TEL PE Revision

Revision Series 2024

AQA A-Level PE - Paper 1

• Notes pages •

The EverLearner

How to use this revision session and notes

- Complete this document when doing the live or on-demand revision shows.
- The imagery contained in the notes is designed for you to be able to study the AO1 knowledge prior to the live session.
- During the live session, James will guide you through how to use that knowledge in your exam.
- Focus on the skills that James is presenting as much as the content. In most cases, students have a knowledge of the topic but struggle to respond to the command in the question. This is a focus of our revision.
- Complete the notes pages as extensively as possible and, if necessary, return to the show to complete it more than once in order to make the fullest notes possible.
- Have the National Mock Exam to hand and, ideally, your completed, marked version of it.
- Have the exam infographics to hand. These will be referred to throughout the show.

My ticklist:

- ☑ Notes pages
- ☑ Exam infographics
- ☑ Exam paper
- ☑ Exam mark scheme
- ☑ Exam model answers

During the live show, we will cover...

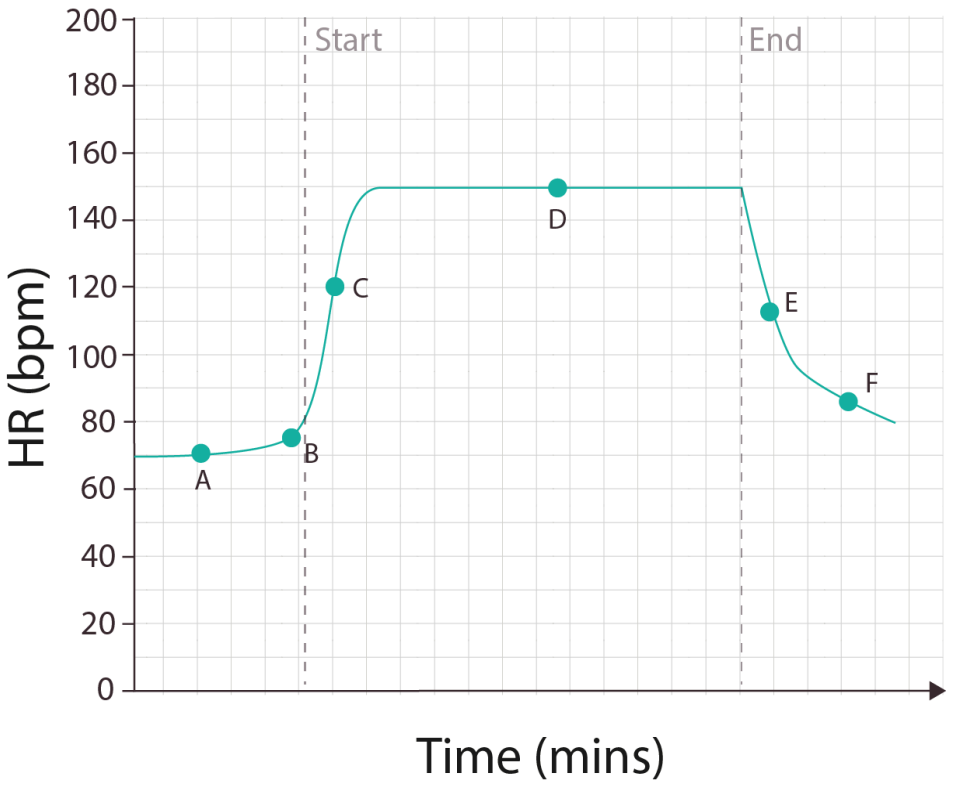
We will also cover a wide array of exam skills including command terms for A01, A02 and A03 as well as the extended writing requirements of the paper.

You may also find it useful to study our previous years' revision shows when different samples of content and skills have been developed.

Topic 1: Hormonal, neural and chemical regulation of responses

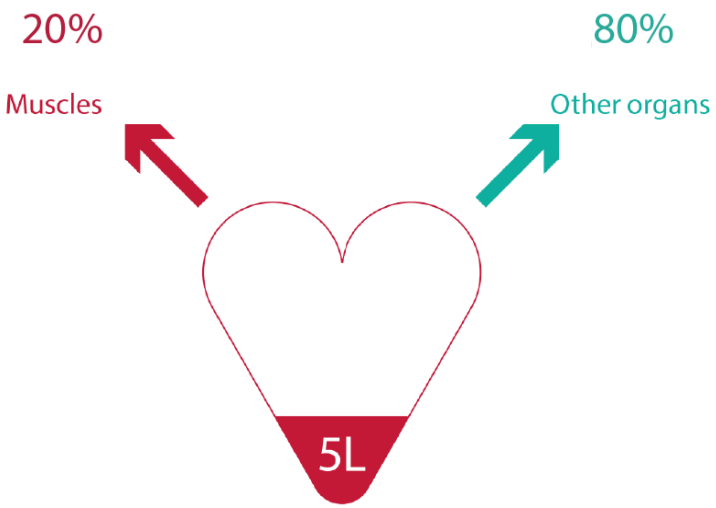
Hormonal, neural and chemical regulation and response – **Anticipatory rise**

Submaximal

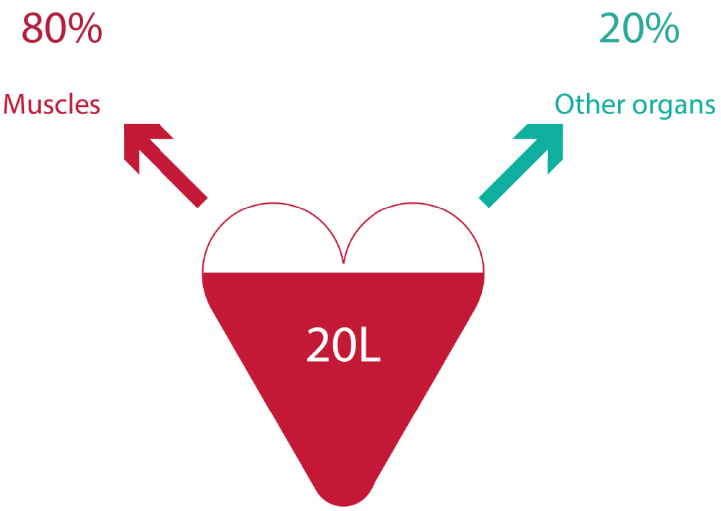


Describe what is occurring at point B.

