

Fowey River Academy  
Year 10 Knowledge Organiser

Summer Quadmester



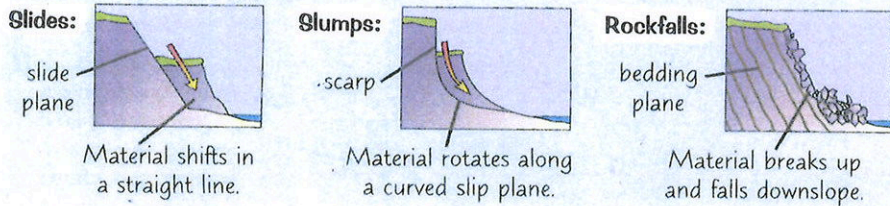
# Geography Year 10 Knowledge Organiser

## Weathering and Mass Movement

**MECHANICAL WEATHERING** — the breakdown of rock without changing its chemical composition, e.g. freeze-thaw weathering.   
 Freezing and thawing water in cracks breaks rock up.

**CHEMICAL WEATHERING** — the breakdown of rock by changing its chemical composition, e.g. carbonation.   
 Carbonic acid in rainwater dissolves rocks containing calcium carbonate.

**MASS MOVEMENT** — gravity acts on rock / loose material → material shifts down slope.



## Destructive Waves

**Destructive waves erode the coast.**   
 waves are high-frequency, high and steep   
 backwash > swash = material removed

- Waves wear away the coast by:
- Hydraulic power (air forced into rock)
  - Abrasion (scraping / rubbing of rock)
  - Attrition (rocks collide, break and smooth)

## Constructive Waves

**Constructive waves deposit material.**   
 waves are low frequency, low and long   
 swash > backwash = deposition

- Deposition** — waves lose energy and drop sediment when:
- rolling up beach & spreading out
  - lots of material is transported into the area

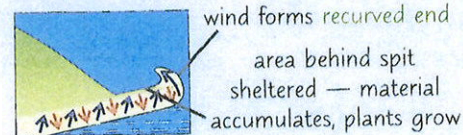
## Transportation — Longshore Drift

**LONGSHORE DRIFT** — gradual zig-zag movement of material along coast.   
 Swash carries material up the beach.   
 Backwash carries material back down beach.   
 Water moves sediment by traction, suspension, saltation and solution.   
 Waves follow wind direction.

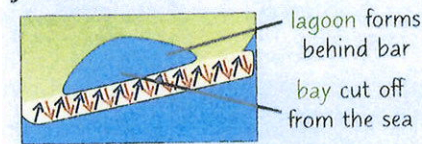
## Landforms Caused by Deposition

**BEACHES** — formed by constructive waves.

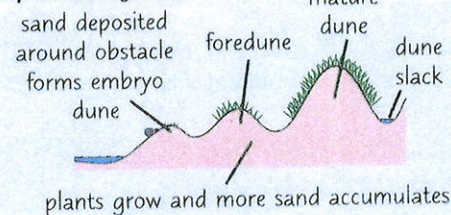
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**BARS** — formed when a spit joins two headlands.



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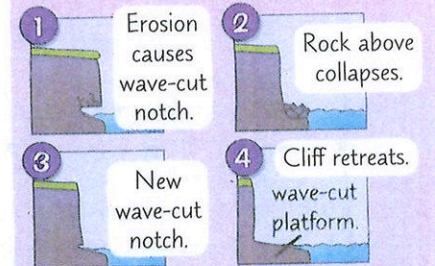


## Landforms Caused by Erosion

**HEADLANDS and BAYS:**   
 softer rock erodes faster to form a bay   
 headland   
 hard   
 soft

**CAVES, ARCHES and STACKS:**   
 headland erosion over time   
 cracks enlarge — caves form   
 arch weakens and collapses   
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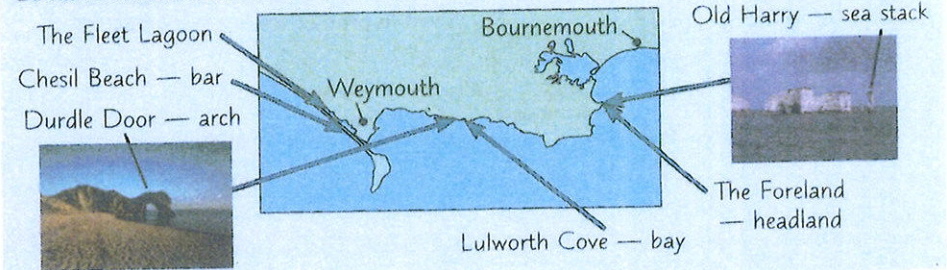
## WAVE-CUT PLATFORMS:



Rock type affects landform development.   
 Coasts can be discordant or concordant.

## Coastal Landscape — Dorset

Bands of hard and soft rock have eroded at different rates.





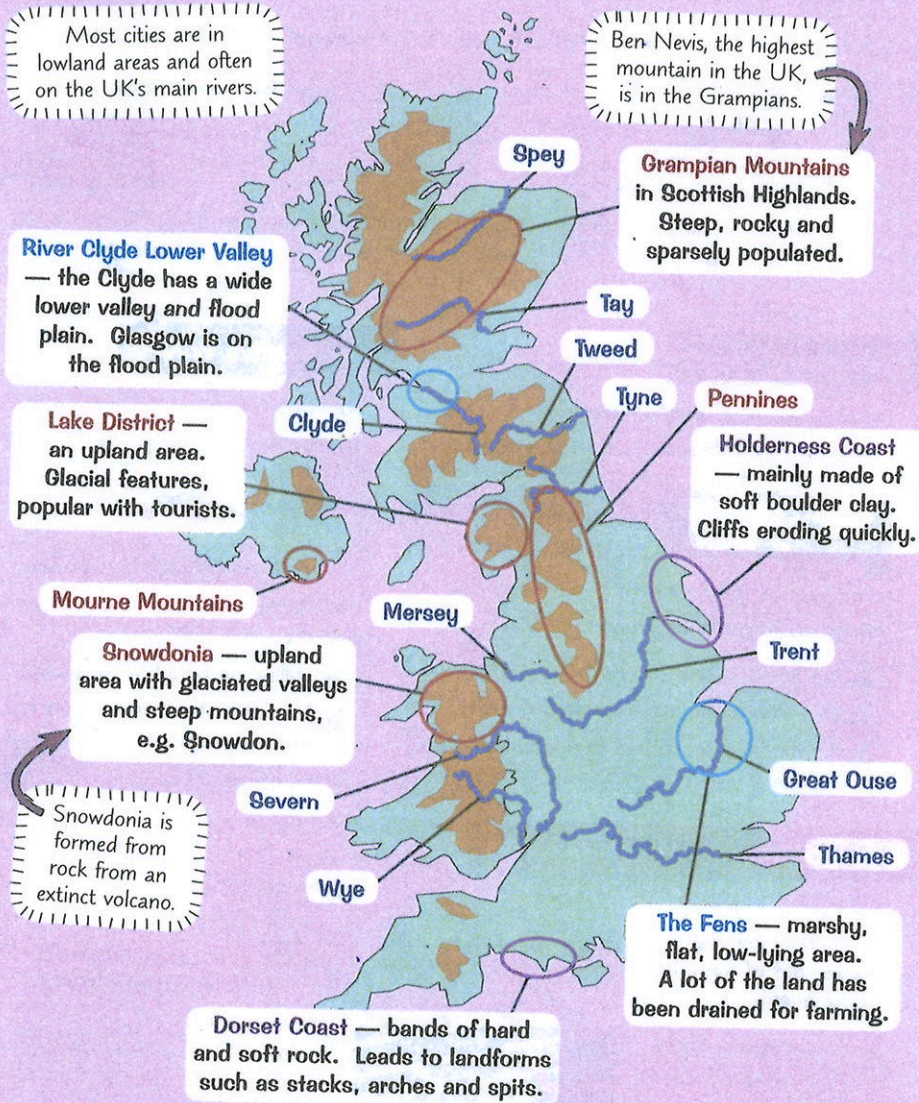
# Geography Year 10 Knowledge Organiser

## Upland and Lowland Areas in the UK

- Upland areas** — formed of hard, igneous (e.g. granite) and metamorphic (e.g. slate and schist) rocks that are resistant to erosion.
- Lowland areas** — formed of softer sedimentary rocks (e.g. chalk and clays) that erode more easily.

Most cities are in lowland areas and often on the UK's main rivers.

Ben Nevis, the highest mountain in the UK, is in the Grampians.



# Coastal Management

## Management Strategies

**1 HARD ENGINEERING** — man-made structures built to control the flow of the sea.

- sea wall**: reflects waves
- gabion**: absorbs wave energy — reduces erosion
- rock armour**: reduces erosion
- groyne**: traps material, longshore drift

**2 SOFT ENGINEERING** — uses knowledge of the sea and its processes.

Soft engineering — more sustainable but can be expensive.

- beach nourishment and reprofiling**: added material widens beach — slows waves
- dune regeneration**: plants stabilise dunes — dunes form barrier

**3 MANAGED RETREAT** — removing current defences and allowing flooding.

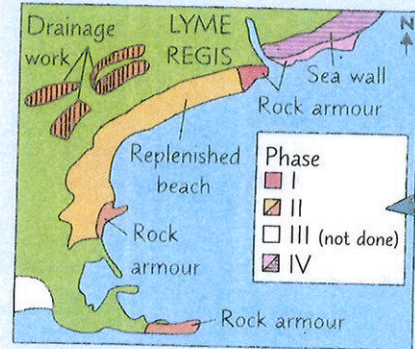
land becomes marshland — protects land behind from flooding and erosion

breach in old defences

Managed retreat is cheap and easy but may affect farmers.

## UK Coastal Management — Lyme Regis

Powerful waves erode the sea cliffs around Lyme Regis, in SW England. Properties have been damaged by landslides and slumps.



- Coastal management needed because:
- 3600+ residents in Lyme Regis.
  - Local economy depends on tourism.
  - 900 m of road would have been lost.
- 1990s-2015 — Four phases of work. Hard and soft engineering strategies used to protect town from erosion.

Benefits	Conflicts
<ul style="list-style-type: none"> <li>increased trade in some parts of town</li> <li>harbour and boats protected</li> <li>easier to insure houses</li> </ul>	<ul style="list-style-type: none"> <li>more tourists = more traffic / litter / noise</li> <li>harder to find and excavate fossils</li> <li>very expensive, may need rebuilding</li> </ul>



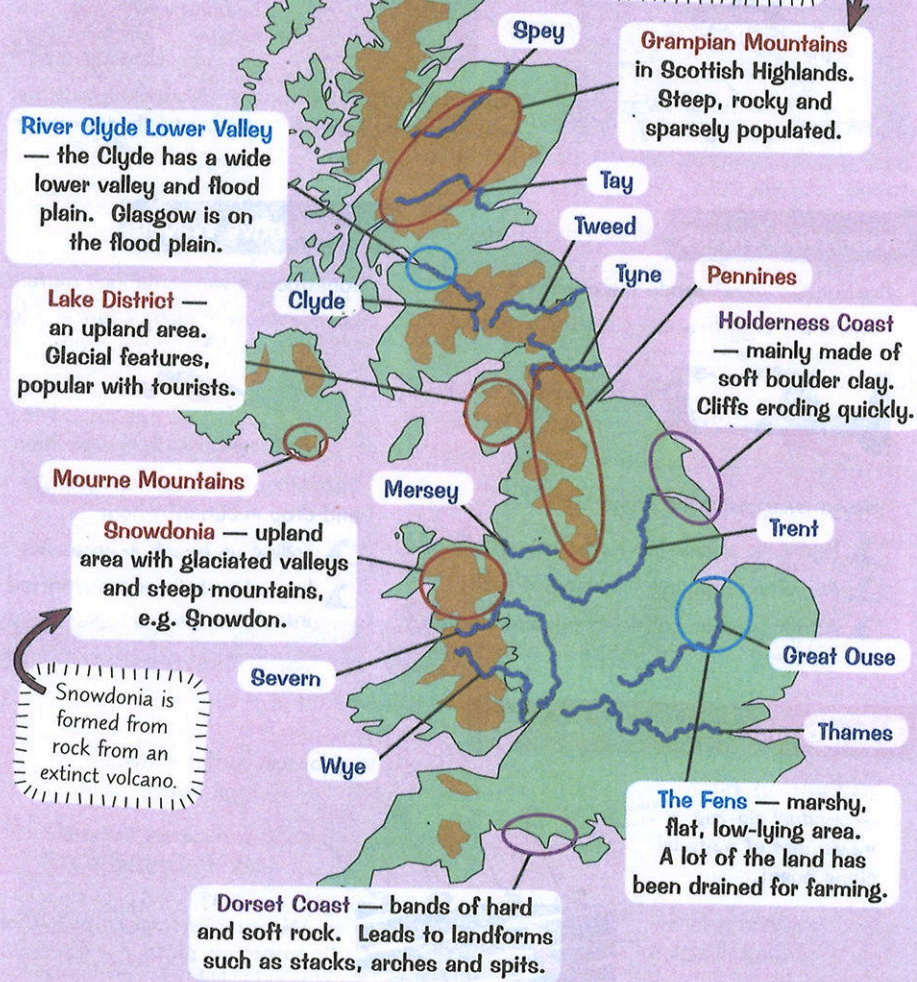
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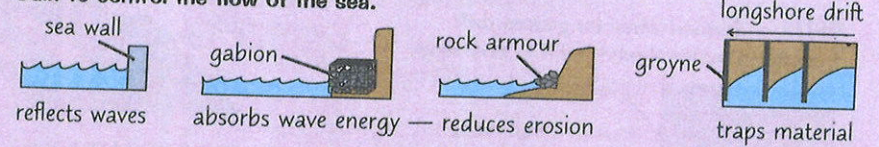
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## Coastal Management

### Management Strategies

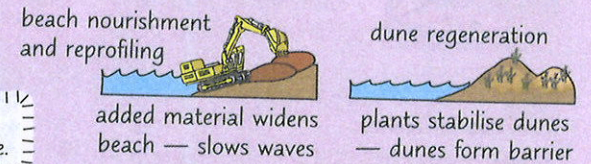
**1 HARD ENGINEERING** — man-made structures built to control the flow of the sea.



Hard engineering — relatively cheap but can be ugly and need replacing.

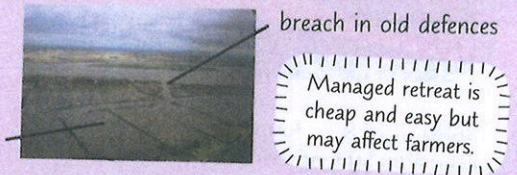
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Soft engineering — more sustainable but can be expensive.



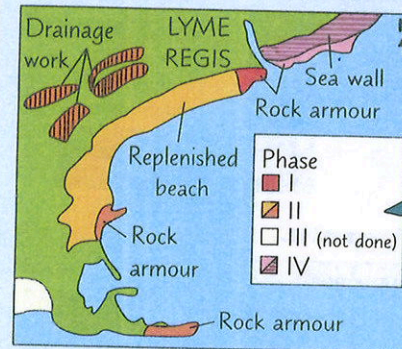
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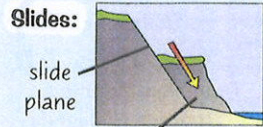
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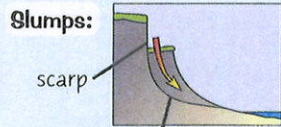
**MASS MOVEMENT** — gravity acts on rock / loose material → material shifts down slope.



**Slides:**

slide plane

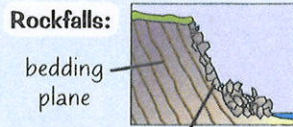
Material shifts in a straight line.



**Slumps:**

scarp

Material rotates along a curved slip plane.



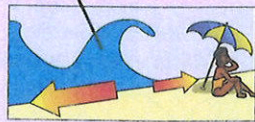
**Rockfalls:**

bedding plane

Material breaks up and falls downslope.

## Destructive Waves

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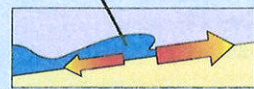
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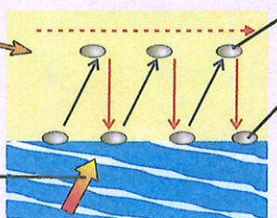
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Waves follow wind direction.



Swash carries material up the beach.

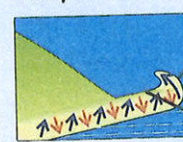
Backwash carries material back down beach.

Water moves sediment by traction, suspension, saltation and solution.

## Landforms Caused by Deposition

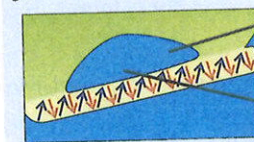
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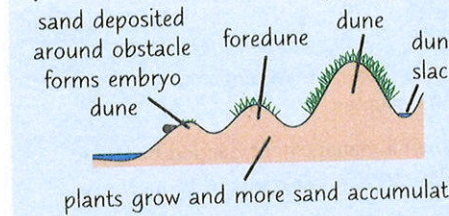
wind forms recurved end   
 area behind spit sheltered — material accumulates, plants grow

**BARS** — formed when a spit joins two headlands.



lagoon forms behind bar   
 bay cut off from the sea

**SAND DUNES** — formed when sand deposited by longshore drift is moved up beach by wind.

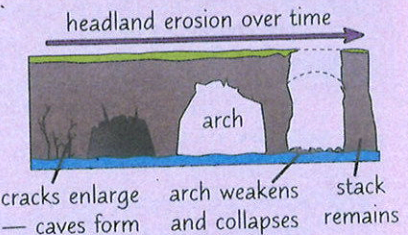


plants grow and more sand accumulates

## Landforms Caused by Erosion

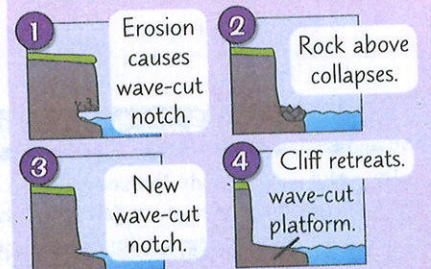
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cracks enlarge — caves form   
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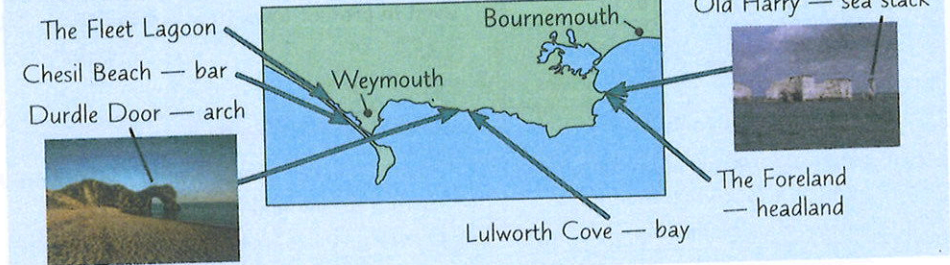


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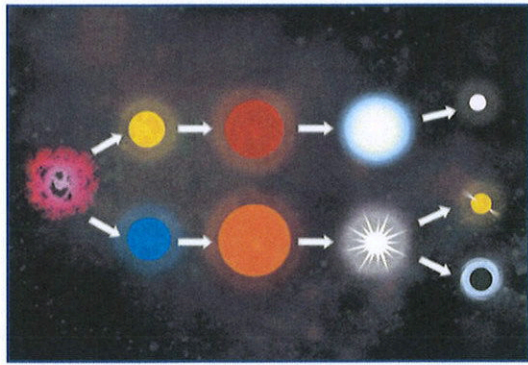
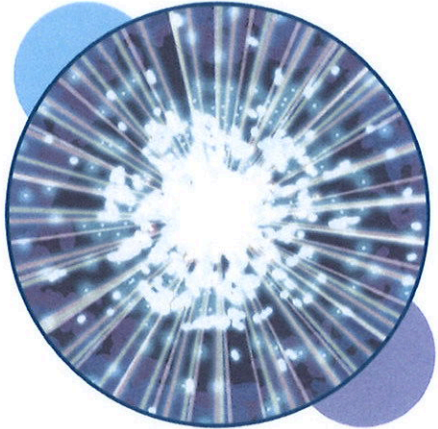
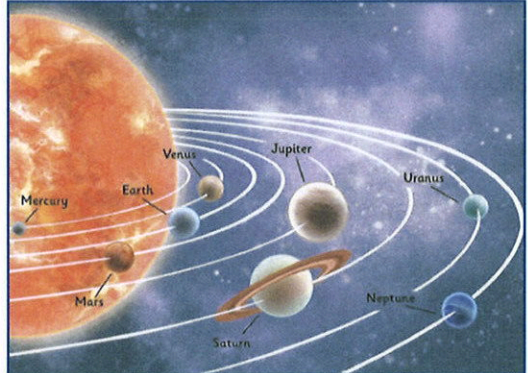


Bands of hard and soft rock have eroded at different rates.





