

GCSE PE Theory Specification

Unit B451 introduces candidates to Physical Education through three areas of study:

1) The key concepts in Physical Education are:

- competence
- performance
- creativity
- healthy, active lifestyles.

Candidates should have an understanding of these concepts and be able to **define** and **give practical examples** of them in a variety of contexts relating to physical activity.

Competence – the relationship between skill, the selection and application of skills, tactics and compositional ideas and the readiness of body and mind to cope with physical activity (e.g. in hockey you need to learn how to stop and hit the ball effectively; in football to know when to concentrate on attacking and when to put your efforts into defending; in an exercise class you need to show determination to finish the class).

Performance – using physical competence and knowledge and understanding of physical activity to produce effective outcomes when participating in physical activity (e.g. if you are in the school netball team then you would probably be able to run fast over a short distance and change direction well).

Creativity – exploring and experimenting with techniques, tactics and compositional ideas to produce efficient and effective outcomes (e.g. you might try different techniques in the long jump).

Healthy, active lifestyles – understanding the positive contribution that regular, fit for purpose physical activity makes to the physical and mental health of the individual (e.g. if you participate regularly in a team sport like volleyball you are more likely to be healthy).

2) The key processes in Physical Education are:

- developing skills and techniques
- decision making
- physical and mental capacity
- evaluating and improving
- making informed choices about active, healthy lifestyles.

Candidates should be able to **describe** and **give practical examples** of the processes and link them to School Influences on Participation.

3) Fundamental motor skills and their application to physical activities:

- running – brief description of how to analyse using time
- throwing – brief description of how to analyse using distance
- jumping – brief description of how to analyse using distance
- kicking – application using practical examples (e.g. passing in football)
- catching – application using practical examples (e.g. fielding in rounders)
- hitting – application using practical examples (e.g. shooting in hockey).

4) Identify and give examples of different types of decision making in a range of physical activities:

- invasion games (e.g. football – which pass to make, when to close down an opposing player)
- target games (e.g. golf – choice of shot based upon weather conditions or the lie of the ball)
- athletic activities (e.g. cross country – pacing your run and knowing when to speed up for the finish)
- outdoor and adventurous activities (e.g. hill walking and campcraft – deciding on a suitable time and place to set up camp for the night).

5) Identify and give examples of different types of decision making within different roles such as performer, coach/leader and official:

- performer (e.g. tennis – trying to read an opponent's serve)
- coach/leader (e.g. basketball – use of time-out for strategic reasons)
- official (e.g. football – assistant referee deciding if a player is in an offside position).

6) Responding appropriately when participating in different roles in physical activity:

- the importance of abiding by rules/codes of behaviour with applied practical examples (e.g. to stop boxing when the bell rings for the end of the round)
- the importance of etiquette and sportsmanship with applied practical examples (e.g. to shake your opponent's hand following a netball match).

7) The components of fitness and a healthy, balanced lifestyle:

- cardiovascular endurance/stamina - examples of how the component links to a healthy lifestyle (e.g. to be able to finish physical jobs; to not be too tired by the end of the day).
- muscular endurance - examples of how the component links to a healthy lifestyle (e.g. to be able to carry out repetitive tasks without tiring easily; to be able to finish an exercise programme).
- speed - examples of how the component links to a healthy lifestyle (e.g. to be able to perform a physical activity quickly; to get physical jobs done quickly).
- strength - examples of how the component links to a healthy lifestyle (e.g. to be able to lift and carry heavy objects safely; to be able to carry a small child or to be able to perform a dynamic physical activity such as hockey/rugby).
- flexibility - examples of how the component links to a healthy lifestyle (e.g. to be able to sustain physical activity without straining muscles; to be able to reach for things; to be able to perform demanding physical activities such as gymnastics and dance).

8) The importance of the warm up and cool down:

- warm up – to prepare for performance; enables flexibility; improve speed/strength of muscular contraction; reduce risk of injury
- cool down – speeds removal of lactic acid/waste products; prevents stiffness/soreness; reduces risk of injury
- apply knowledge of warm up and cool down using practical examples (e.g. to warm up by steady jogging and stretching appropriate muscle groups; to cool down by gradually decreasing work rate through light exercise).

9) The characteristics of skilful movement:

- efficiency
- pre-determined
- co-ordinated
- fluent
- aesthetic

candidates should understand the characteristics of skilful movement to enable them to judge the quality and effectiveness of performance. Apply by describing differences between the unskilled and the skilled participant in a range of physical activities.

10) Performance and outcome goals:

- candidates should be able to describe performance and outcome goals and the differences between them and be able to give practical examples of both
- performance goals – targets that are directly related to the performance or technique of the activity (e.g. to improve passing technique in rugby)
- outcome goals – targets concerned with the end result (e.g. a tennis player is trying to win the grand slam).

