

Revision Series 2022
Edexcel GCSE Physical Education







Paper 1

◆ Notes pages ◆



The EverLearner

Welcome to the 2022 Revision Series for Edexcel GCSE Physical Education! We hope you find it useful. Before we start, please make sure you have all of the documents below, as they will be great help for your revision:

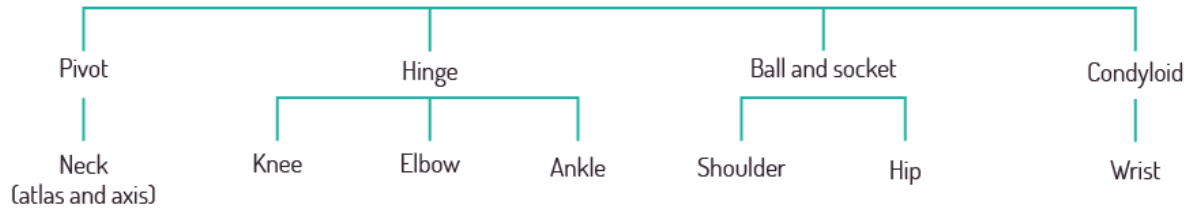
-  Notes pages
-  Practice questions
-  Mark schemes
-  Model answers
-  Infographics
-  Revision timetable

You will find all these documents on our [Edexcel GCSE PE Revision page](https://pages.theeverlearner.com/2022-edexcel-gcse-pe-revision) (<https://pages.theeverlearner.com/2022-edexcel-gcse-pe-revision>).

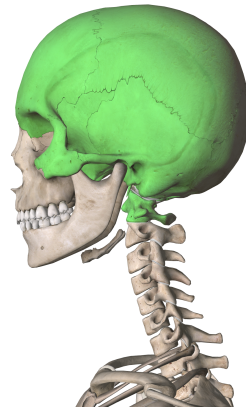


Types of joints

Classification of joints

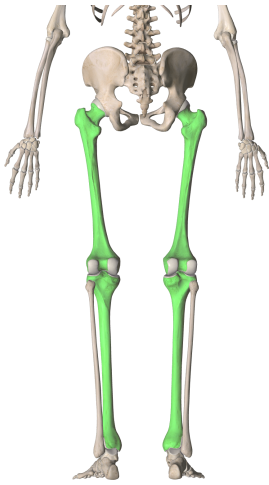


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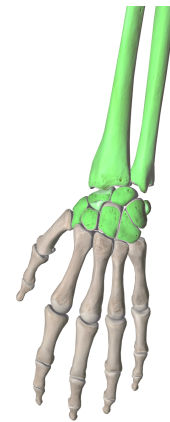
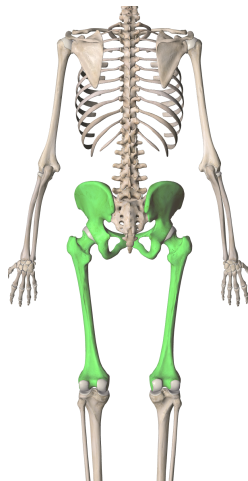
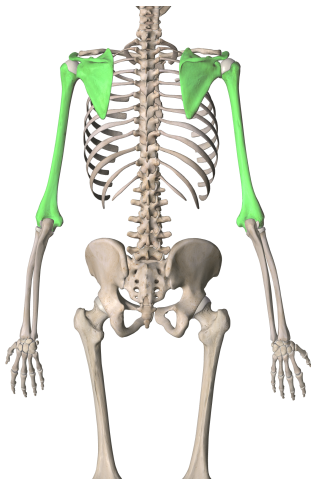




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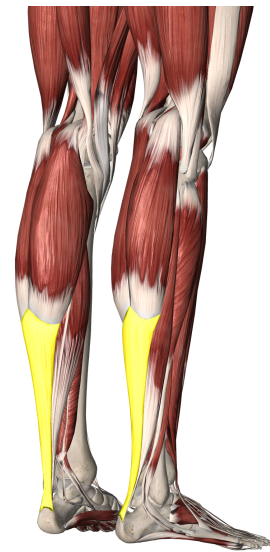
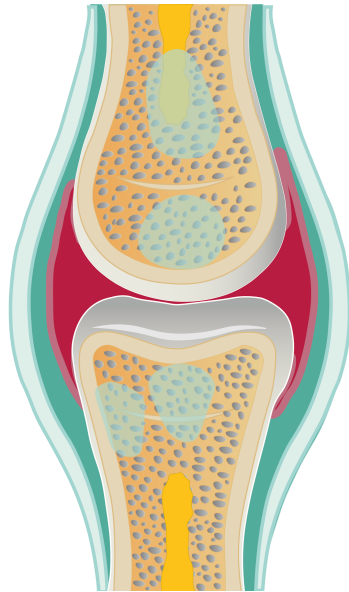
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Ligaments and tendons