Year 10 Triple – EQ What is beyond the atmosphere?

<p><b>Formation of a Star</b></p> 	<p><b>Formation of a Star</b></p> <ol style="list-style-type: none"> <li>1. Stars are made from a cloud of dust and gas – a <b>nebula</b>. Gravity pulls the dust and gas together, forming a <b>protostar</b>.</li> <li>2. The more dense the star, the hotter it becomes. Fusion of the hydrogen nuclei starts, emitting a lot of energy.</li> <li>3. The next stage is the <b>main sequence star</b>. This stage will last for a few billion years. This is a stable phase as the force of gravity and fusion of hydrogen are balanced. Hydrogen is fused and forms helium; as this happens, energy is released.</li> <li>4. Hydrogen begins to run out, turning the star into a <b>red giant (like the Sun)</b> or a <b>red super giant</b>, depending on the size of the star.</li> <li>5. A red giant will become a <b>white dwarf</b> by getting rid of the outer layers of dust and gas. It will then cool down and become a <b>black dwarf</b>.</li> <li>6. Red super giants will initially glow brightly. Then, they will explode into a <b>supernova</b>. The supernova will get rid of its outer layer of dust and gas and will form a black hole.</li> </ol>	<p><b>Orbits</b></p> <p>Gravity is a force that causes planets and satellites to circle an object. It acts towards the centre of the orbit. This occurs in both natural and artificial satellites.</p> <p><b>Higher Tier Only</b></p> <p>When an object is in orbit around something, it is constantly changing velocity as the direction constantly changes. The speed, however, will stay the same.</p> <p>Examples of satellites include the planets orbiting the Sun and the Moon orbiting Earth.</p> <p><b>Remaining in Orbit</b></p> <p>For an orbit to remain stable, the radius must change if the speed changes.</p> <p>The closer something is to an object, the quicker it has to travel in order to keep in orbit.</p> <p>If the force is stronger, then the object will have to travel quicker to remain in orbit.</p> <p><b>The Expanding Universe</b></p> <p>Evidence suggests that the universe is expanding (getting bigger). Galaxies are moving further away from each other. The redshift provides us with some evidence for the expanding universe and the big bang theory.</p> <p>When we see light coming from galaxies that are far away from us, the wavelength has increased. The light has shifted towards the red end of the spectrum (<b>redshift</b>) and is moving away from us. Galaxies that are more distant have a greater redshift which means they are moving away more quickly.</p> <p>If you imagine dots on a balloon moving away from each other as the balloon is being blown up, this helps to visualise the expanding universe.</p>	<p><b>Dark Mass and Energy</b></p> <p>There is so much about the universe that scientists do not fully understand. Scientists have discovered dark mass and dark energy but they do not know much about it.</p> <p><b>The Big Bang</b></p> <p>The big bang is a theory about how the universe began.</p> <p>In the beginning, matter in the universe took up a very small amount of space. This space was very dense and so became hot. This caused an explosion 13.7 billion years ago – the big bang. After <b>the big bang</b>, space then continued to expand as it is now.</p> <p>Observations of supernovae since 1998 suggest that distant galaxies are moving away faster.</p> <p>The big bang is a theory and is the best theory that we have at the moment.</p> 
<p><b>The Solar System</b></p>  <p>The solar system is part of the Milky Way galaxy and is made up of the Sun and anything that goes round it (orbit). There are 8 planets and some dwarf planets, including Pluto.</p> <p>Planets are objects that orbit a star (the Sun). A dwarf planet will orbit a star but will be too small to be a planet, or not quite fit the pattern of a normal planet. Pluto is an example of a dwarf planet. Moons orbit planets and are also known as natural satellites. Planets are natural satellites of the Sun. Artificial satellites are satellites that humans have built and they mostly orbit the Earth.</p>			



## Year 10 Triple – EQ What makes us who we are?

## Combustion

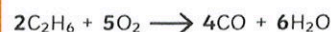
**Complete combustion** occurs when there is **enough oxygen** for a fuel to burn. A hydrocarbon will react with oxygen to produce carbon dioxide and water.

propane + oxygen  $\rightarrow$  carbon dioxide + water



**Incomplete combustion** occurs when there **isn't enough oxygen** for a fuel to burn. The products in this reaction are water and poisonous **carbon monoxide**. Carbon particles (soot) may also be seen.

ethane + oxygen  $\rightarrow$  carbon monoxide + water



**Carbon monoxide** is a poisonous gas. It is often called the **silent killer** due to it being colourless and odourless. Carbon monoxide works by binding to the **haemoglobin** in your red blood cells. This prevents them from carrying oxygen to the cells around your body. Carbon monoxide detectors are used to detect levels of the gas in the surrounding air and are often placed near gas-powered boilers to detect gas leaks.

**Particulate carbon** irritates the lining of the lungs making asthma worse and could cause cancer. **Global dimming** is caused by particulates of carbon blocking out the Sun's rays and may reduce rainfall.

## Sulfur Dioxide

Sulfur dioxide is an **atmospheric pollutant**. It is a gas that is produced from the burning of **fossil fuels**. Sulfur dioxide is able to dissolve in rainwater and produces **acid rain**. Acid rain causes damage to forests, kills plants and animals that live in aquatic environments, and damages buildings and statues as the acid rain erodes the stone that they are made from.

sulfur + oxygen  $\rightarrow$  sulfur dioxide

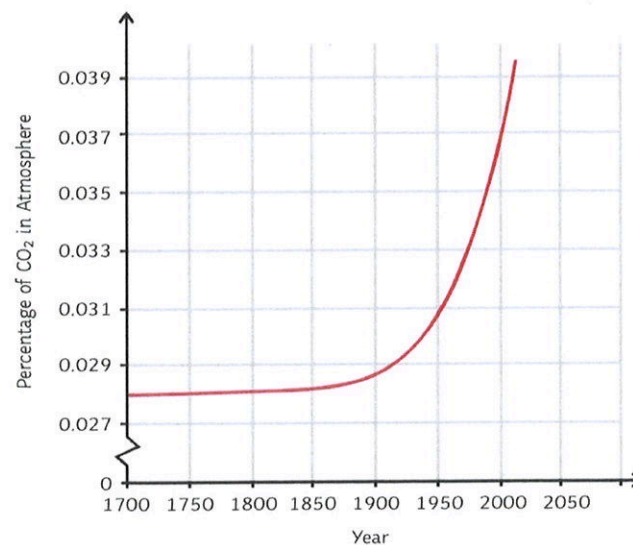


Sulfur dioxide can be further oxidised to form sulfur trioxide.

## What is the Link Between Carbon Dioxide and Global Warming?

There is a strong correlation between the percentage concentration of carbon dioxide in the atmosphere and increased global temperatures.

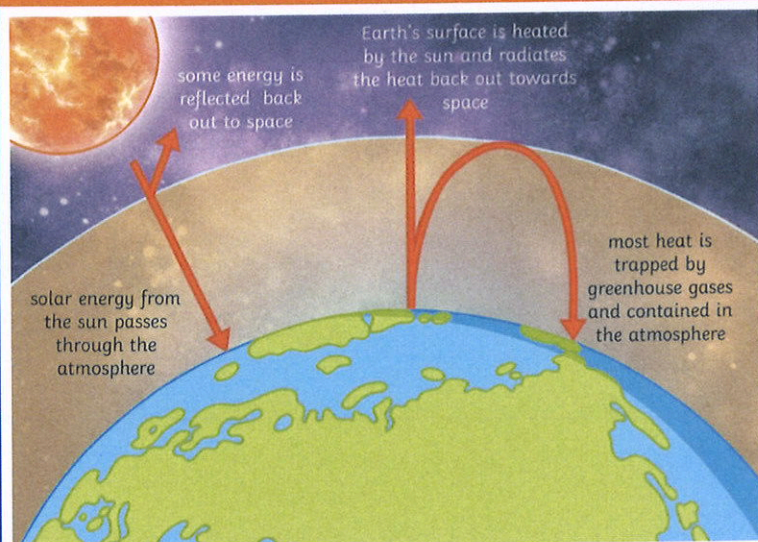
The impact of this is that the polar ice caps are melting, sea levels are rising and habitats and rainfall patterns are changing. The impact of which is already being felt around the globe. The consequences of human activity will affect us all.





## Year 10 Triple – EQ What makes us who we are?

### The Greenhouse Effect



A greenhouse is a house made of glass and is commonly used by gardeners to help grow plants and keep them warm. As the sun shines through the greenhouse, the air is heated up and becomes trapped by the glass and is prevented from escaping. During daylight, a greenhouse stays quite warm and this lasts into the night.

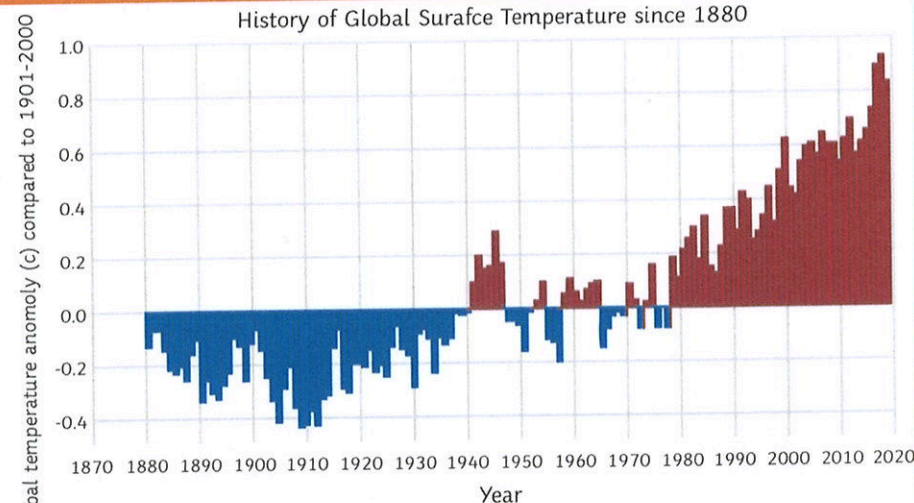
The earth and its atmosphere are very similar to that of a greenhouse. The greenhouse gases in the atmosphere trap the heat and keep the earth warm. The main greenhouse gases are **carbon dioxide, water vapour and methane**. During the daylight, the sun warms up the earth's surface. During the night, as the earth begins to cool and release the heat back into the atmosphere, some of the heat is trapped by the greenhouse gases in the atmosphere.

If the **greenhouse effect** becomes too **strong**, the earth will get too warm and melt the Arctic ice. As we burn more fossil fuels, the levels of **carbon dioxide** and the other greenhouse gases **increase** in our atmosphere which makes the greenhouse effect stronger.

### What is the Difference Between Climate Change and Global Warming?

Since the Earth was formed over 4.6 billion years ago, its climate has constantly been changing with several ice ages followed by warmer temperatures. Changes in the Sun's energy reaching the Earth and volcanic eruptions were responsible for the changes until about 200 years ago.

Global warming is different to climate change and is used to explain how the earth's climate has warmed up over the past 200 years. Scientists believe that the warming of the climate is due to the activities of humans.



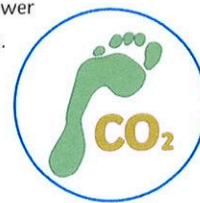
### Carbon Footprint

The carbon footprint is the total amount of **carbon dioxide** and other greenhouse gases emitted over the full life cycle of a product, service or event.

An individual's carbon footprint is a calculation of all the activities that that person has taken part in throughout the year.

These activities might involve flying abroad or **travelling** by bus or rail. Each of which might be powered by petrol or diesel. **Heating a home** in winter by using a gas-powered boiler and using electricity to power lights and electronic devices.

**Food** also has a **carbon footprint**, for example, beef and rice produces huge amounts of methane when farmed.



### Nitrogen

Nitrogen and oxygen react together to make oxides of nitrogen. This occurs inside a **car engine** where there is a high temperature and pressure. Many compounds can be formed when nitrogen reacts with oxygen. The two that are formed inside a car engine are NO and NO<sub>2</sub>.

Nitrogen compounds are grouped together with the general formula NO<sub>x</sub>. Nitrogen compounds, along with sulfur dioxide, are also responsible for acid rain.

Compounds of nitrogen oxides react in the atmosphere with ultraviolet light from the sun to produce **photochemical smog**. The smog is most noticeable during the morning and afternoon and occurs mainly in densely populated cities.

The presence of smog can have a **major impact on human health**, particularly to those who suffer with **asthma**.



## Year 10 Triple – EQ What makes us who we are?

### The Early Atmosphere

Approximately **4.6 billion years ago** the Earth was formed. Scientists have lots of ideas and **theories** about how the atmosphere was produced and the gases within it, but due to the lack of evidence, they cannot be sure.

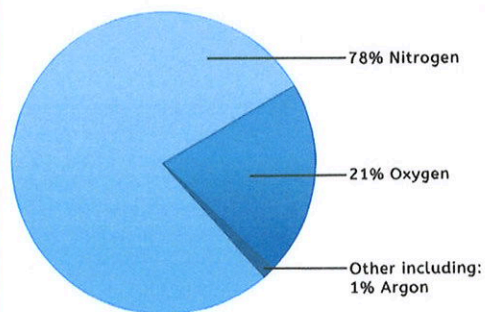
One theory suggested that **intense volcanic activity** released gases that made **Earth's early atmosphere** very similar to that of Mars and Venus. These planet's atmospheres mainly consist of carbon dioxide with little oxygen.

Nitrogen gas would have also been released from volcanoes and would have built up in the atmosphere.

**Water vapour** in Earth's early atmosphere would have **condensed** to create the **seas and oceans**. Carbon dioxide would have dissolved into the water, decreasing the level in the atmosphere.

### Percentage of Gases in the Atmosphere

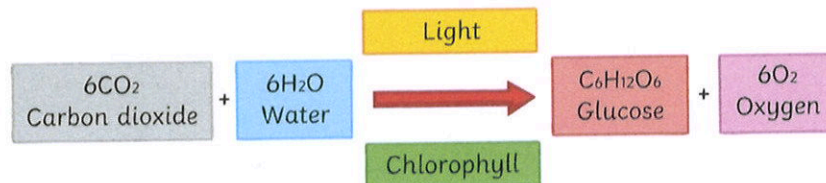
The pie chart below shows the abundance of each gas in our atmosphere.



### How Did the Levels of Oxygen Increase?

2.7 billion years ago, algae first produced oxygen. Gradually over time, the levels of oxygen in our atmosphere increased as plants evolved. This was followed by animals as the levels of oxygen increased to a level that would sustain more complex life.

Oxygen is produced by plants in the process of **photosynthesis**.



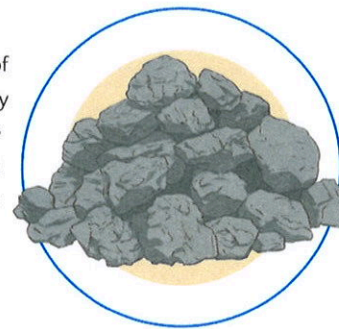
### How Did the Levels of Carbon Dioxide Decrease?

Carbon dioxide **dissolves** in water. As water vapour condensed and the oceans and seas formed, the carbon dioxide gas dissolved producing **carbonate compounds**. This process reduced the amount of carbon dioxide in the atmosphere. Carbonate compounds were then **precipitated**: limestone is an example of a sedimentary rock; it has the chemical name calcium carbonate.

Plants in the oceans absorbed **carbon dioxide** gas for **photosynthesis**. The organisms from the food chains that the plants supported were turned into fossil fuels. **Fossil fuels** are **non-renewable** and consist of **coal, crude oil, and gas**, all of which contain carbon.

Crude oil was formed millions of years ago. When aquatic plants and animals died, they fell to the bottom of the sea and got trapped under layers of sand and mud. Over time, the organisms got buried deeper below the surface. The **heat and pressure** rose, turning the remains of the organisms into crude oil or natural gas. Oxidation did not occur due to the lack of oxygen.

**Coal** is a fossil fuel formed from **giant plants** that lived hundreds of millions of years ago in swamp-like forests. When these plants died, they sank to the bottom of the swamp where dirt and water began to pile on top of them. Over time, pressure and heat increased and the plant remains underwent chemical and physical changes. The oxygen was pushed out and all that remained was coal.



### The Human Impact and the Greenhouse Effect

Scientists believe that human activities have resulted in the **increased** amount of greenhouse gases in the atmosphere. Activities such as **farming cattle** and **farming rice** release huge amounts of **methane** into the atmosphere.

Burning **fossil fuels** in cars and power stations releases large amounts of **carbon dioxide**. With large areas of the rainforest being cut down through **deforestation**, the excess carbon dioxide is not being absorbed by photosynthesis.

However, not everyone believes that humans are causing the rise in greenhouse gases. Some believe that the rise in global temperatures is associated with cycles of climate change and natural factors.

**Climate science** is often complicated as there are **difficulties** associated with **predicting future global temperatures**. The media present information that can be biased, inaccurate or lacks substantial evidence.

After reading an article on global warming, consider the trustworthiness of the source by considering these factors:

- Is the research done by an expert in that field and do they have the right skills and qualifications to report on the issue?
- Which organisation is reporting the evidence? If it is a newspaper, some stories are sensationalised in order to sell papers.
- Was the research funded by a legitimate organisation and was it conducted in a non-biased way? Think about the methods that were used to obtain the data and the impact the collection and analysis of this data had on the overall result.



# Year 10 Trilogy – EQ What’s Newton got to do with it?

## Required Practical Investigation Activity 6: Investigate the Relationship Between Force and Extension for a Spring

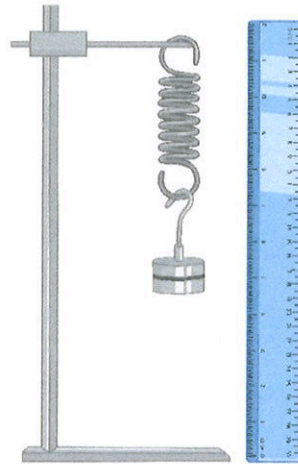
$$F = k \times e$$

force applied (N) = spring constant (N/m) × extension (m)

You should be familiar with the equation above and the required practical shown to the right.

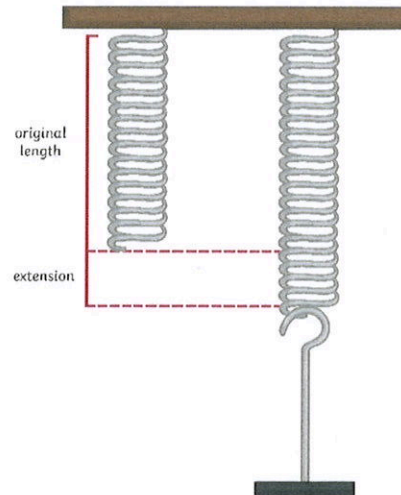
The spring constant is a value which describes the elasticity of a material. It is specific to each material. You can carry out a practical investigation and use your results to find the spring constant of a material.

