



The Hyndburn Academy

The best in everyone™

Part of United Learning

Year 8 Mid-Year Assessment Booklet



Revision
Topics



Revision
Tips



Sparx
Help

A message from Miss Merchant

Dear Student

Mid-Year Assessments

This booklet has been put together to help you prepare fully for your Y7 Mid-Year Assessments which are taking place from the **12th - 16th January**. These are important assessments which your teachers will use to see whether you are working towards your full potential and to identify areas where you may need support to do so. As a result, it is critical that you prepare yourself fully to show your best on these assessments.

Use the following pages to form a revision timetable which will ensure you have looked over all the relevant information before your assessment. If you are not sure about any of the topics or content listed then please speak to your teacher and ask for more guidance. They will be happy to help!

When revising try to use a variety of strategies and formats to ensure you have materials to help you. This could include making mind maps, writing out key term definitions (and testing yourself!), doing practice questions on Seneca or Sparx, making flashcards with key facts, watching YouTube videos, and much more. When used together they will ensure you are fully prepared for your assessments.

Don't forget to also use your knowledge organisers.

Have a look for more tips on BBC Bitesize by following this link: Top Revision Techniques for Exams - <https://tinyurl.com/4ptxdeuy>

Remember, the effort that you put in will be reflected in your achievements. We are all here to support you to achieve your full potential and if you need any additional guidance or have any concerns please speak to your subject teacher, form tutor, or Head of Year.

All the best,
Miss Merchant
Assistant Head Teacher

Assessment Timetable

Assessment Timetable

Date	Exam	Year Group	Length	Period
Monday 12th January	English Reading	Year 8	45 minutes	P5
Wednesday 14th January	English Writing	Year 8	30 minutes	P4
Thursday 15th January	Maths	Year 8	45 minutes	P1
Friday 16th January	Science	Year 8	45 minutes	P5

** History/Geography & Spanish assessments will be taken in lesson



HABIT - Get into the habit of working in a regular routine.

PLAN - Plan your weekly revision, homework and leisure time on the timetables provided. Make sure you can realistically keep to the schedule that you have planned.

PLACE - Make sure that you work in the best possible environment:

- The room should be well lit to reduce eye strain.
- Quiet with few distractions - no TV or phones.
- Sit on a chair at a table or desk rather than lounging on your bed or so close to a window that you might get distracted.
- Identify a set time and place for studying - most people study best in the mornings and evenings, but you need to work out the best time for yourself.

ORGANISATION

- Be fully prepared. Books, paper, pens, drinks etc. should all be organised before you start.
- Break each subject down into manageable chunks so that you can read over a topic once or twice in about 20 to 30 minutes. If you come across topics that you really don't understand, make a note of them and ask the subject teacher for help.

VARIETY

- Get some variety into your revision. Vary your use of revision materials: notes, revision cards, books, websites, podcasts and videos. Keep a record of what you have done in this booklet to make sure you cover all topics and don't avoid the more difficult ones.
- Begin your revision by re-reading your notes from the previous session. This will improve your recall. At the end of the week revise the whole week's work. Revision should involve checking your notes and writing down the main points may help you learn them more than you would by just reading them.
- As the exam draws nearer have 'key words' which trigger your memory.
- Saying things out loud can help you to learn and can improve your use of appropriate vocabulary. It is important to test yourself after each piece of work. Identify some questions you might think will be on the paper and write an outline answer for each one.

RELAX - Try to stop revising at least an hour before you go to bed. Relax to help you sleep. Working late will make you feel tired the next day. Only watch TV programmes that you enjoy rather than to fill in time. Get up early to make good use of your time.

HONESTY - Always be honest with yourself. Teachers can help you but they cannot do the work for you. Ask for help when you need it.

PERSEVERE - Don't give up: it really is not a long time and it will be worth it!

Goodluck!

English

Exam Format:

Reading 45 minutes (10-mins reading)

Writing 30 minutes.

You will be tested on your reading skills, punctuation, grammar and vocabulary. The test is divided into sections.

You will read a text you have not seen before and answer some questions.

Reading

Comprehension

Inferences

Drama

Methods

Technical Accuracy (Spelling, Punctuation and Grammar)



Writing

Narrative Fiction (gothic)

Technical accuracy

Writing methods

- Metaphor
- Simile
- imagery

Complex Vocabulary

Drop, shift, zoom, link, structure



8.01: *Dracula*

Subject- Specific Vocabulary

1	Gothic fiction	(n) a genre of literature that is characterised by themes of mystery, terror, gloom and romance
2	epistolary	(adj) written as a series of letters
3	connotation	(n) an idea or feeling created by a word that adds to its literal meaning
4	antagonist	(n) the character who opposes the protagonist
5	dramatic irony	(np) when the audience is aware of the importance of a character's words or actions, but the character is not
6	conjunctive adverbial	adverbs of one or more words that act as conjunctions, linking sentences or clauses
7	semantic field	(n) a group of words or phrases that are connected by topic or meaning
8	participle phrase	a modifying phrase that uses the participle form of a verb (-ing or -ed) to describe a noun
9	simile	(n) a literary method in which a writer describes a person or thing as being similar to someone or something else
10	metaphor	(n) a comparison in which a person, object or action is used to represent or symbolise another person, object or action
11	extended metaphor	(n) a metaphor that unfolds across multiple lines or even paragraphs of a text
12	foreshadowing	(n) when the writer gives advance hints of what is to come later in the story
13	cliffhanger	(n) a moment of suspense when characters are left in a difficult situation without offering any resolution
14	allusion	(n) an expression that refers to another person or thing
15	juxtaposition	(n) two things placed closely together for a contrasting effect
16	symbolism	(n) when a writer takes an action, object, place, person, animal or word and gives it a much more metaphorical meaning

Character and Tone Vocabulary

17	ominous	(adj) giving a sense that something bad is going to happen
18	grotesque	(adj) repulsively ugly or distorted, especially in a comical or frightening way
19	macabre	(adj) disturbing because of an association with death or causing a fear of death
20	foreboding	(n) a feeling that something bad will happen
21	insidious	(adj) something dangerous or unpleasant that gradually and secretly causes harm
22	malignant	(adj) evil in nature
23	possessed	(adj) completely controlled by something (such as an evil spirit)
24	redemption	(n) the act of being saved from sin or evil
25	prodigious	(adj) unnatural or extreme in extent or size

Thematic Vocabulary

26	supernatural	(adj) beyond scientific explanation or human logic
27	The 'New Woman'	a feminist ideal that became popular in the late 19th century and influenced feminism in the 20th century
28	gender	(n) socially constructed perceptions of how men and women are expected to behave
29	patriarchal	(adj) a society, family or system in which men have all or most of the power and importance

Academic Vocabulary

30	archetype	(n) a perfect or typical example of a particular kind of person or thing that has all of their, or its, most important characteristics
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Maths

Mid-Year Calculator Assessment

Unit	Topic	Sparx topics – highlight as you complete these clips using the independent learning function
8.01	Powers and Roots	M135, M608
8.02	Prime Factorisation	M322, M823, M108, M365, M227, M698
8.03	Rounding	M111, M431, M994, M131, M878
8.04	Fractions	M939, M410, M671, M601, M835, M931, M157, M197, M110, M265
8.05	Solving equations 1	M707, M509, M387, M554, M813, M795, M531, M957
8.06	Angles in Parallel Lines	M606, M319, M163
8.07	Circumference	M595, M169

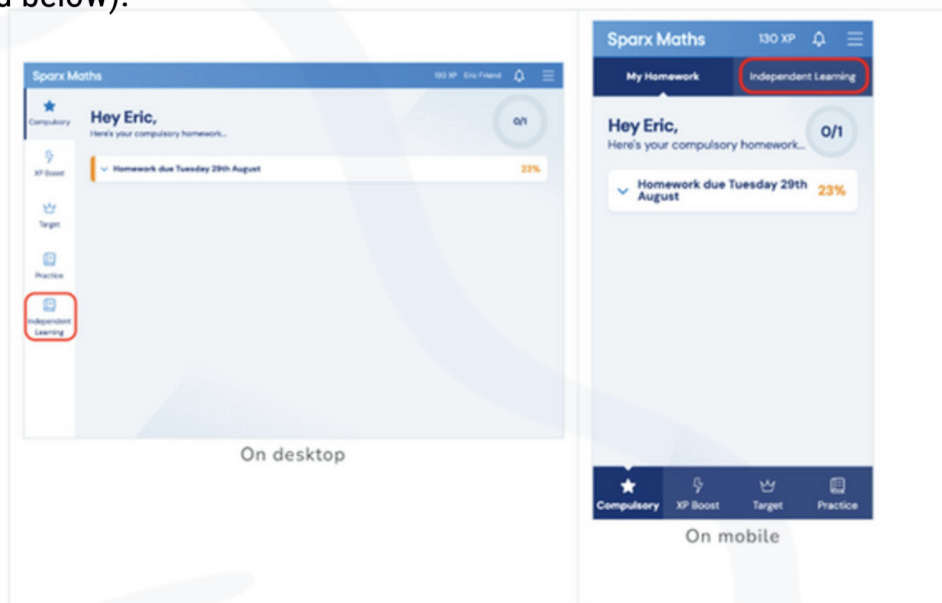
See the next page for how to use Sparx independently if you're not sure...

Sparx

Revising Independently with SPARX

STEP ONE: Finding independent learning

When you log in you will see the independent learning feature in the top right hand corner (circled in red below).



You can choose to work on any topic by:

- Typing one of the following in the Search for topics field:
 - The name of a topic
 - A keyword
 - A code given to you in the list on page 5.
- Browse the content by clicking on one of the main Strands.