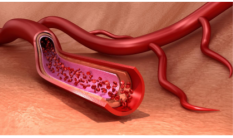



Ligament	Tendon
Connect bone to bone	Connect muscle to bone
Stabilise joints during movement	Force transmission
Prevent dislocation	Make bones move

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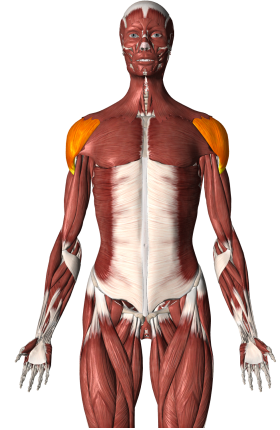
Classification of muscles

Image	Muscle classification	Descriptors
	Voluntary muscles of the skeletal system	<ul style="list-style-type: none">● Conscious control● Contract to cause movement
	Involuntary muscles in the blood vessels	<ul style="list-style-type: none">● Unconscious control● Change resistance to blood flow
	Cardiac muscle	<ul style="list-style-type: none">● The heart● Receive and eject blood● Unconscious control

Notes



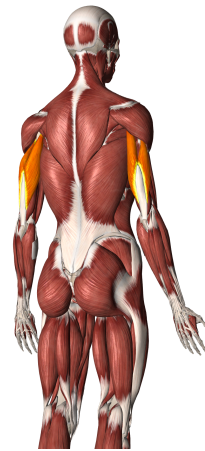
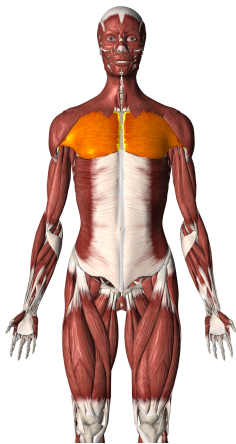
Location and role of voluntary muscles



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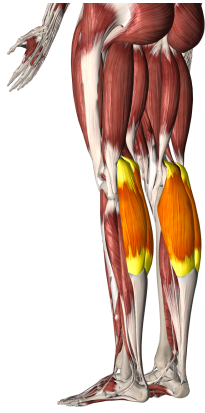
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Functions of the CV system

Functions of the CV System				
Transport of oxygen	Transport of carbon dioxide	Transport of nutrients	Clotting of open wounds	Regulation of body temperature
To the muscle tissue	Removal	Glucose	Platelets	Shunting of blood to the skin
For aerobic respiration	To the lung	*Amino acids		
		*Glycerol & fatty acids		

Notes



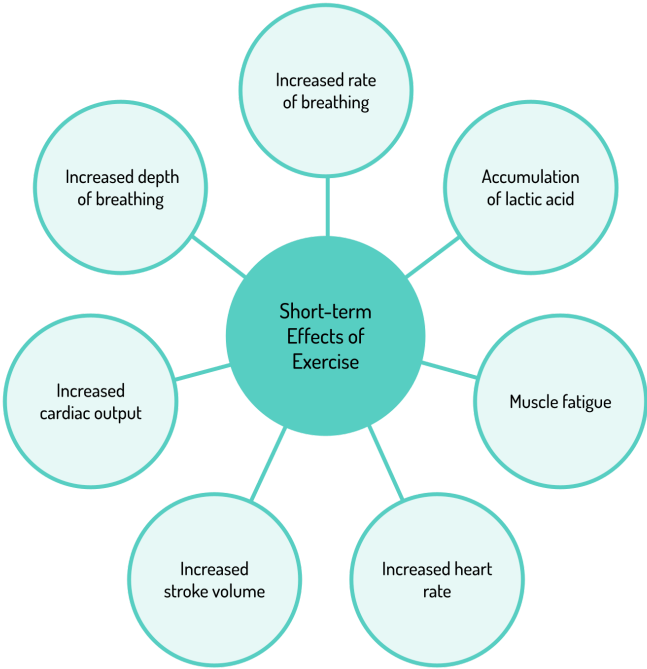
Aerobic and anaerobic exercise

System	Energy release	
Aerobic respiration	Glucose + Oxygen	 Carbon dioxide + Water + Energy
Anaerobic respiration	Glucose	 Lactic acid + Energy