1. Set up the equipment as shown.
2. Measure the original length of the elastic object, e.g. a spring, and record this.
3. Attach a mass hanger (remember the hanger itself has a weight). Record the new length of the spring.
4. Continue to add masses to the hanger in regular intervals and record the length each time.



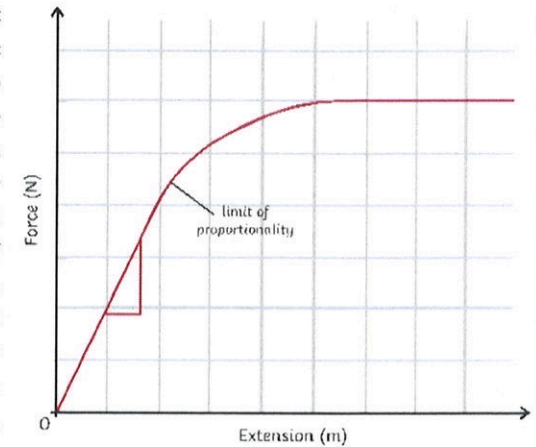
Once you have your results, you can find the extension for each mass using this formula: **spring length – original length**

The data collected is continuous so you would plot a **line graph** using the x-axis for extension (m) and the y-axis for force (N). As a result of Hooke’s Law, you should have a **linear graph**. The **gradient of the graph is equal to the spring constant**. You can calculate it by rearranging the formula above or by calculating the gradient from your graph.



## Spring Constant and Hooke’s Law

Hooke’s Law describes that the extension of an elastic object is **proportional** to the force applied to the object. However, there is a maximum applied force for which the extension will still increase proportionally. If the **limit of proportionality** is exceeded, then the object becomes **permanently deformed** and can no longer return to its original shape. This can be identified on a graph of extension against force when the gradient stops being linear (a straight line) and begins to plateau. The limit is shown on the graph above and this is the specific object’s elastic limit.



## Forces and Elasticity

When work is done on an elastic object, such as a spring, the energy is stored as elastic potential energy.

When the force is applied, the object changes shape and stretches. The energy is stored as elastic potential and when the force is no longer applied, the object returns to its original shape. The stored elastic potential energy is transferred as kinetic energy and the object recoils and goes back to its original shape.





# Year 10 Trilogy – EQ What’s Newton got to do with it?

## Stopping Distance

The **stopping distance** of a vehicle is calculated by:  
**stopping distance = thinking distance + braking distance**

Reaction time is the time taken for the driver to respond to a hazard. It varies from 0.2s to 0.9s between most people.

Reaction time is affected by:

- tiredness
- drugs
- alcohol
- distractions

You can measure human reaction time in the lab using simple equipment: a metre ruler and stopwatch can be used to see how quickly a person reacts and catches the metre ruler. The data collected is quantitative and you should collect repeat readings and calculate an average result.

## Momentum

**momentum (N) = mass (kg) × velocity (m/s)**

The law of conservation of mass (in a closed system) states that the total momentum before an event is equal to the total momentum after an event.

### Worked example:

Calculate the momentum of a 85kg cyclist travelling at 7m/s.

$$p = m \times v$$

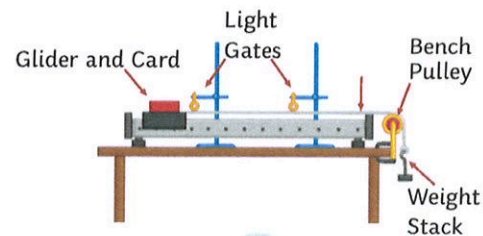
$$p = 85\text{kg} \times 7\text{m/s}$$

$$p = 595\text{kg m/s}$$

## Required Practical Investigation 7

Aim: investigate the effect of varying the force on the acceleration of an object of constant mass, and the effect of varying the mass of an object on the acceleration produced by a constant force.

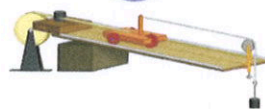
You may be given any of the following apparatus set-ups to conduct these investigations:



or



or



Something is a **fair test** when **only** the independent variable has been allowed to affect the dependent variable.

The independent variable was force.

The dependent variable was acceleration.

The control variables were:

- same total mass
- same surface/glider/string/pulley (friction)
- same gradient if you used a ramp



## Year 10 Trilogy – EQ What's Newton got to do with it?

AQA Combined Science: **Physics Topic 5 Forces**

### Acceleration

Acceleration can be calculated using the equation:

$$\text{acceleration (m/s}^2\text{)} = \frac{\text{change in velocity (m/s)}}{\text{time taken (s)}}$$

#### Worked example:

A dog is sitting, waiting for a stick to be thrown. After the stick is thrown, the dog is running at a speed of 4m/s. It has taken the dog 16s to reach this velocity. Calculate the acceleration of the dog.

$$a = \Delta v \div t$$

$$a = (4-0) \div 16$$

$$A = 0.25\text{m/s}^2$$

Changes in velocity due to acceleration can be calculated using the equation below. This equation of motion can be applied to any moving object which is travelling in a straight line with a uniform acceleration.

$$\text{Final velocity}^2 \text{ (m/s)} - \text{initial velocity}^2 \text{ (m/s)} = 2 \times \text{acceleration (m/s}^2\text{)} \times \text{displacement (m)}$$

or

$$v^2 - u^2 = 2as$$

#### Worked example:

A bus has an initial velocity of 2m/s and accelerates at 1.5m/s<sup>2</sup> over a distance of 50m. Calculate the final velocity of the bus.

Step 1: rearrange the equation:  $v^2 - u^2 = 2as$

$$v^2 = 2as + u^2$$

Step 2: insert known values and solve

$$v^2 = (2 \times 1.5 \times 50) + 2^2$$

$$v^2 = (150) + 4$$

$$v^2 = 154$$

$$v = \sqrt{154}$$

$$v = 12.41\text{m/s}$$

### Braking Distance

The **braking distance** is the distance travelled by a vehicle once the brakes are applied and until it reaches a full stop.

Braking distance is affected by:

- adverse weather conditions (wet or icy)
- poor vehicle condition (brakes or tyres)

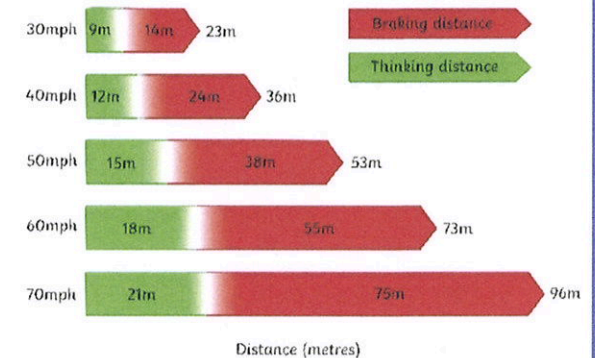
When force is applied to the brakes, **work is done** by the friction between the car wheels and the brakes.

The work done reduces the kinetic energy and it is transferred as **heat energy**, increasing the **temperature** of the brakes.

**increased speed = increased force required to stop the vehicle**

**increased braking force = increased deceleration**

Large decelerations can cause a huge increase in temperature and may lead to the brakes overheating and the driver losing control over the vehicle



### Newton's Laws of Motion: Newton's First Law

If the resultant force acting on an object is zero...

- a stationary object will remain stationary.
- a moving object will continue at a steady speed and in the same direction.

100N resistance (friction and air)                      100N



**Inertia** – the tendency of an object to continue in a state of rest or uniform motion (same speed and direction).

### Newton's Laws of Motion: Newton's Second Law

The acceleration of an object is proportional to the resultant force acting on it and inversely proportional to the mass of the object

$$\text{resultant force (N)} = \text{mass (kg)} \times \text{acceleration (m/s}^2\text{)}$$

**Inertial mass** – how difficult it is to change an objects velocity. It is defined as the ratio of force over acceleration.

### Newton's Laws of Motion: Newton's Third Law

When two objects interact, the forces acting on one another are always equal and opposite.

For example, when a book is laid on the table, it experiences a reaction force from the table. The table pushes up on the book. The book also pushes down on the table. These two forces are equal and opposite.



## Year 10 Trilogy – EQ What makes us who we are?

### Keywords

**embryo screening** – Genetic tests carried out on an embryo to see whether it carries a faulty allele.

**evolution** – A change in the inherited characteristics of a population over time through a process of natural selection.

**evolutionary tree** – A method used to show how scientists believe organisms are related.

**extinction** – The permanent loss of all members of a species.

**fossils** – The remains of organisms from millions of years ago which are found in rocks.

**genetic engineering** – The process by which scientists manipulate and change the genotype of an organism.

**natural selection** – The process by which organisms that are better suited to an environment are more likely to survive and reproduce.

**selective breeding** – Humans selecting animals or plants, that have a required characteristic, for breeding.

**speciation** – The process by which two species evolve from a single original species by natural selection. The two populations have become so different that they can no longer interbreed to produce fertile offspring.

**variation** - Differences in characteristics of individuals in a population.

### Variation

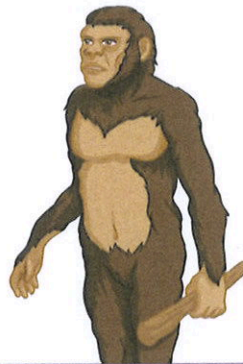
Variation maybe be due to differences in:

- the genes that have been inherited (genetic causes);
- the conditions in which they have developed (environmental causes);
- a combination of genes and the environment.

### Evolution

All species of living things have evolved from simple life forms by natural selection.

- If a variant/characteristic is advantageous in an environment, then the individual will be better able to compete.
- This means they are more likely to survive and reproduce.
- Their offspring will inherit the advantageous allele.



### Fossils

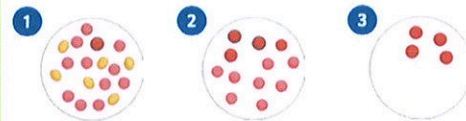
Fossils could be:

- the actual remains of an organism that has not decayed;
- mineralised forms of the harder parts of an organism, such as bones;
- traces of organisms such as footprints or burrows.

Many early life forms were soft-bodied so have left few traces behind.

Fossils help us understand how much or little organisms have changed as life developed on earth.

### Resistant Bacteria



1 There is variation in the bacterial population. One bacterium develops a mutation by chance that means it is resistant to an antibiotic.

2 The antibiotic kills some of the bacteria, the resistant bacterium survives and reproduces.

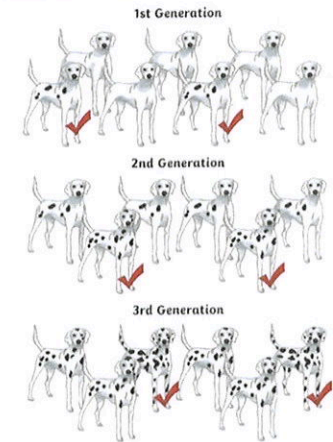
3 The antibiotic kills the rest of the non-resistant bacteria so the person may start to feel a little better. The resistant bacterium has survived the antibiotic and continues to multiply.

To reduce the rate at which antibiotic-resistant strains appear:

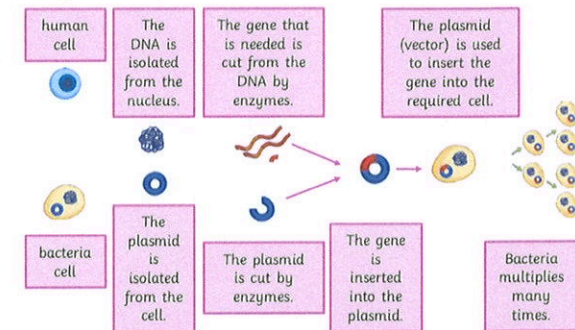
- Antibiotics should only be used when they are really needed, not for treating non-serious or viral infections.
- Patients should complete their courses of antibiotics, even if they start to feel better.
- The agricultural use of antibiotics should be restricted.

### Selective Breeding

1. Choose parents who have the desired characteristic.
2. Select the best offspring and breed these to make the next generation.
3. These offspring are then bred again and again, over many generations, until a desired result is achieved.



### Genetic Engineering



### Classification

Linnaeus classified living things into kingdom, phylum, class, order, family, genus and species.

Organisms are named by the binomial system of genus and species.

Due to evidence from chemical analysis, there is now a 'three-domain system' developed by Carl Woese.

Domain	bacteria	archaea	eukaryota			
Kingdom	eubacteria	archaeobacteria	protista	fungi	plantae	animalia



## Year 10 Trilogy – EQ What makes us who we are?

### Keywords

**allele** – An alternative form of a gene.

**asexual reproduction** – The production of offspring from a single parent by mitosis. The offspring are clones of the parent.

**chromosome** – Structures that contain the DNA of an organism and are found in the nucleus.

**cystic fibrosis** – A disorder of cell membranes that is caused by a recessive allele.

**DNA** – A polymer that is made up of two strands that form a double helix.

**dominant** – An allele that is always expressed, even if only one copy is present.

**fertilisation** – The fusion of male and female gametes.

**gamete** – Sperm cell and egg cell in animals; pollen and egg cell in plants.

**gene** – A small section of DNA that codes for a specific protein.

**genome** – The entire genetic material of an organism.

**genotype** – The combination of alleles.

**heterozygous** – A genotype that has two different alleles, one dominant and one recessive.

**homozygous** – A genotype that has two of the same alleles. Either two dominant alleles or two recessive alleles.

**meiosis** – The two-stage process of cell division that reduces the chromosome number of the daughter cells. It makes gametes for sexual reproduction.

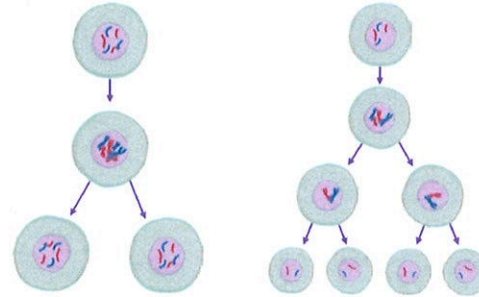
**mutation** – A change in DNA.

**phenotype** – The characteristic expressed because of the combination of alleles.

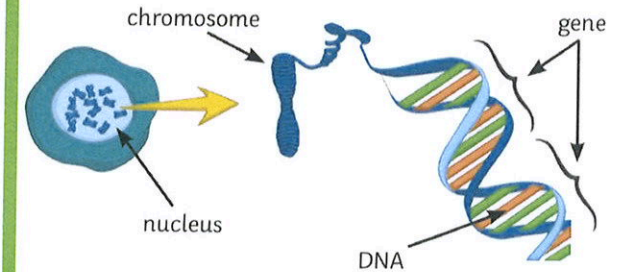
**polydactyly** – Having extra fingers or toes. It is caused by a dominant allele.

**recessive** – An allele that is only expressed if two copies of it are present.

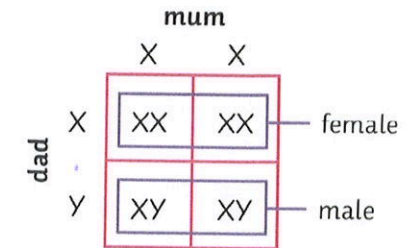
**sexual reproduction** – The production of offspring by combining genetic information from the gametes of two parents. Leads to variation in the offspring.



Mitosis	Meiosis
Produces two daughter cells.	Produces four daughter cells.
Daughter cells are genetically identical.	Daughter cells are not genetically identical.
The cell divides once.	The cell divides twice.
The chromosome number of the daughter cells is the same as the parent cells. In humans, this is 46 chromosomes.	The chromosome number is reduced by half. In humans, this is 23 chromosomes.
Used for growth and repair, and asexual reproduction.	Produces gametes for sexual reproduction.

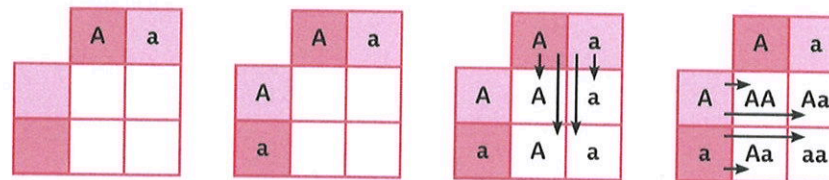


### Sex Determination



Females carry two X chromosomes.  
Males carry one X and one Y chromosome.

### How to Complete a Punnet Square



#### Step 1:

Put the two alleles from one parent into the boxes at the top. This parent is a heterozygote. This means they have one dominant and one recessive allele.

#### Step 2:

Put the two alleles from the second parent into the boxes on the left. This parent is also a heterozygote.

#### Step 3:

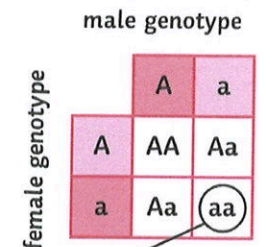
Put the alleles from the first parent into the two boxes underneath them.

#### Step 4:

Put the alleles from the second parent into the two boxes to the right of them.

### Probability

There are four possible combinations of gametes that offspring can inherit.



One of these four has the genotype aa – that's  $\frac{1}{4}$ , 25% or 0.25.

The recessive phenotype has a ratio of 1:3 because only one combination will show the phenotype while the other three will not.



## Y10 History Summer Knowledge Organiser: Nazi Control

### Semester Key Words

<b>Gleichschaltung</b>	Bringing people into an identical way of thinking and behaving
<b>Trade Unions</b>	Organisations set up to protect and improve the rights of workers
<b>Concentration camp</b>	Prison for political prisoners and enemies of the state, placed there without trial
<b>Dictatorship</b>	A country or government in which absolute power is exercised by a dictator
<b>Third Reich</b>	Nazi name for Germany. Means 'Third Empire'
<b>Censorship</b>	Controlling what is produced and suppressing anything considered to be against the state
<b>Propaganda</b>	Information, especially of a biased or misleading nature, used to promote a political cause or point of view
<b>Indoctrination</b>	Converting people to your ideas using education and propaganda
<b>German Faith Movement</b>	Sought to move Germany away from Christianity. It put forward the Nazi idea of 'blood and soil'
<b>Concordat</b>	An agreement between the Pope and a government concerning the legal status of the Roman Catholic Church within that gov't's territory
<b>Führer</b>	The leader (title assumed by Adolf Hitler)
<b>Paramilitary</b>	An unofficial force, organized similarly to a military force

### Who and What?

<b>Schutzstaffel (SS)</b>	Originally the Nazi paramilitary organisation that acted as Hitler's bodyguard, they became the most powerful troops in the 3 <sup>rd</sup> Reich.
<b>Sicherheitsdienst (SD)</b>	'Security service', the intelligence agency of the Nazis.
<b>Gestapo</b>	Official secret police of the Nazi regime.
<b>Josef Goebbels</b>	Minister of propaganda for the German Third Reich.
<b>Edelweiss Pirates</b>	Groups of youths who opposed the military discipline of the Nazi youth groups and the lack of freedom.
<b>The Swing Youth</b>	They took part in activities that were frowned on by the Nazis – American clothes, films and music.
<b>Martin Niemöller</b>	Leader of the Confessional Church, which followed tradition German Protestantism. He established the Pastors' Emergency League to oppose Nazi control of the Church.

### When? (Key Knowledge)

<b>February, 1933</b>	The Reichstag building was set on fire by a Communist.
<b>March, 1933</b>	Hitler passed the Enabling Act, giving him full powers for the next 4 years.
<b>May – July 1933</b>	All trade unions were banned and the Nazis became the only legal party.
<b>June, 1934</b>	The Night of the Long Knives, which was the purging of Hitler's political and military rivals
<b>August, 1934</b>	Hitler combined the posts of Chancellor and President, and assumed the title of Führer. The German army swore allegiance to Hitler.