STEP TWO: Choosing the right work

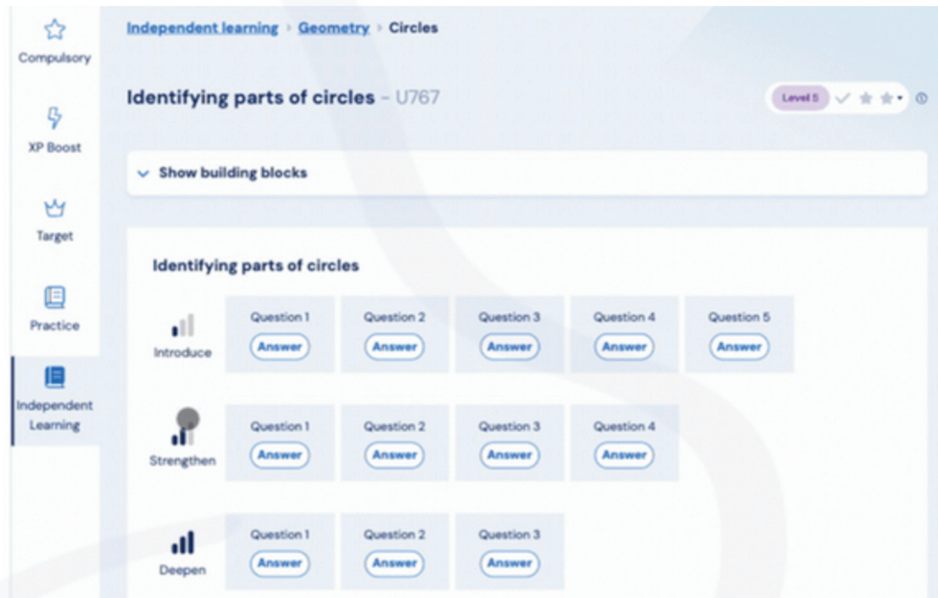
The difficulty level will be in line with that of your normal homework.

You can choose to complete questions that introduce the topic if you don't remember much about it, strengthen the topic if you need a recap or deepen the topic if you are looking to increase your knowledge.

Sparx

Revising Independently with SPARX

An example of this is shown on the right with the topic of circles.



You will see the difficulty level is set to 5 (in the top right corner) but you can change this if you are finding questions too hard or too difficult.

Science

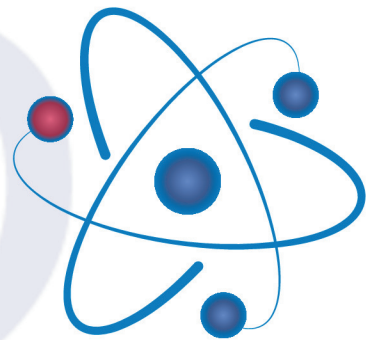
Exam Format:

1 x 1 hour assessment covering all topics below.
Calculators will be necessary.

Topics that will be covered in the assessment.

Light and Sound

- Light waves
- Reflection
- Refraction
- Colour
- Infrared radiation
- Waves
- Sound waves
- Calculating the speed of waves

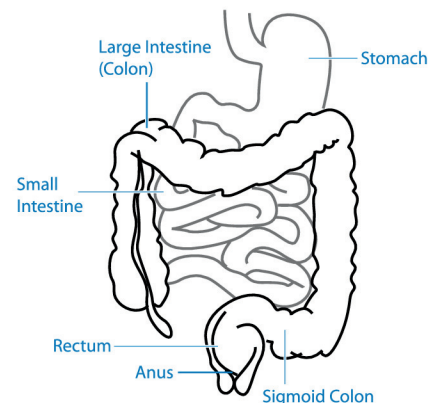


Matter

- Particle
- Density
- Diffusion
- Pressure

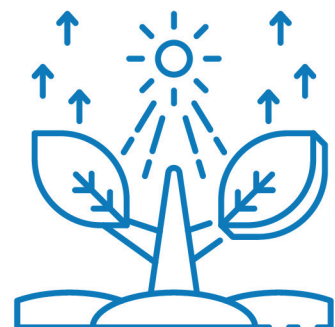
Digestion and Nutrition

- Digestive system
- Testing for carbohydrates, fats and proteins
- Enzymes



Plants and their Processes

- Photosynthesis
- Testing for starch
- Leaf adaptations
- Gas exchange
- Transport in plants
- Rate of photosynthesis



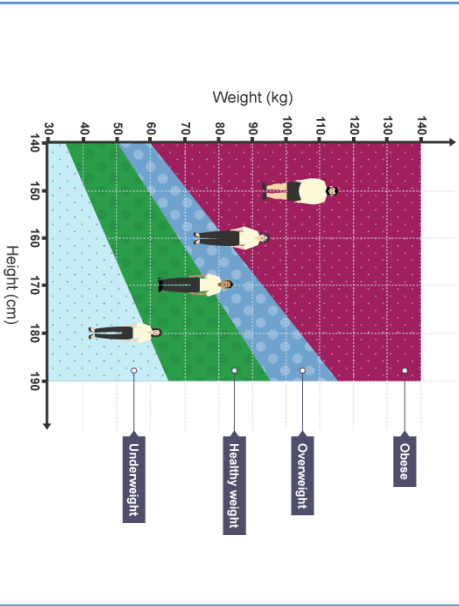
Too thin, too fat

If the amount of energy you get from your food is different from the amount of energy you need, your diet will be imbalanced:

- too little food can make you underweight
- too much food can make you overweight

Starvation happens if you eat so little food that your body becomes very underweight. This can eventually cause death.

Obesity happens when you eat so much food that your body becomes very overweight. This can harm health and shorten **life expectancy**, eg by heart disease.



Energy needs

Each person needs a different amount of energy depending on factors such as:

- gender (male or female)
- age
- amount of daily activity

Energy in food is measured in **kilojoules**, kJ.

A **balanced diet** contains the correct amounts of necessary nutrients.

An **imbalanced diet** can contain too much or too little of a particular nutrient.

Too little of a particular nutrient is called a **deficiency**.

Mineral and vitamin deficiencies

You only need small amounts of each minerals or vitamins in your diet to stay healthy, but vitamin or mineral deficiencies can make you ill. For example:

Minerals

- Iron deficiency causes anaemia, where there are too few red blood cells;
- iodine deficiency can cause a swelling in the neck called goitre.

Vitamins

- vitamin A deficiency can cause blindness;
- vitamin C deficiency causes scurvy, which makes the gums bleed;
- vitamin D deficiency causes rickets, which makes the legs bow outwards in growing children.

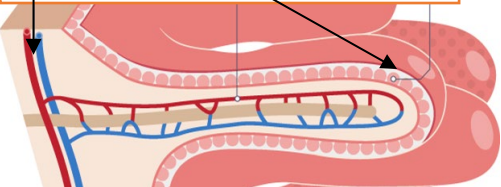
Digestion and Nutrition

Nutrient	Use in the body	Good sources
Carbohydrate	To provide energy	Cereals, bread, pasta, rice and potatoes
Protein	For growth and repair	Fish, meat, eggs, beans, pulses and dairy products
Lipids (fats and oils)	To provide energy. Also to store energy in the body and insulate it against the cold.	Butter, oil and nuts
Minerals	Needed in small amounts to maintain health	Salt, milk (for calcium) and liver (for iron)
Vitamins	Needed in small amounts to maintain health	Fruit, vegetables, dairy foods
Dietary fibre	To provide roughage to help to keep the food moving through the gut	Vegetables, bran
Water	Needed for cells and body fluids	Water, fruit juice, milk

Absorption across a surface happens efficiently if:

- the surface is thin;
 - its area is large.
- The inner wall of the small intestine is adapted. It has:
- a thin wall, just one cell thick;
 - many tiny **villi** to give a really **big surface area**.

The villi contain blood **capillaries** to carry away the absorbed food molecules.

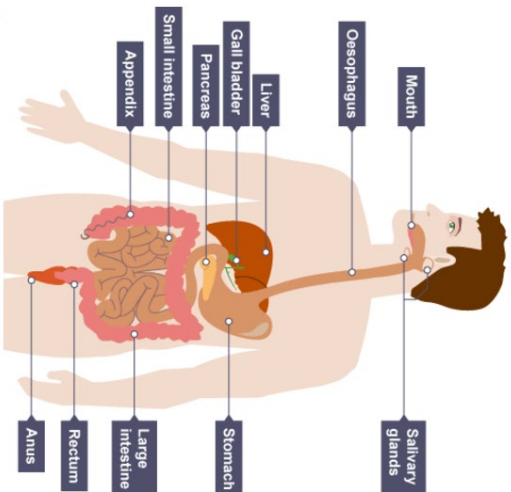


Stages of digestion

After we swallow, our food passes through these organs in turn:

1. oesophagus or gullet
2. stomach
3. small intestine
4. large intestine

- Food is **digested** in the mouth, stomach and small intestine;
- Digested food is **absorbed** into the bloodstream in the small intestine;
- Excess water is absorbed back into the body in the large intestine;
- Undigested food passes out of the anus as faeces.



Liver and pancreas

- The liver produces **bile**, which helps the digestion of lipids (fats and oil).
- The pancreas produces biological **catalysts** called digestive **enzymes** which speed up the digestive reactions.

The digestive system contains many **bacteria** which are important. For example, they:

- can digest certain substances humans cannot digest;
- reduce chance of harmful bacteria multiplying, causing disease;
- produce vitamins that humans need eg vitamins B & K.

ingestion (eating) → digestion (breaking down) → absorption → egestion (removal from the body)

Digestion is when large **insoluble** food particles are broken down into small **soluble** particles so that they can be absorbed into our bloodstream.

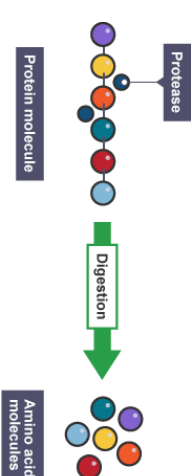
This is carried out by **enzymes** - special proteins that can break large molecules into small molecules.

