

# Buckler's Mead Academy

## Knowledge Organiser

### Year 7

### Autumn 2022

"In a time of turbulence and change, it is more true than ever that knowledge is power"

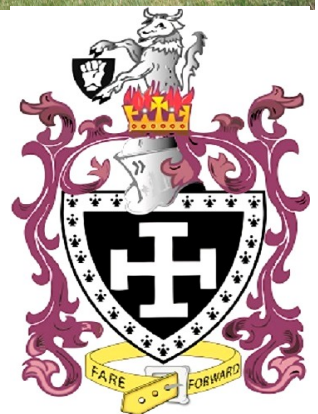
John F Kennedy

***Inspiring Education for All***

**Name:**

**Tutor:**

***Ready, Responsible, Respect***



## Homework Timetable

	Week A	Week B
Monday		
Tuesday		
Wednesday		
Thursday		

# Your Knowledge Organiser

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## How to Use Your Knowledge Organiser

### Self –Quizzing

Your Knowledge Organiser contains all of the key information you need to know for each subject area.

Your Knowledge Organiser will allow you to revise this key information and make sure it is stored in your long-term memory

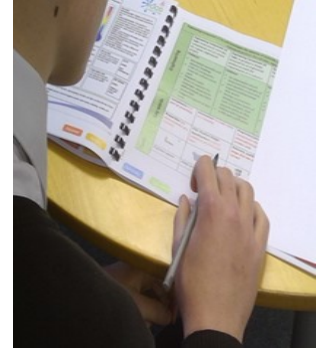
The best way to use this resource is by self-quizzing.

**“look, cover, write and check”**



## Look, Cover, Write, Check, Correct

**First**, look through and read the information on a section of your Knowledge Organiser



**Then**, cover the section so you can no longer see the information

**Next**, try and **write out** the key definitions or facts that you need to know



**Now**, uncover the section of your Knowledge Organiser and check how correct you were

**Finally**, correct anything that you wrote down that was incorrect in **purple**

# Knowledge Quiz

You teacher will quiz you on your knowledge organiser during the learning cycle .

Record your score from each quiz in the mark box.

Quiz 1					
Quiz 2					
Quiz 3					

Quiz 1					
Quiz 2					
Quiz 3					

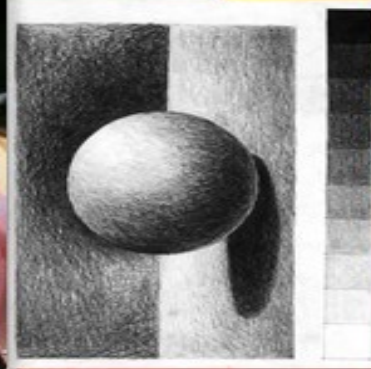
Quiz 1					
Quiz 2					
Quiz 3					

# Year 7

# Art - Term 1 - Formal Elements

These are the skills and knowledge you will need to support you in your studies.

LINE	the path left by a moving point, e.g. a pencil or a brush dipped in paint. It can take many forms, e.g. horizontal, diagonal or curved.
tone	means the lightness or darkness of something. This could be a shade or how dark or light a colour appears
TEXTURE	the surface quality of something, the way something feels or looks like it feels. There are two types - Actual and Visual
SHAPE	an area enclosed by a line. It could be just an outline or it could be shaded in.
PATTERN	a design that is created by repeating lines, shapes, tones or colours.
COLOUR	can be manmade, like a design on fabric, or natural, such as the markings on animal fur.  There are 2 types including Primary and Secondary. By mixing any two Primary together we get a Secondary



## Colourwheel

## Tone

### Colour Vocabulary

**Primary colours** are the 3 main colours. They cannot be made, but are used to make all other colours.

**Secondary colours** are made by mixing 2 primary colours.

**Tertiary colours** are made by mixing a primary and secondary colour together.

**Complementary colours** are opposite on the colour wheel.



**Harmonious colours** are next to each other on the colour wheel.

**Tint** - when you add white to a colour to make it lighter



**Shade** - when you add black to a colour to make it darker



### Art Technique Key Words

Media/Medium	The materials and tools used by an artist to create a piece of art
Technique	The way an artist uses tools and materials to create a piece of art
Composition	Where you place objects on the page
Highlight	The bright or reflective area on an object or piece of art
Shadow/shade	The darker areas within a piece of art or object
Proportion	The size relationship between different parts - eg height compared to width

