

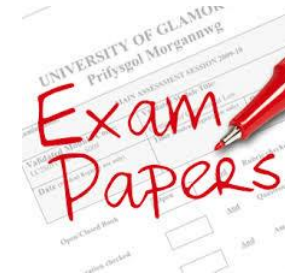


Paper 1: The human body and movement in physical activity in sport

Making the most of your revision

1. Answering past paper exam question

- Don't just copy the answers! Try them without your notes!
- Mark your answers – learn from your mistakes!
- **ALWAYS** give practical examples.
- Check how many marks a question is worth – 8 marks means you make 8 points!
- Underline key words!



2. Chunking

- Chunking is breaking up a big piece of information into smaller chunks rather like steps in a ladder.
- It can be used for numbers and words.
- A good example is to make a list with either bullet points or numbers.

ch-un-k

3. Mnemonics

- Mnemonics help you to remember by using short words that stand for something to help you.
- E.g. SPORT or FIT

4. Re-writing or condensing your notes.

- Simply re-reading your notes is a very ineffective way to revise.
- Creating posters, drawing mind maps or discussing a topic with friends will help you remember what you've studied.



4. Using colour

- Create colourful A3 posters or mind maps.
- Your brain just adores **colour** and will **remember** things much more easily **if you use it.**
- E.g. put all the important words in **red**, the important concepts in green, important dates in purple etc

5. Key Words

- A list of key words is a great way to test knowledge
- Learn definitions
- Quick glance revision.



6. Flash Cards

- Good to condense notes.
- Helpful for key topics.
- Handy to use with friends and family!



7. Post – its

- Single words/ phrases to trigger information!
- Stick them around the house – revising will seem like less of a chore!
- Group various things together.
- Organise them into what you know and don't know – rearrange as you learn more.
- Follow trends or themes.

and remember to take a break!

SKELETON

Functions of the skeleton:

Protection – protects vital organs – ribs (heart and lungs) - cranium (brain)

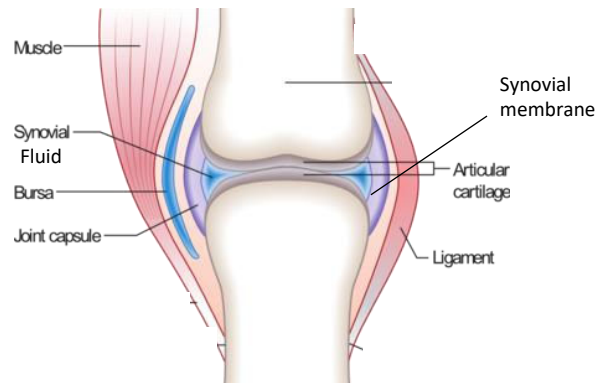
Support/Structure shape – rigid bone frame that gives us our shape. Supports soft tissues like skin and muscle.

Movement – muscles are attached the bones via tendons . Movement happens at joints

Mineral Storage – bones store minerals calcium and phosphorus. Makes bones strong.

Blood cell production – blood cells produced in the bone marrow of bones.

Structure of a synovial joint



Types of bone

Long bone – are strong and are used by muscles to assist movement. E.g. humerus or femur

Short bones – support the weight of the body – they are weight bearing. E.g. tarsals in the foot

Irregular bones – Suited to protection and muscle attachment.

Flat bones – protect vital organs. E.g. ribs

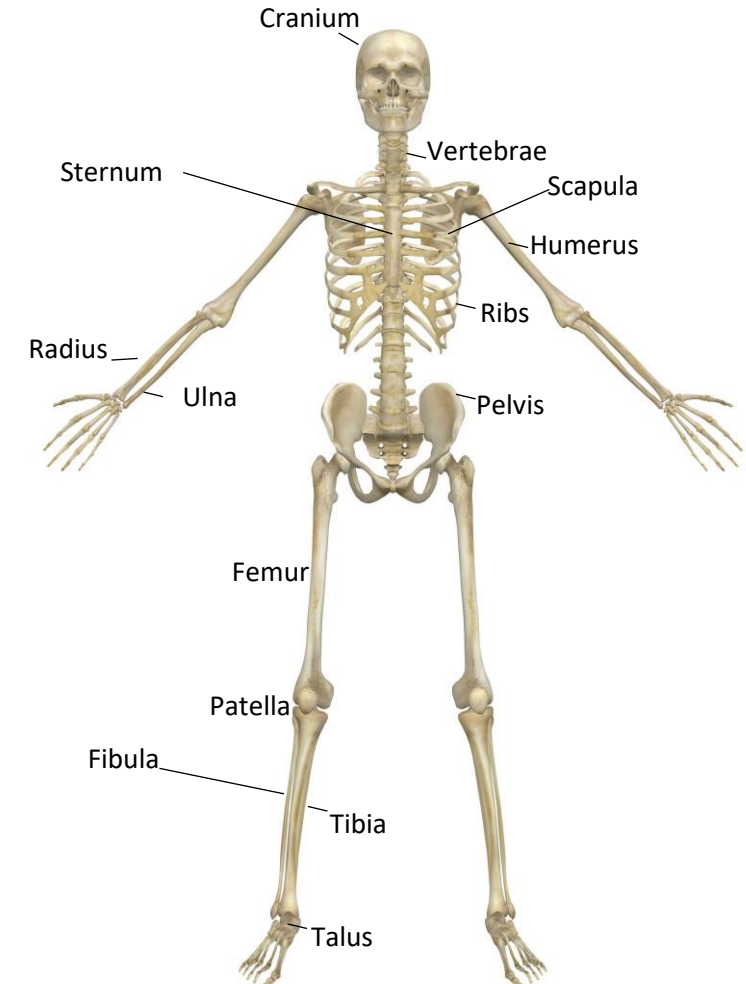
Types of joint

Ball and socket joint – hip and shoulder – allows flexion, extension, abduction, adduction, rotation and circumduction.