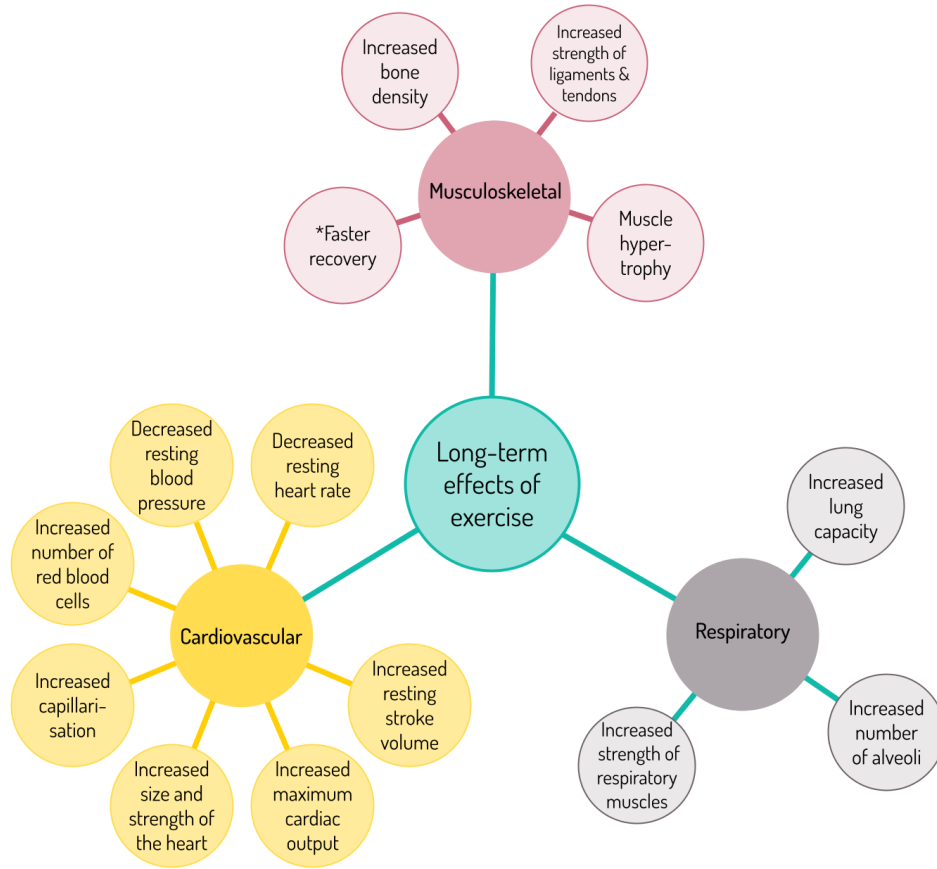
Notes



Short- and long-term effects of exercise



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Relationship between health, fitness and exercise

Concept	Definition
Health	State of complete emotional, physical and social wellbeing, and not merely the absence of disease and infirmity.
Fitness	Ability to meet the demands of the environment.
Exercise	Form of physical activity done to maintain or improve health and or fitness. It is not competitive sport.
Performance	How well a task is completed.

Notes



The value of fitness testing

Why fitness test?

Notes



Fitness testing

Protocols and links to components of fitness

Components of Fitness - CV endurance	
Definition	Ability to continuously exercise without tiring
Examples	Triathlete is able to swim, cycle and run continuously without fatigue and work at higher intensities aerobically and prevent OBLA.
Cooper 12-minute run/walk	Measure out a known area/use running track.
	Participants need to keep moving around the area for 12 minutes.
	Result is how far they run/distance covered.
	Calculate metres travelled/measured in metres.
Multi-stage fitness test	Measure out a 20m track.
	Use a Multi stage fitness recording.
	Keep in time to the bleeps/Arrive at the line on or before the bleep.
	Wait for bleep before turning.
	Bleeps get faster.
	Test ends after two missed bleeps.
	Result is the last level and shuttle they reach.