# Art & Photography

Community

Opportunity

"Inspiring Education for All"

Enjoyment

Success

Ambition



## Computational Thinking

1) What is Computational Thinking? - Is a way of solving complex problems that are difficult to understand

- Creation of Algorithms to solve a problem.
- Breaking the problem down into small chunks that can be rebuilt later
- Looking for patterns in these smaller chunks. Have we solved anything before?
- Focus only on the important detail

### 2) Decomposition

#### Yeovil News:

Armed Robbery at Town jewellery store

To break down the problem (decompose it) the police would think about:

- what crime was committed
- when the crime was committed
- where the crime was committed
- what evidence there is
- if there were any witnesses
- if there have recently been any similar crimes

#### KEY WORDS:

**Abstraction** - Taking away unnecessary parts of a problem

**Decomposition** - Breaking down a problem into smaller chunks

**Pattern Recognition** - When two or more things have something in common

**Algorithms** - a process or set of rules to be followed in calculations or other problem-solving operations

### 3) Pattern Recognition

Finding patterns makes it easier to solve problems. A pattern occurs when two or more things have something in common.

#### Think:

Which of the following contains a pattern and why?

- Buckler's Mead is a school
- Buckler's Mead and Preston are schools

### 4) Abstraction

In computing, abstraction involves taking a complex problem and removing all of the specific detail to try and make the problem a little simpler to understand.

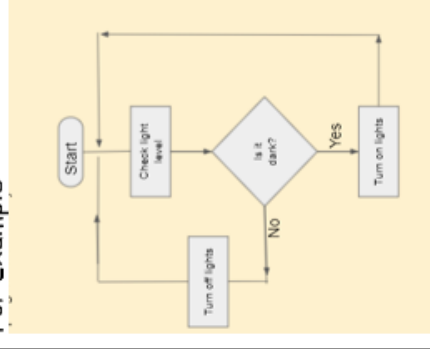
For example, when trying to describe a cat in general terms, you don't need to know exactly how big it is or what colour its fur is.



### 5) Flowcharts

Flowcharts help us to create an Algorithm in a pictorial way that should be easy to follow.

For Example



Symbols:

	Stop / Start
	Process
	Decision
	Flow of Information



# Cooking

## Why is food cooked?

Some foods can be eaten raw and form an important part of the diet. However, many foods need to be prepared and cooked before they are eaten to:

- make the food safe to eat by destroying pathogenic micro-organisms and toxins;
- destroy micro-organisms and enzymes that cause food to deteriorate and therefore increase the keeping quality of the food;
- make the food more digestible and easier to absorb.

## Food skills

There are a number of food skills which enable a variety of increasingly complex dishes to be prepared and made.

These can include:

- beating, combining, creaming, mixing, stirring and whisking;
- blitzing, pureeing and blending;
- kneading, folding, forming and shaping;
- knife skills;
- rubbing-in and rolling-out;
- use of the cooker: boiling/simmering/poaching, frying, grilling, roasting and baking;

## Safety

- Sharp knives: never walk around with a knife. Use the *bridge hold* and *claw grip* to cut safely.
- Grater: hold grater firmly on a chopping board. Grate food in one direction and leave a small amount at the end to prevent injury to knuckles.
- Hot liquid: drain hot liquid carefully over the sink using a colander.
- Saucepans: turn panhandles in from the edge, so they are not knocked.
- Hot equipment: always use oven gloves when placing food in and out of the oven.
- Spills: wipe up immediately.
- Electrical equipment: always follow instructions.

## Food skills are acquired, developed and secured over time.

### Bridge hold



### Claw grip



Food skill	Food skill	Food skill
Bake	Mash	Peel
Beat	Measure	Portion / divide
Blitz, puree and blend	Melt, simmer and boil	Probe
Casserole	Cut out	Roast
Chill	Cut, chop, slice, dice and trim	Roll-out
Core	Decorate and garnish	Rub-in
Cream	Drain	Sift
Crush	Fold	Snip
Grate	Form and shape	Spread
Grill	Fry and sauté	Stir-fry
Juice	Glaze and coat	Weigh
Knead	Microwave	Whisk
Grate	Form and shape	Spread
Layer	Mix, stir and	Zest

## Heat exchange/transfer

Cooking requires heat energy to be transferred from the heat source, e.g. the cooker hob, to the food. This is called heat transfer or heat exchange. There are three ways that heat is transferred to the food.