Hormonal, neural and chemical regulation and response – **Redistribution of blood**



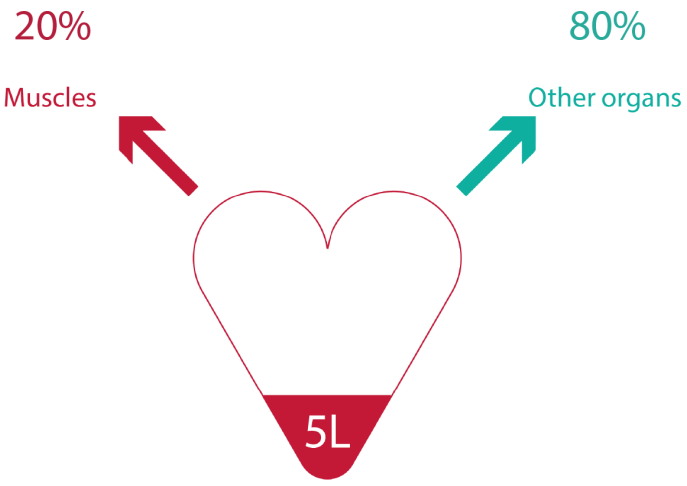
At rest



Maximal exercise

- Arterioles leading to the working muscles vasodilate.
- Precapillary sphincter muscles leading to the capillary beds at the working muscles vasodilate.
- Vascular shunt occurs.
- Q shunted through central capillary to increase resistance to blood flow and redirect to the skeletal muscle.
- Arterioles leading to the other organs vasoconstrict.
- Precapillary sphincter muscles leading to the capillary beds at the other organs vasoconstrict.