Different enzymes can break down different nutrients:

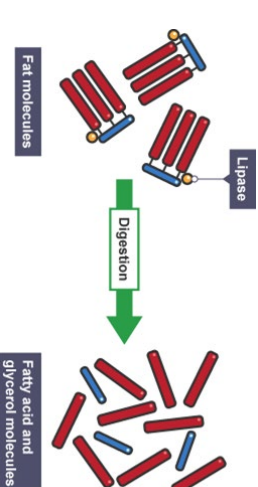
- **Carbohydrates** (eg starch) are broken down into **sugar** - by **carbohydrase** enzymes



- **Proteins** are broken down into **amino acids** - by **protease** enzymes;



- **Lipids** (ie fats and oils) are broken down into **fatty acids** and **glycerol** - by **lipase** enzymes.



Minerals, vitamins and water are not digested, as they are already small enough to be absorbed. Digestive enzymes cannot break down dietary fibre, which is why the body cannot absorb it.

Colour

- White light is a mixture of many different colours;
- Each colour has a different frequency;
- White light can be split up into a **spectrum** using a prism, a triangular block of glass or Perspex;
- Light is refracted when it enters the prism;
- Each colour is refracted by a different amount;
- Light leaving the prism is spread out into different colours;
- This is called **dispersion**.

The spectrum

The seven colours of the spectrum listed in order of their frequency, from the lowest frequency (fewest waves per second) to the highest frequency (most waves per second):

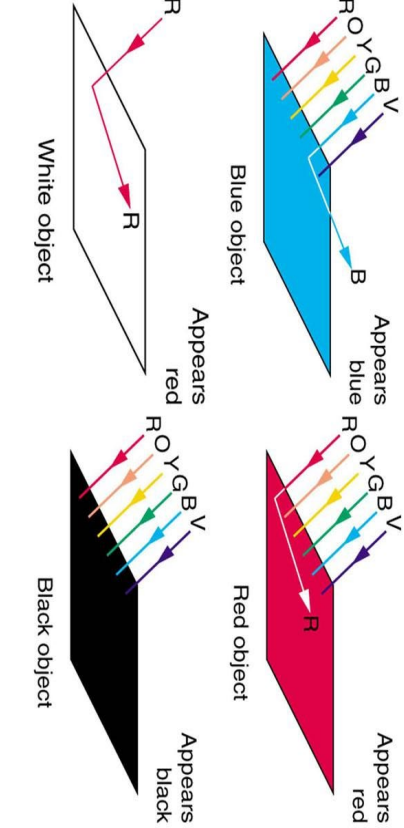
- **Red**
- **Orange**
- **Yellow**
- **Green**
- **blue**
- **indigo**
- **Violet**

‘Richard Of York Gave Battle In Vain’.



Coloured light

- There are three primary colours in light: red, green and blue.
- Light in these colours can be added together to make the secondary colours magenta, cyan and yellow.
- All three primary colours add together make white light;
- When light hits a surface, some of it is absorbed and some of it is reflected.
- The colour of an object is the colour of light it reflects;
- All other colours are absorbed.



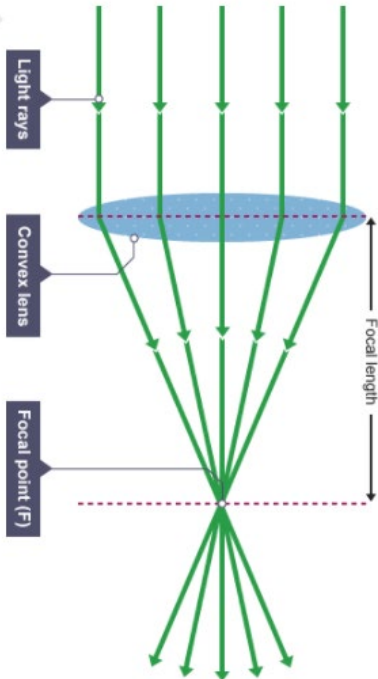
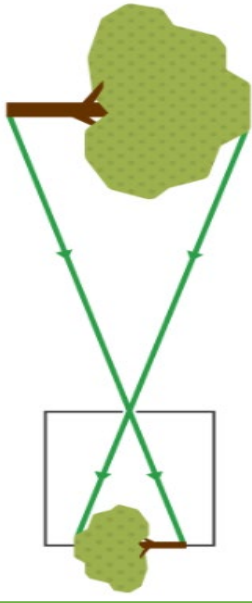
Focusing

- Light rays can be focused so that they meet at a single point;
- Focusing is important for getting clear images in our eye;
- Images that are not focused appear blurred.

The pinhole camera

A pinhole camera consists:

- of a box with a **translucent screen** at one end;
- a tiny hole (the pinhole) in the other end;
- light enters the box through the pinhole;
- it is focused by the pinhole onto the screen;
- The image is inverted (upside down) and smaller than the object



The convex lens

- A convex lens is made from a transparent material that bulges outwards in the middle on both sides.
- It can focus light so that appears to meet at a single point, called the focal point.
- Light is refracted as it passes into, then out of, the lens.
- Convex lenses are found in:
 - **magnifying glasses**;
 - **spectacles** for people with long-sight (who can see distant objects clearly but not nearby ones);
 - **telescopes**.

Detecting light

Cameras and eyes detect light. They both have:

- a material that is sensitive to light
- a change that happens when this material absorbs light

The camera

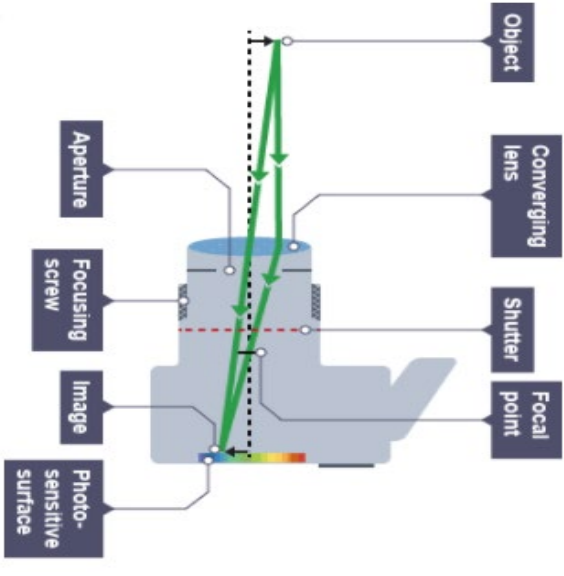
Cameras focus light onto a photo-sensitive material using a lens.

In old cameras, the photo-sensitive material was camera film;

- The film absorbs light;
- A chemical change produces an image, called the ‘negative’.
- This was used to produce a photograph on photo-sensitive paper.

In a modern camera or the camera in a mobile phone:

- The photo-sensitive material produces electrical impulses;
- Which are used to produce an image file;
- This can be viewed on the screen.



What is photosynthesis?

- Plants make their own food (for energy) in a process called **photosynthesis**.
- Photosynthesis helps keep:
 - levels of oxygen high;
 - levels of carbon dioxide low.
- Photosynthesis takes place in **chloroplasts** in the cells.
- Chloroplasts contain **chlorophyll**.
- Chlorophyll** absorbs the light energy for photosynthesis

The equation for photosynthesis is:

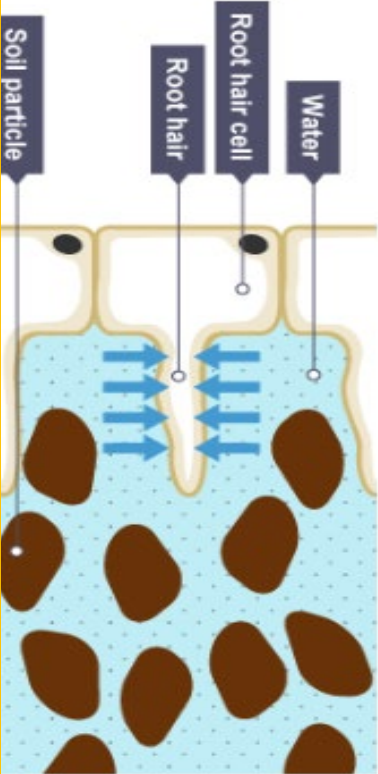


These are the things that plants need for photosynthesis:

- carbon dioxide** – absorbed through their leaves;
- Water** - from the ground through their roots;
- light** (a source of energy) - from the Sun.

These are the things that plants make by photosynthesis:

- Oxygen** - released into the air from the leaves;
- Glucose**:
 - turned into **starch** and plant oils, used as an energy store;
 - This energy is released by **respiration**;
 - Used to make **cellulose** for cell walls.



Water is absorbed into the roots by a process called **osmosis**, which does not use energy.

Minerals are absorbed into the roots by a process called **active transport**, which uses energy.

Adaptation	Function
Thin	Short distance for carbon dioxide to diffuse into the leaf
Waxy Layer	Prevents water loss by evaporation
Palisade cells	Contain a lot of chloroplasts to absorb light
Chloroplasts contain chlorophyll	Absorbs light
Stomata	Allows carbon dioxide to diffuse into the leaf (and oxygen to diffuse out)
Guard cells	Open/close stomata depending on conditions

Network of tubes (xylem & phloem)	Transports water (xylem) and food (phloem)
Water is absorbed through the roots by osmosis .	

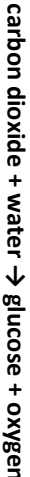
- It is transported through tubes (**xylem**) to the leaf;
- The roots contain cells called a **root hair cells**.
 - They increase the **surface area**;
 - They have **thin walls**. This lets water pass into them easily.
- Root cells do not contain chloroplasts.

Carbon dioxide

- Enters leaf by **diffusion** through the **stomata**.
- Guard cells** control the size of the stomata
- Stomata closes in **hot, windy** or **dry** conditions.
- Spongy layer has gaps between cells;
 - Allows carbon dioxide to **diffuse** to other cells in the leaf;
 - Allows oxygen produced in photosynthesis diffuse out of the leaf.