11) Assessing the body's readiness for exercise and training to plan for sustained involvement in physical activity:

- the importance of health screening, including blood pressure and resting heart rate
- measurement of body mass index (BMI)
- suitable tests for cardiovascular endurance (e.g. the Cooper 12 minute run/walk test)
- suitable tests for strength (e.g. the grip dynamometer test)
- suitable tests for speed (e.g. the 30m sprint test)
- suitable tests for flexibility (e.g. the sit and reach test)
- the validity of tests and measurements to take into account age, fitness levels and ability
- the importance of test protocols and Health and Safety considerations
- taking into account family history of relevant illnesses and lifestyle of the participant.

12) An understanding of the function of the seven essential components of a healthy diet and the contribution diet makes to a balanced, healthy lifestyle:

- carbohydrates
- proteins
- fats
- minerals
- vitamins
- fibre
- water
- candidates should be able to give examples of different sources of the dietary components.

13) Characteristics of a balanced, healthy lifestyle:

- description of characteristics (e.g. non smoking; to be active (amount according to age/ability); to follow a healthy diet including sufficient hydration; limited or no use of alcohol)
- the balanced diet – a description of positive and negative energy balance
- current recommended amounts of exercise (e.g. 1 hour 5 times per week; knowledge of different recommendations from different sources).

14) The effects of the following on performance and participation in physical activity:

- smoking
- alcohol
- over- and under-eating
- performance enhancing drugs (steroids; blood doping).

15) Measures/indicators of health and well-being:

- satisfaction with aspects of life
- frequency of positive and negative feelings
- access to green space
- level of participation in a range of activities
- positive mental health
- description of these indicators using practical examples (e.g. being satisfied with your job and social life; thinking mainly positively rather than negatively about yourself and your life; living close to a park or playing fields which you can use for exercise and leisure; being a member of a gym and enjoying regular exercise classes)

16) Understanding different methods of exercise and training programmes for an active, healthy lifestyle:

- circuit training
- aerobics/aqua aerobics
- spin
- pilates
- yoga
- dance exercise
- description of these methods and their benefits using practical examples.

17) Explanation and application of these using practical examples. Candidates should demonstrate an understanding of why they affect participation:

- health reasons (e.g. management of stress - you might exercise to relieve tension after school or work; illness; well-being; life expectancy)
- image (e.g. you participate in weight training because body image is important to you)
- enjoyment (e.g. you join a yoga class to have fun)
- social/friendship (e.g. you join a local football team to meet people and make new friends)
- hobby (e.g. you go to aqua-aerobics as something to get involved with other than work commitments)
- parental/role model influences (e.g. you go hiking because your parents always have done and encourage you to)
- vocation/profession (e.g. you decide to become a fitness instructor as a career).

18) Explanation and application of these using practical examples. Candidates should demonstrate an understanding of why they affect participation:

- health reasons, including disability (e.g. you stop exercising because of a heart condition)
- injury (e.g. you cannot exercise because you have twisted your ankle)
- discrimination (e.g. Stephen is reluctant to go to a dance exercise class because he does not think it is a suitable activity for males)
- peer pressure (e.g. you stop going to basketball club because your friends want you to go out with them)
- cultural (e.g. your culture may frown on you as a female participating in contact sports)
- other pressures/interests (e.g. you do not have enough free time to get involved in physical activities)
- the technological/sedentary lifestyle (e.g. you prefer playing on your games console to going to do exercise)
- lack of confidence/self esteem (e.g. you feel that you will be no good at the activity so you do not want to take part)
- lack of role model/parental support (e.g. your parents do not participate in physical exercise so you never have done either)
- lack of opportunity (e.g. there are few facilities near to your home like a leisure centre or swimming pool).

19) Possible positive and negative effects of the following on participation. Explanation and application of these using practical examples. Candidates should demonstrate an understanding of why they affect participation:

- age (e.g. older age can affect mobility)
- gender (e.g. some activities may be traditionally male or female)
- education (e.g. being educated about the health benefits of exercise)
- family (e.g. other members of the family may not support participation)
- disability (e.g. this may limit the amount of activity that can be undertaken)
- ethnicity (e.g. you may feel discriminated against in a sports club because you are in a minority)
- religion (e.g. your religion may forbid you to compete in certain activities or at certain times)

- environment (e.g. you may not have access to open countryside for outdoor and adventurous activities)
- climate (e.g. the weather may often not be suitable for certain activities).

20) The role of the school curriculum in promoting an active, healthy lifestyle. Key processes and how these influence participation. Description and application of these processes using practical examples:

- developing skills
- making and applying decisions
- developing physical and mental capacity
- evaluating and improving
- making informed decisions about lifestyle (

21) Description and application of these pathways using practical examples.