Distribution of Q during recovery

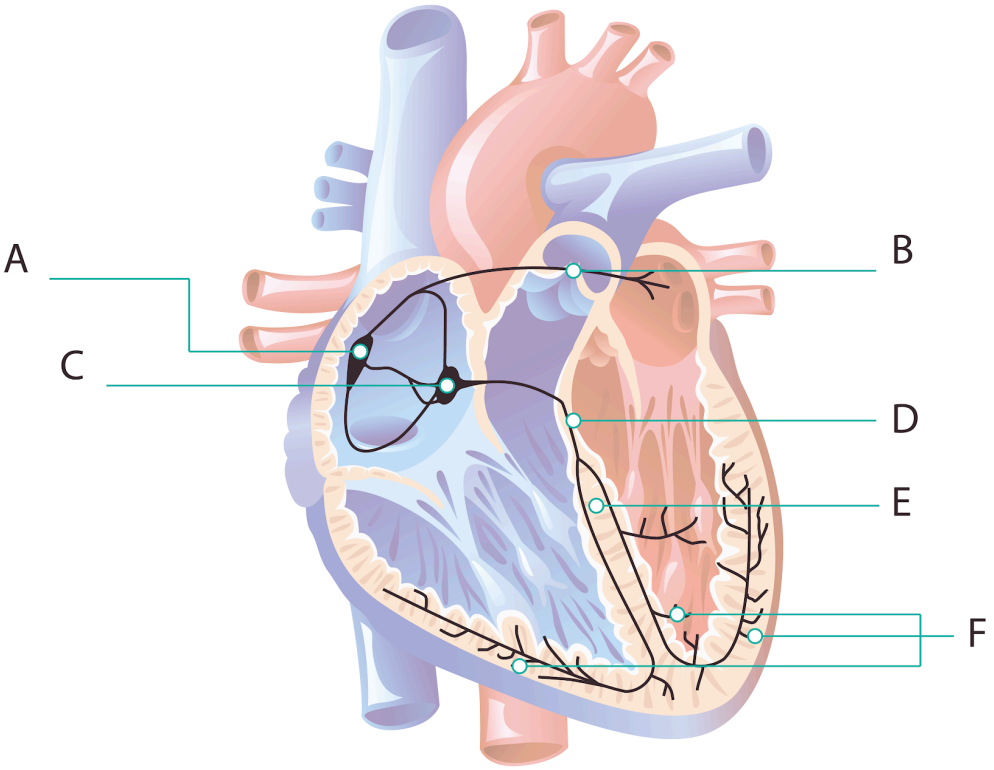


At rest

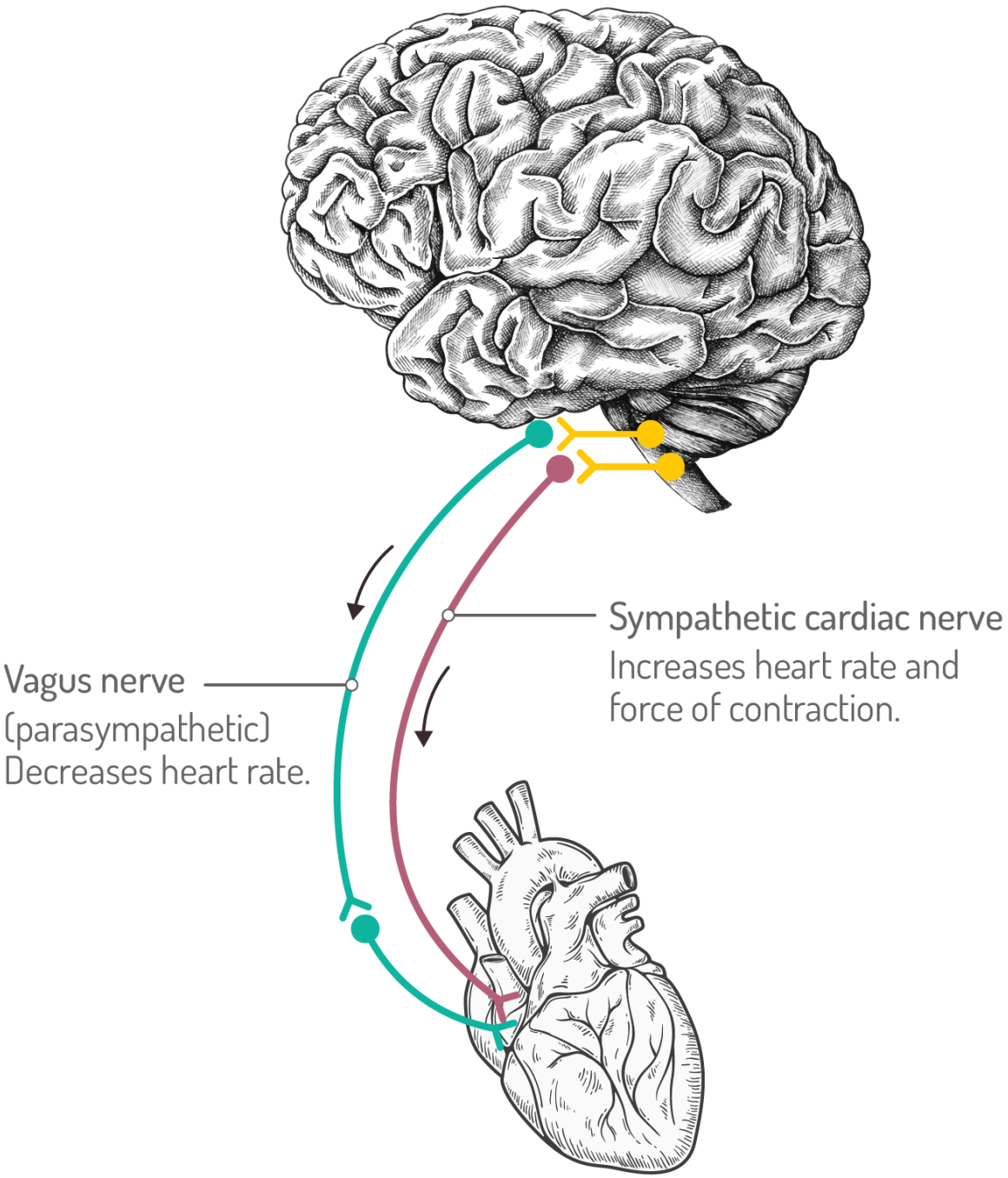
- Q shunted through central capillary at the muscle to increase resistance to blood flow and redirect to the other organs.
- Q shifts from 80% to skeletal muscle down to 20% to skeletal muscle gradually.
- Arterioles leading to the working muscles vasoconstrict.
- Precapillary sphincter muscles leading to the capillary beds at the working muscles vasoconstrict.
- Arterioles leading to the other organs vasodilate.
- Precapillary sphincter muscles leading to the capillary beds at the other organs vasodilate.

Sympathetic	Parasympathetic
_____ vasomotor tone	_____ vasomotor tone
Causes vaso_____ of arterioles and pre-capillary sphincters.	Causes vaso_____ of arterioles and pre-capillary sphincters.
_____ resistance to blood flow	_____ resistance to blood flow

Hormonal, neural and chemical regulation and response – **Cardiac conduction system**



Feature	Name	Role within cardiac conduction
A		
B		
C		
D		
E		
F		


Sympathetic cardiac nerve
Increases heart rate and force of contraction.
Vagus nerve
(parasympathetic)
Decreases heart rate.

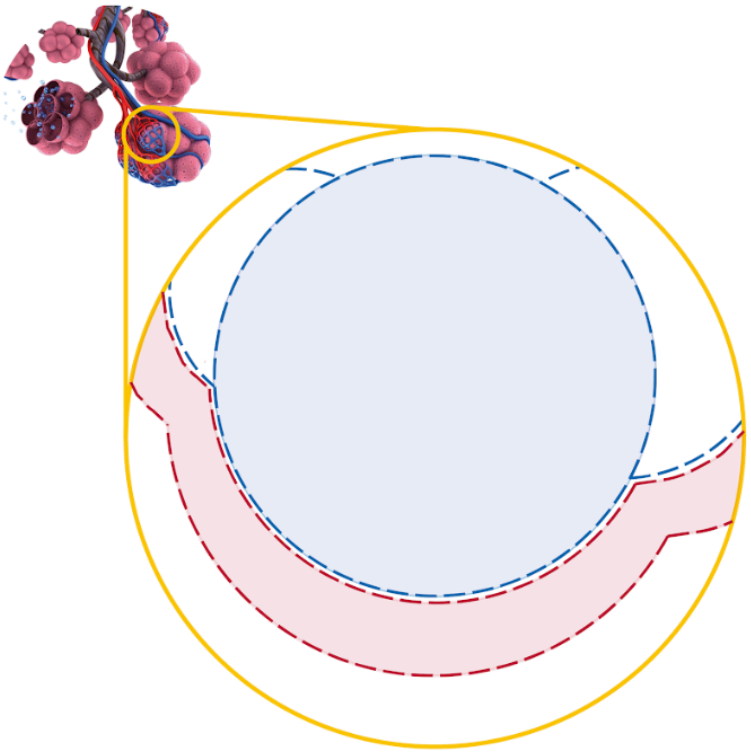
15-mark question

Analyse how the sympathetic **and** parasympathetic nervous system are used to control breathing before, during and after a triathlon.

Want to know more?

Watch the FREE tutorials "Anticipatory rise and heart rate responses", "Conduction system" and "Control of heart rate" on TheEverLearner.com