Respiration v photosynthesis

Photosynthesis:



Aerobic respiration is:



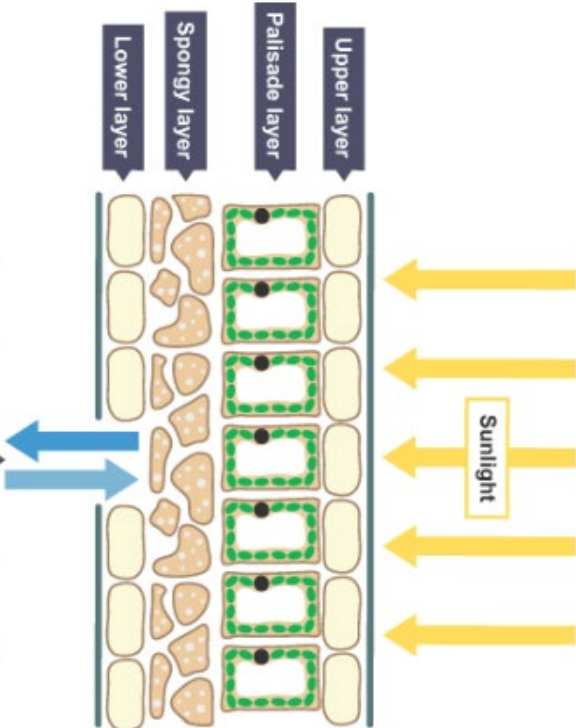
The equation for photosynthesis is the opposite of the equation for aerobic respiration.

- Photosynthesis**:
 - produces** glucose and oxygen;
 - uses** carbon dioxide and water;
- Respiration**:
 - produces** carbon dioxide and water;
 - uses** glucose and oxygen;

Plants and photosynthesis

Food security and pollination

- Pollination** is the transfer of pollen from one plant to another;
- Pollen can be transferred by **insects** or by **wind**;
- Insects that pollinate plants help us produce our food.
- Our food supply depends on plants:
 - Our food made of, and from plants;
 - The animals we eat feed on plants.



A cross-section through a leaf showing its main parts

Reflection

A ray diagram shows how light travels, including what happens when it rea

- a straight line;
- with an arrowhead pointing in the direction that the light travels;
- always use a ruler and a sharp pencil.

The law of reflection

When light reaches a mirror, it reflects off the surface of the mirror:

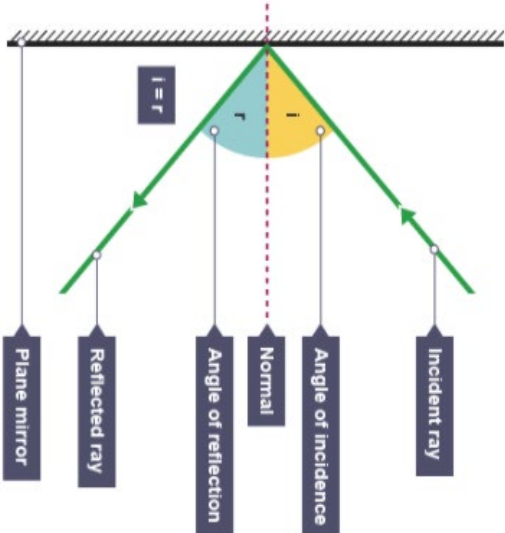
- **incident ray** is the light going **towards the mirror**;
- **reflected ray** is the light coming **away from the mirror**.

The law of reflection states:

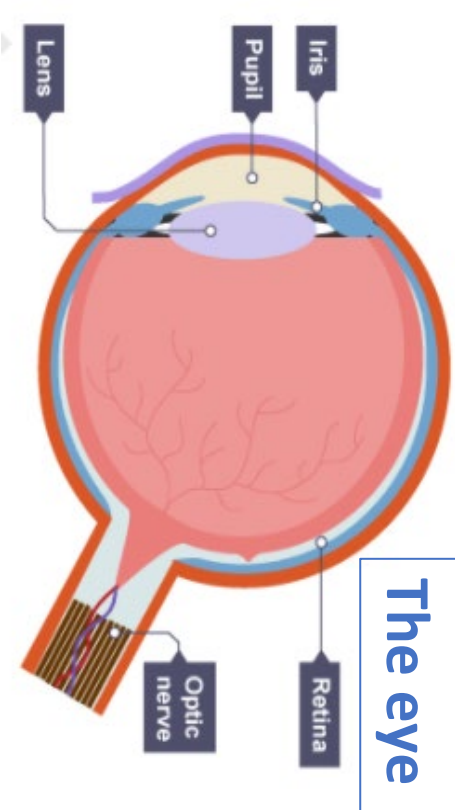
- **the angle of incidence = the angle of reflection, $i = r$.**

Diffuse scattering

- If light meets a rough surface, each ray obeys the law of reflection;
- Different parts of the rough surface point in different directions;
- So the light is not all reflected in the same direction;
- The light is reflected in all directions.
- This is called **diffuse scattering**.



The eye



Imaging in mirrors

- A plane mirror is a flat mirror.
- When you look into a plane mirror, you see a reflected image of yourself. This image:
 - appears to be behind the mirror
 - is the right way up
 - is 'laterally inverted' (letters and words look as if they have been written backwards)
- 'Real' rays, the ones leaving the object and the mirror, are shown as solid lines.
- 'Virtual' rays, the ones that appear to come from the image behind the mirror, are shown as dashed lines.
- Each incident ray will obey the law of reflection.

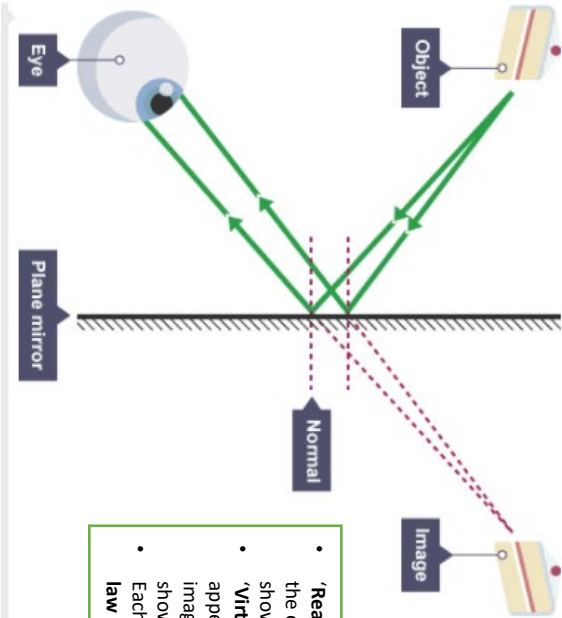
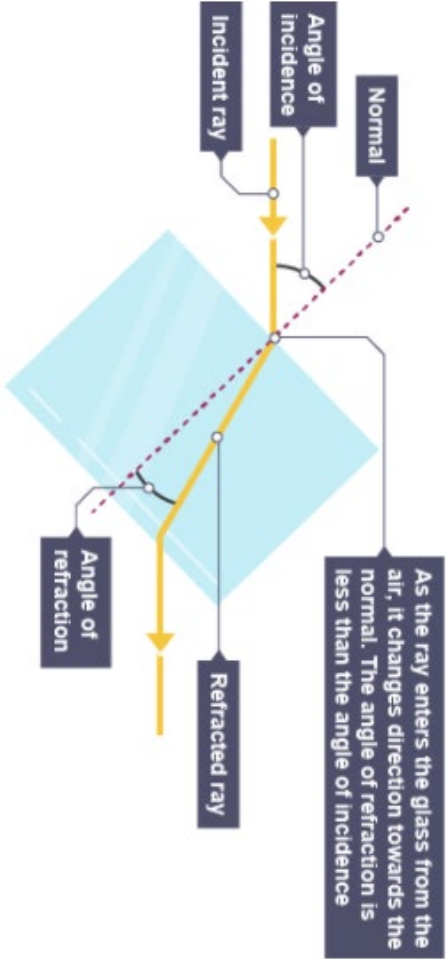
Refraction

When light waves pass across a boundary between two substances with a different density, eg air and glass. They:

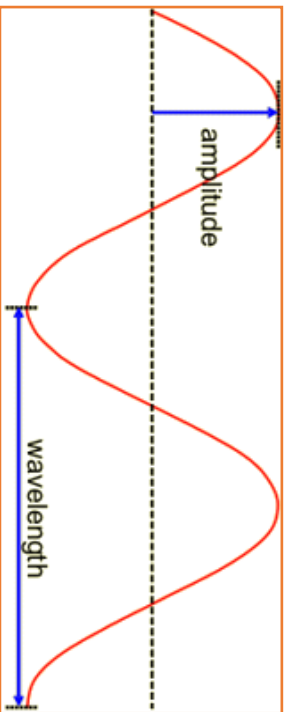
- change speed;
- causing them to change direction;
- This is called refraction.

At the boundary between two transparent substances:

- the light slows down going into a denser substance, and the ray bends towards the normal;
- the light speeds up going into a less dense substance, and the ray bends away from the normal.



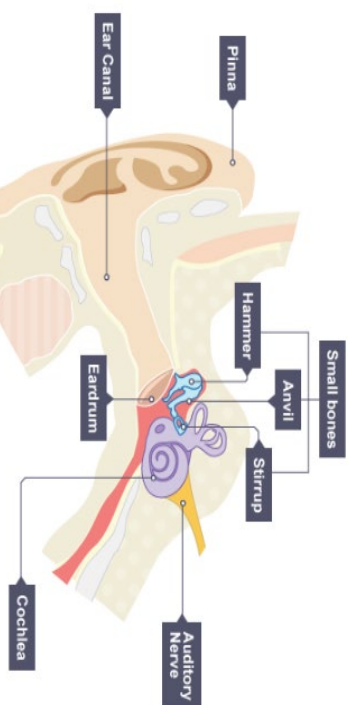
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- 'Virtual' rays, the ones that appear to come from the image behind the mirror, are shown as dashed lines.
- Each incident ray will obey the law of reflection.