- Regularly getting involved in Physical Education (e.g. attending and fully participating in Physical Education lessons that involve physical activity)
- Taking part in school and community sport and dance opportunities (e.g. playing for the school hockey team)
- Deciding to become a performer, leader, coach or official and working towards accreditation (e.g. taking a coaching badge in basketball)
- Being involved in increasingly complex and challenging tasks and activities and reaching the highest possible standards of involvement in physical activity (e.g. training hard to get into the county netball team)
- Pursuing routes into sport and physical activity through volunteering (e.g. volunteering to coach the local Scouts football team).

Unit B453 develops candidates' knowledge of Physical Education and the concepts, processes and opportunities which are covered in unit B451.

1) Description and application of these methods of skill learning using practical examples:

- practice/rehearsal (e.g. to repeatedly practise your shooting in basketball)
- copying others and the use of appropriate role models (e.g. to watch a demonstration of an arabesque in gymnastics carried out by an expert gymnast)
- trial and error (e.g. to try a backhand volley in tennis and to learn from your mistakes when playing the shot).

2) Description and application of these types using practical examples.

How each of these can motivate participants to follow an active, healthy lifestyle:

- intrinsic feedback – internal feedback about how performing a physical activity or movement feels or makes you feel (e.g. to enjoy going for a jog can encourage you to repeat the activity)
- extrinsic feedback – external feedback about performance, such as comments from a coach or instructor who is watching (e.g. your teacher praises your attempt at passing in hockey which encourages you to continue trying)
- knowledge of results (e.g. wanting to improve your score after an archery event might encourage you to practice harder)
- knowledge of performance (e.g. your coach in trampolining might give you information about your somersault technique which might encourage you to work on perfecting this in the future).

3) Intrinsic and extrinsic motives to participate in different roles of performer, coach/leader and official.

Description and application of these motives using practical examples:

- intrinsic motivation – internal motives, such as fun, enjoyment or satisfaction gained from participating (e.g. intrinsic (in the role of official), enjoying umpiring a cricket game might encourage you to do it again)
- extrinsic motivation – external motives, such as wanting to win competitions, awards or prize money gained from participating (e.g. extrinsic (in the role of a leader) receiving an award for good coaching might encourage you to take a coaching qualification).

4) Description and application of goal setting with practical examples:

- to optimise performance (e.g. to set a target to score 20 goals in a season to improve your performance in football)
- to ensure exercise adherence (e.g. to set a goal for improved flexibility to help you stick to your training programme)
- to control anxiety (e.g. to focus on a set goal to finish a race in a certain time to help you cope with pressure of competition).

5) The SMART principle

Description and application of these components with practical examples:

- Specific (e.g. to target your cardio-vascular endurance in an exercise regime)
- Measurable (e.g. to make your target weight after your exercise programme)
- Achievable or agreed (e.g. To set a beginner an exercise programme that can result in success such as walking for a mile before jogging a mile)
- Realistic or recorded (e.g. a beginner in badminton might be set a goal of just returning the shuttle before trying to get the shuttle into a particular area of the court)
- Time-phased (e.g. the athlete might be given a target to achieve a personal best by the end of the athletics season).

6) The different functions of the skeletal system for a healthy lifestyle:

- shape/support; importance of healthy posture
- blood cell production; importance of red blood cells for energy/minerals
- protection; importance of healthy bones to avoid injury and allow sustained involvement in physical activity
- movement/leverage; importance of levers and joints in facilitating movement
- mineral store; importance of minerals for health.

7) Types of joint:

Hinge joint:

- what a hinge joint is
- knowledge of the elbow and knee as specific examples of hinge joints
- understanding of how these types of joints allow effective movement, giving practical examples (e.g. using the knee joint when kicking a conversion in rugby union)

Ball and socket joint:

- what a ball and socket joint is
- knowledge of the shoulder as a specific example of a ball and socket joint
- understanding of how this type of joint allows effective movement, giving practical examples (e.g. using the shoulder joint when bowling the ball in cricket)

8) Ranges of movement that are allowed by these joints and application of these using practical examples:

- flexion (e.g. at the elbow - a bicep curl in weight training)
- extension (e.g. at the elbow - drawing the arm to prepare to throw the javelin)
- rotation (e.g. at the shoulder - releasing the discus in athletics)

- abduction (e.g. at the shoulder – lifting your arms at the side during an aerobic exercise class)
- adduction (e.g. at the shoulder - holding on to your opponent in a rugby tackle)

9) Structure of joints, problems associated with joints and how you might avoid them through physical activity and healthy lifestyles. Description of structure and use of:

- ligament
- cartilage
- synovial fluid.

Problems associated with joints, their causes and how you might avoid them:

- inflammation of joints (e.g. cause might be overuse and solution is to take regular breaks when exercising)
- osteoarthritis (e.g. cause might be obesity and solution might be to follow a balanced diet and to exercise regularly).

