul> <p>Students should be taught the role of tendons (attaching muscle to bones).</p>		

		Head	Heart	Hand
20	How joints differ in design to allow certain types of movement at a joint	<p>Understand that the following types of movement are linked to the appropriate joint type, which enables that movement to take place:</p> <ul style="list-style-type: none"> <li>• flexion/extension at the shoulder, elbow, hip and knee</li> <li>• abduction/adduction at the shoulder</li> <li>• rotation of the shoulder</li> <li>• circumduction of the shoulder</li> <li>• plantar flexion/dorsiflexion at the ankle.</li> </ul> <p>Application to specific sporting actions is in <a href="#">movement analysis</a> (page 16).</p>		
21	How the major muscles and muscle groups of the body work antagonistically on the major joints of the skeleton to affect movement in physical activity at the major movable joints	<p>With reference to the shoulder, elbow, hip, knee and ankle joints:</p> <ul style="list-style-type: none"> <li>• major muscle groups operating at these joints (see above)</li> <li>• the action of prime movers (agonists)/ antagonists</li> <li>• bones located at the joint (see above)</li> <li>• how these muscle groups work isometrically and isotonically (concentric/ eccentric).</li> </ul> <p>The difference between concentric and eccentric (isotonic) contractions.</p>		
<b>MOVEMENT ANALYSIS</b>				
22-23	Analysis of basic movement	<p>Types of movement:</p> <ul style="list-style-type: none"> <li>• flexion/extension at the shoulder, elbow, hip and knee</li> <li>• abduction/adduction at the shoulder</li> <li>• rotation of the shoulder</li> <li>• circumduction of the shoulder</li> </ul>	Enable students opportunity the feel/ experience the key concepts of movement to	In pairs work together to complete the zigzag booklets on movement analysis during a practical lesson. Use

## Head

## Heart

## Hand

		<ul style="list-style-type: none"> <li>• plantar flexion/dorsiflexion at the ankle.</li> </ul> <p>This section links specific sporting actions to the types of movement. <a href="#">Applied anatomy and physiology</a> (page 9) links the joint type to the type of movement only. This should include but not be limited to the following sporting actions:</p> <ul style="list-style-type: none"> <li>• elbow action in push-ups/football throw in</li> <li>• hip, knee and ankle action in running, kicking, standing vertical jump, basic squats</li> </ul> <p>shoulder action during cricket bowling (overarm rotation).</p>	<p>deepen their understanding.</p> <p>Incorporate competitive pair challenges on movement types and lever types.</p>	<p><i>guided discovery to allow students to learn together and make all equipment needed available.</i></p> <p>Provide students opportunity to visually analyse planes and axes of movement through jelly body lesson.</p>
24	Axes & planes of movement	<p>Planes (frontal, transverse, sagittal) and axes (longitudinal, transverse, sagittal) should be related to sporting actions. Teaching of these planes/axes should include but not be limited to the following sporting actions:</p> <ul style="list-style-type: none"> <li>• front somersault/forward roll/running action</li> <li>• 360° twist (ice skating spin)/discus thrower rotating in circle effort</li> </ul> <p>cartwheel.</p>		
25	First, second and third class lever systems within sporting examples	<p>Identification of first, second and third class lever systems. Basic drawings of the three classes of lever to illustrate the positioning of:</p> <ul style="list-style-type: none"> <li>• fulcrum</li> <li>• load (resistance)</li> <li>• effort.</li> </ul> <p>Draw linear versions of a lever, showing the positioning of the fulcrum, load/resistance and effort. Students do not need to be taught to draw anatomical body parts but must be able to link the correct lever to a sporting movement or action. Interpretation of sporting movements or actions which involve flexion or extension of the elbow and/or knee, and plantar or dorsi-flexion at the ankle.</p>		
26	Mechanical advantage	<p>Label the effort arm and load/resistance arm on the three classes of lever.</p> <p>Mechanical advantage = effort arm ÷ weight (resistance) arm.</p> <p>Labelling of the effort arm and resistance arm on lever drawings, and interpretation of the mechanical advantage of that lever.</p>		