- **Amplitude:** the maximum height of the wave from its resting position:
 - the greater the amplitude, the louder the sound;
- **Wavelength:** the distance between two **crests** (tops) next to each other (or any other two identical point on waves next to each other);
- **Frequency:** the number of **waves per second (Hertz - Hz)**:
 - the higher the frequency, the closer together the waves are, the higher the pitch;

Ears

- An ear has an **eardrum**, connected to **three small bones**;
- Vibrations in air make the eardrum vibrate;
- which in turn vibrates the three small bones (called **ossicles**) to a spiral structure called the **cochlea**;
- Signals are passed from the cochlea to the brain;
- through the **auditory** nerve.

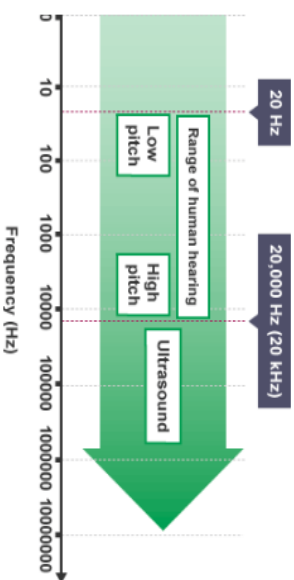


Microphones

- Microphones contain a **diaphragm**, which does a similar job to an eardrum;
- The vibrations in air make the diaphragm vibrate;
- these vibrations are changed to electrical impulses.

Ultrasound

Human beings can generally hear sounds as low as 20 Hz and as high as 20,000 Hz (20 kHz).



Ultrasound is:

- any sound with a frequency of **more than 20,000 Hz**.
- Too high pitched for humans to hear;
- Other animals (eg dogs, cats and bats) can hear it.
- Ultrasound can be used to check on the health of unborn babies, clean jewellery and in physiotherapy.

Types of waves

All waves transfer energy from place to place.

There are two types of wave:

longitudinal and **transverse**:

Longitudinal waves

Sound waves are **longitudinal waves**;

The vibrations are **parallel to the direction of travel**.

Transverse waves

Light waves (and water waves) are **transverse waves**;

The vibrations are

perpendicular to the direction of travel.

Reflection

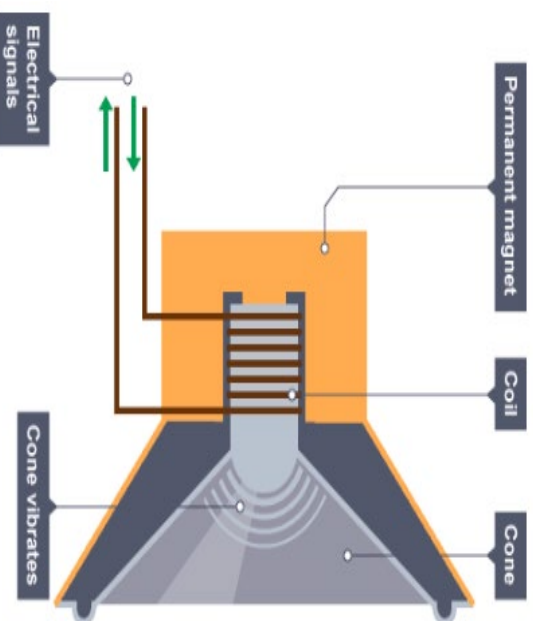
- Sound waves can reflect off surfaces;
- These reflections as heard as **echoes**;
- **Hard, smooth surfaces** are good at reflecting sound (more echoes);
- **Soft, rough surfaces** are good at absorbing sound (less echoes).

Sound waves

The speed of sound is **340 m/s**

Loudspeakers

- Loudspeakers work by converting electrical current into vibrations;
- This moves the cone which creates the sound waves.



Water waves

- Water waves move with a transverse motion;
- The **undulations** (up and down movement) are at 90° to the direction of travel.
- Water waves, like all waves, can be **reflected**, **refracted** and **diffracted**.

Superposition is where two waves meet and they affect each other: **adding** or **cancelling**.

Adding (constructive interference)

If two waves meet each other **in step**, they add together and reinforce each other.



They produce a much higher wave, a wave with a greater **amplitude**.

Cancelling (destructive interference)

If two waves meet each other **out of step**, they cancel out.



Properties of sound waves

- When something vibrates, it produces sound;
- These sound waves are carried by vibrating particles;
- Sound can only travel through solids, liquids or gases;
- They cannot travel through empty space (a **vacuum**).

Change of state

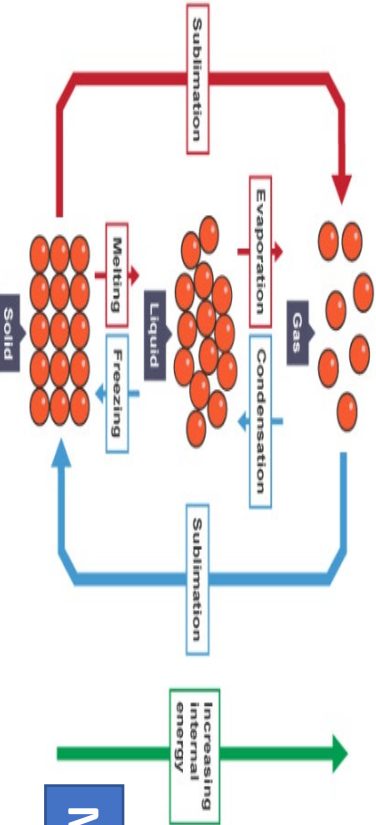
- Substances can change state, usually when they are heated or cooled;
- State changes are **reversible** – eg ice can be melted and then frozen again;
- No new elements or compounds are formed.

The closeness, arrangement and motion of the particles in a substance change when it changes state:

	Solid	Liquid	Gas
Closeness	All touching	Mostly touching	Far apart
Arrangement	Ordered	Random	Random
Motion	Vibrate, fixed position	Move freely	Move freely (faster than liquids)
Density	Decreasing density ----->		

Internal energy ----->
Conservation of mass ----->

- The particles in a substance stay the same when it changes state – only their closeness, arrangement or motion change. This means that:
- the chemical nature of the substance itself stays the same;
 - the mass of the substance stays the same.



Matte

Pressure in fluids

- A **fluid** is a liquid or gas.
- All fluids can change shape and flow from place to place.
- Fluids exert pressure at 90° to surfaces – we say that it acts normal to the surface.

Brownian motion

- Gas particles move very quickly;
- Air particles move at 500 m/s on average at room temperature;
- Particles collide with each other very frequently;
- They change direction randomly when they collide;
- Their random motion because of collisions is called **Brownian motion**.

Diffusion

- Diffusion is the **movement of particles from an area of high concentration to an area of low concentration**.
- Diffusion does not happen in solids – only fluids (liquids and gases);
- Particles in a solid can only vibrate and cannot move from place to place.
- Diffusion is driven by differences in concentration;
- No diffusion will take place if there is no difference in concentration from one place to another;
- Diffusion in liquids is slower than diffusion in gases because the particles in a liquid move more slowly.

Explaining diffusion in a smelly gas

- When a perfume is released into in a room, the perfume particles mix with the particles of air;
- The particles of perfume are free to move quickly in all directions;
- They eventually spread through the whole room **from an area of high concentration to an area of low concentration**;
- This continues until the concentration of the perfume is the same throughout the room;
- The particles will still move, even when the perfume is evenly spread out.

Diffusion and temperature

Diffusion is faster if the fluid (gas or liquid) is hotter.

Atmospheric pressure

The atmosphere exerts a pressure on you, and everything around you.

Atmospheric pressure changes with altitude. The higher you go:

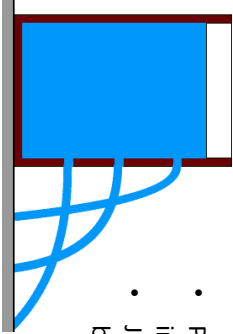
- the lower the weight of the air above you;
- the lower the atmospheric pressure.

Pressure in liquids

Just like the atmosphere, liquids exert pressure on objects.

The pressure in liquids changes with depth. The deeper you go:

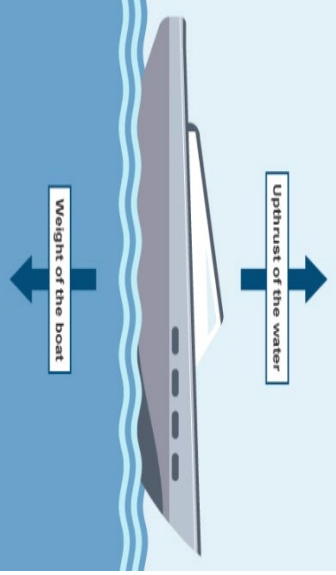
- the greater the weight of liquid above
- the greater the liquid pressure



- Pressure in a liquid increases with depth;
- Jet from the bottom of the bucket travels further.

Floating and sinking

- Liquid pressure is exerted on surfaces of objects in liquids;
- This causes **upthrust**;
- When an object sinks, the pressure increases and so the upthrust increases;
- It will continue to sink if weight is greater than maximum upthrust;
- When and object floats, the upthrust is **equal and opposite** to the object's weight.



Geography

Exam Format:

1 x 1 hour assessment covering Coasts and Population.

Topics covered in the assessment.



Coasts

- Wave features
- Coastal erosion processes (hydraulic action, abrasion, attrition, solution)
- Landforms of coastal erosion - caves, arches, stacks, stumps, headlands, bays.
- Constructive and destructive waves
- Longshore drift
- Managing coastal erosion

Population

- Population distribution
- Sparsely and densely populated places
- Reasons for population density
- Population pyramids
- Factors influencing birth and death rates
- Ageing and youthful population
- Migration - push and pull factors

Revision

Use your knowledge organiser

Use BBC Bitesize - KS3 - Geography - Coasts.