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Components of Fitness - Changing direction quickly whilst maintaining control	
Definition	How quickly you can change direction under control without losing speed, balance or power
Examples	Netball player dodging left and right to find space to receive the ball.
Illinois Agility test	Mark out the course to the exact measurements required
	Start lying face-down on the start line (prone position)
	Run the course as quickly as you can
	How fast you complete the course is recorded
	Measured in seconds



Components of Fitness - Strength	
Definition	Ability of a muscle to exert force for a short period of time
Examples	Weightlifter begins to raise a world record weight off the ground by applying maximal muscular force to the bar with the upper and lower body.
Grip strength dynamometer test	Hold in dominant hand
	Start with your hand up
	Bring down to side/Squeeze the handle/Lower arm
	No swinging your hand
	Repeat three times
	Record the maximum force reading

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Components of Fitness - Muscular endurance	
Definition	Ability to use voluntary muscles repeatedly without getting tired
Examples	Olympic rower repeatedly contracts the biceps to flex the elbows and pull against the water without fatiguing meaning they maintain their pace in the crucial last 100m.
Press-up and Sit-up Test	Correct sit-up/press-up technique
	Time for 1 minute
	Count the number of sit-ups/Count the number of press-ups



Components of Fitness - Speed	
Definition	Maximum rate at which an individual is able to perform a movement or cover a distance in a period of time
Examples	Table tennis player moves rapidly to their left to reach a hard-hit loop shot before the ball passes their paddle and wins the point for the opponent.
30m Sprint Test	Select a sprinting area 60-80ms long
	Measure a 30m distance
	Rolling start/Accelerate before the start
	Run as fast as you can/Run through the line
	Time is recorded

Notes

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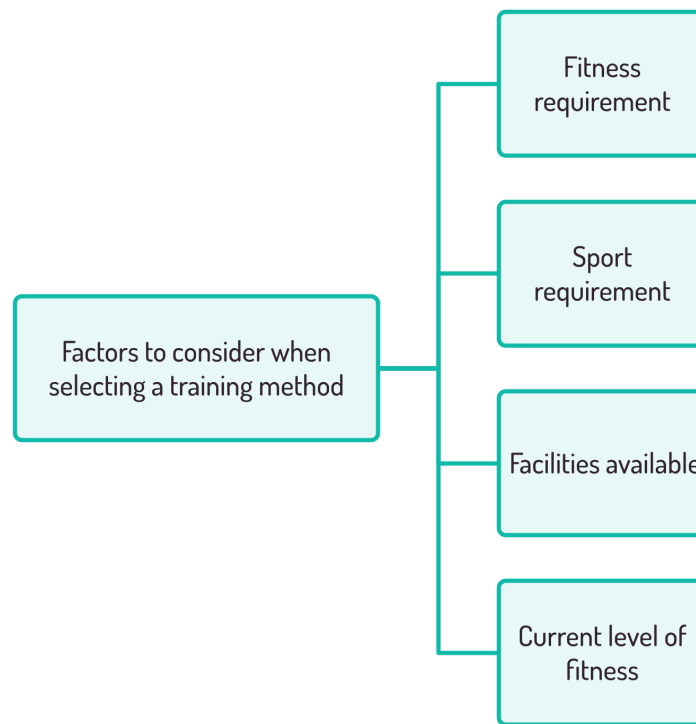
Components of Fitness - Power	
Definition	Strength x speed or... Ability to perform strength movements quickly
Examples	100m sprinter applies maximal force to the block at the highest speed possible to accelerate them ahead of their opponents in the race.
Vertical Jump test	Stand sideways on to the wall
	Mark standing reach height with chalk
	Jump as high as possible and mark a line with chalk at the peak of the jump
	Score is the distance in centimetres between the two lines

Components of Fitness - Flexibility	
Definition	The range of motion of your joints
Examples	Hockey goalkeeper shows a wide range of movement in the shoulder by hyperextending to save a slow-moving ball that has already looped over their head and is going into the net.
Sit and Reach test	Remove shoes
	Sit on floor with legs straight out
	Soles of feet on the box
	Reach forward with one hand on top of the other
	Stretch as far as possible
	Hold for two seconds
	No jerking movements
	Distance reached is measured in cm