Topic 2: Gas exchange systems at alveoli and muscles

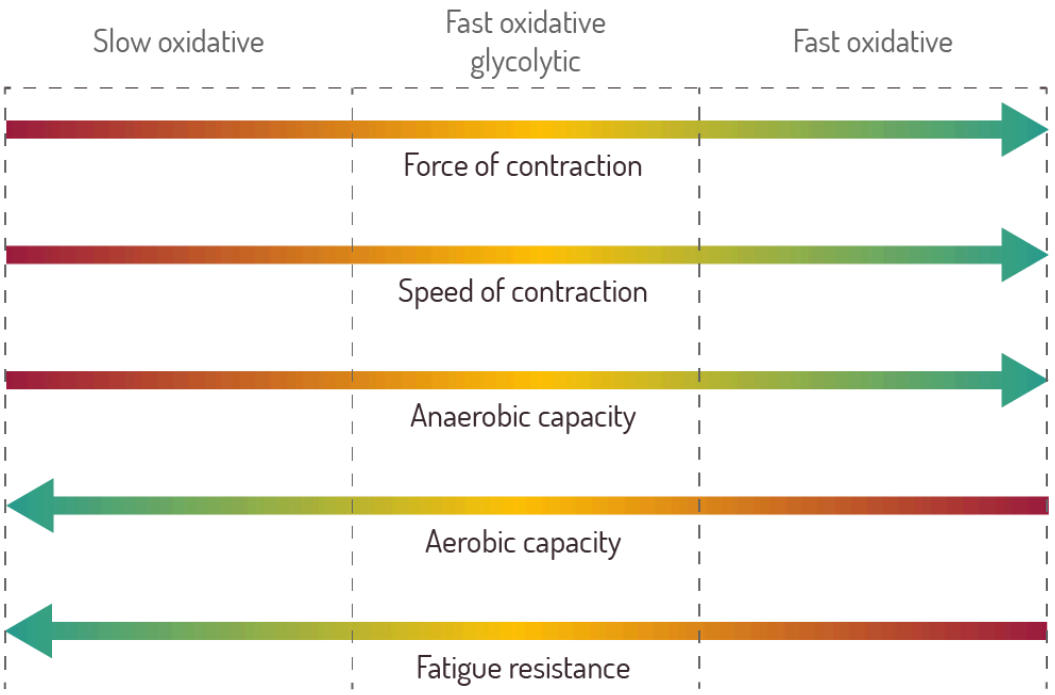


Draw what James draws in relation to gaseous exchange at the muscle tissue.

Effect of differing intensities of exercise and recovery on gas exchange at the alveoli and muscle			
Exchange at rest	Exchange during a training run	Exchange during 400m Olympic final	Exchange during a cool-down
Through the process of diffusion	**Increased** diffusion gradient	**Further increased** diffusion gradient	
Net movement of gases down the diffusion gradient from high to low concentration across a partially permeable membrane	**Greater quantities** of oxygen move from high concentration in the alveolus to **even lower** concentration in the capillary	**Yet even greater** quantities of oxygen move from high concentration in the alveolus to **yet even lower** concentration in the capillary	
Oxygen moves from high concentration in the alveolus to low concentration in the capillary	**Greater quantities** of carbon dioxide moves from **even higher** concentration in the capillary to low concentration in the alveolus	**Yet even greater quantities** of carbon dioxide moves from **yet even higher** concentration in the capillary to low concentration in the alveolus	
Carbon dioxide moves from high concentration in the capillary to low concentration in the alveolus			

Want to know more? Watch the FREE tutorial "Gaseous exchange" on TheEverLearner.com

Topic 3: Characteristics and functions of different muscle fibre types



Slow twitch (Type I)		Fast oxidative glycolytic (Type IIa)		Fast glycolytic (Type IIx)	
Structural	Functional	Structural	Functional	Structural	Functional
Small muscle fibre diameter		Large muscle fibre diameter		Large muscle fibre diameter	
Small motor neurone size		Large motor neurone size		Large motor neurone size	
Red in colour		Reddish in colour		White in colour	
High mitochondrial density		Low mitochondrial density		Low mitochondrial density	
High myoglobin content		Low myoglobin content		Low myoglobin content	
High capillary density		High glycogen stores		High glycogen stores	

Slow twitch (Type I)		Fast oxidative glycolytic (Type IIa)		Fast glycolytic (Type IIx)	
Structural	Functional	Structural	Functional	Structural	Functional
Low myosin ATPase		Medium PC stores		High PC stores	
Low PC stores		Low capillary density		Low capillary density	
		High myosin/ATPase		High myosin/ATPase	

Athlete	% of muscle fibres sampled from the biopsy		
	Type I slow oxidative	Type IIa fast oxidative glycolytic	Type IIx fast glycolytic
Sandra	20	60	20
Milo	9	14	77
Yan	60	19	11
Clinton	30	51	19

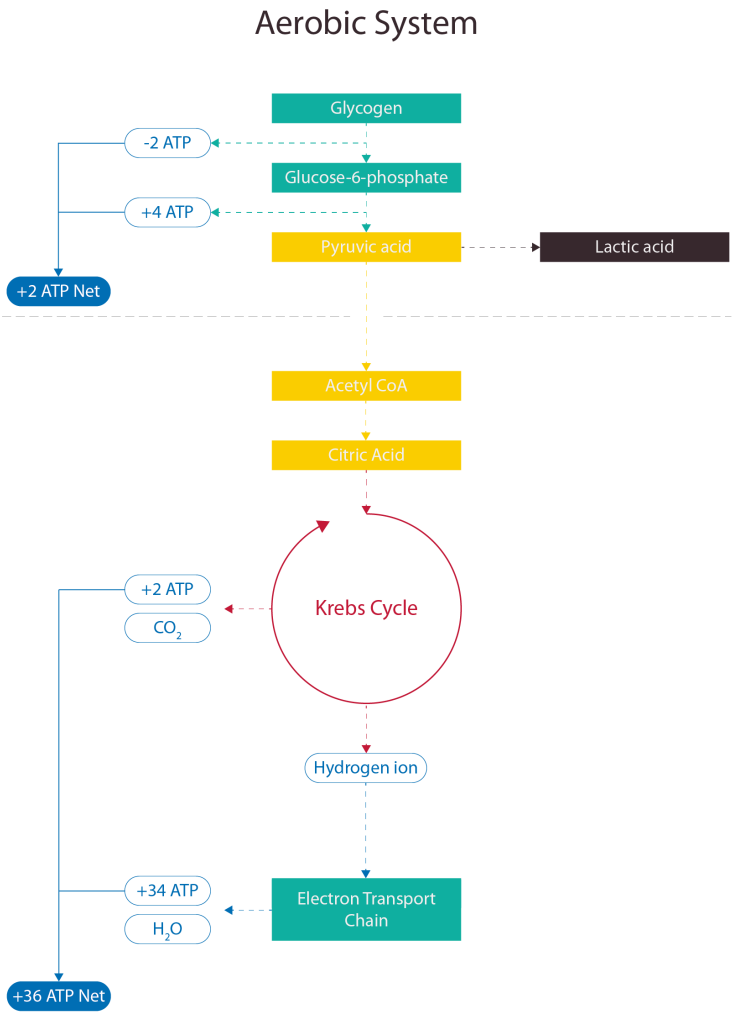
Athlete	Sporting activity most suited to	Justification	Sporting activity least suited to	Justification
Sandra				
Milo				
Yan				
Clinton				

Activity - Look closely at this model answer. By reading it, you should be able to work out the command word for the question and also what the question is.