### Key Ideas: The creation of a dictatorship

- Hitler and the Nazis secured control of all aspects of the German state.
- By August 1934, Hitler had combined the posts of Chancellor and President.
- The banning of political parties, the control of the media, trade unions and police ensured that there was little or no opposition to the Nazi regime.

### Key Ideas: Controlling and influencing attitudes

- The Nazi dictatorship was based on fear – make people too frightened to actively oppose the Nazi state.
- This was achieved through the establishment of a police state, Nazi control of the law courts and the setting up of concentration camps.
- Hitler was determined to reduce the influence of the German Catholic and Protestant Churches.

### Key Ideas: Opposition and resistance

- The Nazis restricted challenges to their power by means of *Gleichschaltung*, the use of the Gestapo, SS and SD and laws such as the banning of political parties and trade unions.
- Many Germans feared the Nazis, so they silently accepted Nazi policies.
- There was some opposition to the Nazi regime from the young, the Church and the army, but they were never enough to threaten the regime.



## Y10 History Summer Knowledge Organiser: Life

### Semester Key Words

<b>Conscription</b>	Compulsory military service for a certain period of time
<b>Autobahn</b>	Motorway
<b>Lebensborn</b> 'Fount of life'	Programme where specially chosen unmarried women could 'donate a baby to the Führer', by becoming pregnant by 'racially pure' SS men
<b>Aryan</b>	Nazi term for a non-Jewish German, someone of supposedly 'pure' German stock
<b>Anti-Semitism</b>	Hatred and persecution of the Jews
<b>Persecution</b>	The act of harassing or oppressing a person or a group of people on the basis of race, religion, gender or sexual orientation
<b>Volksgemeinschaft</b>	The people's community. This was the Nazi idea of a community based upon the German race
<b>Untermensch</b>	A Nazi term for non-Aryan people they deem as inferior or sub-human
<b>Euthanasia</b>	Bringing death to relieve suffering. The Nazis interpreted this as killing anyone who was seen as substandard and of no further use to the state
<b>Boycott</b>	A refusal to have any dealings with a person, country, or business.
<b>Kinder, Küche, Kirche</b>	A slogan translated as "children, kitchen, church" used under the Nazis to describe a woman's role in society.

### Key Ideas: Women

- Nazi policies towards women reflected Hitler's own personal views.
- He wanted to create a society where women had a precise and specific domestic role.
- Hitler saw their task as bearing and rearing children and educations should prepare women for their future role.
- Some women actively opposed the loss of their rights and were eventually sent to concentration camps.

### Key Ideas: Young People

- Hitler saw the young as the future of the Third Reich.
- Young people had to be converted to Nazi ideals such as obedience, following the Führer, placing the nation first, strengthening the racial purity of the nation and having large numbers of children.
- These aims were to be achieved through control of education and the Hitler Youth.

### Key Ideas: Living Standards

- One of the main reasons for increased support for the Nazis was the high level of unemployment, which had reached six million by 1932.
- Hitler had promised that he would reduce and remove unemployment that had been caused by the Great Depression.
- Unemployment was reduced by various methods including increased rearmament and invisible unemployment.

### Key Ideas: Persecution

- Hitler had used the Jews as scapegoats for many of Germany's problems.
- Nazi propaganda was used to turn Germans against the Jews and justify a policy of persecution.
- During the 1930s Gypsies, homosexual people and mentally and physically disabled people were also targeted and persecuted.

### Who and What?

<b>Nazi Teachers' League</b>	Organisation set up to control teachers and what they taught.
<b>Hitler Youth</b>	The youth organisation of the Nazi Party in Germany.
<b>Reich Labour Service</b>	A scheme to provide young men with manual labour jobs.
<b>German Labour Front</b>	the national labour organisation of the Nazi Party, which replaced the various independent trade unions in Germany
<b>Strength through Joy (KdF)</b>	Organisation to improve the leisure time of German workers by sponsoring a wide range of leisure and cultural trips.
<b>Beauty of Labour (SdA)</b>	Set up to improve working conditions. It organised the building of canteens, swimming pools and sports facilities. It also installed lighting in workplaces and improved noise levels.

### When? (Key Knowledge)

<b>1933</b>	Boycott of Jewish shops and businesses; Law for the Encouragement of Marriage passed; Sterilisation Law passed; First concentration camp for women opened at Moringen; First Napola schools set up.
<b>1935</b>	The Nuremberg Laws passed.
<b>1936</b>	Membership of the Hitler Youth made compulsory.
<b>1938</b>	Jewish children were not allowed to attend German schools; Lebensborn programme introduced; Kristallnacht.
<b>1939</b>	The euthanasia campaign began; Designated Jewish ghettos established.



### G Present tense: the third person singular

For regular **-er** verbs, the third person singular (*il/elle*) ending is **-e**.

Irregular verb forms like *il/elle va* and *il/elle fait* must be learned.

The possessive adjective is **son/sa/ses**, depending on the gender of the noun it accompanies: there are not separate words for 'his' and 'her'.

### G Using the definite article

When talking about likes/dislikes in French, the definite article (**le/la/les**) is always used in front of the noun, even though we wouldn't use it in English.

*J'adore le français.* I like French.

*J'aime les langues.* I like languages.

### G Present tense: the third person plural

For regular **-er** verbs, the *ils/elles* ending is **-ent**, e.g. *ils portent*.

Remember that these verbs are **irregular**:

*aller* → *ils vont*      *avoir* → *ils ont*      *devoir* → *ils doivent*  
*faire* → *ils font*      *être* → *ils sont*      *pouvoir* → *ils peuvent*

The possessive adjective is **leur** or **leurs**, depending on whether the noun is singular or plural.

### G The imperative

You use the imperative to give instructions. Recap how to form it using the grammar box on page 76.

In addition, **for reflexive verbs**, add **-toi** or **-vous**:

*tu t'amuses* (you have fun) → *Amuse-toi!* (Have fun!)

*vous vous reposez* (you rest) → *Reposez-vous!* (Rest!)

**avoir** and **être** are irregular:

*être* → *tu* form: *sois* → **Sois** en bonne forme physique!

(Be in good physical shape!)

*vous* form: *soyez* → **Soyez** en bonne forme physique!

*avoir* → *tu* form: *aie* → **N'aie** pas peur! (Don't be afraid!)

*vous* form: *ayez* → **N'ayez** pas peur!

### G Using *il faut* and *il est interdit de*

> Page 220

*il faut* ... it is necessary to/you must ...

*il est interdit de* ... it is forbidden to/you must not ...

Both expressions are followed by the infinitive.

*Il faut être* à l'heure. You must **be** on time.

*Il est interdit de manquer* les cours. You must not **skip** lessons.

### G Comparisons

> Page 226

**plus important(e)(s) que**      **more** important than  
**moins important(e)(s) que**      **less** important than  
**aussi important(e)(s) que**      **as** important as

### G Adverbs

> Page 227

You use adverbs to say how you do something. Most adverbs are formed from adjectives and end in **-amment**, **-emment**, **-ement**, or **-ément**:

*suffisant* (sufficient) → *suffisamment* (sufficiently/enough)

*lent* (slow) → *lentement* (slowly)

*profond* (deep) → *profondément* (deeply)

Irregular adverbs include *bien* (well), *mal* (badly) and *mieux* (better).

### G The future tense

> Page 218

To form the future tense, use the future stem of the verb + the correct ending.

**je mangerai** (I will eat), **il mangera** (he will eat)

**je serai** (I will be), **il sera** (he will be)

### G Adverbs

> Page 227

You use adverbs to say how you do something. Most adverbs are formed from adjectives and end in **-amment**, **-emment**, **-ement**, or **-ément**:

*suffisant* (sufficient) → *suffisamment* (sufficiently/enough)

*lent* (slow) → *lentement* (slowly)

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Irregular adverbs include *bien* (well), *mal* (badly) and *mieux* (better).

## Year 10 French- Summer Semester: Au Collège



## Y10 Citizenship Summer: Theme A Living Together in the UK

### Semester Key Words

<b>Demographic</b>	What the population looks like e.g. race, gender, nationality, religion etc.
<b>Migrant</b>	A person moving from one place or country to another.
<b>Refugee</b>	A person forced to leave a place or country due to violence or conflict.
<b>Asylum seeker</b>	A person fleeing a country due to persecution & looking for safety.
<b>Human Rights</b>	A right that belongs to everyone equally.
<b>Diversity</b>	Difference within populations e.g. race, ethnicity, disability etc.
<b>Integration</b>	The bringing together of different groups within a community.
<b>Community Cohesion</b>	The process of building relationships between different groups with a community.
<b>Pluralism</b>	A society that allows for many different ideas, opinions & ways of being to co-exist together peacefully & respectfully.
<b>Multi-culturalism</b>	The existence, support & celebration of many varied cultures existing in a society together.
<b>Census</b>	An official count of the population by the government every 10 years.
<b>Identity</b>	How a person sees themselves with reference to protected characteristics e.g. religion, nationality, sexual orientation, gender etc.

### Local Councillors

- Elected officials in local councils & unitary authorities.
- Elections happen every 4 years.
- A councillor is elected from a ward or division (similar to a constituency), a geographical area of similar population size.
- Councillors represent their ward or division & provide a bridge between the local community and the council.

### Local Council Officers

- Council Officers are civil servants & paid council employees who carry out the policies & decision of Councillors.
- Council Officers will work within a department to provide the public services to the community decided by the Councillors.
- Community members will often deal primarily with Council Officers for any issues.

### Equality Act 2010

- Passed by Parliament by Labour Prime Minister Gordon Brown.
- Consolidated & brought together several human rights & equal rights laws into one succinct piece of legislation
- Protects people from discrimination in employment & as users of private or public services based on 9 characteristics; age, disability, gender, marriage, pregnancy, race, religion, sex & sexual orientation.
- If a citizen feels they have been discriminated they can sue the person allegedly responsible under the Equality Act.

### UN Universal Declaration of Human Rights 1948

- Passed in the wake of WW2 following the atrocities committed by the Nazis during the Holocaust.
- Foundational text in the development of Human Rights in the 20<sup>th</sup> Century & created a universal language for Human Rights.
- Of the 58 members of the UN at the time 48 voted in favour, at present all 193 UN members have ratified the Declaration.
- States the individual rights of all people including rights to; life, religion, speech, standard of living, health care, fair trial etc.

### European Convention on Human Rights 1950

- Created as a result of the monstrous actions of the Nazis & the passing of the UN Convention of Human Rights.
- Signed & ratified by all 46 Council of Europe members.
- Established the European Court of Human Rights.
- Significantly influenced the law of European Council members, with relation to Human Rights.
- In European Council states right protected include; fair trial, privacy, free association etc.

### How Local Councils are funded

- Local Councils use a variety of taxes & rates to collect income to spend on local services.
- These include Council Tax, Business Rates, Government Grants & Penalty Charges and these can differ in different Councils.



# Year 10 Foundation

## PERCENTAGE CHANGE AND REVERSE PERCENTAGES

### Key Concepts

#### Calculating percentages of an amount without a calculator:

10% = divide the value by 10  
 1% = divide the value by 100

#### Calculating percentages of an amount with a calculator:

Amount  $\times$  percentage as decimal

#### Calculating percentage increase/decrease:

Amount  $\times$  (1  $\pm$  percentage as a decimal)

#### Calculating reverse percentages :

The percentage has already happened – we need to do the opposite to get back to the start!

**Appreciation** means that the value of something is going up or increasing.

**Depreciation** means that the value of something is going down or reducing.

**Per annum** is often used in monetary questions meaning **per year**.

#### Percentage change:

A dress is reduced in price by 35% from £80. What is its **new price**?

$$\begin{aligned} \text{Value} \times (1 - \text{percentage as a decimal}) \\ = 80 \times (1 - 0.35) \\ = £52 \end{aligned}$$

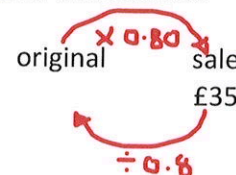
A house price appreciates by 8% in a year. It originally costs £120,000, what is the **new value** of the house?

$$\begin{aligned} \text{Value} \times (1 + \text{percentage as a decimal}) \\ = 120,000 \times (1 + 0.08) \\ = £129,600 \end{aligned}$$

**Reverse percentages:** This is when we are trying to find out the original amount.

A pair of trainers cost £35 in a sale. If there was 20% off, what was the **original price** of the trainers?

$$\begin{aligned} \text{Value} \div (1 - 0.20). \quad \text{OR} \\ = 35 \div 0.8 \\ = £43.75 \end{aligned}$$



A vintage car has increased in value by 5%, it is now worth £55,000. What was it worth **originally**?

$$\begin{aligned} \text{Value} \div (1 + 0.05) \\ = 55,000 \div 1.05 \\ = £52,380.95 \end{aligned}$$

### Examples

#### Key Words

Percent  
 Increase/decrease  
 Reverse  
 Multiplier  
 Inverse

- 1a) Decrease £500 by 6%
- b) Increase 70 by 8.5%
- 2) A camera costs £180 in a 10% **sale**. What was the **pre-sale** price
- 3) The cost of a holiday, including **VAT** at 20% is £540. What is the **pre-VAT** price?



# PYTHAGORAS AND TRIGONOMETRY

## Key Concepts

Multiplying terms ADDS powers  $a^m \times a^n = a^{m+n}$

Dividing terms SUBTRACTS powers  $a^m \div a^n = a^{m-n}$

Brackets- MULTIPLIES powers.  $(a^m)^n = a^{mn}$

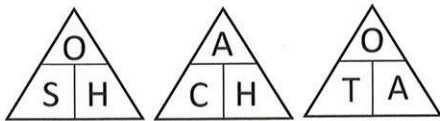
Pythagoras' theorem and basic trigonometry both work with **right angled triangles**.

**Pythagoras' Theorem** – used to find a missing length when two sides are known

$$a^2 + b^2 = c^2$$

$c$  is always the hypotenuse (the longest side)

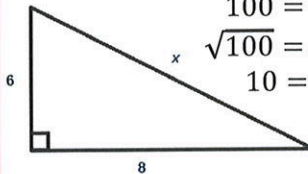
**Basic trigonometry SOHCAHTOA** – used to find a missing side or an angle



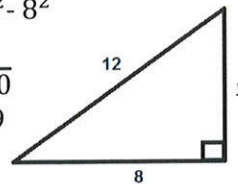
When finding the missing angle we must press **SHIFT** on our calculators first.

## Pythagoras' Theorem

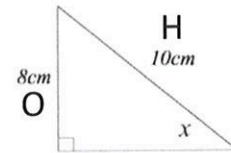
$$\begin{aligned} a^2 + b^2 &= c^2 \\ 6^2 + 8^2 &= x^2 \\ 100 &= x^2 \\ \sqrt{100} &= x \\ 10 &= x \end{aligned}$$



$$\begin{aligned} a^2 + b^2 &= c^2 \\ a^2 + 8^2 &= 12^2 \\ a^2 &= 12^2 - 8^2 \\ a^2 &= 80 \\ a &= \sqrt{80} \\ a &= 8.9 \end{aligned}$$

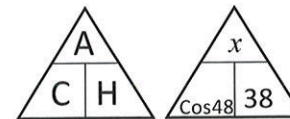


## Examples



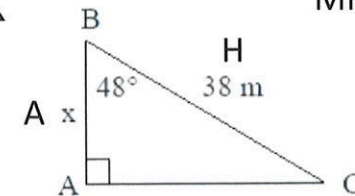
$$\begin{aligned} \sin x &= \frac{8}{10} \\ x &= \sin^{-1}\left(\frac{8}{10}\right) \\ x &= 53.1^\circ \end{aligned}$$

Missing angle



$$\begin{aligned} x &= 38 \times \cos 48 \\ x &= 25.4m \end{aligned}$$

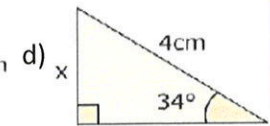
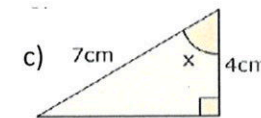
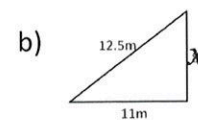
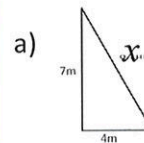
Missing side



## Key Words

Powers	Hypotenuse
Roots	Opposite
Indices	Adjacent
Reciprocal	Sine
Right angled triangle	Cosine
	Tangent

Find the value of  $x$ .



ANSWERS: a) 8.06m b) 5.94m c) 55.15° d) 2.34cm



# INTEGERS, ROUNDING AND PLACE VALUE

## Key Concepts

Integers are **whole numbers**.

Rounding rules:

A value of 5 to 9 rounds the number up. A value of 0 to 4 keeps the number the same.

The boundaries of a number derive from **rounding**.

E.g. State the boundaries of 360 when it has **been** rounded to 2 significant figures:

$$355 \leq x < 365$$

E.g. State the boundaries of 4.5 when it has been rounded to 2 decimal place:

$$4.45 \leq x < 4.55$$

These boundaries can also be called the **error interval** of a number.

## Examples

**Order** the following numbers starting with the smallest:

1) 5, -3, 4, 7, -2  
-3, -2, 4, 5, 7

2) 0.067 0.6 0.56 0.65 0.605  
 Rewrite 0.067, 0.600, 0.560, 0.650, 0.605  
0.067 0.56 0.6 0.605 0.65

3. A restaurant provides a cuboid stick of butter to each table. The dimensions are 30mm by 30mm by 80mm, correct to the nearest 5mm. Calculate the upper and lower bounds of the volume of the butter.

$$\text{Volume} = l \times w \times h$$

$$\text{Upper bound} = 32.5 \times 82.5 \times 32.5 = 87140.63 \text{mm}^3$$

$$\text{Lower bound} = 27.5 \times 77.5 \times 27.5 = 58609.38 \text{mm}^3$$

**Round** 3.527 to:

a) 1 decimal place  
 $3.5\overset{|}{2}7 \rightarrow 3.5$

b) 2 decimal places  
 $3.5\overset{|}{2}\overset{|}{7} \rightarrow 3.53$

c) 1 significant figure  
 $3.\overset{|}{5}27 \rightarrow 4$

## Key Words

Integer      Even  
 Digit        Odd  
 Decimal place  
 Significant figures  
 Bound  
 Accuracy

A) Order the following numbers starting with the smallest:

1) 6, -2, 0, -5, 3      2) 0.72, 0.7, 0.072, 0.07, 0.702

B) Round the following numbers to the given degree of accuracy

1) 14.1732      (1 d.p.)    2) 0.0568    (2 d.p.)    3) 3418    (1 S.F)

ANSWERS: A1) -5, -2, 0, 3, 6 2) 0.07, 0.072, 0.7, 0.702, 0.72 B1) 14.2 2) 0.06 3) 3000



# THE SINE AND COSINE RULE

## Key Concepts

### Sine rule

To calculate a missing side:

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

To calculate a missing angle:

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

### Cosine rule

To calculate a missing side:

$$a^2 = b^2 + c^2 - 2bccosA$$

To calculate a missing angle:

$$cosA = \frac{b^2 + c^2 - a^2}{2bc}$$

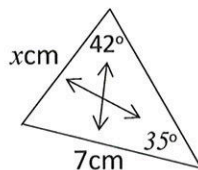
Area of a triangle using sine

$$area = \frac{1}{2}absinC$$

## Key Words

Formula  
Rearrange  
Hypotenuse  
Opposite  
Adjacent  
Sine  
Cosine  
Side  
Angle  
Inverse  
2D  
Area

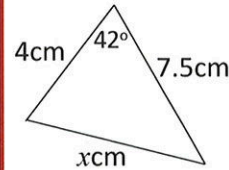
## Examples



$$\frac{x}{\sin 35} = \frac{7}{\sin 42}$$

$$x = \frac{\sin 35 \times 7}{\sin 42}$$

$$x = 6.0 \text{ cm}$$

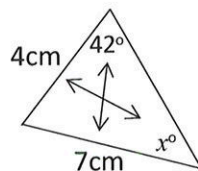


$$a^2 = b^2 + c^2 - 2bccosA$$

$$x^2 = 4^2 + 7.5^2 - 2 \times 4 \times 7.5 \times \cos 42$$

$$x^2 = 27.66$$

$$x = \sqrt{27.66} = 5.26 \text{ cm}$$

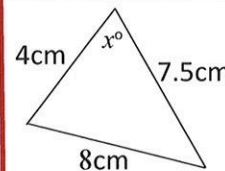


$$\frac{\sin x}{4} = \frac{\sin 42}{7}$$

$$\sin x = \frac{\sin 42 \times 4}{7}$$

$$x = \sin^{-1} \left( \frac{\sin 42 \times 4}{7} \right)$$

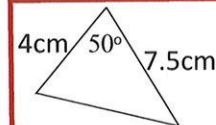
$$x = 22.5^\circ$$



$$\cos A = \frac{4^2 + 7.5^2 - 8^2}{2 \times 4 \times 7.5}$$

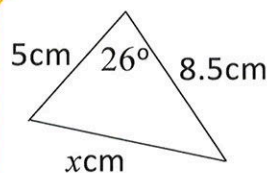
$$A = \cos^{-1} \left( \frac{4^2 + 7.5^2 - 8^2}{2 \times 4 \times 7.5} \right)$$

$$A = 82.1^\circ$$

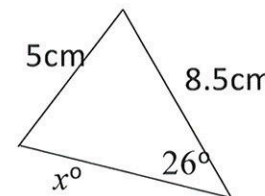


$$area = \frac{1}{2} \times 4 \times 7.5 \times \sin 50$$

$$area = 11.49 \text{ cm}^2$$



1a) Calculate  $x$   
b) Calculate the area of the triangle



2a) Calculate  $x$   
b) Calculate the area of the triangle

ANSWERS 1a) 4.57cm b) 9.32cm<sup>2</sup> 2a) 48.18° b) 20.45cm<sup>2</sup>



# BOUNDARIES

## Key Concepts

The boundaries of a number derive from **rounding**.