Hinge – elbow, knee, ankle – allows flexion and extension.

Pivot joint - neck – allows rotation

Condyloid – Wrist – flexion and extension, abduction and adduction.



MUSCLES

Connective tissue

Ligaments - attach bone to bone at a joint. They help to stabilise the joint.

Tendons – Attach muscle to bone. They help create movement.



Types of muscle contraction

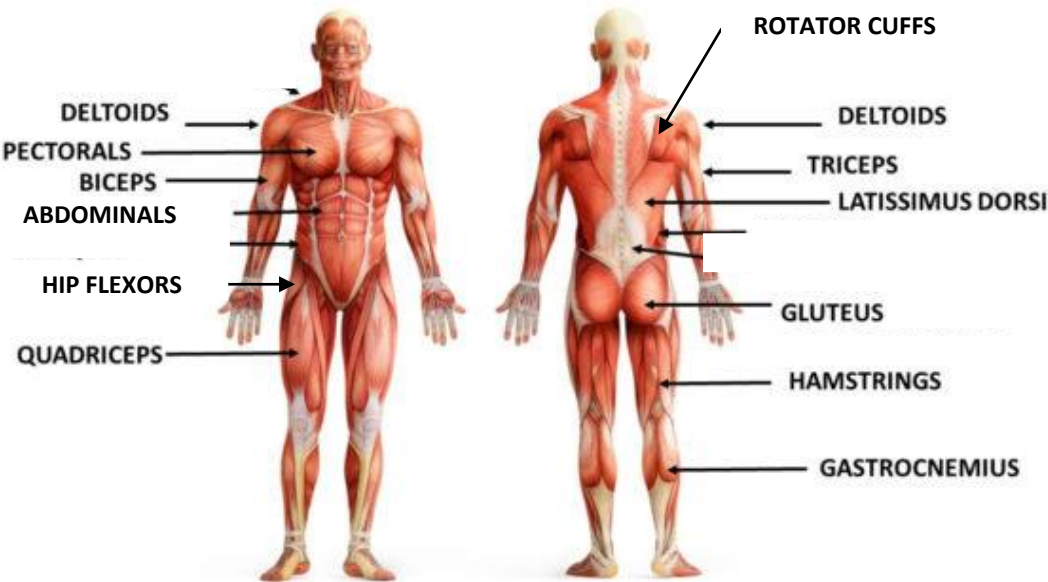
Isometric – muscle contracts but stays the same length

Isotonic – Muscle changes length. There are two types:

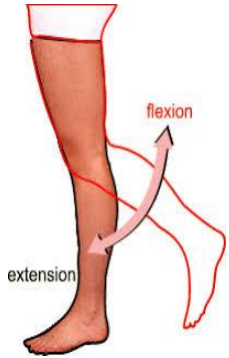
Concentric – the muscles that shortens and pulls.

Eccentric – muscle that lengthens. Helps control the speed of the movement.

Joint	Movement	Agonist (one that starts movement)	Type of contraction	Antagonist	Type of contraction	Bones
Elbow	Flexion	Bicep	Concentric contraction	Tricep	Eccentric contraction	Radius, ulna and humerus
	Extension	Tricep		Bicep		
Knee	Flexion	Hamstring		Quadriceps		Tibia, Fibula and Femur
	Extension	Quadriceps		Hamstring		
Ankle	Plantar-flexion	Gastrocnemius		Tibialis anterior		Tibia, Fibula and Talus
	Dorsi-flexion	Tibialis Anterior		Gastrocnemius		
Hip	Flexion	Hip flexors		Gluteus Maximus		Pelvis and femur
	Extension	Gluteus Maximus		Hip flexors		
Shoulder	Flexion	Front of deltoid		Back of deltoid		Scapula and humerus
	Extension	Back of deltoid		Front of deltoid		
	Abduction	Latissimus dorsi		Middle of deltoid		
	Adduction	Middle of deltoid		Latissimus dorsi		
	Rotation (arm out)	Infraspinatus and teres minor		Subscapularis		
	Rotation (arm in)	Subscapularis		Infraspinatus and teres minor		



TYPES OF MOVEMENT



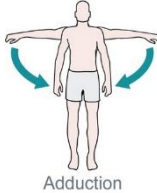
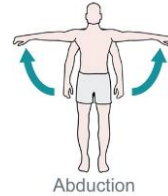
Flexion

Decreasing the angle at a joint.

Extension

Increasing the angle at a joint.

Occurs at the knee, elbow, hip and shoulder.



Abduction

Moving a limb away from the midline of the body.

Adduction

Moving a limb towards the midline of the body.

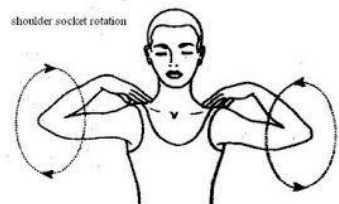
Occurs at the hip and shoulder.



Rotation

Circular movement at a joint.

Occurs at the shoulder and hip.