## CARDIORESPIRATORY SYSTEM

		Head	Heart	Hand
27	The pathway of air	<p><b>Identification of the pathway of air (limited to):</b></p> <ul style="list-style-type: none"> <li>• mouth/nose</li> <li>• trachea</li> <li>• bronchi</li> <li>• bronchioles</li> <li>• lungs</li> <li>• alveoli.</li> </ul>	<p>Empathise the significant degree of difficulty in learning anatomy without the opportunity to do practical hands on learning. Therefore, strive to make learning as visual as possible with the graphic details of human anatomy. Utilise computer graphics, YouTube and animations.</p>	<p>Utilise diagram and model making to engage learners and make content as visual as possible.</p>
28	Mechanics of breathing	<p><b>Inhaling (at rest) with reference to the roles of the:</b></p> <ul style="list-style-type: none"> <li>• intercostals</li> <li>• rib cage</li> <li>• diaphragm.</li> </ul> <p><b>Exhaling (at rest) with reference to the roles of the:</b></p> <ul style="list-style-type: none"> <li>• intercostals</li> <li>• rib cage</li> <li>• diaphragm.</li> </ul> <p>Lungs can expand more during exercise (inspiration) due to the use of pectorals and sternocleidomastoid. During exercise (expiration), the rib cage is pulled down quicker to force air out quicker due to use of the abdominal muscles.</p> <p>Changes in air pressure cause the inhalation and exhalation.</p>	<p>Contextualise learning of anatomy through sporting scenarios and link to effect upon performance where possible to allow pupils ability to relate to content. Eg if I train regularly my heart muscle can grow, become stronger and therefore is required to beat less to pump blood around the body to meet its demands and therefore my resting</p>	
29	Interpretation of a spirometer trace	<p><b>Identification of the following volumes on a spirometer trace and an understanding of how these may change from rest to exercise:</b></p> <ul style="list-style-type: none"> <li>• tidal volume</li> <li>• expiratory reserve volume • inspiratory reserve volume</li> <li>• residual volume.</li> </ul> <p>Interpretation and explanation of a spirometer trace (and continue a trace on paper) to reflect the difference in a trace between rest and the onset of exercise.</p>		
30	Gaseous exchange	<p><b>Gas exchange at the alveoli – features that assist in gaseous exchange:</b></p> <ul style="list-style-type: none"> <li>• large surface area of alveoli</li> <li>• moist thin walls (one cell thick)</li> <li>• short distance for diffusion (short diffusion pathway)</li> <li>• lots of capillaries</li> <li>• large blood supply</li> </ul>		

		Head	Heart	Hand
		<ul style="list-style-type: none"> <li>• movement of gas from high concentration to low concentration.</li> </ul> <p>Oxygen combines with haemoglobin in the red blood cells to form oxyhaemoglobin. Students should also know that haemoglobin can carry carbon dioxide.</p>	heart rate will be lower.	
31a	Structure of the heart	<p><b>Structure of the heart:</b></p> <ul style="list-style-type: none"> <li>• atria (left and right atria)</li> <li>• ventricles (left and right ventricles).</li> </ul>		
31b	The cardiac cycle	<p>The order of the cardiac cycle, including diastole (filling) and systole (ejection) of the chambers. This starts from a specified chamber of the heart, eg the cardiac cycle starting at the right ventricle.</p> <p>Valve names are not required but students should be taught that valves open due to pressure and close to prevent backflow.</p>		
31c	Pathway of blood	<p><b>Pathway of the blood:</b></p> <ul style="list-style-type: none"> <li>• deoxygenated blood into right atrium</li> <li>• then into the right ventricle</li> <li>• the pulmonary artery then transports deoxygenated blood to the lungs</li> <li>• gas exchange occurs (blood is oxygenated)</li> <li>• pulmonary vein transports oxygenated blood back to the left atrium</li> <li>• then into the left ventricle</li> <li>• before oxygenated blood is ejected and transported to the body via the aorta.</li> </ul>		
32	Cardiac output, stroke volume and heart rate	<p><b>Cardiac output, stroke volume and heart rate, and the relationship between them.</b></p> <p>Cardiac output (Q) = stroke volume x heart rate.</p> <p>Students should be taught how to interpret heart rate graphs, including an anticipatory rise, and changes in intensity.</p>		
33	Blood vessels & redistribution of blood	<p><b>Structure of arteries, capillaries and veins:</b></p> <ul style="list-style-type: none"> <li>• size/diameter</li> <li>• wall thickness</li> <li>• valves in veins.</li> </ul> <p><b>How the structure of each blood vessel relates to the function:</b></p> <ul style="list-style-type: none"> <li>• carrying oxygenated/deoxygenated blood to/from the heart</li> </ul>		