E.g. State the boundaries of 360 when it has been rounded to 2 significant figures:

$$355 \leq x < 365$$

E.g. State the boundaries of 4.5 when it has been rounded to 2 decimal place:

$$4.45 \leq x < 4.55$$

These boundaries can also be called the **error interval** of a number.

When solving problems involving boundaries:

Multiplying the biggest gives the biggest answer

Dividing the smallest by biggest gives the smallest answer.

	+	-	×	÷
<b>Upper bound answer</b>	$UB_1 + UB_2$	$UB_1 - LB_2$	$UB_1 \times UB_2$	$UB_1 \div LB_2$
<b>Lower bound answer</b>	$LB_1 + LB_2$	$LB_1 - UB_2$	$LB_1 \times LB_2$	$LB_1 \div UB_2$

A restaurant provides a cuboid stick of butter to each table. The dimensions are 30mm by 30mm by 80mm, correct to the nearest 5mm. Calculate the upper and lower bounds of the volume of the butter.

$$\text{Volume} = l \times w \times h$$

$$\begin{aligned} \text{Upper bound} &= 32.5 \times 82.5 \times 32.5 \\ &= 87140.63 \text{mm}^3 \end{aligned}$$

$$\begin{aligned} \text{Lower bound} &= 27.5 \times 77.5 \times 27.5 \\ &= 58609.38 \text{mm}^3 \end{aligned}$$

## Examples

When completing calculations involving boundaries we are aiming to find the greatest or smallest answer.

$$D = \frac{x}{y} \quad \begin{array}{l} x = 99.7 \text{ correct to 1 decimal place.} \\ y = 67 \text{ correct to 2 significant figures.} \\ \text{Work out an upper and lower bounds for } D. \end{array}$$

$$\text{Upper bound } D = \frac{99.75}{66.5} = 1.5$$

$$\text{Lower bound } D = \frac{99.65}{67.5} = 1.48$$

## Key Words

Bound  
Upper  
Lower  
Accuracy  
Rounding

1) Jada has 100 litres of oil, correct to the nearest litre.

The oil is poured into tins of volume 1.5 litres, correct to one decimal place. Calculate the upper and lower bounds for the number of tins that can be filled.

2) There are 110 identical marbles in a bag. A marble is taken and weighed as 15.6 g to the nearest tenth of a gram. Find the upper and lower bounds for the weight of all the marbles.

ANSWERS: 1) LB = 69.3 ≈ 69 UB = 64.2 ≈ 64 2) LB = 1710.5 g UB = 1721.5 g



# Year 10 Higher - VENN DIAGRAMS

## Key Concepts

**Independent events** are events which do not affect one another.

**Dependent events** affect one another's probabilities. This is also known as **conditional probability**.

Venn diagrams show all possible relationships between different sets of data.

Probabilities can be derived from Venn diagrams. Specific notation is used for this:

$P(A \cap B)$  = Probability of A **and** B

$P(A \cup B)$  = Probability of A **or** B

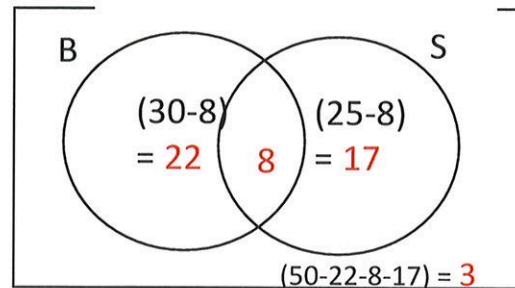
$P(A')$  = Probability of **not** A

Out of 50 people surveyed:

30 have a brother

25 have a sister

8 have both a brother and sister



## Example

a) Complete the Venn diagram

b) Calculate:

i)  $P(A \cap B) = \frac{8}{50}$     ii)  $P(A \cup B) = \frac{47}{50}$     iii)  $P(B') = \frac{20}{50}$

iv) The probability that a person with a sister, does not have a brother.  $= \frac{8}{25}$

## Key Words

Independent  
Dependant  
Conditional  
Probability  
Fraction  
Venn diagram  
Union  
Intersection  
Probability  
Outcomes

40 students were surveyed:

20 have visited France

15 have visited Spain

10 have visited both France and Spain

a) Complete a Venn diagram to represent this information.

b) Calculate:

i)  $P(F \cap S)$     ii)  $P(F \cup S)$     iii)  $P(S')$

iv) The probability someone who has visited France, has not gone to Spain.



# PYTHAGORAS AND TRIGONOMETRY

## Key Concepts

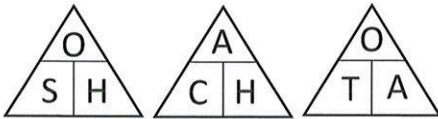
Pythagoras' theorem and basic trigonometry both work with **right angled triangles**.

**Pythagoras' Theorem** – used to find a missing length when two sides are known

$$a^2 + b^2 = c^2$$

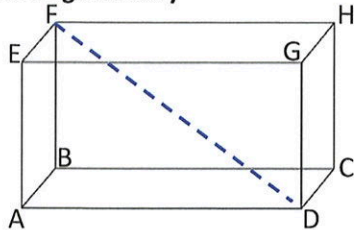
$c$  is always the hypotenuse (the longest side)

**Basic trigonometry SOHCAHTOA** – used to find a missing side or an angle



When finding the missing angle we must press **SHIFT** on our calculators first.

## 3D Trigonometry

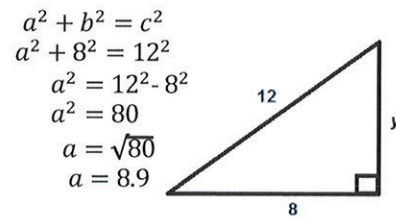
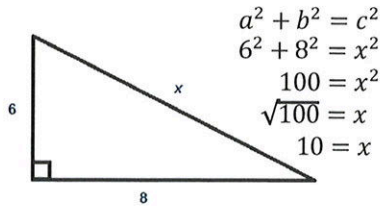


The **plane** of a cuboid is a flat 2D surface.

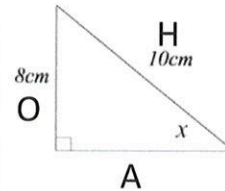
An example of a plane is ABCD.

An example of a **diagonal** in a cuboid is FD.

## Pythagoras' Theorem



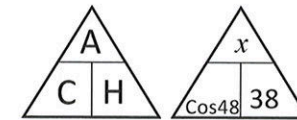
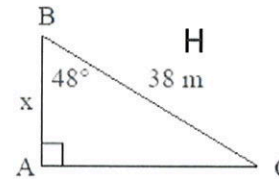
## Examples



$$\sin x = \frac{8}{10}$$

$$x = \sin^{-1}\left(\frac{8}{10}\right)$$

$$x = 53.1^\circ$$



$$\cos 48 = \frac{x}{38}$$

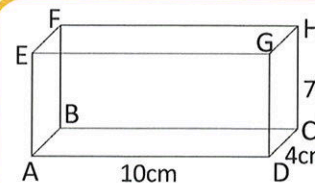
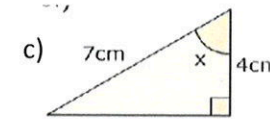
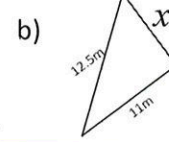
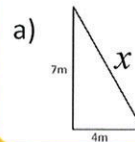
$$38 \times \cos 48 = x$$

$$x = 25.4m$$

## Key Words

Right angled triangle  
Hypotenuse  
Opposite  
Adjacent  
Sine  
Cosine  
Tangent  
3D  
Plane  
Diagonal

1. Find the value of  $x$



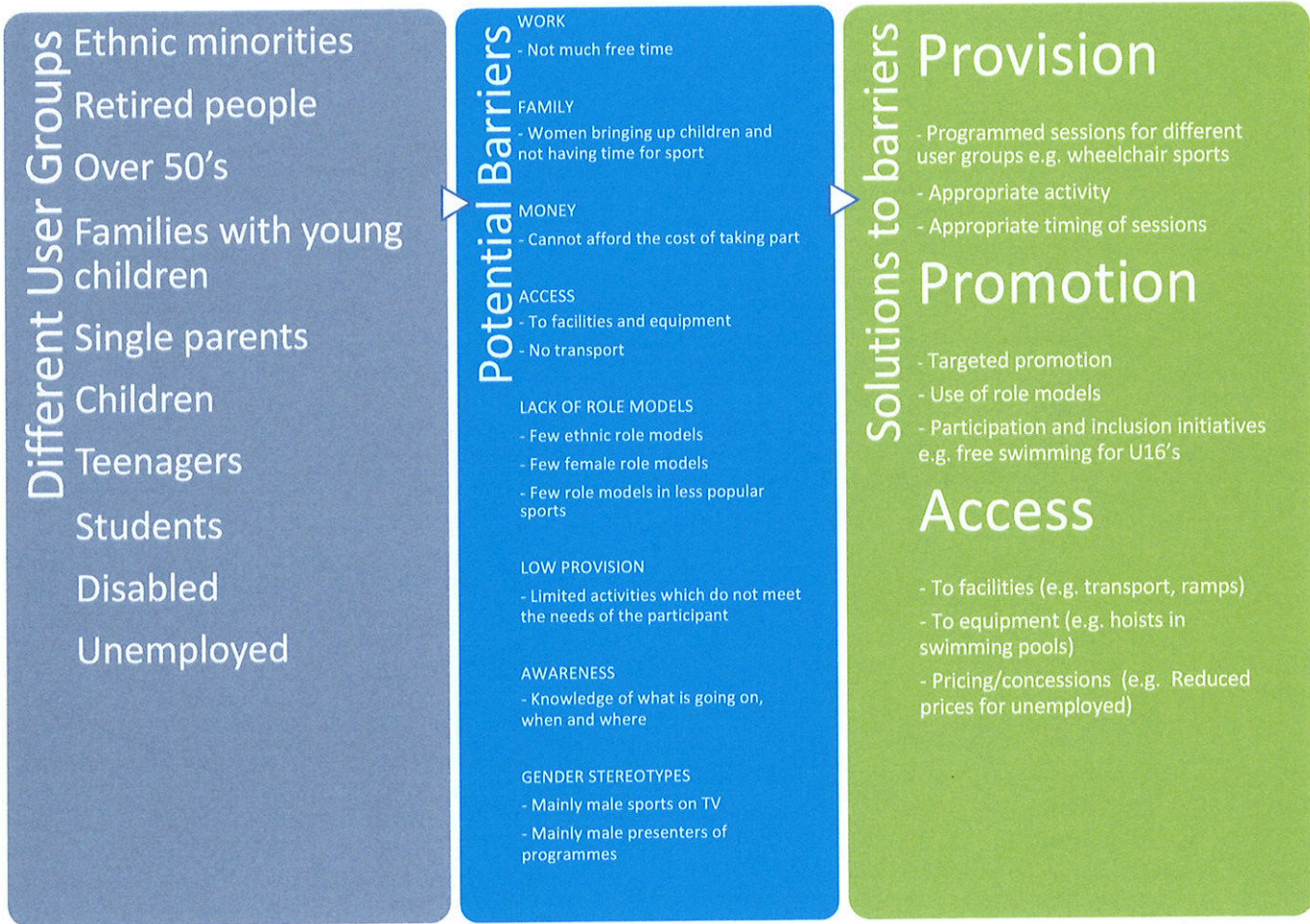
- 1) Calculate the length AC
- 2) Calculate the length AH
- 3) Calculate the angle between AH and the plane ABCD.

ANSWERS: a) 8.06m b) 5.94m c) 55.15° d) 2.34cm. ANSWERS 1) 10.77cm 2) 12.84cm 3) 33.02°



# OCR Sports Studies

## Factors affecting participation in sport



# In sport Contemporary Issues



## Vocabulary mat summer term: El medio ambiente

### ¿Cómo es tu casa?

Vivo en...	<i>I live in...</i>
un bloque de pisos	a block of flats
una casa individual	a detached house
una casa adosada	a semi-detached / terraced house
una residencia de ancianos	an old people's home
una finca / granja	a farmhouse
Alquilamos una casa amueblada.	We rent a furnished house.
Está en...	It is in / on...
un barrio de la ciudad	a district / suburb of the city / town
las afueras	the outskirts
el campo	the country
la costa	the coast
la montaña / sierra	the mountains
el cuarto piso de un edificio antiguo	the fourth floor of an old building
Mi apartamento / piso tiene...	My apartment / flat has...
tres dormitorios	three bedrooms

### What is your house like?

dos cuartos de baño	two bathrooms
una cocina amplia y bien equipada	a spacious, well-equipped kitchen
un comedor recién renovado	a recently refurbished dining room
un estudio	a study
un aseo	a toilet
un sótano	a basement / cellar
un salón	a living room
una mesa	a table
unas sillas	some chairs
Mi casa ideal sería...	My ideal house would be...
Tendría...	It would have...
una piscina climatizada	a heated swimming pool
mi propio cine en casa	my own home cinema
una sala de fiestas	a party room
Cambiaría los muebles.	I would change the furniture.
Pintaría ... de otro color.	I would paint ... another colour.

### ¿Cómo se debería cuidar

### the medio ambiente en casa?

Para cuidar el medio ambiente se debería...	To care for the environment you / one should...
apagar la luz	turn off the light
ducharse en vez de bañarse	have a shower instead of taking a bath
separar la basura	separate the rubbish
reciclar el plástico y el vidrio	recycle plastic and glass

### How should you look after the environment at home?

desenchufar los aparatos eléctricos	unplug electric appliances
ahorrar energía	save energy
cerrar el grifo	turn off the tap
hacer todo lo posible	do everything possible
no se debería...	you / one should not...
malgastar el agua	waste water
usar bolsas de plástico	use plastic bags

### ¿Cuáles son los problemas globales más serios hoy en día?

Me preocupa(n)...	I am worried about...
el paro / desempleo	unemployment
el hambre / la pobreza	hunger / poverty
la deforestación	deforestation
la diferencia entre ricos y pobres	the difference between rich and poor
la drogadicción / la salud / la obesidad	drug addiction / health / obesity
la crisis económica	the economic crisis
los problemas del medio ambiente	environmental problems
los sin hogar / techo	the homeless
los animales en peligro de extinción	animals in danger of extinction
Es necesario / esencial que...	It's necessary / essential that (we)...
cuidemos el planeta	look after the planet
hagamos proyectos de conservación	do conservation projects
compremos / usemos	buy / use
productos verdes / de comercio justo	green / fairtrade products
apoyemos proyectos de ayuda	support aid projects

### What are the most serious global issues today?

creemos oportunidades de trabajo	we should create job opportunities
ayudemos a evitar el consumo de sustancias perjudiciales	help to avoid the consumption of harmful substances
ahorremos agua	save water
construyamos más casas	build more houses
cambiamos la ley	change the law
consumamos menos	consume less
hagamos campañas publicitarias	carry out publicity campaigns
recaudemos dinero	raise money
para organizaciones de caridad	for charities in the third world
en el tercer mundo	
No es justo / Es terrible que haya...	It's not fair / terrible that there is...
tanta desigualdad social / contaminación	so much social inequality / pollution
tanta gente sin trabajo y sin techo	so many people out of work and homeless
tanta gente obesa y tantos drogadictos	so many obese people and so many drug addicts

### ¡Actúa localmente!

Hay demasiada...	There is / are too much / many...
basura en las calles	rubbish on the streets
gente sin espacio para vivir	people with nowhere to live
destrucción de los bosques	destruction of woodland / forest
polución de los mares y ríos	pollution of seas and rivers
El aire está contaminado.	The air is polluted.
Los combustibles fósiles se acaban.	Fossil fuels are running out.
No corte tantos árboles.	Don't cut down so many trees.
No vaya en coche si es posible ir a pie.	Don't go by car if it's possible to walk.
No tire basura al suelo.	Don't throw rubbish onto the ground.
No malgaste energía.	Don't waste energy.
No construya tantas casas grandes.	Don't build so many large houses.
No eche tantos desechos químicos.	Don't release so much chemical waste.
Plante más bosques y selvas.	Plant more woods and forests.
Reduzca las emisiones de los vehículos.	Reduce vehicle emissions.
Recicle el papel, el vidrio y el plástico.	Recycle paper, glass and plastic.