Use BBC Bitesize - KS3 - Geography - Population.

Make revision mind maps and notes to supplement your learning.



8.02: Coasts



Wave features

1 swash	(n) the movement of a wave up the beach. The direction is dependent upon the wind direction.
2 backwash	(n) the movement of water down a beach. This is caused by gravity and happens at 90 degrees to the shore.
3 constructive wave	(n) waves that have a strong swash and a weak backwash. Deposition is the dominant process.
4 destructive wave	(n) waves that have a weak swash and a strong backwash. Erosion is the dominant process.
5 fetch	(n) the distance a wave has travelled
6 prevailing wind	(n) the direction that the wind usually comes from in a particular area over a long period of time

Weathering and erosion

1 hydraulic action	(n) the erosion caused by the force of the water hitting the rocks, which traps and compresses air in the cracks and causes the cracks to weaken and break
2 abrasion	(n) the erosion caused when rocks and sediment carried by waves (or a river) are thrown against a cliff or riverbank
3 attrition	(n) the erosion caused when rocks and sediment carried by waves (or a river) hit each other and cause each other to break into smaller pieces
4 weathering	(n) the slow breakdown of rocks while they are in place



Geology

1 geology	(n) the scientific study of the Earth, including its structure, materials (such as rocks and minerals) and the processes that act upon it
2 igneous rock	(n) rocks formed from the cooling and crystallisation of molten rock. Examples include basalt and granite.
3 metamorphic rock	(n) rocks formed when very high temperature and pressure cause existing rocks to change. Examples include slate and marble.
4 sedimentary rock	(n) rocks formed when sediments of rock are transported, deposited, compacted and cemented together in layers. Examples include chalk, clay and limestone.

Coastal processes

1 transportation	(n) the movement of sediment
2 deposition	(n) when waves drop the sediment they are transporting, either due to a loss of energy or change in the direction of the coastline
3 longshore drift	(n) the process by which sediment (such as sand and pebbles) is transported along a coastline by the action of waves. It creates beaches.

Headlands and bays

1 resistant	(a,j) does not easily erode or wear away
2 headland	(n) a piece of land that sticks out into the sea and is usually made of hard, resistant rock
3 bay	(n) a curved or indented area of the coastline where the land curves inward
Alternating hard and soft rock → destructive waves → hydraulic action → soft rock less resistant → erodes quickly → hard rock more resistant → erodes slowly → soft rock retreats → bay forms → hard rock remains → headland forms	

Caves, arches, stacks and stumps

1 cave	(n) a hollow or opening in a cliff face, usually at the base, formed when waves erode a weakness in the rock, such as a fault or crack
2 arch	(n) a natural bridge of rock with an opening underneath, formed when a cave is eroded all the way through a headland.
3 stack	(n) a tall, isolated pillar of rock that is left standing in the sea after the roof of an arch collapses
4 stump	(n) the remains of a collapsed stack, which has been eroded by waves down to a small, flat rock just above or below sea level

Weakness or crack in headland → destructive waves → hydraulic action and abrasion → cave formed → headland erodes through → arch formed → unsupported roof collapses → vertical stack left → stack collapses leaving a stump

8.02: Coasts



Beaches and longshore drift

1	sand	(n) loose material made up of fine rock particles, usually smaller than 2 mm in diameter
2	shingle	(n) loose, rounded pebbles and small stones found on beaches, usually between 2 mm and 200 mm in size
3	sediment	(n) solid material that is moved and deposited in a new location
4	beach	(n) a landform made of loose material, such as sand, pebbles or shingle, that lies along the edge of a sea, ocean or lake
5	longshore drift	(n) the process by which sediment (such as sand and pebbles) is transported along a coastline by the action of waves. It creates beaches.
Direction of prevailing wind at an angle → swash happens at an angle → transports material up the beach → backwash takes material down the beach at 90 degrees → due to the force of gravity → process repeats → sediment moves across the beach → zigzag pattern		

Coastal management

1	soft engineering	(n) adaptations to work with nature beach nourishment — Sand and shingle from elsewhere are added to the beach. managed retreat - Engineers do nothing, people are moved and the coast is left to erode and flood naturally.
2	hard engineering	(n) human-made structures that help to deal with coastal erosion seawalls — concrete walls that reflect the waves' energy back out to sea groynes — wooden posts that trap sediment and interrupt longshore drift

Other threats to the coast

1	plastic pollution	(n) when plastic waste ends up in the environment, especially in the sea
2	sewage pollution	(n) when untreated or poorly treated wastewater (including human waste) is released into rivers or the sea
3	oil spill	(n) when oil accidentally leaks into the sea, usually from a ship or drilling platform
4	sea level rise	(n) the increase in the average level of the world's oceans
5	sustainability	(n) meeting the needs of the present without compromising the ability of future generations to meet their own needs

Coastal erosion case study: Happisburgh, Norfolk coast

Background: Norfolk coast in between Cromer and Sea Palling.
A small village with a population of approx. 1400 people.

Vulnerability: soft boulder clay, long fetch, longshore drift, limited sea defences

Impacts	Management strategies
homes destroyed or had to be knocked down	1950s: groynes and revetments
roads lost to the sea	
car parks relocated	
homes valued at £1 on Beach road	2000s: rock armour
farmland lost: 1 field per year	
businesses lost, e.g. caravan parks	2007 onwards: managed retreat



8.01: Population

Population distribution

1 population density	(n) the number of people who live within one square kilometre (km ²)
2 population distribution	(n) how people are spread out over a particular area
3 densely populated	(n) many people per km ²
4 sparsely populated	(n) few people per km ²

Population change

1 birth rate	(n) the number of live births per 1,000 people in a population per year
2 death rate	(n) the number of deaths per 1,000 people in a population per year
3 natural increase	(n) the difference between the birth rate and death rate
4 population explosion	(n) the rapid increase in the world's population since the 1950s
5 overpopulation	(n) when the number of people in a region exceeds the capacity of that region's resources to support them

Managing population

1 ageing population	(n) a population with a high and increasing proportion of people aged 65 and over, often due to low birth rates and longer life expectancy
2 youthful population	(n) a population with a high proportion of young people (typically under the age of 15), often found in countries with high birth rates and lower life expectancy

Population structure



1 population structure	(n) the number/proportion of people in each age range, for each gender
2 population pyramid	(n) a graphical representation of a country's population structure, showing the distribution of different age groups and sexes
3 working - age population	(n) the group of people typically aged 15 –64 who are considered old enough to work and support the economy
4 young dependents	(n) children and young people aged 0 –14 who are usually not working and depend on others for care and support
5 elderly dependents	(n) older adults, usually aged 65 and over, who are often retired and may rely on others or the government for financial and healthcare support

Migration

1 voluntary migration	(n) when people choose to move to another place, often for reasons such as better job opportunities, education or lifestyle
2 forced migration	(n) when people are made to move due to conflict, natural disasters, persecution or other dangers beyond their control
3 international migration	(n) when people move from one country to another
4 internal migration	(n) when people move within the same country, e.g. from rural areas to cities
5 push factor	(n) factor that makes people want to leave an area
6 pull factor	(n) factor that makes people want to move to an area
7 source country	(n) the home country of a migrant
8 host country	(n) the destination country for a migrant



8.01: Population



Factors influencing population distribution

1 physical	1. relief of the land
	2. availability of natural resources
	3. climate
	4. fertility of soil
	5. access to fresh water
2 human	1. transport network
	2. job opportunities
	3. investment in basic and wider services

Factors affecting birth and death rates

1 birth rate	1. cost of childcare 2. access to contraception 3. children seen as an economic asset 4. average age of marriage
2 death rate	1. access to safe drinking water 2. access to food
3 both	1. access to healthcare 2. infant mortality rate 3. access to education 4. war

Population structure and development

1 developing countries	1. high birth rates, so a large young dependent population 2. a lower life expectancy, so a small elderly dependent population
2 developed countries	1. a declining birth rate, so a small young dependent population 2. a rising life expectancy, so a large elderly dependent population

Ageing population

1 Advantages	1. the grey pound 2. family support with childcare 3. jobs in health and social care
2 Disadvantages	1. pressure on public services, including healthcare 2. strain on housing supply 3. increased tax revenue required for pensions
3 Management strategies	1. increasing the retirement age 2. increasing tax for the working - age population 3. access to free or funded childcare

Youthful population

1 Advantages	1. large future workforce 2. increased tax revenue in the future 3. future business development
2 Disadvantages	1. strain on natural resources 2. overpopulation 3. education requirements
3 Management strategies	1. investing in healthcare 2. family planning 3. investment in education 4. improving women's rights

Factors affecting migration

Push factors	Pull factors
war and conflict	peace (no war)
low wages	higher wages
education difficult to access	good education system
droughts and water scarcity	better access to healthcare
gender inequality	good job opportunities



History

Exam Format:

1 hour assessment covering Units 1 and 2 of Year 8 curriculum.

Topics covered in the assessment:

The Tudors (8.01)

- Diversity in Tudor England.
- Henry VIII, why he wanted a divorce and the break of Rome.
- Differences between Catholic and Protestant Churches.
- Criticisms of the Catholic Church.
- The role of Martin Luther.
- The reign of Edward VI.
- The reign of Mary I.
- Elizabeth's problems.
- Elizabeth and marriage.
- The religious settlement.



England: A world turned upside down (8.02)

- Ascension of James I and religious problems (The gunpowder plot).
- Causes of English Civil War.
- Execution of Charles I and the ? role of Cromwell.
- The restoration - the return of monarchy.