Plantar Flexion

Pointing the toes downwards

Dorsiflexion

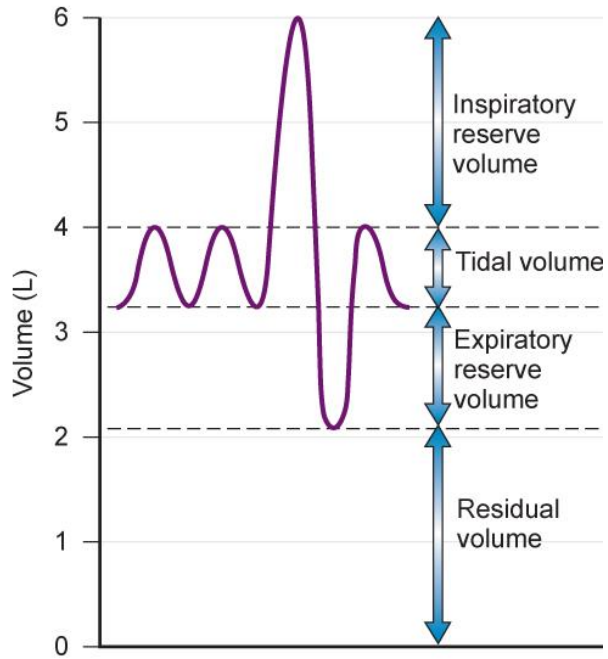
Backward bending of the foot (towards the leg)

Occurs at the ankle.

Movements you need to know:

- Elbow action in push ups/ throw in
- Shoulder action in cricket bowl
- Hip, knee and ankle in running
- Hip, knee and ankle in kicking
- Hip, knee and ankle in standing vertical jump
- Hip, knee and ankle in squats

LUNGS



Spirometer Trace

Tidal volume – the amount of air that is breathed in or out in one breath.

Inspiratory reserve volume – is the difference in volume from normal when we breath in as much as we can.

Expiratory reserve volume – the difference in volume after maximum exhalation.

Residual volume – the amount of air left in the lungs after the most forcible exhalation possible.

Changes in exercise

Tidal volume increases – deeper breaths in and out so the 'peaks' are higher and the 'dip' is lower.

Breathing rate increases – more breaths are taken per minute so the 'peaks' are close together.

Gaseous exchange

Gaseous exchange is the exchange of oxygen and carbon dioxide. It takes place in the alveoli in the lungs.

What makes gaseous exchange effective?

Large surface area of alveoli – there are thousands of alveoli in the lungs and they are round. Each of these factors increases the surface area of the alveoli meaning more exchange can take place at any one time.

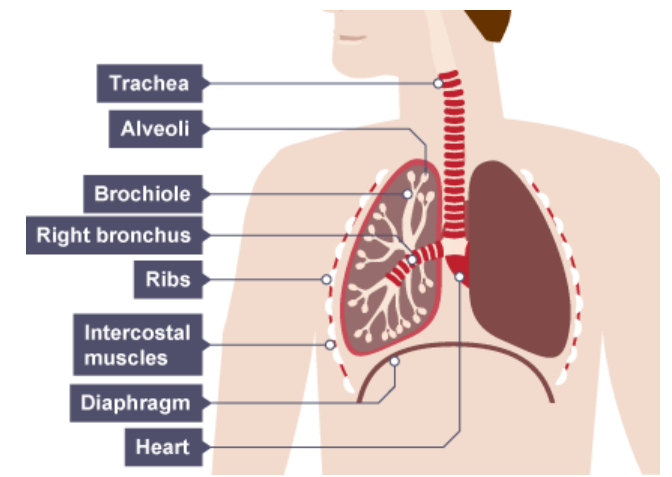
Moist thin walls – Gas can easily pass through the walls the exchange is very quick

Lots of capillaries – Capillaries surround the alveoli to allow exchange to take place as they carry blood.

Large blood supply – More blood means there is more opportunity for gaseous exchange.

Movement of gas from a high to a low concentration – gases move down the concentration gradient – so carbon dioxide is forced out and oxygen is forced in.

Short distance for diffusion – happens quickly



Delivery of oxygen

Oxygen is transported from the heart to the working muscles via the blood.

Red blood cells contain haemoglobin. Oxygen combines to this substance to form oxyhaemoglobin.

Carbon dioxide can also be carried by haemoglobin.

Mechanics of breathing

Inhaling – breathing in

- The external intercostal muscles contract – moving the ribcage up and out
 - The diaphragm contracts – flattening.
- These two movements increase the thoracic cavity forcing air into the lungs. In exercise lungs can expand more as pectorals and sternocleidomastoid contract – increasing volume further.

Exhaling – breathing out

- External intercostal muscle relax – moving rib cage in and down (internal intercostals contract)
 - Diaphragm relaxes – moves into dome shape.
- These two movements decrease the thoracic cavity forcing air out of the lungs. Rib cage can be pulled down quicker in exercise by abdominals forcing air out quicker.

HEART

Heart rate – The number of times the heart beats per minute.

Stroke volume – The volume of blood pumped with each heart beat by each ventricle of the heart.

Cardiac output – the volume of blood pumped by each ventricle in the heart per minute.

$$\text{Cardiac output} = \text{Heart rate} \times \text{Stroke volume}$$

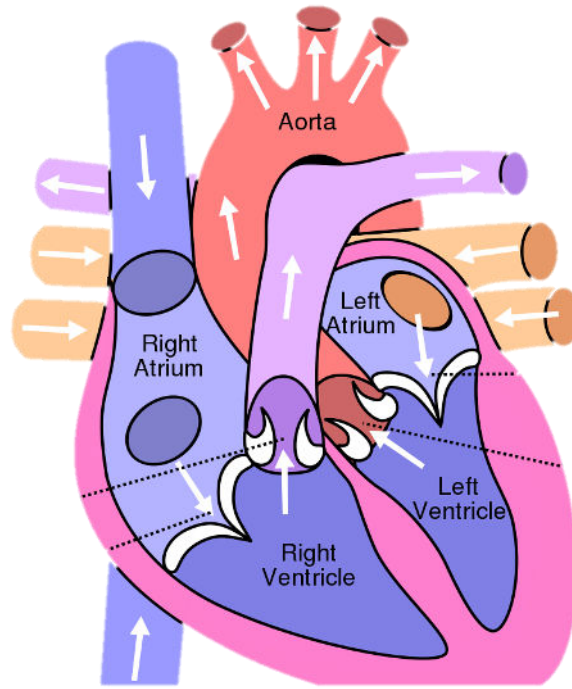
Redistribution of blood flow (vascular shunt mechanism)

Changes in exercise

- Arteries widen to stop blood pressure getting too high in exercise.
- Arteries supplying working muscles vasodilate to increase blood supply to the muscle.
- Arteries supplying inactive organs vasoconstrict to restrict the amount of blood being delivered.
- The amount this occurs depends on the intensity of exercise.