### Act locally!

Use energías renovables.	Use renewable energy.
Diseñe casas más pequeñas.	Design smaller houses.
Introduzca leyes más estrictas.	Introduce stricter laws.
llevar una vida más verde	(to) live a greener life
salvar el planeta	(to) save the planet
reducir la huella de carbono	(to) reduce your carbon footprint
ecológico/a	environmentally-friendly
el techo	roof
el agua de lluvia	rain water
el domicilio	home
los recursos naturales	natural resources
los paneles solares	solar panels
la arena	sand
los (eco-)ladrillos	(eco-)bricks
una fábrica	a factory
mudarse (de casa)	(to) move house

### Una dieta sana

los alimentos	foods
lácteos	milk products
carne, pescados y huevos	meat, fish and eggs
frutas y verduras	fruit and vegetables
cereales	cereals
fideos	noodles

### A healthy diet

grasas	fats
dulces	sugars / sweet things
legumbres	pulses
frutos secos	nuts and dried fruit
los nutrientes	nutrients
proteínas	proteins



## Vocabulary mat summer term: El medio ambiente

minerales	minerals	La fibra...	Fibre...
grasa	fat	protege contra el cáncer	protects against cancer
sal	salt	combate la obesidad	combats obesity
vitaminas	vitamins	reduce el riesgo de enfermedades	reduces the risk of diseases
azúcar	sugar	evitar comer / beber...	avoid eating / drinking...
gluten	gluten	cambiar mi dieta	change my diet
el sabor	taste	llevar una dieta equilibrada	have a balanced diet
vegetariano / vegano	vegetarian / vegan	preparar con ingredientes frescos	prepare with fresh ingredients
saludable / sano / malsano	healthy / healthy / unhealthy	engordar	to put on weight
(No) Tengo hambre / sed / sueño.	I am (not) hungry / thirsty / tired.	saltarse el desayuno	to skip breakfast
tiempo para cocinar	time to cook	practicar más deporte	to do more sport
contiene / contienen	it contains / they contain		

### ¡Vivir a tope!

Beber alcohol...	To drink / Drinking alcohol...
Fumar cigarrillos / porros...	To smoke / Smoking cigarettes / joints...
Tomar drogas blandas / duras...	To take / Taking soft / hard drugs...
Es / No es...	It is / isn't...
ilegal / peligroso	illegal / dangerous
un malgasto de dinero	a waste of money
una tontería / un problema serio	stupid / a serious problem
un vicio muy caro	an expensive habit
muy perjudicial para la salud	very damaging to your health
tan malo	as bad
provoca mal aliento	causes bad breath
dana los pulmones	damages the lungs
mancha los dientes de amarillo	stains your teeth yellow
causa el fracaso escolar / depresión	causes failure at school / depression
produce una fuerte dependencia física	produces a strong, physical dependence

### ¡El deporte nos une!

¿Para qué sirven...?	What are...for?
los eventos deportivos internacionales	international sporting events
los grandes acontecimientos deportivos	big sporting events
los Juegos Paralímpicos / Olímpicos	the Paralympics / Olympics
la Copa Mundial del Fútbol	the Football World Cup
Sirven para...	They serve to...
promover...	promote / foster / encourage...
la participación en el deporte	participation in sport
el espíritu de solidaridad	team spirit
regenerar los centros urbanos	regenerate city centres
eleva el orgullo nacional	increase national pride
transmitir los valores de respeto y disciplina	convey / instil the values of respect and discipline
unir a la gente	unite people

### Sport unites us!

dar un impulso económico	give a boost to the economy
inspirar a la gente	inspire people
Una / Otra desventaja es...	A / Another disadvantage is...
el riesgo de ataques terroristas	the risk of terrorist attacks
el tráfico	the traffic
el dopaje	doping
la deuda	the debt
el coste de organización de la seguridad	the cost of organising the security
la ciudad anfitriona	the host city
el voluntariado	volunteering
Solicité un trabajo voluntario	I applied for a volunteering job
porque...	because...
(Nunca) Había sido...	I had (never) been...
Antes ya había trabajado como...	Previously I had already worked as...

### ¡Apúntate!

¿Qué estás haciendo?	What were you doing?
Estaba / Estabamos / Estaban...	I/He/She/It was / We were / They were...
ensayando	rehearsing
nevando	snowing
entrando en casa	coming into the house
durmiendo	sleeping
conduciendo por la ciudad	driving through the city
leyendo	reading
volar por el aire	flying through the air
Se estaba convirtiendo en un río.	It was turning into a river.
Se estaba moviendo.	It was moving.
a mi alrededor	around me
Se estaban cayendo.	They were falling.
¿Cómo te enteraste del/de la/ de las...?	How did you find out about the...?

### Sign up!

Estaba...	I / He / She was...
mirando/viendo las noticias / la tele	watching the news / the TV
buscando informaciones en línea	looking for information online
charlando con un amigo / una amiga	chatting with a friend
leyendo un post en Facebook	reading a Facebook post
cuando...	when...
encontré un reportaje / un artículo	I found a report / an article
recibi un SMS	I received a text message
(lo) vi en las noticias	I saw (it) on the news
mi novio me llamó / me contó la historia	my boyfriend called me / told me the story
una organización de servicio voluntario	a voluntary organisation
una campaña para las víctimas	a campaign for the victims
una caja de supervivencia	a survival box
Decidi apuntarme.	I decided to sign up.
recaudar fondos / solicitar donativos	to raise funds / ask for donations
organizamos algunos eventos	we organised some events
un concierto / un espectáculo de baile	a concert / a dance show
una carrera de bici apadrinada	a sponsored bike race
una venta de pasteles	a cake sale
ser solidario	showing solidarity / supporting...
Te hace sentir más conectado con los demás.	Makes you feel more connected to others.

tremor	tremor
forest fire	forest fire
hurricane	hurricane
tornado	tornado
earthquake	earthquake
snow storm	snow storm
humanitaria campaign	humanitaria campaign
floods	floods



### G Present tense: the third person singular

For regular **-er** verbs, the third person singular (*il/elle*) ending is **-e**.

Irregular verb forms like *il/elle va* and *il/elle fait* must be learned.

The possessive adjective is **son/sa/ses**, depending on the gender of the noun it accompanies: there are not separate words for 'his' and 'her'.

### G Using the definite article

When talking about likes/dislikes in French, the definite article (**le/la/les**) is always used in front of the noun, even though we wouldn't use it in English.

*J'adore le français.* I like French.

*J'aime les langues.* I like languages.

### G Present tense: the third person plural

For regular **-er** verbs, the *ils/elles* ending is **-ent**, e.g. *ils portent*.

Remember that these verbs are **irregular**:

*aller* → *ils vont*      *avoir* → *ils ont*      *devoir* → *ils doivent*  
*faire* → *ils font*      *être* → *ils sont*      *pouvoir* → *ils peuvent*

The possessive adjective is **leur** or **leurs**, depending on whether the noun is singular or plural.

### G The imperative

You use the imperative to give instructions. Recap how to form it using the grammar box on page 76.

In addition, **for reflexive verbs**, add **-toi** or **-vous**:

*tu t'amuses* (you have fun) → *Amuse-toi!* (Have fun!)

*vous vous reposez* (you rest) → *Reposez-vous!* (Rest!)

**avoir** and **être** are irregular:

*être* → *tu* form: *sois* → **Sois** *en bonne forme physique!*  
(Be in good physical shape!)

*vous* form: *soyez* → **Soyez** *en bonne forme physique!*

*avoir* → *tu* form: *aie* → **N'aie** *pas peur!* (Don't be afraid!)

*vous* form: *ayez* → **N'ayez** *pas peur!*

### G Using *il faut* and *il est interdit de* > Page 220

*il faut* ...      it is necessary to/you must ...

*il est interdit de* ...      it is forbidden to/you must not ...

Both expressions are followed by the infinitive.

*Il faut être à l'heure.* You must **be** on time.

*Il est interdit de manquer les cours.* You must not **skip** lessons.

### G Comparisons > Page 226

**plus important(e)(s) que**      **more** important than  
**moins important(e)(s) que**      **less** important than  
**aussi important(e)(s) que**      **as** important as

### G Adverbs > Page 227

You use adverbs to say how you do something. Most adverbs are formed from adjectives and end in **-amment**, **-emment**, **-ement**, or **-ément**:

*suffisant* (sufficient) → **suffisamment** (sufficiently/enough)

*lent* (slow) → **lentement** (slowly)

*profond* (deep) → **profondément** (deeply)

Irregular adverbs include *bien* (well), *mal* (badly) and *mieux* (better).

### G The future tense > Page 218

To form the future tense, use the future stem of the verb + the correct ending.

**je mangerai** (I will eat), **il mangera** (he will eat)

**je serai** (I will be), **il sera** (he will be)

### G Adverbs > Page 227

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*profond* (deep) → **profondément** (deeply)

Irregular adverbs include *bien* (well), *mal* (badly) and *mieux* (better).

## Year 10 French- Summer Semester: Au Collège



Les matières	School subjects		
le commerce	business studies	l'anglais	English
le dessin/les arts plastiques	art/fine art	l'art dramatique	drama
le français	French	l'économie	economics
le latin	Latin	l'éducation physique et sportive/ l'EPS	PE
la biologie/les sciences de la vie et de la terre	biology	l'espagnol	Spanish
la chimie	chemistry	l'étude des médias	media studies
la géographie	geography	l'histoire	history
la musique	music	l'histoire-géo	humanities (history and geography, studied together in France)
la physique/les sciences physiques	physics	l'informatique	ICT
la religion	religious studies	l'instruction civique	citizenship
la sociologie	sociology	l'italien	Italian
la technologie	design and technology	les arts ménagers	home technology
l'allemand	German	les maths	maths

Mon collège	My school		
Mercredi, à 11h15, j'ai histoire-géo.	I have humanities at 11.15 on Wednesday.	Je trouve ...	I find ...
J'ai (deux) heures de (musique) par semaine.	I have (two) hours of (music) per week.	Je pense que ... est/sont ...	I think that ... is ...
Il n'y a pas de cours de ... dans mon emploi du temps.	There are no ... lessons in my timetable.	intéressant(e)s	interesting
J'apprends (deux) langues vivantes.	I learn (two) foreign languages.	passionnant(e)s	exciting
Mes cours finissent à (16h00) tous les jours.	My lessons finish at (4.00) every day.	ennuyeux/-euse(s)	boring
Je n'ai pas cours (le mercredi après-midi).	I don't have lessons (on Wednesday afternoon).	... parce que/ qu' ...	... because ...
Ma matière préférée est ...	My favourite subject is ...	c'est facile/fascinant/	it's easy/fascinating/
J'adore/j'aime/je n'aime pas/je déteste ...	I love/like/don't like/hate ...	difficile/utile/inutile	difficult/useful/useless
		Je suis fort(e)/faible/doué(e) en ...	I am strong/weak/gifted in ...
		Le/la prof est bon(ne)/sympa/marrant(e)/sévère/gentil(le)/impatient(e).	The teacher is good/nice/funny/strict/kind/impatient.
		On a trop de devoirs.	We have too much homework.

Mon bahut	My school		
Comment s'appelle ton collège?	What's your school called?	Le mercredi après-midi, il n'y a pas cours.	There are no lessons on Wednesday afternoon.
Mon collège s'appelle ...	My school is called ...	Quelles matières étudies-tu?	What subjects do you study?
C'est quelle sorte de collège?	What sort of school is it?	J'étudie douze matières dont ...	I study 12 subjects, including ...
C'est un collège mixte pour les élèves de onze à seize ans.	It's a mixed school for pupils from 11 to 16.	Toutes mes matières sont obligatoires.	All my subjects are compulsory.
Il y a combien d'élèves?	How many pupils are there?	Quelle est ta matière préférée?	What is your favourite subject?
Il y a 750 élèves et quarante-cinq professeurs.	There are 750 pupils and 45 teachers.	Ma matière préférée, c'est (les arts ménagers) car ...	My favourite subject is (home technology) because ...
Quelles sont les horaires du collège?	What are the school hours?	J'adore (cuisiner) car ...	I love (cooking) because ...
Les cours commencent à 8h30.	Lessons start at 8.30.	Je suis doué pour ça	I'm talented at that
La récré est à 10h15 et dure quinze minutes.	Break is at 10.15 and lasts 15 minutes.	Comment sont les professeurs?	What are your teachers like?
On a une heure et demie pour le déjeuner.	We have an hour and a half for lunch.	Les profs sont sympa/sévères.	The teachers are nice/strict.
Les cours finissent à 16 heures.	Lessons finish at 4.00.	Qu'est-ce que tu penses de ton collège?	What do you think of your school?
Il y a combien de cours par jour?	How many lessons are there per day?	Je trouve que/qu' ...	I find that ...
Il y a sept cours de cinquante-cinq minutes par jour.	There are seven lessons of 55 minutes per day.	les journées sont trop longues	the days are too long
		on a trop de contrôles	we have too many tests
		les profs sont excellents	the teachers are excellent

L'école chez nous, l'école chez vous	School here and with you		
En Angleterre/Écosse/Irlande du Nord ...	In England/Scotland/Northern Ireland ...	L'école commence ...	school starts ...
Au pays de Galles ...	In Wales ...	ils portent ...	they wear ...
on va à l'école de ... ans à ... ans	we go to school from ... to ... years old	ils achètent ...	they buy ...
		ils (ne) redoublent (pas)	they (don't) repeat the year
		ils étudient ...	they study ...
		Je préfère le système (anglais/français) parce que ...	I prefer the (English/French) system because ...
		les horaires sont plus raisonnables	the hours are more sensible
		l'uniforme scolaire est pratique/inutile	school uniform is practical/useless
		l'école fournit l'équipement	school provides the equipment
		le redoublement (n'est) pas une bonne idée	repeating the year is (not) a good idea
		on (n')étudie (pas) ...	we/they (don't) study ...

Le règlement scolaire	School rules		
Dans cette école, il faut ...	In this school, you must ...	Je trouve ça ...	I find that ...
être à l'heure	be on time	raisonnable/logique	reasonable/sensible/logical
faire ses devoirs	do your homework	juste/injuste	fair/unfair
porter l'uniforme scolaire	wear school uniform	ridicule/frustrant	ridiculous/frustrating
Il ne faut pas ...	You must not ...	... parce que/car ...	... because ...
manquer les cours	miss lessons	c'est/ce n'est pas dangereux	it's (not) dangerous
tricher pendant un contrôle	cheat in a test	il faut protéger les jeunes	you must protect young people
Il est interdit de/d' ...	It is forbidden to ...	on n'est pas des bébés	we're not babies
mâcher du chewing-gum	chew gum	il faut respecter les autres	you must respect others
utiliser son portable en classe	use your mobile in class	la mode n'a pas de place à l'école	fashion has no place at school
porter des bijoux/des piercings/	wear jewellery/piercings/too much	c'est/ce n'est pas important	it's (not) important
trop de maquillage	make-up	l'école, c'est pour apprendre	school is for learning
harceler d'autres élèves	bully other pupils	J'ai eu une heure de retenue/de colle.	I had an hour of detention.
sortir de l'école pendant l'heure du déjeuner	leave school during the lunch hour	J'ai dû copier des lignes.	I had to write lines.

Des conseils pour être en bonne santé	Advice for being healthy		
se concentrer en classe	to concentrate in class	manger équilibré	to eat a balanced diet
se coucher tôt	to go to bed early	participer à la chorale	to participate in the choir
se détendre	to relax	profiter des sorties scolaires	to make the most of school trips
dormir huit heures par nuit	to sleep eight hours per night	se reposer	to rest
éteindre les écrans	to turn off screens	respirer	to breathe
être en bonne forme physique	to be in good physical shape	le corps	the body
se faire de nouveaux amis	to make new friends	l'esprit	the mind
faire de la méditation ou du yoga	to do meditation or yoga	le sommeil	sleep
faire une activité sportive	to do a sport/sporting activity	les matières grasses	fat(s)

Ce que je fais	What I do		
Je mange sainement.	I eat healthily	Je bois uniquement de l'eau.	I only drink water.
J'essaie de manger cinq portions de fruits et de légumes par jour.	I try to eat five portions of fruit and vegetables per day.	Je fais du sport régulièrement.	I do sport regularly.
Je suis végétarien(ne).	I'm a vegetarian.	Je dors suffisamment.	I sleep enough/get enough sleep.
Je mange rarement des bonbons.	I rarely eat sweets.	Je me couche de bonne heure.	I go to bed early.
Je fais attention à ce que je bois.	I am careful about what I drink.	Les examens me stressent.	Exams make me stressed.
Je ne bois pas de boissons gazeuses.	I don't drink fizzy drinks.	Je médite tous les jours.	I meditate every day.
		Je m'amuse avec mes copains.	I have fun with my friends.

Quand et comment?	When and how?		
calmement	calmly	mieux	better
dur	hard	rarement	rarely
également	equally, also	récemment	recently
énormément	enormously, hugely	régulièrement	regularly
facilement	easily	sainement	healthily
heureusement	fortunately	suffisamment	enough, sufficiently
lentement	slowly	uniquement	only

Les vices	Vices		
boire de l'alcool	to drink alcohol	s'isoler	to isolate yourself
se droguer	to take drugs	souffrir de changements d'humeur	to suffer from mood swings
fumer (des cigarettes, du cannabis)	to smoke (cigarettes, cannabis)	ivre	drunk
avoir mal à la tête	to have a sore head	Je suis accro à ...	I'm addicted to ...

Les opinions	Opinions		
C'est une perte d'argent.	It's a waste of money.	On devient facilement accro.	You become addicted easily.
Ça coûte très cher.	It costs a lot./It's very expensive.	On peut vite devenir dépendant.	You can quickly become dependent.
C'est mauvais pour la santé.	It's bad for your health.	Si on fume, on sent la fumée.	If you smoke, you smell of smoke.
On risque d'avoir un cancer (des poumons, du foie) ou d'autres problèmes.	You risk getting (lung, liver) cancer or other problems.	Ça pue.	It stinks.
C'est dangereux.	It's dangerous.	Ça me donne confiance.	It gives me confidence.
C'est nocif.	It's harmful.	Ça aide dans les situations sociales.	It helps me in social situations.
		Je ne veux pas grossir.	I don't want to put on weight.

En échange	On an exchange		
Pourquoi faire un échange scolaire?	Why go on a school exchange?	On visite un nouveau pays ou une nouvelle région.	You visit a new country or region.
On se fait de nouveaux amis.	You make new friends.	On apprécie non seulement les différences mais aussi les similarités entre nos vies.	You appreciate not only the difference, but also the similarities between our lives.
On améliore ses compétences en langue.	You improve your language skills.		
On habite chez une famille d'une culture différente.	You live with a family from another culture.		



## Festivals und Events

Mein Lieblingsmusikfestival ist ...  
 Mein Lieblingsevent ist ...  
 die Pariser Modewoche  
 der Eurovision Song Contest  
 die Fußballweltmeisterschaft  
 Mein Lieblingsevent sind ...  
 die Filmfestspiele von Cannes  
 die Olympischen Winterspiele  
 die Olympischen Sommerspiele

## Festivals and events

My favourite music festival is ...  
 My favourite event is ...  
 Paris fashion week  
 the Eurovision Song Contest  
 the football World Cup  
 My favourite event is ...  
 the Cannes Film Festival  
 the Winter Olympic Games  
 the Summer Olympic Games

Das Festival / Event findet ... statt.  
 in Deutschland / England  
 jeden Sommer / Winter  
 jedes Jahr  
 alle vier Jahre  
 Ich habe ... gesehen / besucht.  
 Das Festival war ...  
 sehr interessant / langweilig  
 total spannend / toll  
 ziemlich laut

The festival / event takes place ...  
 in Germany / England  
 every summer / winter  
 every year  
 every four years  
 I saw / visited ...  
 The festival was ...  
 very interesting / boring  
 totally exciting / great  
 quite loud

## Asking questions with question words

**Was** machen die Personen auf dem Foto?  
 What are the people in the photo doing?  
**Wann** findet das Musikfestival statt?  
 When does the music festival take place?  
**Wo** findet es statt?  
 Where does it take place?  
**Warum** ist Rock deine Lieblingsmusik?  
 Why is rock music your favourite music?  
**Wie** fährst du zum Musikfestival?  
 How are you travelling to the music festival?  
 The question word **wer** (who) changes depending on its case, e.g. whether it is nominative or accusative.  
**Nominative:** Wer ist auf dem Foto?  
 Who is in the photo?  
**Accusative:** Wen hast du beim Musikfestival gesehen?  
 Who did you see at the music festival?

The question word **welch-** (which) follows the same pattern as the definite article (der, die, das, die).

	nominative	accusative
masc.	welcher	welchen
fem.	welche	welche
neut.	welches	welches
pl.	welche	welche

**Nominative:** Welche Bands spielen?  
 Which bands are playing?  
**Accusative:** Welchen Sänger hast du gesehen?  
 Which singer have you seen?

## Numbers and dates

Remember that numbers in the 20s, 30s, 40s, 50s, 60s, 70s, 80s and 90s are always said smaller number first and larger number second.