		Head	Heart	Hand
		<ul style="list-style-type: none"> <li>• gas exchange</li> <li>• blood pressure</li> <li>• redistribution of blood during exercise (vasoconstriction and vasodilation).</li> </ul> <p>Students should be taught the names of the arteries and the veins associated with blood entering and leaving the heart.</p>		
<b>AEROBIC AND ANAEROBIC EXERCISE</b>				
		Head	Heart	Hand
34a	Aerobic & anaerobic	<p><b>anaerobic exercise.</b></p> <p>Summary of aerobic exercise (glucose + oxygen → energy + carbon dioxide + water). Summary of anaerobic exercise (glucose → energy + lactic acid). Link practical examples of sporting situations to aerobic or anaerobic exercise.</p> <p>Identification of the duration and/or intensity of a physical activity in order to identify and justify why it would be aerobic or anaerobic, eg marathon (aerobic), sprint (anaerobic).</p>	<p>analysis of different sports and the exercise type.</p> <p>Empathise why athletes experience sacrifices in order to maximise their training through class discussions.</p>	<p>understand where energy comes from.</p> <p>Use youtube content to explore athlete's training programme and sacrifices.</p>
34b	EPOC / Oxygen debt	<p>Definition of the term EPOC (oxygen debt).</p> <p>An understanding that EPOC (oxygen debt) is caused by anaerobic exercise (producing lactic acid) and requires the performer to maintain increased breathing rate after exercise to repay the debt.</p>		
34c	Recovery & DOMS	<p>The following methods to recover from exercise, including the reasons for their use:</p> <ul style="list-style-type: none"> <li>• cool down – maintain elevated breathing rate/heart rate (blood flow), stretching, removal of lactic acid</li> <li>• manipulation of diet – rehydration, carbohydrates for energy</li> <li>• ice baths/massage – prevention of delayed onset muscle soreness (DOMS).</li> </ul> <p>Students should be taught to evaluate the use of these methods, justifying their relevance to different sporting activities.</p>		
35a	Immediate effects of	<ul style="list-style-type: none"> <li>• hot/sweaty/red skin</li> <li>• increase in depth and frequency of breathing</li> </ul>		

		Head	Heart	Hand
	exercise (during exercise)	<ul style="list-style-type: none"> <li>• increased heart rate.</li> </ul>		
35b	Short-term effects of exercise (up to 36 hours after exercise)	<ul style="list-style-type: none"> <li>• tiredness/fatigue</li> <li>• light headedness</li> <li>• nausea</li> <li>• aching/delayed onset muscle soreness (DOMS)/cramp.</li> </ul>		
36	Long-term effects of exercise (months and years of exercising)	<ul style="list-style-type: none"> <li>• body shape may change</li> <li>• improvements in specific components of fitness</li> <li>• build muscle strength</li> <li>• improve muscular endurance</li> <li>• improve speed</li> <li>• improve suppleness</li> <li>• build cardio vascular endurance</li> <li>• improve stamina</li> <li>• increase in the size of the heart (hypertrophy)</li> <li>• lower resting heart rate (bradycardia).</li> </ul> <p>Students should be taught the components of fitness to understand the long term effects of exercise.</p>		