Notes



Factors to consider when selecting training methods



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Types of training

Continuous Training



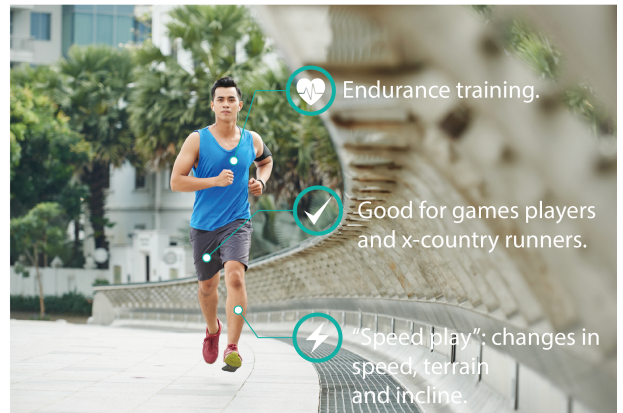
- Simple
- Cheap
- Intensity accuracy
- All age groups
- Essential

- Monotonous
- Time-consuming
- Weight-bearing
- Overuse injuries
- Can decrease speed

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Fartlek Training



- More varied than continuous
- Non-rhythmical
- Different sessions
- More sport-specific
- Does not threaten speed

- More varied locations needed
- Individual requirements-harder for group training



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Circuit Training



- Versatile
- Can cater for large numbers
- Basic equipment
- Can target skill and fitness
- Few records
- Loafing

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Plyometric Training



- Increases power
- Central to many sports
- Very effective
- Can be contraindicating
- Not suitable for unfit people
- Not suitable for young people



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Interval Training



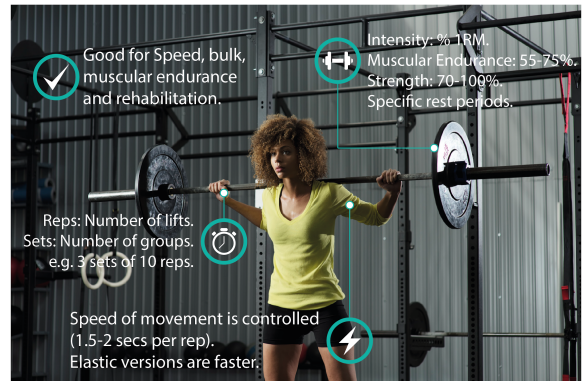
- Versatile
- Simple
- Effective
- Suitable for different athletes

- Increased intensity so requires motivation
- Can be monotonous

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Resistance Training



- Good for rehabilitation
- Endless variations
- Impacts performance
- Muscle isolation

- Poor technique has major side-effects
- Weight machines control movement



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PEDs

Anabolic steroid		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> • Power athletes • Sprinters • Weight lifters • Boxers 	<ul style="list-style-type: none"> • Increased muscle mass • Increased power • Increased strength • Faster recovery 	<ul style="list-style-type: none"> • Roid rage • Androgynous changes • Liver damage • Heart failure

Notes

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Beta blockers		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> • Archers • Pistol/rifle shooters • Snooker players 	<ul style="list-style-type: none"> • Reduced heart rate • Reduced tension • Reduced anxiety • Steady hand 	<ul style="list-style-type: none"> • Slower reaction time • Drowsiness



Diuretics		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> • Boxer • MMA fighter • Judo player • Jockey 	<ul style="list-style-type: none"> • Water loss • Rapid weight loss • Masking agent • Make weight 	<ul style="list-style-type: none"> • Dehydration • Body can go into shock

Notes

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Narcotic analgesics		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> • Injured performer • Someone awaiting an operation • Ironman 	<ul style="list-style-type: none"> • Masks pain • Play through injury • Delay operations 	<ul style="list-style-type: none"> • Make the injury worse • Not good for the athlete's health



Peptide hormones (EPO)		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> • Road cyclist • Triathlete • Marathon runner • X-country skier 	<ul style="list-style-type: none"> • RBC production • Increased oxygen transportation • Perform at higher intensities aerobically 	<ul style="list-style-type: none"> • Increased blood viscosity • Increased blood pressure

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Peptide hormones (HGH)		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> • Weight lifters • Hammer throwers 	<ul style="list-style-type: none"> • Increased muscle mass • Increased strength and power 	<ul style="list-style-type: none"> • Liver damage

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Stimulants		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> • Games players • Boxers 	<ul style="list-style-type: none"> • Increased alertness • Improved reaction time 	<ul style="list-style-type: none"> • Over-arousal • Loss of concentration • Errors



Blood doping		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> • Road cyclist • Triathlete • Marathon runner • X-country skier 	<ul style="list-style-type: none"> • RBC production • Increased oxygen transportation • Perform at higher intensities aerobically 	<ul style="list-style-type: none"> • Transfusion infections • High blood pressure

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