Type IIx muscle fibres provide high contraction speed to allow a footballer to jump high and head the ball. These muscle fibres also provide a high force of contraction to allow the footballer to sprint quickly and powerfully to recover the ball after losing possession. Lastly, type IIx muscle fibres recover relatively quickly from exhaustion, so the footballer can continually attack and defend at sufficient intensity for 90 minutes.

Want to know more?	Watch the tutorial "Muscle fibre types" on TheEverLearner.com (subscribers only).

Topic 4: Energy transfer - Aerobic system



Aerobic system evaluation	
Strengths	Weaknesses

Activity – Look closely at this model answer. By reading it, you should be able to work out the command word for the question and also what the question is.

Aerobic system involves glycolysis, Kreb's cycle and the electron transport chain. Glycolysis occurs in the sarcoplasm and involves the breakdown of glycogen into glucose. Glucose is then converted into pyruvate in the presence of sufficient oxygen. Pyruvate is converted to citric acid and carried into the Kreb's cycle by acetyl co-enzyme A. This occurs in the mitochindria as does the electron transport chain where hydrogen ions are oxidised. In total, 38 ATP are resynthesised net and this energy is sustainable throughout the 3,000m race unless the athlete accelerates to a much higher intensity. The aerobic system is ideal for 3,000m because it powers longer duration activities that take longer than three minutes but are completed at moderate intensity. Apart from CO2 and water, there are no byproducts and these two products are simply processed and breathed out. Furthermore, the system releases lots of energy. The weakness of the system is that it cannot power a sprint finish. This is where the anaerobic systems are necessary. Carbo-loading is a 7 day process which starts with full glycogen depletion before carbohydrates are reintroduced to the diet in the three days before performance. This causes an increase in the glycogen store and means the runner can run at higher intensities aerobically without depleting glycogen. Therefore, the runner is not likely to hit the wall. One downside of carbo-loading is it can cause bloating and a heavy feeling on the day of the race. Bicarbonate supplements, often taken with water, help with the body's buffering of lactic acid. Bicarbonate is released into the blood which then mops up hydrogen ions released from lactic acid and converts them to carbonic acid before they are broken down into CO2 and water and breathed out. This helps to delay OBLA and allows a runner to run at higher speeds without fatiguing.

Want to know more?

Watch the tutorial "Aerobic system" on TheEverLearner.com (subscribers only).

Topic 5: Use of skill continua and justification of skill placement

1 1 . 2	Explain why bowling in cricket might **not** be placed exactly at either end of the Gross – Fine continuum. **[2 marks]**

Marks for this question: AO2 = 2

- Bowling can be placed towards gross/away from fine as it requires large muscle groups to generate speed. (1)
- Bowling can be placed towards fine/away from gross as it requires smaller muscle groups for accuracy/produce spin. (1)

Accept any other appropriate explanation of why bowling in cricket might **not** be placed exactly at either end of the Gross – Fine continuum.

Maximum 2 marks

Assessment objective	Likely command	Response
AO1	Describe/Define	A low organisational skill cannot be easily broken down into subroutines, whereas a high organisational skill can be.
AO2	Place/Classify	Towards the high organisation end
AO3	Justify	BECAUSE, in order to perform the arm movement and head carriage subroutines, the leg movement subroutine must also be completed simultaneously.

The table above has been completed in relation to a marathon runner and the organisational continuum.

Assessment objective	Likely command	Response
AO1	Describe/Define	
AO2	Classify/Explain	
AO2/AO3	Justify	BECAUSE

Complete the table above in relation to a **long jumper** and the **continuity continuum**.

Assessment objective	Likely command	Response
A01	Describe/Define	
A02	Classify/Explain	
A02/A03	Justify	BECAUSE

Complete the table above in relation to a basketball player defending 1 v 1 and the environmental continuum.

Want to know more?

Watch the tutorials "Organisational continuum", "Continuity continuum" and "Environmental continuum" on TheEverLearner.com (subscribers only).

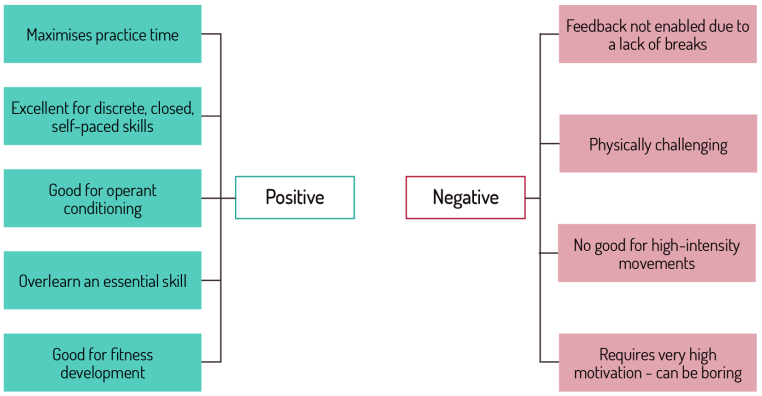
Topic 6: Types of practice

Past papers	2020	2022	2023
Type of practice	Massed	Massed and distributed	Mental
Sporting activity	Gymnastics	Trampolining	Diving
Command word	Discuss	Evaluate	Evaluate
Marks available	4	15	8