Capillaries

- Carry blood through the body to exchange gases and nutrients
- Very thin walls so substances can easily pass through.
- Narrow so a lot of them can fit into the body, meaning they have a large surface area.
- Blood flows through them slowly to increase time for exchanges to take place.



Cardiac cycle and the pathway of blood

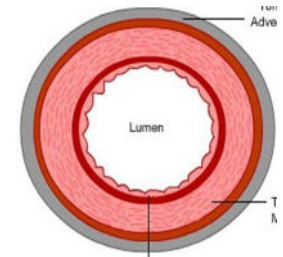
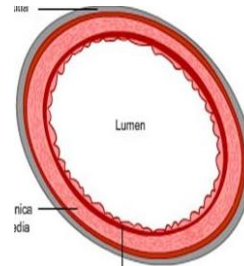
Pathway of blood

- Deoxygenated blood into the right atrium
- Then forced into the right ventricle
- Transported to the lungs via the pulmonary artery
- Blood is oxygenated via gaseous exchange
- Blood transported back to the heart via the pulmonary vein.
- Blood re-enters the heart into the left atrium.
- Moves into the left ventricle.
- Oxygenated blood is ejected and transported to the body via the aorta.

Cardiac cycle

Diastole/diastolic the ventricles are relaxed and are filling with blood from the atrium.

Systole/systolic – the ventricles contract pumping blood out of the heart.



Veins

- Carry blood towards the heart.
- Have valves to prevent the back flow of blood.
- Carry deoxygenated blood (except pulmonary vein).
- Carry blood at low pressure, so have thinner walls and less muscle. They have a large lumen.
- Muscle in the wall means the artery can widen (vasodilation) or narrow (vasoconstriction) to control blood flow.

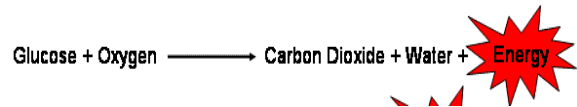
Arteries

- Carry blood away from the heart
- Blood is oxygenated (except pulmonary artery)
- Thick muscular walls as blood is travelling at a high pressure.
- Muscle in the wall means the artery can widen (vasodilation) or narrow (vasoconstriction) to control blood flow.

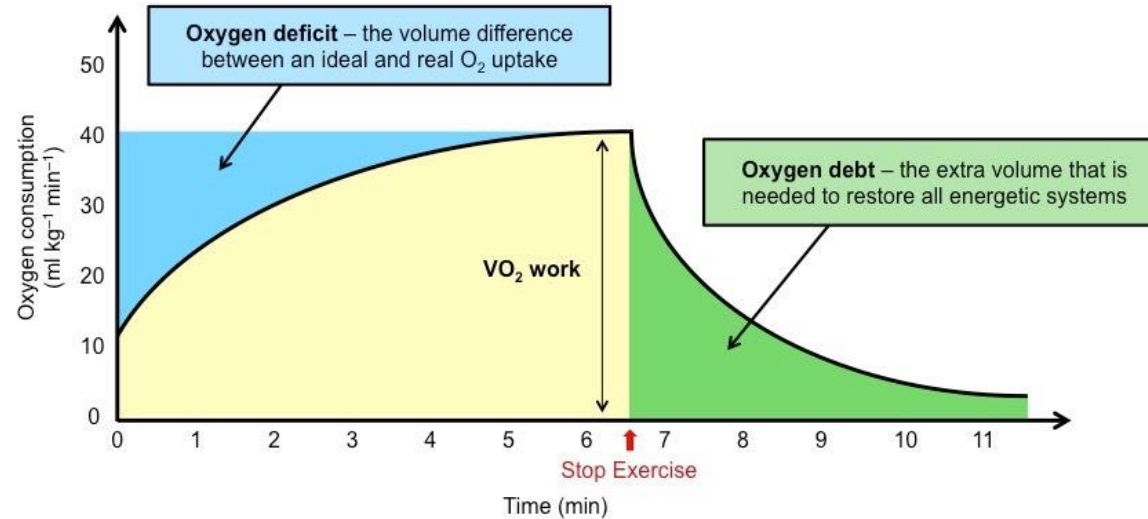
AEROBIC AND ANAEROBIC EXERCISE

Aerobic exercise

Aerobic respiration occurs in the presence of oxygen. The oxygen is used to release energy from glucose.

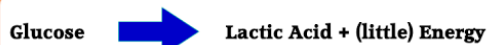


This happens when the body is able to meet the demands of the exercise – e.g. marathon. The body is able to get the oxygen to muscles in time.



Anaerobic exercise

Anaerobic respiration occurs in the absence of oxygen.



This happens when the body is not able to meet the demands of the exercise – e.g. sprinting. The body isn't able to get the oxygen to muscles in time.

Can only do this for a short period of time as lactic acid builds up and causes fatigue in the muscles.

Excess post-exercise oxygen consumption (EPOC) or Oxygen debt.

EPOC – The amount of oxygen the body needs to take in following a period of exercise to remove lactic acid and recover.