Lesson	Paper 2 Topics	<div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Head</span> <span>Heart</span> <span>Hand</span> </div>		
<b>HEALTH, FITNESS &amp; WELL-BEING</b>				
	<b>Health, fitness &amp; well-being</b>	<p>Reasons for participation in physical activity, exercise and sport, and how performance in physical activity/sport can increase health, wellbeing and fitness.</p> <p><b>Physical health and wellbeing:</b></p> <ul style="list-style-type: none"> <li>• improves heart function</li> <li>• improves efficiency of the body systems</li> <li>• reduces the risk of some illness • able to do everyday tasks</li> <li>• to avoid obesity.</li> </ul> <p><b>Mental health and wellbeing:</b></p> <ul style="list-style-type: none"> <li>• reduces stress/tension</li> <li>• release of feel good hormones (serotonin)</li> <li>• able to control emotions.</li> </ul> <p><b>Social health and wellbeing:</b></p> <ul style="list-style-type: none"> <li>• opportunities to socialise/make friends</li> <li>• cooperation</li> <li>• teamwork</li> <li>• have essential human needs (food, shelter, clothing).</li> </ul> <p><b>Fitness:</b></p> <ul style="list-style-type: none"> <li>• improves fitness</li> <li>• reduces the chances of injury</li> <li>• can aid in the physical ability to work, eg on your feet all day/manual labour.</li> </ul>	<p><b>Awareness of Self; reflect on their own physical activity and sport engagement and differentiate between the two.</b></p> <p>Discuss the advantages and disadvantages of different body types and their relationship to certain sports. Eg; someone with the typical build of a sumo wrestler dose not make a good high jumper.</p> <p>Analysis of personal diet before after and during sport or physical activity.</p>	<p><b>Write a personal reflection of the two types of activity affected them physically and emotionally.</b></p> <p>Investigate the abnormal famous athletes whose body type goes against the norm for that sport.</p> <p>Look into the marketing and expose the fitness industry creates and who it is targeted at to understand the significance of it.</p>
	<b>Sedentary lifestyle</b>	<p>Definitions of sedentary and lifestyle.</p> <p><b>Possible consequences of a sedentary lifestyle:</b></p> <ul style="list-style-type: none"> <li>• weight gain/obesity</li> <li>• heart disease</li> </ul>		



		Head	Heart	Hand
		<ul style="list-style-type: none"> <li>• hypertension</li> <li>• diabetes</li> <li>• poor sleep</li> <li>• poor self-esteem</li> <li>• lethargy.</li> </ul>		
	<b>Obesity</b>	<p><b>Definition of obesity.</b>  <b>Obesity and how it may affect performance in physical activity and sport:</b></p> <ul style="list-style-type: none"> <li>• limits stamina/cardiovascular endurance</li> <li>• limits flexibility</li> <li>• limits agility</li> <li>• limits speed/power.</li> </ul> <p><b>Causes ill health (physical):</b></p> <ul style="list-style-type: none"> <li>• cancer</li> <li>• heart disease/heart attacks</li> <li>• diabetes</li> <li>• high cholesterol.</li> </ul> <p><b>Causes ill health (mental):</b></p> <ul style="list-style-type: none"> <li>• depression</li> <li>• loss of confidence.</li> </ul> <p><b>Causes ill health (social):</b></p> <ul style="list-style-type: none"> <li>• inability to socialise</li> <li>• inability to leave home.</li> </ul>		
	<b>Somatotypes</b>	<p><b>Definitions of the following body types:</b></p> <ul style="list-style-type: none"> <li>• endomorph</li> <li>• mesomorph</li> <li>• ectomorph.</li> </ul> <p><b>Students should be taught to identify the most suitable body type for particular sports (or positions within a sport) and justify their choice.</b></p>		