Massed practice

T-T-T-T-T-T-T-T-T-T-T-T-T-T-T-T

Repeated trials of the skill with no breaks in between



Distributed practice

T-T-T-T----T-T-T-T----T-T-T-T----

The inclusion of breaks between trials

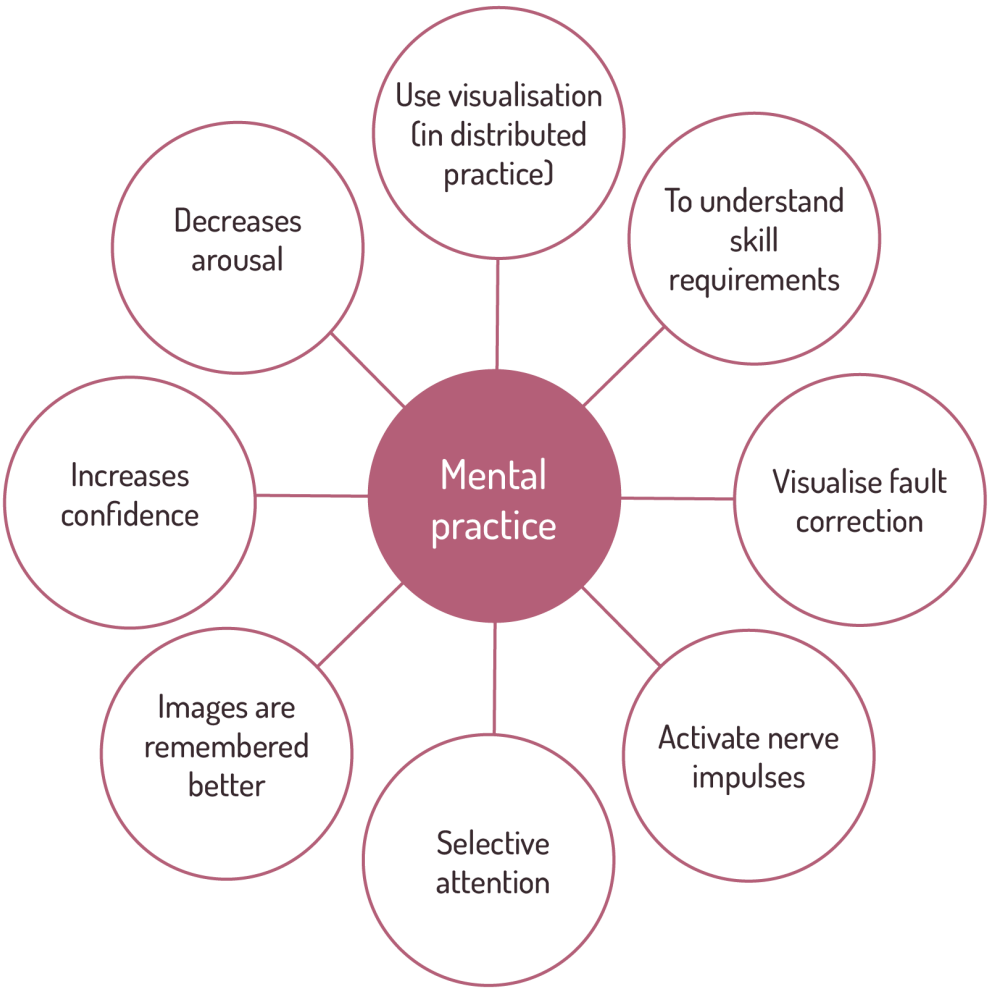
- Positive
  - Breaks can be used for coaching/feedback/ guidance
  - Breaks can be used for psychological processes such as visualisation or goal setting
  - Good for high-intensity skills
  - Good for less motivated performers
- Negative
  - Less time-efficient than massed
  - Breaks can become a distraction
  - Elite performers may want fewer stops

Variable practice

- Skill practised in a changing environment
- Skills need to adapted

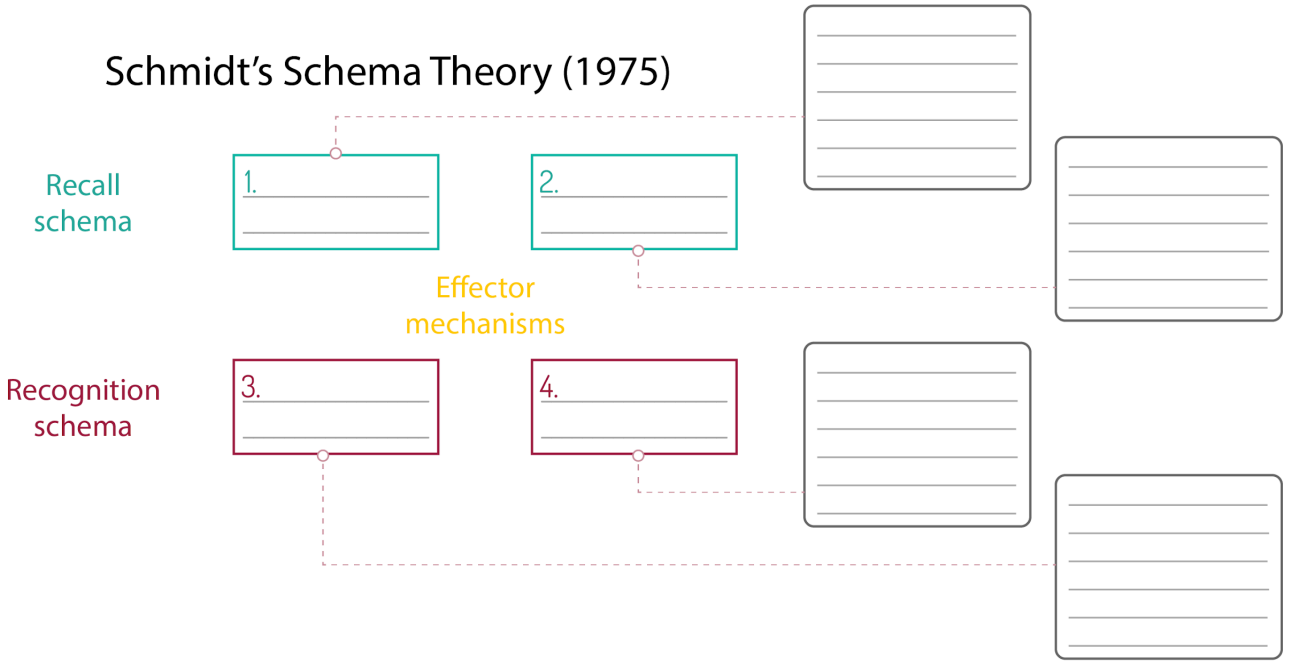
Lorem ipsum

- Positive
  - Excellent for open and complex skills
  - Excellent for perceptual skills
  - Performers experience decision making similar to the real situation
  - Broadens schema
  - Prevents boredom
- Negative
  - Can be overwhelming
  - Not useful for closed skills
  - Skills may need to be learned before being practised in varied scenario



Want to know more?	Watch the tutorial "Types of practice" on TheEverLearner.com (subscribers only).