**33** dreiunddreißig (three and thirty)

**88** achtundachtzig (eight and eighty)

Numbers in the hundreds and thousands work in a similar way to English but you can leave out 'one' when you say 'one hundred' or 'one thousand':

**124** hundertzweiundvierzig (hundred twenty-four)

**1.300** tausenddreihundert (thousand three hundred)

**40.000** vierzigtausend

Years starting with 19- are always said in hundreds, and years starting with 20- are usually said in thousands:

**1980** neunzehnhundertachtzig (nineteen hundred eighty)

**2016** zweitausendsechzehn (two thousand sixteen)

Ordinal numbers add **-ten** to the number for dates up to 20, and **-sten** from 20 onwards.

**7.** siebten (seventh)

**23.** dreiundzwanzigsten (twenty-third)

## Prepositions with the accusative

These prepositions are followed by the accusative case:

für (for) entlang (along) durch (through)  
 um (around) ohne (without) gegen (against)

Here are the definite and indefinite articles in the accusative case:

	masc.	fem.	neut.	pl.
def. article	den	die	das	die
indef. article	einen	eine	ein	-

Ich gehe durch **das** Stadtzentrum.

I walk through the town centre.

Don't forget that subject pronouns also change in the accusative case: **ich** → **mich**.

Für **mich** ist es sehr wichtig. For **me** it is very important.

Look again at exercise 4. Find and translate the phrases that contain accusative prepositions.

## Year 10 German - Summer Eine wunderbare Welt

### Essential Question: Machst du mit?

#### Die Olympischen Winterspiele

Im Jahr (1976) haben die Olympischen Spiele in ... stattgefunden.

eine Bronzemedaille  
 eine Silbermedaille  
 eine Goldmedaille  
 Die Athleten haben ... Medaillen gewonnen.

die Baustelle(n)  
 die Gastgeberstadt(-städte)  
 die Luftverschmutzung

#### The Winter Olympics

In (1976) the Olympic Games took place in ...

a bronze medal  
 a silver medal  
 a gold medal  
 The athletes won ... medals.

building / construction works  
 host city  
 air pollution

der Stau(s)  
 die Sprache  
 die Kultur(en)  
 der Tourist(en)  
 der Zeitdruck  
 der Unfall(-fälle)  
 die Infrastruktur  
 schmutzig  
 unsicher  
 der Einwohner(-)

traffic jam  
 language  
 culture  
 tourist  
 time pressure  
 accident  
 infrastructure  
 dirty  
 unsafe  
 resident

#### Eine Debatte

Meiner Meinung nach sind die Olympischen Spiele gut / nicht gut, weil ...

Ich finde, die Olympischen Spiele sind wichtig / nicht wichtig, weil ...

#### A debate

In my opinion, the Olympic Games are good / not good because ...

I find the Olympic Games are important / not important because ...

Auf der einen Seite ...  
 Auf der anderen Seite ...  
 Einerseits ...  
 Andererseits ...  
 Ich stimme zu.  
 Ich stimme da nicht zu.  
 Vielleicht ..., aber ...

On the one hand ...  
 On the other hand ...  
 On the one hand ...  
 On the other hand ...  
 I agree.  
 I don't agree.  
 Perhaps ... but ...

#### Gesellschaftliche Probleme

der Alkoholiker  
 die Zigarette(n)  
 die E-Zigarette(n)  
 der Lungenkrebs  
 trinken  
 nehmen  
 vaper  
 aufgeben  
 ausprobieren  
 retten  
 enthalten  
 tödlich  
 betrunken  
 süchtig  
 illegal  
 unsozial  
 etwas Neues  
 nichts Positives  
 alles Mögliche  
 wenig Spannendes  
 viel Negatives

#### Social problems

alcoholic (person)  
 cigarette  
 e-cigarette  
 lung cancer  
 to drink  
 to take  
 to vape  
 to give up  
 to try  
 to save  
 to contain  
 lethal  
 drunk  
 addicted  
 illegal  
 antisocial  
 something new  
 nothing positive  
 everything possible  
 little that is exciting  
 a lot that is negative

Meiner Meinung nach ...  
 trinkt man Alkohol, weil das cool ist  
 raucht man, weil das entspannend ist  
 nimmt man Drogen, weil Freunde es machen  
 Ich finde, ...  
 Alkohol ist eine Geldverschwendung  
 Rauchen ist teuer  
 Drogen sind schrecklich  
 Man sollte nicht Alkohol trinken, weil das gefährlich ist.

Man sollte nicht Zigaretten rauchen, weil das süchtig macht.  
 Man sollte nicht Drogen nehmen, weil das ekelhaft / tödlich ist.

In my opinion ...  
 people drink alcohol because it's cool  
 people smoke because it's relaxing  
 people take drugs because friends do it  
 I find ...  
 alcohol is a waste of money  
 smoking is expensive  
 drugs are terrible  
 You should not drink alcohol because (drinking alcohol) is dangerous.  
 You should not smoke cigarettes because (smoking) makes you addicted.  
 You should not take drugs because (taking drugs) is disgusting / lethal.



## Die Länder

Die Länder	Countries
Bali	Bali
Brasilien	Brazil
Bulgarien	Bulgaria
Costa Rica	Costa Rica
Deutschland	Germany
Finnland	Finland
Griechenland	Greece
Großbritannien	Great Britain
Italien	Italy
Kanada	Canada
Kroatien	Croatia
Lettland	Latvia
Litauen	Lithuania
die Malediven	the Maldives

Namibia	Namibia
Nepal	Nepal
die Niederlande	the Netherlands
Norwegen	Norway
Portugal	Portugal
Rumänien	Romania
Russland	Russia
Schweden	Sweden
die Schweiz	Switzerland
Südafrika	South Africa
Tschechien	Czech Republic
Ungarn	Hungary
USA	USA
Zypern	Cyprus

## Umwelt macht Schule

Umwelt macht Schule	Setting environmental standards at school
der Umweltschutz	environmental protection
die Umweltaktion(en)	environmental action
Man sollte ...	We should ...
eine Solaranlage installieren	install solar panels
den Müll trennen	sort the rubbish
Druckerpatronen / Kopierkartuschen recyceln	recycle printer cartridges / copier cartridges
eine Fahrradwoche organisieren	organise a bike week
Energie sparen	save energy
Nistkästen für Vögel bauen	build bird boxes

Obst und Gemüse kompostieren	compost fruit and vegetables
Bienenvölker im Schulgarten halten	keep beehives in the school garden
effektiver recyceln	recycle more effectively
oft	often
leicht	easy
effektiv	effective
schnell	quick
bestimmt	definitely
vielleicht	maybe
nie	never

## Kampagnen und gute Zwecke

Kampagnen und gute Zwecke	Campaigns and good causes
Ich will ...	I want to ...
mit blinden Kindern arbeiten	work with blind children
in einer Schule unterrichten	teach in a school
bei einer Schutzorganisation / Umweltschutzorganisation / Hilfsorganisation arbeiten	work for a protection organisation / an environmental protection organisation / an aid organisation
Fußball mit armen Kindern spielen	play football with poor children

freiwillig arbeiten	work as a volunteer
der Natur helfen	help nature
der Umwelt helfen	help the environment
Kindern helfen	help children
armen Menschen helfen	help poor people
ein Projekt im Ausland machen	do a project abroad
Straßenkinder	street children
die Partnerschule	partner school

## The pluperfect tense

Page 220

Some of the sentences in exercise 4 use the pluperfect tense. The pluperfect is used to describe an action that happened before another action in the past. You will need to be able to recognise it in a reading or listening exercise.

Vor der Reise **hatten** die Freiwilligen Pandaskulpturen **eingepackt**.  
Before the tour, the volunteers **had packed** panda sculptures.

## Die Armut

das Gute	the good thing
das Positive	the positive thing
ungefähr	about, approximately
fast	almost
häufig	often
von Armut bedroht	threatened by poverty
die Ursache(n)	cause
die Arbeitslosigkeit	unemployment
der geringe Lohn (Löhne)	low wage / pay
die Schuld(en)	debt
der Bildungsmangel	lack of education
die Trennung	separation

## Poverty

der Immigrant(en) / die Immigrantin(nen)	immigrant
der/die Obdachlose(n)	homeless person
obdachlos	homeless
arm	poor
das Zuhause(-)	home
die Arbeitsstelle(n)	job
die Arbeitssuche	job search
sich entspannen	to relax
von zu Hause weglaufen	to run away from home
deprimierend	depressing
sicher / unsicher	safe / unsafe

## Comparative and superlative adjectives

Page 211

Don't forget that adjectives can be used in a variety of ways:

(adj.)	(comparative adj.)	(superlative adj.)
ein <b>großes</b> Problem (a big problem)	ein <b>größeres</b> Problem (a bigger problem)	<b>das größte</b> Problem (the biggest problem)

You can also use **mehr** and **weniger** with a noun to express **more** or **less**:

Man sollte **mehr** Bäume pflanzen. We should plant **more** trees.

Man sollte **weniger** Bäume fällen. We should cut down **fewer** trees.

## Adverbs

Page 21

Adverbs are words that describe verbs. Common adverbs include **leicht** (easily), **billig** (cheaply), **effektiv** (effectively), **schnell** (quickly), **oft** (often), **gut** (well).

Man sollte **schnell** Energie sparen.

We should **quickly** save energy.

### Comparative adverbs

Add **-er** to the adverb to form the comparative:

Man will **effektiver** recyceln.

We want to recycle **more effectively**.

Some adverbs have irregular comparative forms:

Man sollte **öfter** den Müll trennen.

We should sort the rubbish **more often**.

Man kann **besser** kompostieren. We can compost **better**.

### Superlative adverbs

Adverbs can also be used in the superlative:

Man kann **am schnellsten** den Müll trennen.

We can sort rubbish **the most quickly**.

## Wie werden wir „grüner“?

die Dürre	drought
die Luftverschmutzung	air pollution
der saure Regen	acid rain
die Wasserverschmutzung	water pollution
die globale Erwärmung	global warming
die Abholzung	deforestation
das Aussterben von Tierarten	the extinction of animal species
vom Aussterben bedroht	threatened with extinction
die Gletscher schmelzen	the glaciers are melting

## How do we become 'greener'?

Das ist ein großes Problem, weil ...	It's a big problem because ...
Das größte Problem ist ...	The biggest problem is ...
Man sollte ...	We should ...
die Tiere schützen	protect animals
die Wälder nicht zerstören	not destroy forests
mehr Bäume pflanzen	plant more trees
weniger Bäume fällen	cut down fewer trees
weniger abholzen	deforest less



**English Language Paper 2:**  
**Writers' Viewpoints and Perspectives**  
**Knowledge Organiser**  
 1 hour 45 mins

**The absolute basics:**  
 Read the texts: 10 mins

**Section A:**

Q1: 4 true statements (5 mins)  
 Q2: Summarise differences (10 mins)  
 Q3: How does the writer use language... (15 mins)  
 Q4: Compare writers' perspectives...(20 mins)

**Section B:**

Q5: Writing an opinion text (45 mins)



**Start of the exam (10 mins)**

1. Read the blubs for BOTH sources. What is the GAP? (Genre, audience, purpose – Consider how might this effect how the text is written and the opinion of the writers)

2. Read BOTH sources and ensure you understand what is going on in each one.

2. Read through the glossary for words you are unsure of.

**Section A: Question 1 (5 mins, 4 marks)**

**Question stem:** Choose 4 statements which are true.

**Planning**

1. Read the question carefully and highlight key words inc. line specification.

2. Read each of the statements carefully.

3. Cross through the numbers of those which are clearly false. E.g. 3

**Writing**

1. Shade in the boxes of the 4 you think are true.

2. If you are unsure of one, make an educated guess!

**Question 2 (10 mins, 8 marks)**

**Question stem:** Write a summary of the different...

**Planning**

1. Read the question and highlight the key words. What differences does it what you to focus on?
2. Skim back over both sources. Highlight key quotations which answer the question. Are there any clear differences between the two sources? Try to match up the quotes to allow you to make the best inferences.

**Writing**

1. Use SQL (statement, quotation, inference).
2. Try to do at least 2 pairs (so 4 SQLs in total). **Grade 7+ = 3 pairs.**
3. Use comparative connectives like 'however', 'in contrast' etc.

**Useful sentences starters:**

**Possible intro if time:**

In Source A and B, the writers describe different... In Source A... however, in Source B...

**Statement:**

In Source A we learn that...  
 In Source A the writer focuses on/describes...

**Quotation:**

For instance/for example

**Inference:**

This could suggest that...  
 From this we can infer...  
 The writer evokes...

**Grade 7+ =** It could also imply that...  
 (Alternative interpretation)

**Remember:** There are no marks available for using subject terminology or doing language analysis – you are examined on this is Q3 and 4.



**Top Tip:** Try to use the writers' names, rather than just saying 'the writer'. This makes you sound more sophisticated!



**Question 3 (15 mins, 12 marks)**

**Question stem:** How does the writer use language to...

**Planning**

This question is exactly like Q2 on Lang P1! It's just language analysis!

1. Read the question carefully. Which source are you asked to focus on and which lines?
2. Draw a box around the correct section of text on the insert.
3. Highlight the key words in the question so you know what to focus your answer on. Consider the purpose of the language linked to the question. Will you be looking for persuasive, descriptive or inclusive language?
4. Skim through the relevant section of text. Highlight and label key words/phrases/devices which will help you to answer the question.

**Writing**

1. Aim to write 3 PEA paragraphs in the time.
2. Write an introductory sentence explaining the mood/tone linked to the question.

**Useful sentence starters:**

**Possible intro if time:**

In Source... the writer uses language to cleverly build a tone of...

**Point:**

Firstly, the writer uses [insert language device] in order to...

**Evidence:**

For instance/for example this is seen when...

**Analysis:**

This evokes a sense of...  
 The word/subject term has connotation of ... and therefore creates an atmosphere of...  
 We might feel compelled to...  
 The writer helps us to imagine/realise...

**Grade 7+ =** consider the overall effect of the language. Link different examples together to support your points (i.e. PEAEALS)

**Question 4 (20 mins, 16 marks)**

**Question stem:** Compare the writers' viewpoints and perspectives...

**Planning**



1. Read the question carefully and highlight the key words. You know you are analysing the different opinions, but their opinions of what? Identify this.
2. Skim through the two texts again. Highlight and label the different opinions they have on the topic you have been asked about. **Select your evidence carefully:** consider interesting language or structural devices used to get their message across. You will need to analyse these in your answer!

**Writing**

1. Write an opening sentence that clearly refers to the question.
2. Use SQIME (statement, quotation, inference, method, effect). Basically, Q2 + Q3.

**Useful sentence starters:**

**Possible intro but adapt as necessary:**

In Source A and B, both writers discuss... However, they have different opinions and use a range of methods to communicate these feelings.

For the SQL section of the SQIME – see sentence starters for Q2 for help!

**For the ME:**

**Method:**  
 The writer uses [insert subject term] to evoke a sense of.../to create...

**Effect:**  
 This might make us feel/imagine/realise...

Statement = WRITER'S feelings  
 Effect = READER'S feelings

**Question 5 (45 mins, 40 marks)**

**Question stem:** Writing to convey your opinion on a given topic.

**Planning**



1. Read the task carefully and identify the GAP you need to write for. Highlight the key words. You need to consider how you will adapt your writing to suit the specified GAP. Have a look below for some hints:

Text type	To include
<b>Letter</b>	Dear Sir/Madam/name Yours sincerely (know name)/yours faithfully (don't know name)
<b>Speech</b>	Lots of direct address Rhetorical indicators Clear sign off
<b>Article</b>	Original title Subheadings Introductory paragraph
<b>Leaflet</b>	Original title Subheadings Introductory paragraph Bullet points
<b>Essay</b>	Introduction and conclusion

**CLEAR PARAGRAPHS IN ALL!**

2. Make a note of key words and techniques you have seen used in the extracts you have just read. What can you STEAL?

3. Write AAFORREESTY at the top of the page. Which of these will you include and where? Tick them off as you use them in your writing.

4. Plan using the following structure:

Hook  
 Define the scope of the debate  
 Other side of the argument  
 Your opinion  
 Draw it all together  
 Catchy one-liner

**PROOF READ YOUR WORK!** Inc. spelling of homophones and editing dull words!

**Writing**

- Vary sentence openers
- Vary sentence and paragraph openers
- Use a range of punctuation, including a semi-colon

Remember you should use descriptive techniques too like adjectives, similes, metaphors, semantic fields etc.





**English Language Paper 1:  
Explorations in Reading and Creative  
Writing Knowledge Organiser**

1 hour 45 minutes

**The absolute basics:**

Read the text – 5 mins



**Section A**

- Q1 – List 4 things (5 mins)
- Q2 – How does the writer use language to... (10 mins)
- Q3 – How does the writer structure the text to... (10 mins)
- Q4: [statement] To what extent do you agree? (30 mins)

**Section B**

Q5: Writing to describe or narrate (45 mins inc. planning time)



**Start of the exam (5 mins)**

1. **Read the blurb** given for the text. Highlight key words which given you a clue about what you will be reading e.g. character, setting, time.
2. **Read the passage carefully.** Take time to make sure you understand it and text mark (highlight) as you go.

Look out for:

1. Key quotes about character or setting
2. Pivotal moments
3. Sentences which build a particular tone or mood.

**Section A: Question 1 (5 mins, 4 marks)**

**Question stem:** Write down four things you learn...

**Planning**

1. Read the question and highlight the key words, including the lines it asks you to focus on.
2. Draw a box around the lines you need to focus on in the insert.

**Writing**

1. Write in full sentences.
2. One point per line.
3. Keep it simple i.e. explicit inferences

**Question 2 (10 mins, 8 marks)**

**Question stem:** How does the writer use language to...

**Planning**

1. Read the question and highlight the key words to ensure you understand what the focus of your answer will be.
2. Re-read the section of text the question asks you to focus on.
3. Highlight key quotations which will help you answer the focus of the question. Consider the use of different language devices.

*Basic things to look out for:* 5 senses, colour, adjectives and verbs.

**Grade 7+:** extended metaphors, semantic fields, assonance.

**Writing**

1. You are writing 3 clear PEAs to answer the question.
2. Each should focus on a different language device used.

**Grade 7+ =** Develop PEAs into PEAAs to show how devices are used across the extract and an overall effect is created.

3. Your 'Points' should use the wording of the question.

**Useful sentence starters**  
**Possible intro if time:**

Throughout the extract the writer creates a ... tone/atmosphere.

**Point:**

The writer has used a [language device] to suggest/imply/create...

**Evidence:**

For instance, '...' **ANALYSE**

**Analysis:**

The use of ... makes it sound like...  
The word/phrase/subject term '...' creates an impression of...  
We might realise/imagine/feel...

**Question 3 (10 mins, 8 marks)**

**Question stem:** How has the writer structured the text to interest you as a reader?

**Planning**

1. Read the question and highlight the key words. This question is about *how the text is put together and organised*, rather than the language devices used.
2. At the top of the answer booklet write: **STOPSEC**

Setting  
Time  
Opening  
Perspective  
Shift in focus  
Ending  
Character



3. Skim through the whole source again. Highlight and label where you see different STOPSEC features-particularly focus on how the opening and ending are effective.

**Top tip:** for a really clear response, think about what the writer focuses your attention on at the beginning, what they focus you on at the end-and whether this is similar or different. Then ask WHY?



**Writing**

1. Aim for 3 PEA paragraphs: *beginning contrasted to the end-to give a general overview of the text first of all, then consider how your focus shifts in the middle of the extract and why* –your analysis isn't focusing on the use of words and phrases, but on the atmosphere/tone created by the different structural (STOPSEC) features used at different points. A final PEA could be written about another interesting structural feature: repetition, juxtaposition, tone, sentences etc.

**Useful sentence starters:**  
**Possible intro if time:**

Throughout the extract the reader carefully structures the text to interest the reader. They particularly consider [insert STOPSEC feature/s you will focus on.]