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	Energy use	<p>Energy is measured in calories (Kcal) and is obtained from the food we eat.</p> <p>The average adult male requires 2,500 Kcal/day and the average adult female requires 2,000 Kcal/day but this is dependent upon:</p> <ul style="list-style-type: none"> <li>• age</li> <li>• gender</li> <li>• height</li> <li>• energy expenditure (exercise).</li> </ul>		
	Nutrition & a balanced diet	<p>There is no single food that contains all the nutrients the body needs.</p> <p>A balanced diet contains lots of different types of food to provide the suitable nutrients, vitamins and minerals required.</p> <p>The reasons for a balanced diet:</p> <ul style="list-style-type: none"> <li>• unused energy is stored as fat, which could cause obesity (particularly saturated fat)</li> <li>• suitable energy can be available for activity</li> <li>• the body needs nutrients for energy, growth and hydration.</li> </ul> <p>A balanced diet contains 55–60% carbohydrate, 25–30% fat, 15–20% protein.</p> <p>Carbohydrates are the main and preferred energy source for all types of exercise, of all intensities.</p> <p>Fat is also an energy source. It provides more energy than carbohydrates but only at low intensity.</p> <p>Protein is for growth and repair of muscle tissue.</p> <p>Vitamins and minerals are for maintaining the efficient working of the body systems and general health.</p>		

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		Students do not need to be taught about specific vitamins and minerals.		
	Water balance & hydration	<p>Definition of dehydration.  Water balance (hydration) prevents dehydration.  Dehydration results in:</p> <ul style="list-style-type: none"> <li>• blood thickening (increased viscosity), which slows blood flow</li> <li>• increases in heart rate/heart has to work harder/irregular heart rate (rhythm)</li> <li>• increase in body temperature/overheat</li> <li>• slowing of reactions/increased reaction time/poorer decisions</li> <li>• muscle fatigue/cramps.</li> </ul> <p>Students should be taught to understand and evaluate the consequences of dehydration to performance in different sporting activities.</p>		
<b>SPORTS PSYCHOLOGY</b>				
	Skill & ability	Definitions of skill and ability.	Analyse guidance by working in pairs to give and receive feedback and analyse its effectiveness.	Practically experience a range of skills through indoor sports such as basketball, badminton, table tennis and volleyball
	Classifications of skill	<p>Basic definition of the following skill classifications:</p> <ul style="list-style-type: none"> <li>• basic/complex</li> <li>• open/closed</li> <li>• self-paced/externally paced</li> <li>• gross/fine.</li> </ul>		

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		Students should be taught to choose and justify the appropriate classifications in relation to sporting examples.	Analysis of personal experience of arousal in sport and its positive and negative effects.	to fully understand classification of skill.
	<b>Goals &amp; SMART targets</b>	<p>Basic definitions of the following types of goals:</p> <ul style="list-style-type: none"> <li>• performance goals (personal performance/no social comparison)</li> <li>• outcome goals (winning/result).</li> </ul> <p>Appropriate performance and/or outcome targets for sporting examples.</p> <p>Performance and outcome goals can be combined. However, it is generally accepted that outcome goals should be avoided as they rely on factors that cannot be controlled, eg other performers.</p> <p>Beginners prefer to avoid outcome goals because failure can demotivate/winning may be an unrealistic goal.</p>	<p>Look into over arousal and how it impacted upon their personal performance and teams overall performance.</p>	<p>While practicing skills give pupils opportunities to analyse how different types/styles of feedback improves their performance and makes them feel emotionally.</p> <p>Case study on famous examples of over arousal and aggression in sport. Make it as current as possible so pupils may have heard in the news.</p>
	<b>The use of SMART targets to improve and/or optimise performance</b>	<p>SMART targets of goal setting are:</p> <ul style="list-style-type: none"> <li>• specific</li> <li>• measureable</li> <li>• accepted</li> <li>• realistic</li> <li>• time bound.</li> </ul>		
	<b>Basic information processing model</b>	<p>The role of each stage (input, decision making, output and feedback) of the model.</p> <p>Input – information from the display (senses), selective attention.</p> <p>Decision making – selection of appropriate response from memory. The role of long term and short term memory.</p> <p>Output – information sent to muscles to carry out the response.</p>		