Topic 7: Schmidt's schema theory

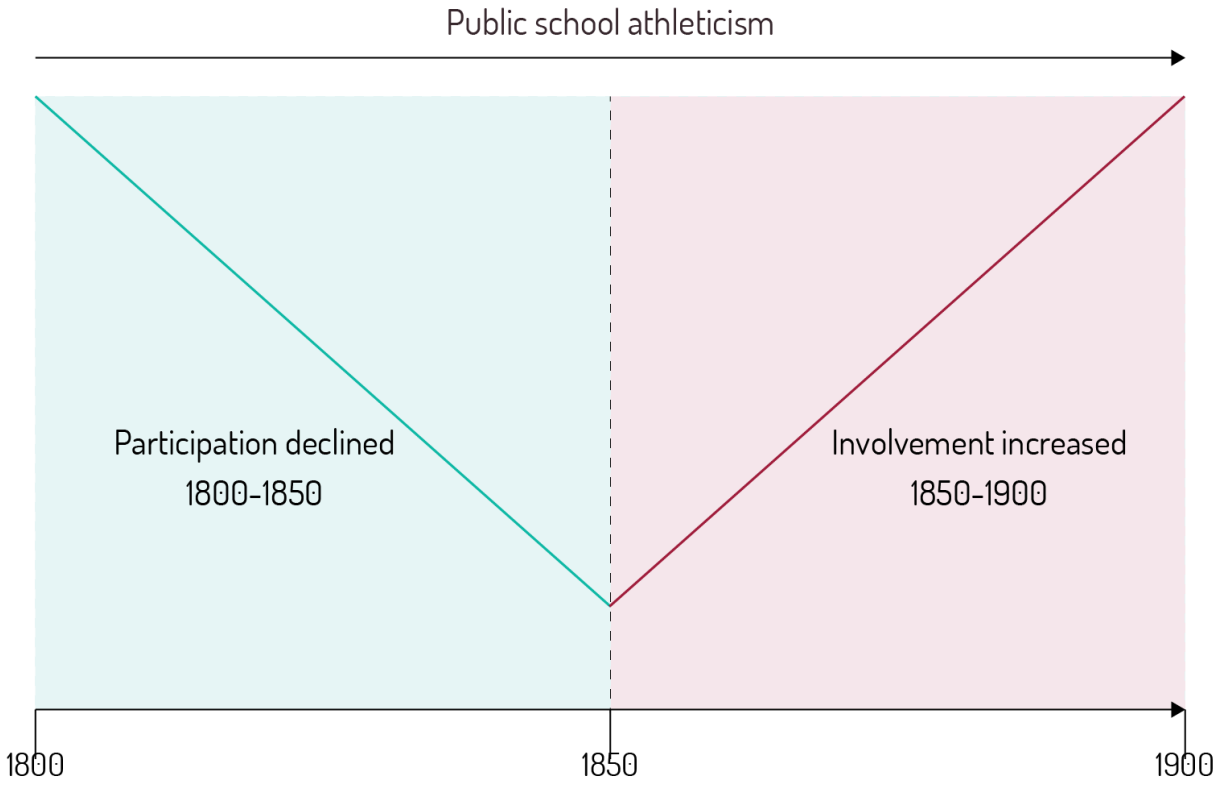


Be prepared to analyse this model.

Sketch the format of an analyse response for Schmidt's model. James will guide you through this.

Want to know more? Watch the tutorial "Schema theory" on TheEverLearner.com (subscribers only).

Topic 8: Characteristics of industrial society and impact on sport – Factors influencing the development of rationalised sport



Reasons for decline	Impact	Reasons for increased involvement		Impact
Urbanisation	Loss of space - mob games no longer possible or banned	Improved transport	Development of rail and roads	Play and spectate across the country. Growth in national cups and leagues.
Poor working conditions			National fixtures enabled such as the FA cup	
Poor living conditions		Improved communication		

Reasons for decline	Impact	Reasons for increased involvement		Impact
Poor pay		British Empire		
Loss of rights		Factor provision		
Long working hours				
Law and order				
		Influence of churches		
		Influence of local authorities		
		Influence of middle class		

Reasons for decline	Impact	Reasons for increased involvement		Impact
		Influence of public schools		
		Three-tier class system		
		Development of NGBs		
		Amateurism v professionalism		

19. Explain how public schools helped rationalise track-and-field athletics between 1870 and 1900.

The public schools led to the development of NGBs such as the AAA, so rules for track and field events were codified. As part of setting up NGBs, the boys from their public schools established leagues and competitions so the rules and regulations could be adhered to for all those participating. The Wenlock Society were inspired by the developments in track and field and established the first Wenlock Games to promote physical and intellectual development.

Marks: [3]

Development of association football (1780-1900)	Development of lawn tennis (1780 - 1900)	Development of track and field (1780-1900)	Wenlock Olympian Games (1780-1900)
Growth of public schools where football versions were popular	Based on historic game of real tennis	1809: Barclay Allardyce completed the 1000 miles in 1000 hours pedestrianism challenge	Established in 1850 by William Penny Brookes
Growth of middle class led to more boys at public schools and more schools.	Middle-class copy	1850: Much Wenlock Olympian games (Penny Brookes)	Brookes believed in the reforming power of sport.
1823: Web Ellis moment: Rugby shifted to rugby	1850: growth of public schools for girls	1861: Deerfoot arrives in Britain.	Multi-event contest
1824: development of the foot-ball club in Edinburgh	1874: Sphairistike released by Major Walter Clompton Wingfield	1880: AAA formed (later on removed the exclusion clause)	Medals for winners
1845: rules of rugby established	1877: Wimbledon All England Lawn Tennis and Croquet Club Championships	1886: AAC formed and introduced the exclusion clause	De Coubertin visited and was very impressed.
1848: Cambridge rules established	1887: Loti Dodd	1886: Exclusion clause banned mechanics, artisans and labourers.	De Coubertin met with Penny Brookes and shared his vision.
1857: Sheffield rules formed	1888: LTA formed	1890: de Coubertin visits England.	De Coubertin included many features of the Wenlock Olympian Games in the Athens 1896 Olympics.
1863: FA formed	1896: Tennis featured in Athens Olympics.	1896: Athens Olympic games	
1872: England v Scotland	Respectable for women: wear their own dresses	Harrier and cross-country clubs formed as working class alternatives	
1871: RFU formed	Respectable for women: less physical exertion	Athletics sports days held at public schools	
1895: schism in rugby	Respectable for women: high-walled gardens provided privacy.	Track and field became an urban festival.	
FA formed by ex-university students who used their business skills to codify football	Respectable for women: supervised	Lots of professional working-class male athletes	
New competitions established: FA cup	Respectable for women: didn't sweat.		