How it happens - when we begin exercise the body is not able to perform aerobic respiration straight away to meet the demands of the exercise. The body therefore performs anaerobic respiration, producing lactic acid. In order to convert lactic acid back to pyruvate (a non-harmful substance) the body needs oxygen. Therefore after exercise we take in extra oxygen by maintaining an increased breathing rate to ensure all body systems are ready to be used again, and any harmful substances are removed.

Recovery process from vigorous exercise:

Cool down

- Maintain elevated breathing rate and heart rate – ensure that oxygen is still being delivered to the muscles to aid the removal of lactic acid.
- Stretching – increase flexibility of the muscles.

Manipulation of diet

- Rehydration – increase intake of water to replace any that has been lost through sweating
- Intake carbohydrates – this will replenish energy stores

Ice baths/Massage

- Prevent DOMS (delayed onset of muscle soreness).

Depending on the activity that is performed, a different recovery process would be undertaken. For instance, a marathon runner would need to intake more carbohydrates and water than someone who has ran 100m.

EFFECTS OF EXERCISE

Immediate

These are the things that occur during exercise.

You will become hot/sweaty and may have red skin. This is due to the body trying to cool down.

Increase in depth and frequency of breathing – this will deliver more oxygen to the working muscles to allow them to continue to work.

Increase in heart rate – this will increase the blood flow to the muscles and therefore more oxygen will be delivered to the working muscles.



Short-term

These are the effects that may occur 24-36 hours after exercise.

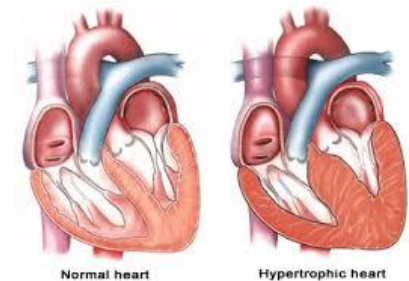
- Tiredness/fatigue
- Light headedness
- Nausea
- Aching/ DOMS/cramp

These are more likely to occur if the recovery process has not been followed.

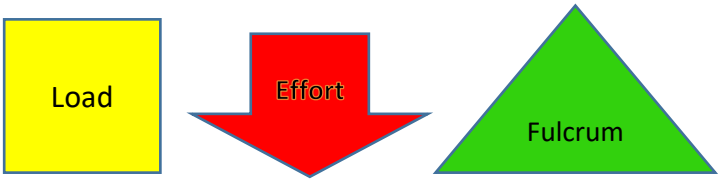
Long-term

These are the effects that may occur after months-years of exercising.

- Change in body shape
- Improvement in specific components of fitness including:
 - Muscular endurance
 - Speed
 - Suppleness
 - Cardiovascular endurance
- Increase in the size of the heart (hypertrophy)
- Lower resting heart rate (bradycardia)



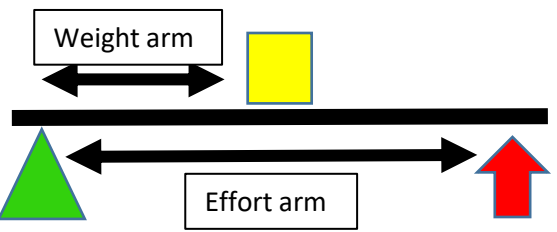
LEVER SYSTEMS



Fulcrum – Joint where movement happens
Effort – force applied by muscle
Load – what is being lifted (resistance)

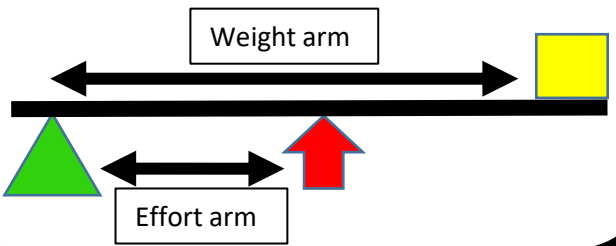
Mechanical advantage

When the effort arm is longer than the weight arm.
Second class levers have this
Mechanical advantage = effort arm ÷ weight arm



Mechanical disadvantage

When the effort arm is shorter than the weight arm.
Third class levers have this
Large effort for a small load, but it is done quickly through a large range of movement.



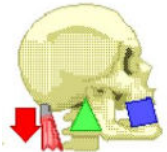
How to remember:

Letter represents the middle component in that particular class of lever.

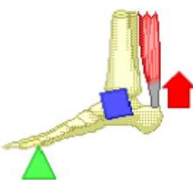
1 2 3
F L E



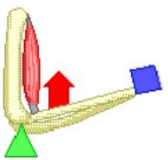
Fulcrum located in between the effort and the load.



Load is located in between the fulcrum and effort.
Plantar-flexion and dorsiflexion at the ankle.

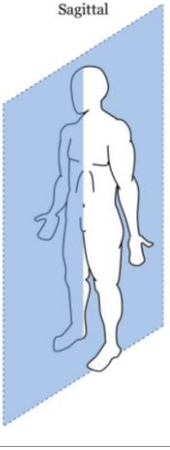


Effort is located in the middle of the fulcrum and the load.
Flexion and extension at the shoulder, hip and knee.
Flexion at the elbow.



PLANES AND AXIS

Sagittal

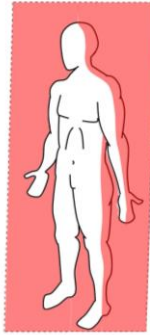


Sagittal plane – divides left and right.

Movement here is up and down movements of flexion and extension.