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		<p><b>Feedback – received via self (intrinsic) and/or others (extrinsic).</b></p> <p><b>Draw (in a box format) and/or explain the stages of a basic model of information processing. Students should be taught to apply the basic information processing model to skills from sporting examples.</b></p>		
	<b>Guidance</b>	<p><b>Evaluation of the use of the following types of guidance with specific links to:</b></p> <ul style="list-style-type: none"> <li>• visual (seeing)</li> <li>• verbal (hearing)</li> <li>• manual (assist movement – physical)</li> <li>• mechanical (use of objects/aids).</li> </ul> <p><b>Students need to be taught to be able to choose and justify which types of guidance are appropriate for beginners and/or elite level performers. This should include examples of how the guidance can be given, eg visual via demonstration.</b></p>		
	<b>Identify examples of, and evaluate, the effectiveness of the use of types of feedback, with reference to beginners and elite level performers</b>	<p><b>Evaluation of the use of the following types of feedback with specific links to beginners and to elite level performers:</b></p> <ul style="list-style-type: none"> <li>• positive/negative</li> <li>• knowledge of results/knowledge of performance</li> <li>• extrinsic/intrinsic.</li> </ul> <p><b>Students need to be taught what each type of feedback entails and be able to choose and justify which types of feedback are appropriate for a beginners and/or an elite level performers.</b></p>		
	<b>Arousal &amp; inverted U theory</b>	<b>Definition of arousal.</b>		

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		<p>The shape of the 'inverted-U' placed appropriately in a graph depicting y axis (performance level – low to high) and x axis (arousal level – low to high).            Students should be taught to draw an inverted U graph with both x and y axis appropriately labelled.            Describe the inverted-U graph.            The relationship between arousal level and performance level, eg when under aroused, performance level is low/under or over arousal causing low performance levels.            Link appropriate arousal level (high/low) to gross/fine skills in sporting actions.            Link skills (not sports) to an appropriate arousal level, eg a tackle in rugby will need a high arousal level.            Knowledge of the following stress management techniques:</p> <ul style="list-style-type: none"> <li>• deep breathing</li> <li>• mental rehearsal/visualisation/imagery</li> <li>• positive self talk.</li> </ul> <p>Students should be taught to explain how these techniques are carried out, using sporting examples.</p>		
	Aggression	<p>Definition of direct and indirect aggression.            Students should be taught to know the meaning of the terms direct and indirect aggression, and be able to suggest examples of direct/indirect aggression in sport.</p>		

		Head	Heart	Hand
	<b>Personality – introvert &amp; extrovert</b>	<p><b>Characteristics of an introvert:</b></p> <ul style="list-style-type: none"> <li>• shy/quiet</li> <li>• thoughtful</li> <li>• enjoy being on their own.</li> </ul> <p><b>Tend to play individual sports when:</b></p> <ul style="list-style-type: none"> <li>• concentration/precision (fine skill) is required</li> <li>• low arousal is required.</li> </ul> <p><b>Characteristics of an extrovert:</b></p> <ul style="list-style-type: none"> <li>• enjoy interaction with others/sociable/ aroused by others</li> <li>• enthusiastic/talkative</li> <li>• prone to boredom when isolated/by themselves.</li> </ul> <p><b>Tend to play team sports when:</b></p> <ul style="list-style-type: none"> <li>• there is a fast pace</li> <li>• concentration may need to be low</li> </ul> <p><b>gross skills are used.</b></p>		
	<b>Motivation – intrinsic &amp; extrinsic</b>	<p><b>Intrinsic is from within – for pride/selfsatisfaction/personal achievement.</b></p> <p><b>Extrinsic is:</b></p> <ul style="list-style-type: none"> <li>• from another source/person</li> <li>• tangible – certificates/trophies, medals</li> <li>• intangible – praise/feedback/applause.</li> </ul> <p><b>Students should be taught to explain appropriate examples of intrinsic and extrinsic motivation linked to sporting examples.</b></p> <p><b>Intrinsic is generally deemed more effective.</b></p> <p><b>Overuse of extrinsic can undermine the strength of intrinsic.</b></p> <p><b>Performer can become reliant on extrinsic.</b></p>		