10) Identification of ways in which an active, healthy lifestyle can maintain and develop the health of muscles. Description and application of the following muscle groups, using practical examples of how they are involved in and benefit from particular types of physical activity:

- deltoid
- trapezius
- latissimus dorsi
- pectorals
- biceps
- triceps
- abdominals
- quadriceps
- hamstrings.

11) The roles of muscle in movement.

Candidates should be able to describe these roles and give applied practical examples of appropriate muscle groups that are used when participating in specific physical activities:

- prime mover or agonist (the muscle that instigates the movement)
- antagonist (the opposing muscle that controls the movement)
- synergist (the muscle(s) that stabilise the movement at the joint)
- antagonistic pairs (e.g. throwing a ball involves the biceps and triceps acting as an antagonistic pair).

• The value of healthy and efficient muscles and tendons with associated problems and how to avoid them:

- soreness
- strain
- overuse
- inflammation
- tendonitis

• how participation in an active, healthy lifestyle can avoid the above problems with applied practical examples.

12) The effects of lactic acid:

- give applied examples of when lactic acid affects exercise and training and the ability to maintain physical activity, to enable participation in an active, healthy lifestyle.

13) The effects of mental preparation for performance.

Description and application of these methods using practical examples:

- relaxation (e.g. thinking calm thoughts to try and relax before taking a penalty in football)
- focusing (e.g. concentrating on the vault and shutting out the audience when vaulting in gymnastics)
- raising confidence (e.g. thinking about being successful when shooting in basketball)

14) Description of the following short-term effects:

- respiratory rate, tidal volume and minute volume
- heart rate, cardiac output and stroke volume
- muscle fatigue; increase in temperature
- simple description of the vascular shunt mechanism (i.e. changes in blood-flow to muscles during exercise with an increase in blood flow to the working muscles)
- application of this using practical examples (e.g. when an athlete sprints some blood is directed away from internal organs and to the working muscles in the legs).

15) Description of the following long-term effects:

- heart rate, stroke volume and cardiac output
- lung volumes and rate of recovery
- increase in strength of muscle fibres; hypertrophy; increased tolerance to lactic acid.

16) Identification and description of:

- overload
- specificity
- progression
- reversibility
- explain and apply these principles to exercise or training programmes using practical examples.

17) Identification of the FITT principle and applied practical examples of how these might affect health and fitness:

- Frequency
- Intensity
- Time
- Type
- explain and apply these principles to exercise or training programmes using practical examples.

18) Candidates should be able to give simple descriptions of aerobic and anaerobic exercise (e.g. aerobic exercise requires the use of oxygen whereas anaerobic exercise does not require oxygen).

19) Candidates should be able to describe how the following types of exercise can help to develop participation and performance in an active, healthy lifestyle by using practical examples:

- circuit training
- weight training
- plyometrics
- flexibility training
- continuous training
- fartlek
- interval training.

20) Identification and description of potential hazards to performer, coach/leader or officials found in:

- the gymnasium/sports hall/fitness centre
- the swimming pool
- playing field
- artificial outdoor areas
- court areas
- outdoor adventurous areas.

21) Minimising risks through knowledge of:

- correct clothing/footwear
- personal protective equipment
- health and safety procedures
- lifting, carrying and placing equipment safely
- appropriate level of competition
- warm up and cool down
- the importance of personal hygiene to avoid minor infections.

22) Effects of media influences and promotional campaigns for an active, healthy lifestyle on levels of participation:

- explanation of media influences using practical examples (e.g. a television documentary may educate us to exercise more regularly)
- effects of sponsorship and availability of funds to follow an active, healthy lifestyle
- explanation of sponsorship and funding using practical examples (e.g. a local 'fun run' may be sponsored by a mineral water company).

23) Local and national provision – examples of levels of provision locally and nationally in different physical activities and their impact on participation. The roles of the following in promoting participation/leading/officiating in physical activities:

- local authority
- private enterprise
- voluntary organisations (clubs)
- National Governing Bodies (NGBs)
- Olympic organisations - International Olympic Committee (IOC); British Olympic Association (BOA)
- application of their roles using practical examples (e.g. the local authority runs and maintains the leisure centre which runs keep-fit classes).

24) Candidates should be familiar with a range of up-to-date initiatives, such as:

- five hours of high-quality Physical Education and sport per week
- one hour of physical activity per day
- eating five portions of fruit and vegetables per day.

25) Explanation of the role of the school in promoting an active, healthy lifestyle with practical examples:

- examination courses/related qualifications (e.g. GCSE Physical Education course encourages participation in a range of activities)
- extra curricular (e.g. playing for sports clubs such as football or netball teams encourages participation)
- links with clubs/agencies (e.g. the local hockey club encourages young people to be involved through Saturday morning training sessions)
- health awareness programmes