Skills

- Historical knowledge
- Sources and interpretations
- Historical Writing



8.01: The Tudors

Key Vocabulary

1 annulment	(n) to declare that a marriage never actually existed
2 armada	(n) fleet of Spanish warships
3 counter - reformation	(n) the Catholic fights against the spread of Protestantism
4 dissolution	(n) the ending of an organisation
5 heretic	(n) someone with religious views that disagree with official Church teaching
6 indulgences	(n) a payment to the Catholic Church to forgive a person's sins
7 papal bull	(n) an official order from the Pope
8 plot	(n) secret plan or scheme, often to do something harmful or illegal
9 reformation	(n) a movement which led to a break with the Catholic Church and the beginning of the Protestant Church
10 vestments	(n) robes worn by priests

Power	The control a person or group has in a country. For example, Henry VIII disliked the power of the pope and his refusal to grant an annulment. <i>This includes threads such as succession.</i>
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Key Individuals

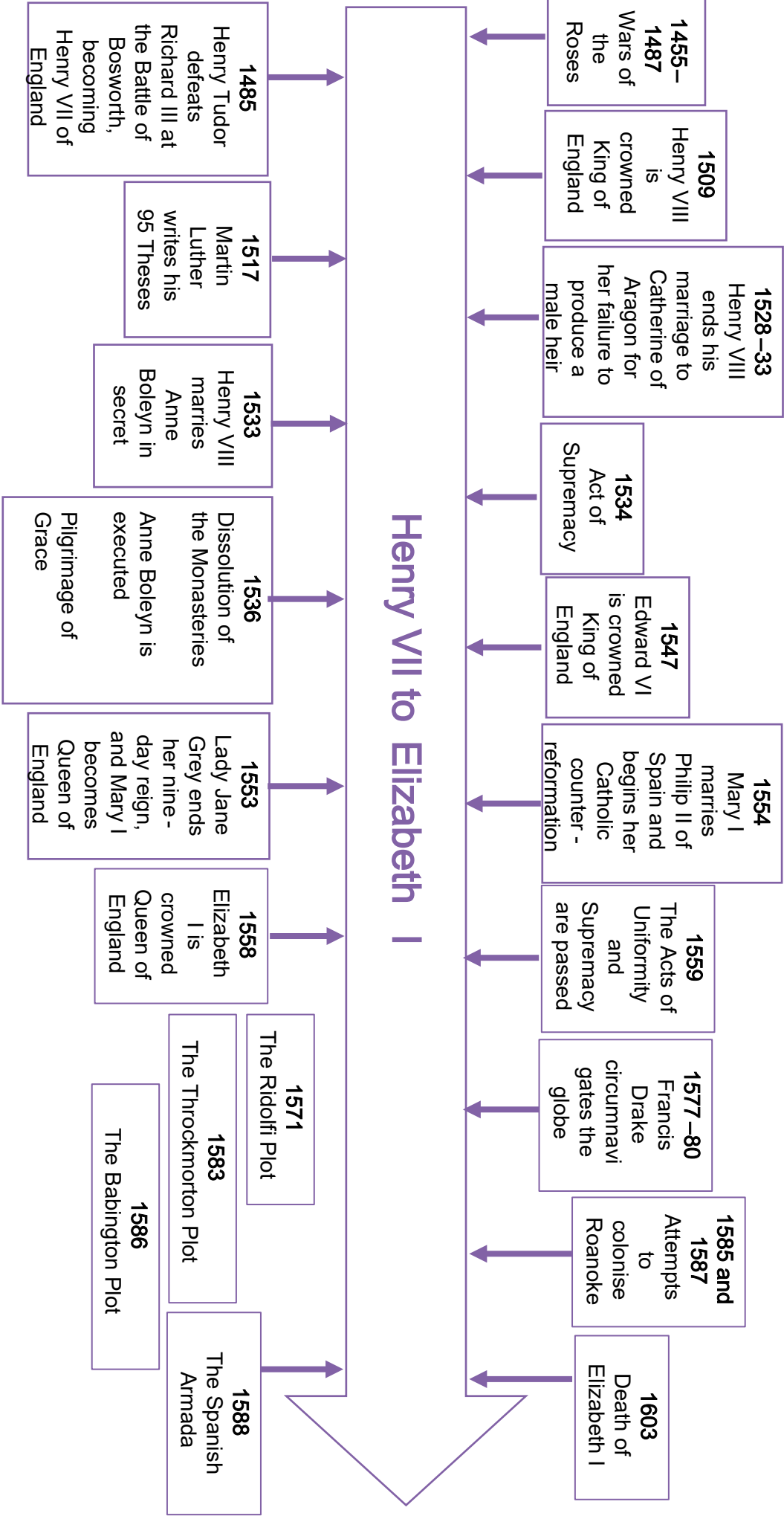
Henry VII	founder of the Tudor dynasty
Henry VIII	Tudor King 1509–47 who started the Protestant Reformation
Katherine of Aragon	first wife of Henry VIII and mother of Mary I
Mary I	Catholic Queen of England 1553–1558
Anne Boleyn	second wife of Henry VIII and mother of Elizabeth I
Edward VI	Protestant successor of Henry VIII 1547–1553
Elizabeth I	Protestant Queen of England 1558–1603
Mary Queen of Scots	Catholic cousin of Elizabeth I executed in 1587
Francis Drake	first Englishman to circumnavigate the globe
Walter Raleigh	established the first English colony of Roanoke
Walsingham	Elizabeth I 'spymaster'

Identity	The qualities and characteristics that make a person who they are and what they value as important. For example, Mary I was a devout Catholic. <i>This includes threads such as the role of women.</i>
Connectivity	The act of joining or being linked to somewhere, someone or something else. For example, we have evidence of African Tudors in the court of Henry VIII. <i>This includes threads such as medicine.</i>



8.01: The Tudors

Chronology



8.02 England: A World Turned Upside Down

Key Vocabulary

1	army	(n) an organised force for fighting
2	commonwealth	(n) a group of people organised under a single government
3	dissenters	(n) people who disagree with or oppose something, especially a religious or political authority
4	flank	(n) side
5	interregnum	(n) a period between reign
6	regicide	(n) the deliberate killing of a monarch, or the person responsible for doing so
7	republic	(n) a form of government where power is held by elected individuals and not a monarch
8	restoration	(n) the return of a monarch to the throne
9	treason	(n) a crime against the monarch or state
10	union	(n) the joining together
11	witch	(n) a person believed to have magic powers used for evil

Themes and Threads

Power	Identity	Connectivity
The control a person or group has in a country For example, a cause of the Civil War was the struggle for power between Parliament and King Charles I. <i>This includes threads such as warfare and protest.</i>	The qualities and characteristics that make a person who they are and what they value as important For example, Oliver Cromwell was a Puritan, and this affected his rule as Lord Protector. <i>This includes threads such as beliefs.</i>	The act of joining or being linked to somewhere, someone or something else For example, the Act of Union in 1707 created the United Kingdom. <i>This includes threads such migration.</i>

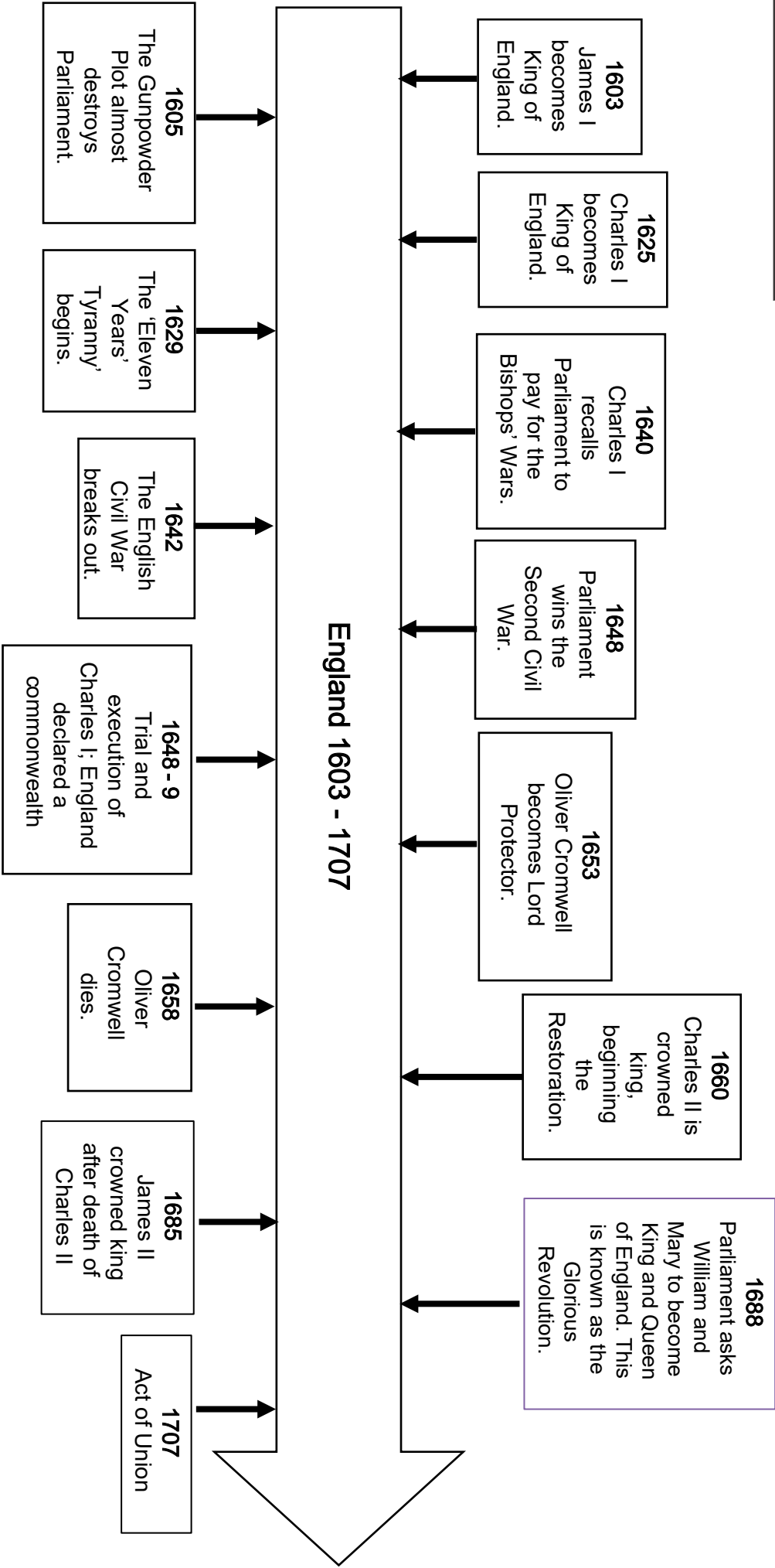
Key Individuals

Charles I	King of England 1625- 1649, executed for treason
Oliver Cromwell	Leader of the New Model Army who became Lord Protector in 1653
Thomas Fairfax	Commander of the New Model Army
Prince Rupert	Nephew of Charles I who led the Cavalier cavalry
Richard Cromwell	Son of Oliver Cromwell who succeeded his father as Lord Protector in 1658
Charles II	Eldest son of Charles I and heir to the throne
James II	Catholic younger brother of Charles II, crowned king in 1685
William III and Mary II	Protestant daughter of James II and her husband, who were invited by Parliament to take the throne