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		<p>Intrinsic is more likely to lead to continued effort and participation. Extrinsic rewards may result in feelings of pride/self-satisfaction.</p>		
<b>SOCIO-CULTURAL INFLUENCES</b>				
	<b>Social groups</b>	<p>Engagement patterns in physical activity and sport can differ between different social groups. Understand factors that contribute to engagement patterns in the following social groups:</p> <ul style="list-style-type: none"> <li>• gender</li> <li>• race/religion/culture</li> <li>• age</li> <li>• family/friends/peers</li> <li>• disability.</li> </ul> <p>Students should be taught to make justifiable links between the following factors and their relevance to engagement patterns of the groups above:</p> <ul style="list-style-type: none"> <li>• attitudes</li> <li>• role models</li> </ul>	<p>Personal and peer reflection and analysis of barriers to physical activity and sport.</p> <p>Nurture a respectful environment and help pupils understand that just because it is not a factor for them does not</p>	<p>Make contexts as current as possible; Draw from pupils experience and from news articles.</p> <p>Use of real news video to capture pupils' interest and maintain motivation and commitment towards learning.</p>



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		<ul style="list-style-type: none"> <li>• accessibility (to facilities/clubs/activities)</li> <li>• media coverage</li> <li>• sexism/stereotyping</li> <li>• culture/religion/religious festivals</li> <li>• family commitments</li> <li>• available leisure time</li> <li>• familiarity</li> <li>• education</li> <li>• socio-economic factors/disposable income</li> <li>• adaptability/inclusiveness.</li> </ul>	<p>mean is not significant for them. Most pupils in gcse pe are engaged in sport and like it.</p> <p>When exploring all the sub topics remind pupils of respectful attitudes to those who have a different opinion to theirs.</p>	<p>For PED's Netflix "Icarus" documentary.</p> <p>Investigations and extended research pieces of work allow students to deep dive into the topic and explore it fully.</p>
	<b>Commercialisation</b>	<p>Definition of commercialisation.</p> <p>The relationship between sport, sponsorship and the media.</p>		
	<b>Sponsorship</b>	<p>Definitions of sponsorship and the media.</p> <p>Types of sponsorship:</p> <ul style="list-style-type: none"> <li>• financial</li> <li>• clothing and equipment, including footwear</li> <li>• facilities.</li> </ul> <p>Types of media:</p> <ul style="list-style-type: none"> <li>• television</li> <li>• radio</li> <li>• the press</li> <li>• the internet</li> </ul> <p>social media.</p>	<p>Support students who may be less informed about sub topics and inform students who have experience/ awareness of them that many can lead to criminal actions and are breaking the law not only just the rules of the sport.</p>	
	<b>Media</b>	<p>The positive and the negative impacts of commercialised activity (sponsorship and the media) on the following:</p> <ul style="list-style-type: none"> <li>• performer</li> <li>• sport</li> <li>• official</li> </ul>		

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		<ul style="list-style-type: none"> <li>• audience/spectator</li> <li>• sponsor/company.</li> </ul> <p>Students should be taught to justify why the impact is positive and/or negative.</p>		
	Impact of technology	<p>The positive and the negative impacts of technology on the following:</p> <ul style="list-style-type: none"> <li>• performer</li> <li>• sport</li> <li>• official</li> <li>• audience/spectator</li> <li>• sponsor/company.</li> </ul> <p>Students should be taught to justify why the impact is positive and/or negative.</p> <p>Teaching should make students aware of examples of technology used in sport (eg Hawkeye, Television Match Official). However, the focus should be on technology generically, not on specific types of technology (eg Hawkeye, Television Match Official).</p>		
	Prohibited substances	<p>Categories of prohibited substances, including the basic positive effects and negative side effects:</p> <ul style="list-style-type: none"> <li>• stimulants</li> <li>• narcotic analgesics</li> <li>• anabolic agents</li> <li>• peptide hormones (EPO)</li> </ul> <p>diuretics.</p>		
	Prohibited methods	<p>How blood doping occurs and the effects/side effects of doing it.</p> <p>Blood doping involves the removal of blood a few weeks prior to competition. The blood is frozen and re-injected just before competition.</p>		