They are:

- conduction – direct contact with food on a surface, e.g. stir-frying;
- convection – currents of hot air or hot liquid transfer the heat energy to the food, e.g. baking;
- radiation – energy in the form of rays, e.g. grilling.

Many methods of cooking use a combination of these. The amount of heat and cooking time will vary according to the type of food being cooked and the method being used.

## Cooking methods

These are based on the cooking medium used:

- moist/water based methods of cooking, e.g. boiling, steaming, stewing, braising;
- dry methods of cooking, e.g. grilling, baking, roasting, toasting, BBQ;
- fat-based methods of cooking – stir, shallow and deep fat frying.

## Vegetable cuts



batons – 5-6.5cm long x 1 cm square

dice – 1cm square



Julienned/match stick – 5-6.5cm long x 3 mm square

fine julienne – 5-6.5cm long x 1.5mm square

## Key terms

**Conduction:** The exchange of heat by direct contact with foods on a surface e.g. stir-frying or plate freezing.

**Convection:** The exchange of heat by the application of a gas or liquid current e.g. boiling potatoes or blast chilling.

**Heat transfer:** Transference of heat energy between objects.

**Radiation:** Radiation is energy in the form of rays e.g. grilling.

## Cooking for health

Take into account healthy eating recommendations to ensure that dishes/meals are part of a varied, balanced diet.

- Planning – does the meal meet the nutritional needs and preferences of those it is being cooked for? Base your meals on starchy food.
- Choosing – choose low fat/sugar/salt versions, where possible.
- Preparing – limit the amount of fat added (try a spray oil) and replace salt with other flavourings, such as herbs and spices.
- Cooking – use cooking practices which reduce the amount of fat needed and minimise vitamin losses from fruit and vegetables.
- Serving – serve the meal in proportions which reflect current healthy eating advice. Do not forget to include a drink.

## Healthier cooking methods

- Grill or BBQ foods rather than fry to allow fat to drain away.
- Drain or skim fat from liquids, e.g. sauces, stews and casseroles.
- Dry fry using non-stick pans, so no need for oil.
- Oven bake rather than fry.
- Steam or microwave vegetables.

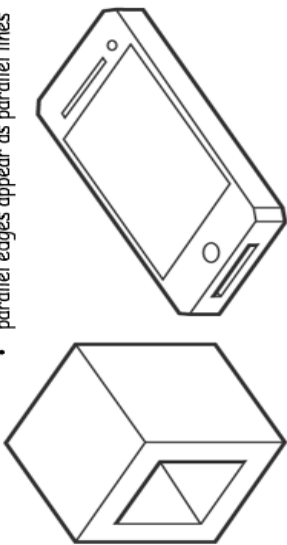
# DT - Food & Nutrition

# Design & Technology

## Isometric Drawing

There are 3 main rules to isometric drawing:

- horizontal edges are drawn at 30 degrees
- vertical edges are drawn as vertical lines
- parallel edges appear as parallel lines



Isometric drawings, sometimes called isometric projections, are a good way of showing measurements and how components fit together. Unlike perspective drawings, they don't get smaller as the lines go into the distance. Isometric drawings are used to show a graphical representation of a 3D object. They are used by architects and engineers to communicate their ideas to the client and manufacturer, showing the product or design to scale.

## Success criteria for a good drawing

sharpen pencil regularly

**Must have!**

**FIVE tones**

Shade in direction of the object

No Smudging

**CONTRASTS! in tone**

**Different mark-making**

light source

highlight

midtones

**Must have...**

White

Light Grey

Middle Grey

Dark Grey

Black

shadow

reflection

cast shadow

Must have...

White

Light Grey

Middle Grey

Dark Grey

Black

light source

highlight

midtones

**Must have...**

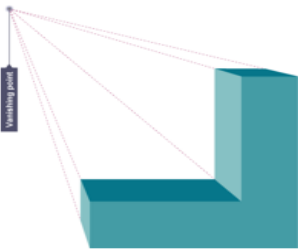
White

Light Grey

Middle Grey

Dark Grey

Black



## One Point Perspective

This shows an object from the front in a realistic way as it gets smaller going into the distance. The front view goes back towards a vanishing point, which is a point on the horizon line where all lines meet.