E.g. running action

Frontal

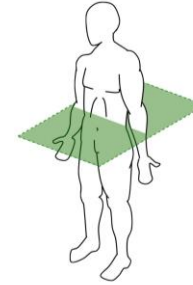


Frontal plane – divides front and back

Movement here is abduction and adduction.

e.g. Cartwheel

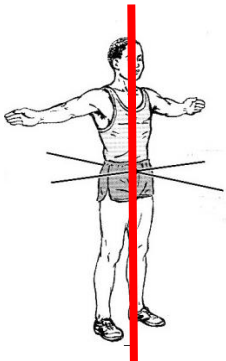
Transverse



Transverse plane – divides upper and lower halves of the body.

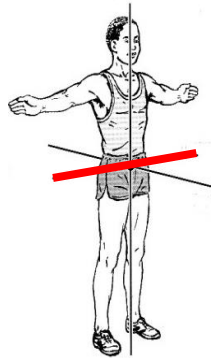
Movement here is rotational.

e.g. hip rotation in a golf swing.



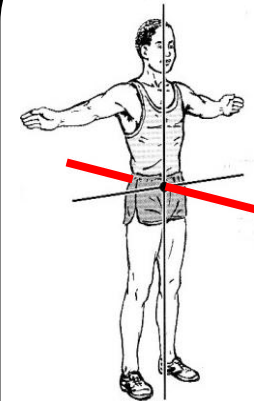
Longitudinal axis – runs through the body from the top to the bottom.

E.g. pirouette or a 360 degree rotation.



Transverse axis – runs horizontal through the body.

e.g. somersault or forward roll



Frontal axis – horizontal from the back to the front of the body.

e.g. cartwheel

HEALTH-RELATED COMPONENTS OF FITNESS AND TESTS

Cardiovascular endurance



Definition

Ability of the heart and lungs to supply oxygen to the muscles, so that the whole body can be exercised for a long period of time.

Test - Multistage fitness test (bleep test)

20 metre shuttles have to be run to the sound of the bleep which gets faster with each level.

Strength



Definition

Amount of force that a muscle or muscle group can apply against a resistance.

Test – maximal strength

One Rep Max – the highest weight you can perform a repetition with.

Test – Strength

Hand grip dynamometer – measures grip strength. Grip as hard as you can for 5 seconds and record the score.

Muscular endurance



Definition

The ability to repeated use muscles over a long time, without getting tired.

Test - Sit up bleep test

Perform sit ups to a set pace of 25 per minute. Can last for up to 4 minutes if you manage to keep the pace. Measured by how many you complete.

Flexibility



Definition

The amount of movement possible at a joint.

Test - Sit and reach

Legs are straight out with the feet flat on the box. Reach as far forward as you can recording the result in centimetres.

Speed

Definition

Is the rate at which someone is able to move, or to cover a distance in a given amount of time.

Test

30 metre sprint test – run the 30m as fast as you can and record time in seconds.



What you need to know:

- Definitions of components
- Test for component
- The equipment needed for the test
- How the test is measured (e.g. levels, cms, seconds)
- Who would need this component of fitness

Reasons for fitness testing:

- Identify strengths and weaknesses
- Monitor improvement
- Show fitness levels
- Inform training
- compare to others and averages
- Motivate and set goals

Limitations to testing:

- Not sport specific
- Don't replicate movement of activity
- Don't replicate competitive conditions of sport
- Measurements and reliability are questionable
- Must be carried out correctly to increase reliability

SKILL-RELATED COMPONENTS OF FITNESS AND TESTS

Power



Definition

Is a combination of speed and strength.
 $\text{Speed} \times \text{strength}$

Test - Vertical Jump test

Mark the highest point that you can reach on the wall while standing. Jump and mark the wall at the highest point of jump. Measure the distance between the two marks.

Co-ordination



Definition

Is the ability to use two or more parts of the body together, efficiently and accurately.

Test -Wall toss

Stand 2m away from the wall and throw a ball underarm. Catch the ball with the opposite hand. See how many catches you can do in 30 seconds.

Reaction time



Definition

Is the time taken to move in response to a stimulus.

Test -Ruler drop test

Ruler is held vertically above your hand between your finger and thumb with the 0 being nearest to your hand. The ruler is then let go and you record at which cm you catch it on.

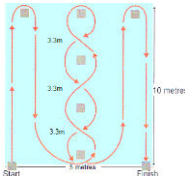
Agility

Definition

Is the ability to change body position or direction quickly and with control.

Test - Illinois agility run

Start lying face down. Complete the course as quickly as you can gaining the shortest possible time.



Balance



Definition

Is the ability to keep the body's centre of mass over a base of support.

Test -Stork test

Stand on the one leg with the other touching your knee and your hands on your hips. Raise your heel so you are on your toes. Hold this position for as long as possible.

What you need to know:

- Definitions of components
- Test for component
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PRINCIPLES OF TRAINING

Specificity

Matching the training to the needs of the sporting activity and individual.

Progressive overload

Gradual increases in exercise to cause a greater than normal stress to the body for training adaptations to take place. Done via **FITT**.

Reversibility

Any adaptation of training will be lost as a result of not training.

Tedium

There needs to be variety in your training to avoid it becoming boring.

FITT Principles

Frequency – number of times one trains

Intensity – how hard you train

Time – how long your train for

Type – What exercises and methods of training you should use.



TRAINING ZONES AND METHODS OF TRAINING

Training zones:

Aerobic target zone – 60-80% of your maximum HR

Anaerobic target zones – 80-90% of your maximum HR.

Calculations

Maximum HR = $220 - \text{age}$

Aerobic target zone = maximum HR $\times$ 0.6 (lower)
= maximum HR $\times$ 0.8 (higher)

Anaerobic target zone = maximum HR $\times$ 0.8 (lower)
= maximum HR $\times$ 0.9 (higher)

**TARGET
ZONE**
TRAINING

Static stretching

Training that is the gradual stretch of a muscle. It is where muscles are held in positions for around 30 seconds to increase flexibility.

Active - you use your own muscles to hold the stretch position.