**Point:**

The writer opens the text by introducing/using [insert STOPSEC feature] in order to suggest/create...

This links to/is contrasted with the ending of the text, where there is a shift in focus to...

**Evidence:**

For instance, this is seen when '...'

**Analysis:**

The use of ... creates a sense of...  
It tells us...  
We are shown that...  
The ... develops...  
This interests the reader because...

**Notice:** The analysis is NOT on words but on the effect of the structure and the impressions it creates for us.

**Question 4 (30 mins, 20 marks)**

**Question stem:** '[statement about the text]' To what extent do you agree?

**Planning**

1. Read the question and highlight the key words, including the section of the text if specified. Think carefully about how far you agree with the statement.

**Top Tip:** Usually it is best to AGREE with the statement. But consider how far you agree. Is there evidence to argue against this opinion? Create a debate in your answer.



2. Draw a box around the section of the text if specified.

3. Read through and highlight words/phrases/language devices you will use to argue FOR, and maybe against the statement.

**Writing**

1. Aim for 3 PEAELs in 20 mins. Pick out key words in each and explore their effect.

**Useful sentence starters** (see previous questions too – you can reuse these if appropriate!):

To some extent I agree with...  
I certainly agree that...  
However, it could also be argued that...  
Overall I agree that...



**PROOF READ YOUR WORK!**

(Allow 5 mins for this)

-Spelling inc. homophones e.g. to/too/two or there/their/they're

-Improve any dull words to make them more exciting!

**Section B: Question 5 (45 mins, 40 marks)**

**Question focus:** Writing to narrate (story) or describe.

**Planning (THIS IS REALLY IMPORTANT!)**

1. Decide which task you would like to do (narrate or describe). There might not be a choice! Reminder of the structure for each below:

Describe		Narrate
Panoramic Zoom Zoom Zoom Panoramic	Consider STOPSEC to structure your writing in both tasks!	Rule of 1: 1 setting, 1 character, 1 event, 1 hour  Hook → Character intro → Development → Turning point → Resolution

2. Plan using the structures above. You should also consider:

-What good vocab could you use from the extract you have just read?

**Writing** Vary your sentence openers with verbs, adverbs, prepositions, adjectives. Use a semi-colon (instead of because)

**Remember these things →**

Use plenty of description, even in a narrative. Vary the length of your sentences (inc, at least 1 holophrastic phrase) and your paragraphs.  
Commas after subordinate clauses Variety of language devices



**Knowledge organiser: Lego Marketing Campaign**

Posters, trailer and video game

<p align="center"><b>INDUSTRY</b></p> <p><b>WARNER BROS</b> produced and distributed <i>The Lego Movie</i>  <b>TT FUSION:</b> produced <i>The Lego Movie video game</i></p> <p><b>REGULATION:</b>  <b>BBFC:</b> (British Board of Film Classification) gave <i>The Lego Movie</i> a U rating  <b>VSC</b> (Video Standards Council) use PEGI (in Pan European Game Regulation) <i>The Lego Movie video game</i> was given a 7+ rating  <b>ASA</b> (Advertising Standards Authority) ensures audio-visual and print adverts meet acceptable standards)</p> <p>industry and launch a film with Warner Bros. and a video game with TT Fusion. All companies <u>benefitted</u> and profits for the Lego toy company were boosted.</p>	<p><b>AUDIENCE:</b> <b>Primary Audience</b> is children, LEGO fans and <b>secondary audience</b> is parents of the children who have grown up with LEGO, also young adult cinema goers and all genders will enjoy.</p> <ul style="list-style-type: none"> <li>○ Trailer targeted a range of audiences as it aired during prime-time Sunday night ITV ( 6 million viewers)</li> <li>○ Trailer was so unusual that it trended on social media and was viewed a million times a week on YouTube.</li> </ul> <p><b>Uses and Gratifications</b></p> <ol style="list-style-type: none"> <li>1. <u>Personal Identity</u> –some audiences may identify with certain figures in the media, seeing them as role models and aspiring to be like them e.g. we may identify with Emmet, the underdog hero/ normal member of society who can make an impact on the world</li> <li>2. <u>Entertainment</u> – enjoyment of escaping the ‘real world’ for a while and going into the fictional world of a film or game of the film</li> <li>3. <u>Surveillance/Information</u> – we often watch movies and play games to gain information / an understanding of the world around us. Children can see that individuals can make a difference to the world through their actions.</li> <li>4. <u>Social interaction / personal relationships</u>- the video game can be played across different platforms- single and multi-player and people discuss the game in online forums.</li> </ol>	<p><b>Keywords:</b>          Convergence          Narrative          Tentpole          Synergy          Active/passive Audience          Columns          Franchise          Image          Promotion          Conglomerate          Regulation          Vertical integration          Production          Distribution          Platform</p>
<p align="center"><b>REPRESENTATION: the posters and the trailer</b> (<a href="https://www.youtube.com/watch?v=7n0iQkYQRo4">https://www.youtube.com/watch?v=7n0iQkYQRo4</a>)</p>		

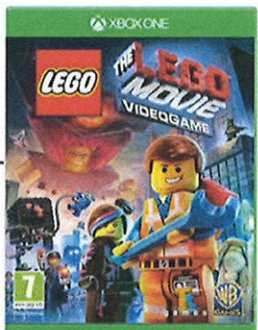
Male/female (gender) representation	Heroes	Ethnicity and age (Vetruvius)	Male /female (gender) representation	Heroes	Ethnicity/age	CONTEXTS: LEGO seen as nostalgic toy in popular culture The film is packed with popular culture references Intertextuality from references to other films and characters e.g. The Hobbit
Emmet as the ‘ordinary’ and less traditional hero as he is featured with panic on his face in the posters and says ‘I wanna go home’ in the trailer campaign; subverting the idea of males being strong and powerful	Batman, Green Lantern, Wonder woman etc  Warner Bros also owns the copyright on Dumbledore and Gandalf – popular additions to the cast of characters The hero ‘Emmet’ reflects a refreshing change,	Male and aging, <u>Vetruvius</u> is clearly a non-white character but is seen as wise and the key to knowledge – a positive stereotype usually reserved for white characters. He is voiced by	BHF – the ‘gangster’ goes against his conventional role and is helping people stay alive rather than killing them / hurting them, which is ironic and creates humour  BT Infinity- stereotypical man	The gangster, the boyfriend and Brian of confused.com are all playing heroic roles of saving and providing for others.	Lenny Henry is featured in the advert and reflects diversity in UK society as he is a black male and is well-known to adults in their 40s and above as he is was a	<p><b>MEDIA LANGUAGE:</b></p> <ul style="list-style-type: none"> <li>- colour palette /layout/use of well-known actors at top of posters</li> <li>- Clear genre codes of action-adventure movie e.g. Mise en scene of facial expressions and body language of fleeing danger. Heroes and villains are evident by clothing and expressions</li> <li>- The video game shows hybridity by combining puzzle aspects/platforms and completing missions</li> <li>- Iconography of action-adventure with weaponry and high-rise urban settings</li> <li>- Primary colours to attract children ( primary audience)</li> </ul>





Wildstyle is an example of a both stereotypical female and also a counter stereotype as she is more independent than some of the male characters but does 'fall for' Batman	as he is not what we expect of a hero of an action adventure but seems to be the underdog or 'fall guy'	Morgan Freeman a black actor who is very well known.	takes care of his female partner; she takes on the 'damsel in distress' role and he is the provider of BT for her.		children's tv personality and is a comedian.
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Shot	Shot Type/Technical Codes	Connotations/ How does this help market the film?
		Look at the shot types in the trailer and the tv adverts- what do they connote? What gender, age, race, social class stereotypes can you see?



**The LEGO Trailer and TV advert break**

6 million saw it live  
 British Heart Foundation (BHF), British Telecom, Confused.com (insurance) and Premier Inn hotels  
 These four brands paid their own production and media costs to ensure they could be part of it.  
 Media Language = bright colours/lego characters/relatable mise en scene and intertextuality  
 Representations = gangsters are male/tattooed/work in car workshops/male teenagers like cars and girls are impressed by this/  
 males look after females by buying them BT/Premier Inn- positive role model of black actor/comedian.

**The Lego Movie Video Game** - Made by TT Fusion. The video game offers 15 levels and 90 playable characters, many of which can be purchased as Minifigures, so the Lego brand benefits from this as both the game and the film also act as an advertisement for their consumer products.

Released across all major video consoles and platforms (Microsoft X360, Sony PS3, Nintendo 3DS, Sony PS4, Nintendo WiiU, Xbox One and 360, Sony PSV and PC) in 2014.

The PEGI Award for The Lego Movie Game is '7' years of age. This is as the content of the game includes 'non-realistic looking violence towards fantasy characters' and 'violence that is set in a cartoon, slapstick or child like setting that could be upsetting to very young children' (Video Standards Council)  
 cross-media promotional product as it advertises a range of Lego characters and icons, like the superheroes and 'Benny the Spaceman'.



**Paper 2 Section B Music**  
**Music Magazines– Set Text = Mojo**



**MOJO**

Published by Bauer (600+ magazines)  
 Cover price £5.50  
 Bought by males who like rock music  
 Niche as not seen as mainstream music in 2000s  
 Lots of stories about how rockstars are rebelling against society  
  
 You will have to compare MOJO with another music magazine

**Representations:**

Most artists/bands on the cover are male and white  
 They are stereotypes of a rock star  
 Positive representation of age- they are over 50 and still 'rockstars'  
 Seen as rebellious and edgy  
 Any women on the cover are seen as 'rockstars'

**Audiences**

Weekly magazines have a more working class audience while monthly magazines have a more middle class audience  
 Uses and Gratifications Theory (Blumler and Katz) – Information/ Identity/ Diversion/ Social Interaction  
 Mojo is partly a quality monthly magazine and available online. This allows it to survive in print.

**How to compare Media Language:**

Total 15 marks

Masthead  
 Main image  
 Colour palette  
 Layout

How is MOJO using these differently to the other music magazine?

Make a judgement about how similar they are / or different and why

**Music genres:** ( on the other unseen magazine)  
 Rock/Pop/R 'n'  
 B/Grime/Jazz/Classical/Folk/Indie/Dance /Country  
Make sure that you know the differences between these genres!

**Vocabulary:**

Masthead  
 Coverlines  
 Puff  
 Main image  
 Secondary image  
 Strapline  
 Rule of thirds  
 Male gaze  
 anchorage

Stereotypes  
 Anti-stereotypes  
 Symmetrical  
 Cluttered  
 low/high camera angle  
 Direct address  
 Superimposed ( over the top)  
 low/high key lighting



Topic: \_\_\_\_\_ (released in March)

## NEA: Magazine Cover and DPS worth 30%

### Cover:

At least five original images including photographs, using a range of camera angles and appropriate mise-en-scène. Consistent use of colour, layout, typography and language to create a house style and address the intended audience. Front cover conventions such as masthead, cover lines, main cover image and key information such as the barcode, price, edition date/number.

You MUST choose something you can actually achieve- buying a magazine of the genre you are going to do will help you to see what you could create.

WHSmith

ns:  
( Media Language)  
Masthead  
Strapline  
Coverlines  
Main image  
Secondary image  
Puff  
Skyline  
Rule of thirds  
Symmetrical

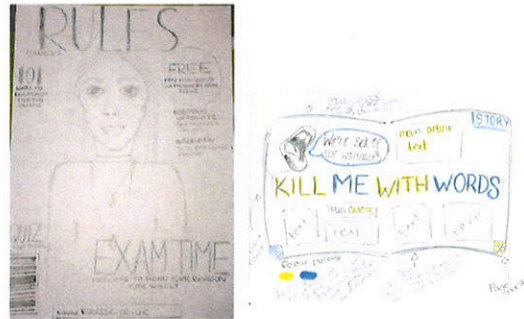
Headlines  
Headers  
Image  
Serif font  
Sophisticated/  
professional  
colour palette  
Text boxes  
High key  
lighting

**Intent: up to 300 words**  
This will outline what you intend to do ( media language) and how you will use representation ( through images and mode of address)

### DPS (Double page spread):

A double page spread including a feature article of approximately 300 words that links to one of the cover lines on the front page, and appropriate layout including headings, columns, images and use of space.

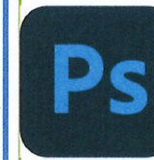
**Flatplans:** Before you are allowed to use Photoshop to create your magazine, you will need to have done research and planning, written a Statement of Intent and created flatplans of your magazine cover and DPS



### Audience- who is it aimed at?

Teenagers? How will you 'speak' to them? This is called mode of address and can include:

- Informal language ( slang)
- How old the models are
- How much the magazine costs
- What the models are doing in the photos / what the images are of
- The colour and style of fonts
- Are there interviews/hyperlinks/instagram links/references to famous people or role models they know?



Make sure that you can use Photoshop- attend drop-in sessions if you need support. You can use Photopea if you prefer and then you can use at home for free!



Please use google docs to write all text- it will word count/spell check and be easier to drop into text boxes, rather than type as you go!



# Yr 10 Macbeth Performance Knowledge Organiser



**Questions in Component 3** could focus on how meaning is interpreted and communicated through the following:

- creation of character through performance skills including voice, movement and interaction
- use of performance space and spatial relationships on stage, including the impact of different stages
- design of lighting, sound, set (including props) and costumes, hair and make-up.

<b>Pitch</b>	Speaking in a low, high or natural voice.
<b>Pause</b>	A dramatic pause or silence at a key moment can build tension and emotions such as fear.
<b>Tempo or pace</b>	The speed in which someone speaks.
<b>Tone/expression</b>	This suggests your mood and your intention towards the listener.
<b>Volume</b>	The effect of a character speaking loud, quiet or using a stage whisper.
<b>Accent</b>	Indicating where someone is from or their status in society.
<b>Emphasis</b>	The pressure on certain words to make them stand out.
<b>Intonation</b>	The rise and fall of your voice. Intonation helps us to say what we mean.
<b>Subtext</b>	The underlying meaning of the words that are being spoken.

## Elements of movement

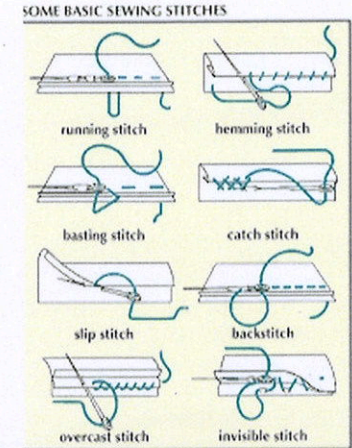
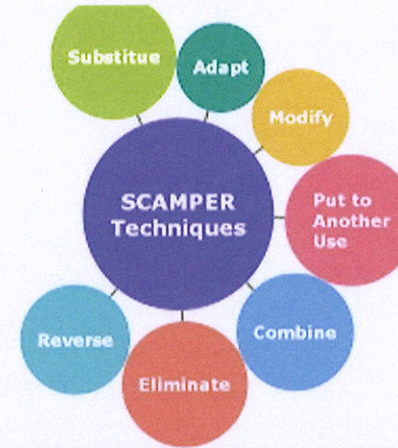
- ☒ **Posture and stance:** the position in which a character holds their body, e.g. when they are standing or sitting. A very confident character may dominate the space, with a very upright posture.
- ☒ **Pace of movement:** e.g. does a character move quickly or slowly? A queen might enter moving slowly, highlighting to the audience their status and power. The pace of a character's movement will change according to the scene.
- ☒ **Quality of movement:** e.g. a performer playing the role of a victim might move with very light movement to indicate they are trying to avoid attention, whereas a more aggressive character might move with very heavy, definite movement.
- ☒ **Gestures:** the way people communicate with their hands or other parts of their body, e.g. when Winston is being questioned by O'Brien in the play *1984*, the gesture he might use is the clenching of his fists to show his tension.
- ☒ **Body language:** it may be the way the message is conveyed to an audience, or it may add an added layer to the words that are spoken.
- ☒ **Facial expressions:** how the face is used to convey an emotional state.
- Eye contact:** the state in which two people look into each other's eyes. This could be used to establish status, control and passion.
- ☒ **Proxemics:** how the space is used on stage to establish relationships and mood.
- ☒ **Levels** can make a scene look visually interesting, but the positioning of characters on different levels can also suggest social status and create atmosphere.



# YEAR 10 TEXTILES

## PORTFOLIO - HUMAN/ BOTANICAL/ ARCHITECTURE

Every page needs to be full, interested and annotated. Explore a wide variety of media in your research and idea development.



### TEXTILES TECHNIQUES

- Fabric Painting
- Batik
- Silk Painting
- Tie Dye
- Embroidery
- Applique
- Reverse Applique
- Felt Making
- Quilting
- Weaving
- Printing
- Fabric Manipulation

#### Annotations:

- What have you done?
- Why have you done it?
- What do you think of it?
- Where was your inspiration from?
- How did you make it?
- Which artists inspired you?
- Where would you make changes?
- What might it be like in different media?

#### AO1

- Develop ideas based on research
- To annotate artist research, demonstrate that you understand what influenced the artist.
- To show the journey of your sketchbook is influenced by artists/designer.

#### AO2

- To explore a variety of materials and processes.
- To refine techniques used in your sketchbook to show that you are getting better at new processes!
- To adapt and improve outcomes based on written evaluations.

#### AO3

- To record ideas, intentions and observations that link to your intention for your project.
- To produce beautiful observational drawings consistently through your sketchbook

#### AO4

- To create an outcome that is personal, skillful and linked to the theme in a meaningful way
- To show that you are able to create an outcome as a result of clear planning in your sketchbook.



# YEAR 10 ART

## PORTFOLIO - NATURE/DISTORTED PORTRAITS/ CLOSE UP



### EXTENSION TASKS

**AO2** Scan your work. Crop it and create a repeated pattern on Powerpoint

**AO2** Make a screen print using your artist as inspiration.

**AO2/AO3** Select an artwork from your book and recreate using a different material

**AO1/AO4** Annotate your work focusing on how your experiments have helped you form an idea

**AO1/AO2** Link your project to an historical event and integrate text into your artwork.

**AO2** Combine two of your artworks on Photoshop through layering and adjusting transparency.

**AO2/AO3** Zoom in on one of your drawings and create an abstract artwork.

**AO3/AO1** Take more photos to work from. Print out and annotate.

**AO2** Use a photo to make a monoprint. Work into it with paint/colour pencil/watercolour/fabric/collage.

**AO3** Produce a beautiful tonal drawing based on a photograph.

### How to successfully analyse an artwork

Use **key terminology** to describe the composition

Identify all **elements of art** in the artwork and explain its impact on the artwork.

What materials did the artist use and how did they use it

Who was the artist inspired by?

What do you like about the artwork?

What made you choose this artist and how have they influenced you?

### KEY MISCONCEPTIONS ABOUT EXPERIMENTING

**That you only have to do one page of experimenting**

You need to include at least 3 pages of experimentation

**That annotation does not have to be in full sentences**

All written work must be high quality analysis and use the framework sheets to organise your annotation

**That you only have to come up with one idea for an outcome**

You must plan, test, review and adapt your outcome idea. It should go through three phases of improvement.

**Refine means trying lots of different things once**

You must show that you have developed a small selection of skills confidently to create work that is more complex

**That you can copy an existing artwork for your final outcome.**

Your artwork must be based on photographs that you have taken and inspired by a combination of both artist styles.

### AO1

Develop ideas based on research

To annotate artist research, demonstrate that you understand what influenced the artist

To show the journey of your sketchbook is influenced by artists/designer

### AO2

To explore a variety of materials and processes.

To refine techniques used in your sketchbook to show that you are getting better at new processes!

To adapt and improve outcomes based on written evaluations.

### AO3

To record ideas, intentions and observations that link to your intention for your project.

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To create an outcome that is personal, skillful and linked to the theme in a meaningful way

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