## Specification

A detailed description of the design and materials used to make something.

## Prototype

An early sample, model, or release of a product built to test a concept or process.

Key word/s	Definition
Anthropometric	The study of the human body and its movement, often involving research into measurements relating to people. It also involves collecting statistics or measurements relevant to the human body, called Anthropometric Data. The data is usually displayed as a table of results, diagram or graph. Anthropometric data is used by designers to make items easier to use.
Aesthetics	What does it look like - colour/texture/ shape?
Ergonomics	Ergonomics involves the study of people and their relationship with the environment around them. It often involves research into the way people interact with products and the environment. Ergonomic products will be designed with the application of anthropometric data to improve their human use.
Function	What is the purpose of the product? What does it do? How does it do this?
Primary Research	Data that is gathered first-hand directly from the client such as a questionnaire.
Secondary Research	Data which has come from second-hand sources such as the results of a survey carried out by someone else or data found on the internet.
Client	Also known as the user; the person or group of people who will buy and/or use the design solution.
Design Fixation	When a designer focuses too much on one particular design idea and doesn't consider alternatives.
Iterative design	A design strategy that follows a make-test-evaluate approach in a repetitive cycle until the perfect final outcome is produced.
User-Centred Design	A design strategy that considers the needs and wants of the user at each stage of the design process.
Collaborative Design	When a diverse team of specialists work closely together to create an innovative product.

Community

Opportunity

"Inspiring Education for All"

Enjoyment

Success

Ambition

# Drama

KEY WORDS OR PHRASES:	
<b>Mime:</b>	Action without words
<b>Physical Theatre:</b>	Theatre which emphasizes the use of physical movement for expression.
<b>Suspension of disbelief:</b>	Logically you understand that the drama is not real but you override this reaction and believe in it anyway.
<b>Empathy:</b>	The ability to understand and share the feelings of another.
<b>Character:</b>	Playing someone different from yourself. A person in a novel, play or film.
<b>Character Motivation:</b>	The reason behind a character's behaviours and actions.
<b>Stereotype:</b>	A widely held but fixed and oversimplified image or idea of a particular type of person or thing.
<b>Cliché:</b>	Overused and unoriginal.
<b>Spontaneous Improvisation:</b>	completely unplanned
<b>Polished Improvisation:</b>	Refinement through rehearsal, of characters, scenarios, and dialogue without a script.
<b>Genre:</b>	A style or category of drama.
<b>Proscenium Stage:</b>	Where curtains are used to separate the stage and the audience.
<b>Blocking:</b>	Where an actor stands in front of another actor and blocks the audiences view. It also means when the Director organises the precise movement of actors on a stage.



<b>Report:</b>	A close and harmonious relationship in which the people or groups concerned understand each other's feelings or ideas and communicate well with each other. It is when the performers 'connect and communicate' with an audience and the audience are interested in and engaged with the performance
<b>Script:</b>	The written text of a play, film, or broadcast
<b>Stage Direction:</b>	An INSTRUCTION in italics and often found in brackets.
<b>Monologue:</b>	A long speech by one actor in a play or film
<b>Duologue:</b>	speaking roles for only two actors
<b>Narration.</b>	Explaining the action in a play
<b>Teacher in role:</b>	Teacher playing a character.
<b>Writing in role:</b>	Writing as a character.
<b>Hot seating:</b>	A character or characters, played by the teacher or a student, interviewed by the rest of the group.
<b>Role on the wall:</b>	The outline of a body is drawn. Words or phrases describing the CHARACTER are then written directly onto the drawing or stuck on with post-its.