Passive - you use someone else or a piece of equipment to help you hold the stretch.



Continuous training

Training that involves activity without rest intervals

This training involves exercising at a steady, regular pace (eg. jogging). It lasts for at least 20 minutes and is **aerobic**.

e.g. running, walking, cycling, swimming and rowing



Advantages - Highly effective for long distance athletes and needs only a small amount of equipment.

Disadvantages - It can be very boring. It doesn't improve anaerobic fitness

Circuit training

Circuit training is 'a series of exercises performed at stations that focus on different muscle groups'.

Each exercise is called a station and should work a different area of the body to avoid fatigue. Circuit training can develop many components and can be specific to sports by using skill stations.

Advantages – Match training to specific needs and components of fitness. Variety within training.

Disadvantages – Takes a lot of time to set up and can require lots of space and equipment.



Interval training

Interval training is 'training that incorporates periods of exercise and rest'. An example of interval training would be sprinting for 25m and walking back to the start. It is a high intensity activity followed by a low intensity activity.

Advantages Quick and easy to set up. Can mix aerobic and anaerobic exercise to replicate team games.

Disadvantages - It can be boring. It can be hard to keep going when you get fatigued.

Fartlek training

Fartlek training is 'training which varies in intensity and duration and consists of bursts of intense effort alternating with less strenuous activity'. This training involves exercising at different speeds/intensities. For example 1 lap jogging, 1 lap sprinting, 1 lap running. Due to the different speeds it is both **aerobic** and **anaerobic**. It can also be completed over different terrains (hills/roads etc.).

Advantages Good for sports that require changes in speed. Easily adaptable to suit different fitness levels.

Disadvantages It's easy to skip the harder parts. Difficult to know how hard someone is trying.

TRAINING ZONES AND METHODS OF TRAINING

Weight training

Weight training is 'a method of training that uses free weights or resistance machines'. Weight training can help someone to increase strength (high weights x low reps – 70% of one rep max 3 sets of 4-8 reps) and muscular endurance (low weights x high reps – below 70% of one). It can also help participants to recover from injury.

Advantages - Can be adapted to suit different sports. Can target muscle groups to strengthen.

Disadvantages - Can cause muscle soreness.
Can cause injury if the incorrect technique is used.

Plyometric training

Plyometrics is a 'a method of training that uses jumping, hopping and bounding to increase power'. Plyometrics exercises involve rapid and repeated stretching and contracting of the muscles. Plyometrics increases the speed at which the muscles can contract and therefore also affects power. This can involve jumping on and off of boxes.

Advantages – only form of training that directly improves your power

Disadvantages - Demanding on the muscles so can cause injury.

High altitude training:

Training done at higher than sea level. At a higher altitude pressure is lower, so there is less oxygen in each breath. The body therefore produce more red blood cells, meaning more oxygen can be delivered to the muscles improving cardiovascular and muscular endurance.

Advantages – Improve cardiovascular and muscular endurance

Disadvantages - effects only last for a short time.
Can be very expensive. May get altitude sickness and lose training time.

SEASONAL TRAINING

Preseason

Preparation – performer makes sure they are ready for season.

Focus on general fitness and developing specific components of fitness and skills.

Competition/playing season

Peak – should be at peak of their fitness and ability.

Maintain current fitness and continue to develop skill.

Too much training may cause fatigue.

Post-season

Transition - performer needs to rest and relax to allow their body to recover.

Light aerobic training is done to maintain general fitness

PREVENTING INJURY DURING/ BEFORE/AFTER TRAINING

Warm up - Complete all stages of a warm up prior to exercise to minimise the chance of injury.

Avoid overtraining –make sure that you don't push the body to far e.g. use the correct weight.

Appropriate clothing and footwear – make sure you are not wearing anything that could get caught. Use protective equipment and make sure footwear is suitable.

Taping/bracing – support joints where needed by restricting the range of movement – particularly for recently injured areas.

Hydration – drink plenty of water during and post exercise to replenish stores.

Stretches – Avoid pushing muscles to far (overstretching) or bouncing.

Technique – Make sure this is done correctly so that muscles are not injured.

Appropriate rest – leave enough time for your body to repair and rebuild muscles after exercise.

WARM UP AND COOL DOWN

Components of a warm up

Pulse raiser – Light exercise that increases your heart rate. Done to increase oxygen flow to muscles, increase body temperature and warm up muscles.

Stretching and mobility – increases the flexibility (therefore range of movement) at a joint. Focus on the muscles and movements you will use.

Skill based practice/ familiarisation – a practice that is related to sport or activity. Helps muscles prepare, but also mental preparation for performance. It gets you in the zone.



Benefits of a warm up

ROM – Increased range of movement at joints and therefore more flexible

Psychological preparation – gets performer in the zone so they can focus on performance.

Practice of movements – activates muscle memory and gets performer prepared to perform

Prevents injury – the body is prepared for exercise.

Body temperature – Raises warming up muscles ready for exercise.



Example warm up

Footballer

Pulse raiser – jog around the pitch for 5 minutes.

Stretching/mobility – leg swings, arm swings, hip circles, open and close the gate, Frankenstein walks, walking lunges

Skill based practice – pass and move, shooting drill, corner practice.

Components of a cool down

Pulse lower – this is a gentle exercise to keep the heart and lungs working harder than usual. The intensity of the exercise should gradually be reduced.

Stretching – Should be static or PNF. This is done to increase mobility gains.

Benefits of a cool down

Allows the body to recover – gradually decreases breathing rate and heart rate to resting state. Prevents things such as blood pooling.

Removal of waste products – Cooling down helps the body get rid of waste products such as CO₂ and lactic acid

Prevent DOMS – removal of lactic acid prevents the delayed onset of muscle soreness.