8.02 England: A World Turned Upside Down

Chronology



Spanish

Assessment Format:

You will sit this assessment in class.

Topics covered in the Assessment:

Unit 1: My Life

- Classroom vocabulary
- Greetings
- Saying how you are feeling
- How old are you?
- When is your birthday?
- Where are you from/where do you live?
- What type of person are you

Unit 2: My free time

- What do you like to do in your free time?
- Why do you like to do it?
- What do you do in different weathers?
- What sports do you do?
- How often do you do them?



Unit 5: Holidays

5.1.1 ¿Adónde fuiste de vacaciones el año pasado? - Where did you go on holidays last year?

Fui a	I went to
Fuimos a	We went to
Me alojé	I stayed
En la costa / En el campo / En la montaña	By the sea/in the countryside/in the mountains
En un hotel/apartamento	In a hotel/apartment
En un camping	On a campsite
En una caravana/roulotte	In a caravan
Cerca de	Near to
Lejos de	Far from

5.1.2 ¿Cómo fuiste? - How did you travel?

Viajé / viajamos	I travelled/we travelled
En avión	By plane
En coche	By car
En tren	By train
En barco/ferry	By boat
En bici(ciclo)	By bike

5.2 ¿Qué hiciste? - What did you do?

Nadé en el mar/en la piscina	I swam in the sea/pool
Nadamos / nadó	We swam / s/he swam
Visité los monumentos/los sitios turísticos	I visited the monuments/tourist sites
Visitamos / visitó	We visited / s/he visited
Tomé / tomamos / tomó el sol	I/we/s/he sunbathed
Tomé / tomamos / tomó muchas fotos	I/we/s/he took photos
Hice / hicimos / hizo submarinismo/buceo	I / we/s/he went scuba diving
Comí / comimos / comió	I/ we/s/he ate
Me relajé / nos relajamos / se relajó	I/ we/ s/he relaxed
Fui / fuimos / fue de compras	I/we/s/he went shopping
Compré / compramos / compró recuerdos	I/we/s/he bought souvenirs
Fui / fuimos / fue a un parque acuático	I/we/s/he went to a water park
Vi / vimos / vio sitios históricos	I/we/s/he saw the historic sites

5.3 ¿Cómo lo pasaste? - How was it?

Fue/era...	It was...
Una decepción	Disappointing
Lo pasé / pasamos genial/bombó/ fenomenal Lo pasé / pasamos fatal/muy mal/regular	I/we had a good time I/we had a terrible time

Unit 5: Holidays

5.4 Hableme de tus mejores/últimas vacaciones -

Tell me about your best/last holiday

Mis mejores/últimas vacaciones fueron...	My best/last holidays were...
Durante las vacaciones de verano	During the summer holidays
Durante las vacaciones de Navidad	During the Christmas holidays
El año pasado	Last year
El primer/segundo día	On the first/second day

5.5.1 ¿Qué haces normalmente en vacaciones? -

What do you normally do on holidays?

¿Dónde vas de vacaciones ?	Where do you go on holiday?
Normalmente	Normally
En general	In general
Voy / Vamos a	I / we go to
Viajo / viajamos	I / we travel
Me relajo / nos relajamos	I relax / we relax

5.5.2 ¿Qué tipo de vacaciones prefieres? -

What type of holidays do you prefer?

Prefiero/me encanta(n)/me gusta(n)	I prefer / I love/ I like
Las vacaciones activas	Active holidays
Las vacaciones relajadas	Relaxing holidays
Las vacaciones culturales	Cultural holidays
Quedarme en Inglaterra	To stay/staying in England
Explorar	To explore/exploring
El tiempo (el sol)	The weather (the sun)
La comida	The food

5.6.1 ¿Qué planes tienes para las próximas vacaciones -

What are your plans for the next holidays?

Este verano	This summer
Este año	This year
Voy/Vamos a + infinitive	I'm/We're going
Quiero + infinitive	I want
Me gustaría / quisiera (+infinitive)	I /We would like
Pasar una semana/ un fin de semana	To spend a week/weekend
Relajarme	To relax
Alojarme	To stay (accommodation)

5.6.2 ¿Cómo serían tus vacaciones ideales? -

What would your ideal holiday be?

Me gustaría/ quisiera	I would like
Ir a	To go (to)
Pasar un mes en	To spend a month (in)
(Este) es mi sueño	This is/it's my dream
Sería...	It would be...

Unit 6: Going Out And Staying In

6.1.2 ¿Qué te gusta hacer en tu tiempo libre? - What do you enjoy doing in your free time?

En mi tiempo libre	In my free time
Me apasiona (+ noun or infinitive) Me apasiona el esquí acuático / Me apasiona practicar el esquí	I have a passion for I am passionate about water ski / I am passionate about practising water ski
Desde hace... años	For ... years

6.2.1 ¿Qué planes tienes para el fin de semana? - ¿Qué vas a hacer este fin de semana? - What are you going to do at the weekend?

Este fin de semana	This weekend
Voy a (+ infinitive)	I'm going to (+ verb/activity)

6.2.2 ¿Quieres ir al cine el sábado por la tarde? - Do you want to go out Saturday afternoon?

¿Quieres + infinitive?	Do you want (to)...?
Salir conmigo	To go out with me
El sábado por la tarde/noche	Saturday afternoon/evening
¿A qué hora?	At what time?
A las ocho / a las ocho y media	At eight o'clock / at half past eight
Si, buena idea	Yes, good idea
De acuerdo, vale	OK
Quizá(s)	Maybe
No me apetece	I don't fancy it
Lo siento, no puedo	Sorry, I can't

6.3.1 ¿Qué prefieres ver en la tele? - What do you prefer watching on tv?

Prefiero / me gusta ver	I prefer to watch
Las noticias	The news
Los documentales	Documentaries
Las telenovelas	Soap operas
Los concursos	Game shows
Las series americanas	(American) series
Los realitys	TV reality programmes
Las emisiones deportivas	Sports programmes
¿Qué tipo de película te gusta ?	What genre of films do you like?
Las películas históricas	Historic films
Las películas de acción	Action films
Las películas de ciencia ficción	Science fiction films
Las películas de fantasía	Fantasy films
Las comedias	Comedies
Las películas de terror	Horror films
¿Te gusta... ?	Do you like...?
¿Cuál es tu programa de televisión favorito?	What is your favourite TV programme?
Son...	They are...

Unit 6: Going Out And Staying In

6.3.2 ¿Qué tipo de música prefieres? - What type of music do you prefer?	
Escucho / prefiero	I listen to/ I prefer
Me gusta / prefiero escuchar	I like listening to/ I prefer listening to
El rap / rock / heavy metal / reguetón	Rap / rock / metal / regeton
El pop / la música pop	Pop
La música electrónica / clásica	Electronic music / Classical music
MI cantante / artista / grupo favorito/a	My favourite singer / artist / band
La letra	The lyrics
La melodía	The tune

6.5 Vamos de fiesta - Let's party	
¿Qué vas a comprar ?	What are you going to buy?
¿Qué vas a llevar a la fiesta?	What are you going to bring to the party?
Voy / va / vamos a comprar	I'm going to buy
Voy / va / vamos a llevar	I'm going to wear
Bisutería, joyas	Jewellery
Un pantalón	Trousers
Unos vaqueros	Jeans
Un trole	A suit
Un vestido	A dress
Una falda	A skirt
Una chaqueta	A jacket
Una camisa	A shirt
Zapatillas de deporte / deportivas	Trainers
La comida	Food
Una tarta	A cake
Papas fritas	Crisps
Bocadillos	Sandwiches
Chocolate	Chocolate
Bebidas (gaseosas)	(fizzy) drinks

6.6 Role Plays	
¿(en qué) Puedo ayudarle?	Can I help you?
En la tienda	In the shop
¿Tiene... ?	Do you have...?
Un espejo	A mirror
Otra talla	Another size
¿Qué talla necesita?	Which size do you want?
Quisiera	I would like
Una talla más grande / pequeña	A bigger size/ smaller size
¿Dónde está(n)?	Where is.../where are...?
¿Cuánto es?	How much does that cost?
Son... euros	It costs...
En el restaurante	At the restaurant
¿Cuántas personas?	How many people?
Una mesa para dos/tres personas	A table for two/three people
La cuenta, por favor	Please
¿Tiene menú ?	Do you have a menu?
No tengo (tenedor, cuchillo, cuchara)	I don't have (a fork/knife)
Hay un problema	There is a problem



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