Development of association football (1780-1900)	Development of lawn tennis (1780 - 1900)	Development of track and field (1780-1900)	Wenlock Olympian Games (1780-1900)
Factory owners set up factory teams (Arsenal, West Ham).	Respectable for women: weren't expected to be good		
Clergy: provide land for football to occur.	Respectable for women: courting ritual		
Church: established church teams such as Aston Villa.			
Philanthropists paid for the development of public parks and spaces.			
Broken time payments signalled the start of professionalism.			
Time set aside for workers to train and play			
Codification meant teams could travel and play a unified game.			
Increased competitiveness via the FA cup			
More football pitches available			
Growth in spectatorship			
Saturday half-days			
Football as an expression of the new, local identity			
Media: Bells Weekly, Sports Weekly			
Technology led to stadia.			
Increased law and order led to greater public safety.			

Want to know more?

Watch the tutorial "Impact of industrialisation" on TheEverLearner.com (subscribers only).

Topic 9: Primary and secondary socialisation

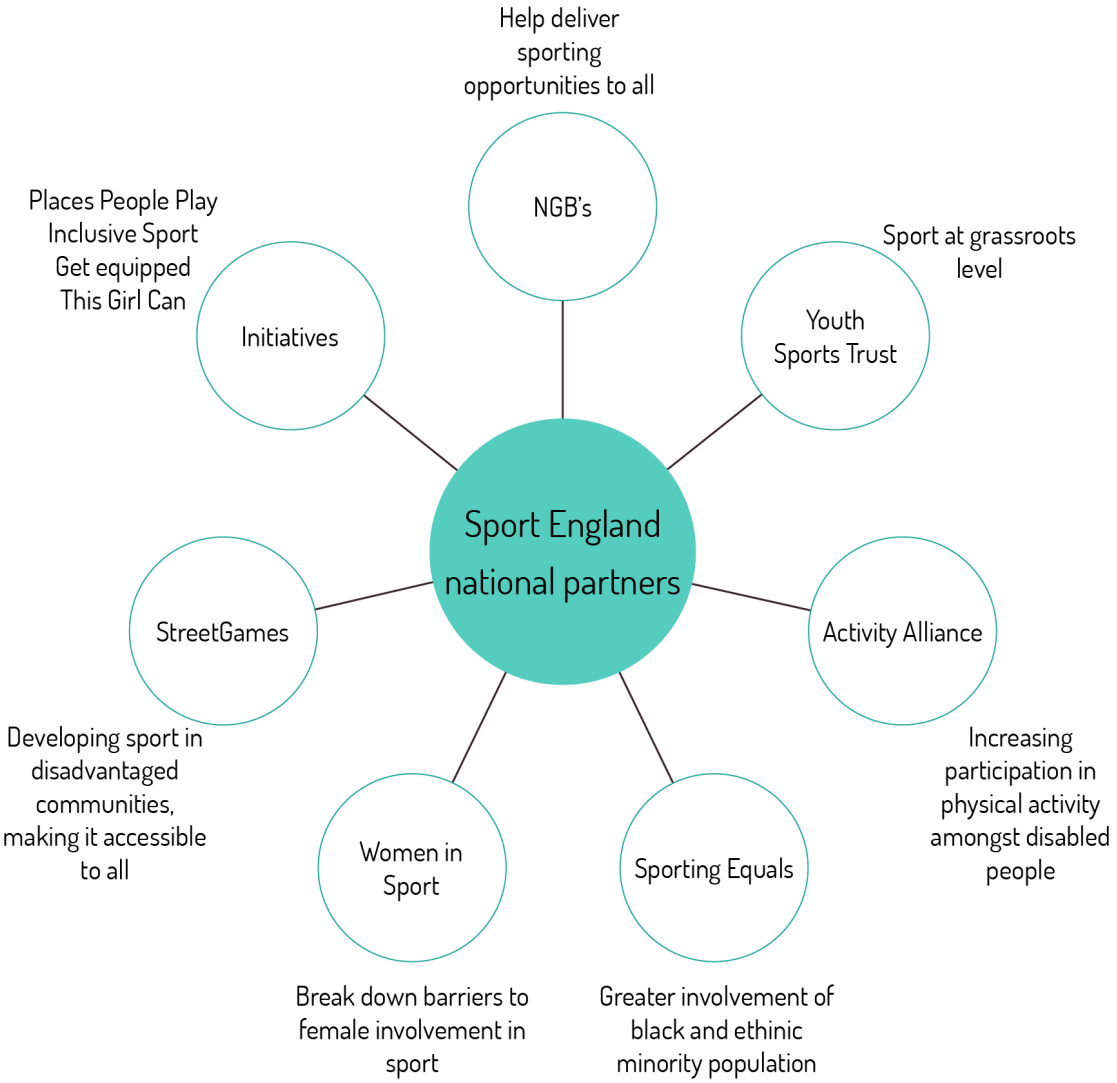
Primary socialisation	Secondary socialisation
Occurs in early childhood	Occurs in later years (usually teenager)
Usually with the immediate family	Family are less involved
Parents and siblings	Other agencies/people/ groups have more influence
Influenced by the sports they play & activity they do	Peer group/Teachers/Friends
Influenced by the sports they watch and enjoy together	School/Lessons/Extra curricular
Support from the family	

Profile	Most important form of socialisation	Justification	Example
8-year-old boy attending primary school			
19-year-old university student			

Want to know more? Watch the tutorial "Social processes 1" on TheEverLearner.com (subscribers only).

Topic 10: Sport England, local and national partners to increase grassroots participation and underrepresented groups in sport

Interrelationship between Sport England and local partnerships	
Active partnerships	
Role	Services
• Funded by National Lottery • Sport premium money • Aiming to create a sporting habit for life • Create more opportunities for young people to play sport • Nurture / develop talent • Provide the right facilities in the right places • Support local authorities • Unlock local funding • Opportunities within communities • Club development	• Training coaches / develop volunteers • Education programmes • Targeted initiatives • Equality • Improve facilities • Access to funding • Safeguarding • Provide a sport(s) network



Want to know more?

Watch the tutorial "Sport England" on TheEverLearner.com (subscribers only).