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		<p>Students should be taught how blood doping leads to increased red blood cell count and be able to evaluate which types of sporting performers this could benefit.</p> <p>Side effects can be:</p> <ul style="list-style-type: none"> <li>• thickening of blood (viscosity)</li> <li>• potential infection</li> <li>• potential for heart attack embolism (blockage of vessel).</li> </ul>		
	Restricted drugs	<p>Beta blockers are taken to:</p> <ul style="list-style-type: none"> <li>• reduce heart rate, muscle tension and blood pressure</li> <li>• reduce the effects of adrenaline</li> <li>• improve fine control/preciseness.</li> </ul> <p>Side effects can lead to:</p> <ul style="list-style-type: none"> <li>• nausea</li> <li>• weakness</li> <li>• heart problems.</li> </ul> <p>Beta blockers should be prescribed by a medical professional.</p>		
	PEDs	<p>Stimulants – alertness</p> <p>Narcotic analgesics – pain killers from over training</p> <p>Anabolic agents – muscle mass</p> <p>Diuretics – lose weight</p> <p>Peptide hormones – oxygen carrying capacity</p> <p>Blood doping – oxygen carrying capacity</p> <p>Beta blockers – for fine motor control</p> <p>Students should be taught to understand in which sports performers may decide to use PEDs, with examples.</p> <p>Advantages include:</p>		

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		<ul style="list-style-type: none"> <li>• increased chances of success</li> <li>• fame</li> <li>• wealth</li> <li>• level playing field.</li> </ul> <p>Disadvantages include:</p> <ul style="list-style-type: none"> <li>• cheating/immoral</li> <li>• associated health risks</li> <li>• fines</li> <li>• bans</li> <li>• reputational damage.</li> </ul> <p>Disadvantages include:</p> <ul style="list-style-type: none"> <li>• reputation</li> <li>• credibility.</li> </ul>		
	Conduct of performers	<p>Definitions of the following terms:</p> <ul style="list-style-type: none"> <li>• etiquette</li> <li>• sportsmanship</li> <li>• gamesmanship</li> <li>• contract to compete.</li> </ul> <p>Students should be taught sporting examples of these terms.</p>		
	Spectator behaviour	<p>The positive influence of spectators at matches/ events:</p> <ul style="list-style-type: none"> <li>• creation of atmosphere</li> <li>• home-field advantage (for home team/ individuals).</li> </ul> <p>The negative influence of spectators at matches/events:</p> <ul style="list-style-type: none"> <li>• negative effect on performance as a result of increased pressure</li> <li>• potential for crowd trouble/hooliganism</li> <li>• safety costs/concerns</li> </ul>		

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		negative effect on participation numbers amongst younger performers.		
	Hooliganism	<p>Reasons for hooliganism:</p> <ul style="list-style-type: none"> <li>• rivalries</li> <li>• hype</li> <li>• fuelled by alcohol/drugs</li> <li>• gang culture</li> <li>• frustration (eg at official's decisions)</li> </ul> <p>display of masculinity.</p> <p>Strategies include:</p> <ul style="list-style-type: none"> <li>• early kick-offs</li> <li>• all-seater stadia</li> <li>• segregation of fans</li> <li>• improved security</li> <li>• alcohol restrictions</li> <li>• travel restrictions/banning orders</li> <li>• education/promotional activity/campaigns and high profile endorsements.</li> </ul> <p>Students should be taught to evaluate the effectiveness of these strategies, eg high costs of security versus safety of spectators.</p>		