Example cool down

Pulse lower – slow jog around the pitch into a walk

Stretches – hamstring stretch, toe raisers (gastrocnemius stretch), quadriceps stretch (heel pulled towards the bum)



USE OF DATA

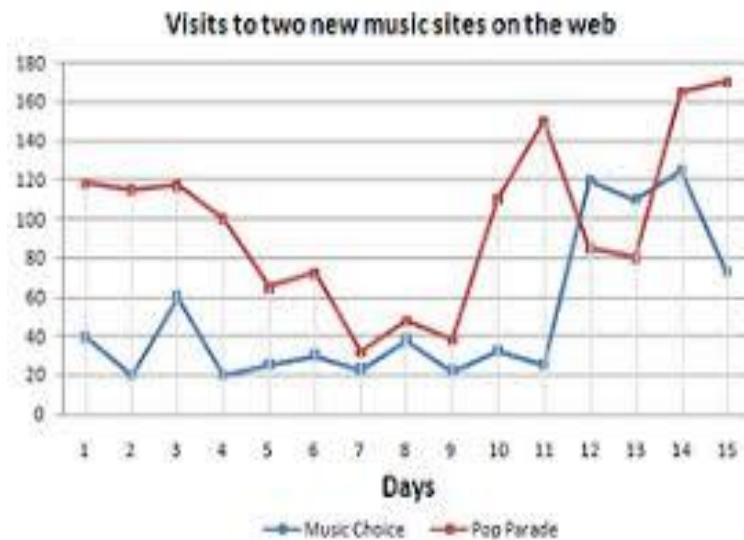
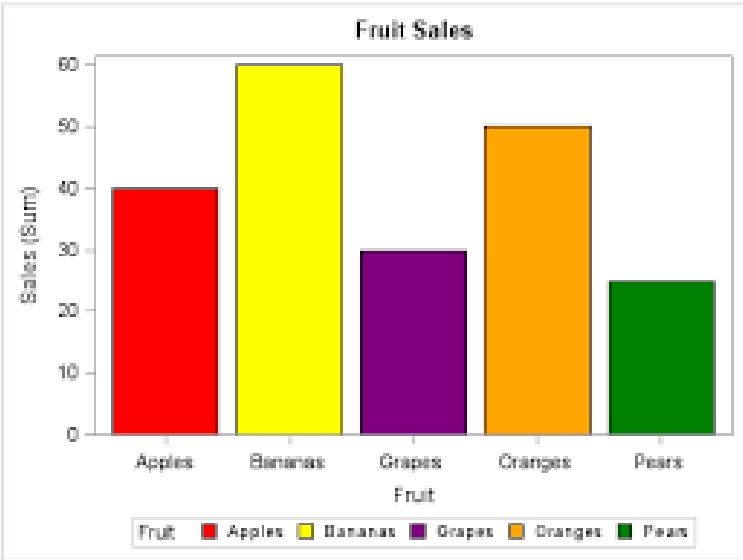
Types of data

Quantitative data

- Measures something – done in numbers
- Can be collected through questionnaires or surveys.
- Things such as the time taken to finish a race or scores gained in a fitness test.
- Data can be presented in tables and graphs.

Qualitative data –

- Describes something – will be in words.
- Can be collected through interview or observation.



You need to be able to plot a bar chart and a line graph from given data.

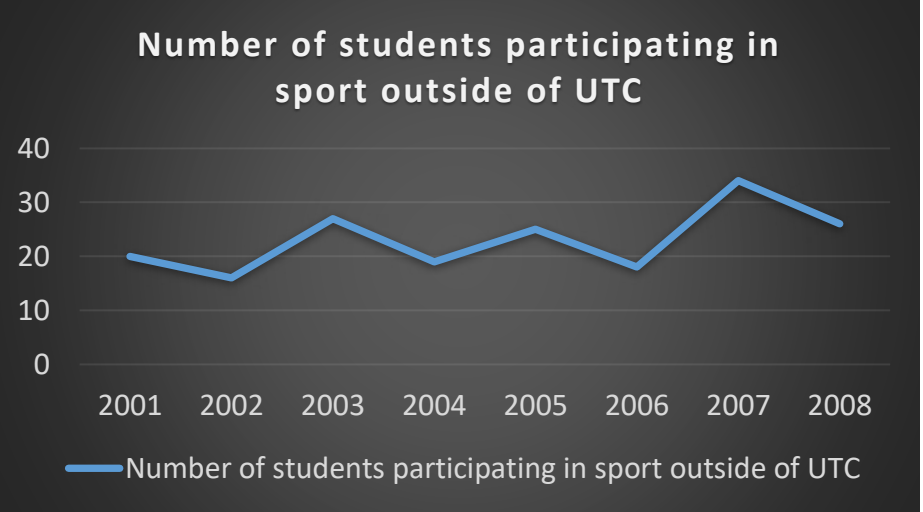
- X axis (one on the bottom) – should be the thing that is controlled such as the day/week or year you took the measurement.
- Y axis (one up the side) – is the thing you are measuring such as time or score achieved.
- Axis should be numbered with the small scale possible for the results.
- Ensure that you label the axis with titles.

Year	2010	2011	2012	2013	2014	2015
No. of yellow cards	6	7	10	11	8	9

Tables

You need to be able to present data that is given into a table.

Highlight in column one what the data is that you are measuring. In each row you should then present the data you have collected that represents each row.



Analysing graphs

You need to be able to analyse tables, bar charts, line graphs and pie charts, and discuss the data that is presented.

E.g. in the graph presented to the left you could discuss how the number of participants increased rapidly from 2006 to 2007, but saw a slight decrease again by 2008.

There has been a slight increase from 2001 with 20 students to 2008 with 28 students participating in sport.