Movement Skills: PAWSBF	
<b>Posture:</b>	How a character may stand or sit e.g. crouched; straight backed
<b>Angle:</b>	The position of characters' on stage in relation to the audience E.g. Side on
<b>Walk:</b>	This movement includes tip-toe; shuffling; or being Flat-footed
<b>Speed:</b>	How slow or fast a character moves
<b>Body gestures:</b>	A single movement made by part of the body E.g. a Wave
<b>Facial gestures:</b>	A single movement made by part of the face E.g. a Smile

Vocal Skills: TTVPAS	
<b>Tone:</b>	Overall quality, strength and pitch of a voice e.g. angry or frightened tone of voice
<b>Tempo:</b>	The rhythm of your speech e.g. slow with pauses
<b>Volume:</b>	How loudly or quietly we say something for effect
<b>Pitch:</b>	Higher and lower notes
<b>Accent:</b>	The sound of voice according to region e.g. Cockney accent
<b>Stress:</b>	The particular weight and emphasis we give to individual words or phrases

## ASSESSMENT STRANDS:

**GROUP WORK:** Your ability to respond, collaborate, develop, and refine work.

**KNOWLEDGE AND UNDERSTANDING:**  
Use of drama techniques and theatre vocabulary.

**PERFORMANCE SKILL:** your ability to apply a range of theatrical skills when performing both script and devised drama.



Key Terminology & Definitions		
Aetiological	A type of myth that gives a reason or cause for an event.	AG. <i>aitia</i> 'a cause' + <i>-logy</i> 'the study of'
brooded	Thought for a long time about things that make you sad, angry or worried.	OE. meaning 'to sit on eggs with the purpose of hatching them'. The figurative use comes from 'nursing' your anger, the way a mother hen 'nurses' her young until they hatch.
ethereal	Light and delicate, especially in an unnatural way.	AG. <i>aithēr</i> 'ether' meaning 'upper air' + <i>-al</i> 'relating to'
historical	A type of myth that recalls and recounts an event in history to make sure it is remembered.	AG. <i>historikos</i> 'narrative'
immortal	Living or lasting forever.	L. <i>im-</i> 'not', <i>mort-</i> 'death'
mortal	Unable to continue living forever.	L. <i>mort-</i> 'death'
prophecy	A statement that says what is going to happen in the future.	AG. <i>prophēteia</i> . <i>Pro</i> 'before', <i>phētēs</i> 'speaker'
psychological	A type of myth that explains, or tries to influence, people's behaviour.	AG. <i>psukhē</i> 'breath, soul, mind', <i>-logy</i> 'the study of'
quest	A long search for something that is difficult to find.	L. <i>quaerere</i> 'to ask/seek'
relic	An object or tradition from the past that continues to exist.	L. <i>reliquiae</i> 'remains'
sacred	Considered to be holy and deserving respect, especially because of a connection with God.	L. <i>Sacr-</i> 'holy'
warrior	A soldier, usually one who has both experience and skill in fighting.	F. <i>guerrier</i> 'to make war'

SPaG	
Apostrophe for possession	An apostrophe is used before the S to show the possession of one person, 'Thor's hammer' An apostrophe is used after the S to show an object belonging to more than one person, 'Asgard is the gods' home'
Apostrophe for omission	An apostrophe is used to replace a missing letter when two words are pushed together to form a contraction. Examples: Do not = don't Have not = haven't Could have = could've

Roots and Stems
Hydr- meaning 'water,' Greek root. -ology meaning 'the study of,' Greek root. Mort- meaning 'death', Latin root.
Spellings
Abandoned, distressed, wretched, obeyed, wondered, incensed, deceived, rejected, embittered, diabolical, quest, challenge

# English




# Geography

Key Terms	
<b>Island</b>	Piece of land surrounded by water
<b>Inhabited</b>	A group of people with a strong sense of identity
<b>Nation</b>	A group of people with a strong sense of identity
<b>Region</b>	A large area, often part of a country e.g. the south west of England
<b>County</b>	Historical administrative area such as Somerset
<b>Economy</b>	Money
<b>Manufacturing</b>	
<b>Continent</b>	a large landmass, for example Europe or Asia
<b>European Union</b>	a group of European countries whose governments work together
<b>Trade</b>	buying and selling goods
<b>Imports</b>	goods and services that enter a country
<b>Exports</b>	goods and services that leave a country
<b>Local Environment</b>	a small area such as a housing estate or park
<b>Mental Map</b>	a personal memory map of an area
<b>Sketch Map</b>	a map of an area that has not been drawn to scale
<b>Redevelop</b>	improve a run-down area, usually in a town or city
<b>Re-wilding</b>	restoring and protecting natural processes and ecosystems/ habitats
<b>Urban</b>	in towns or cities
<b>Rural</b>	countryside
<b>Rain garden,</b>	an area of grassland, flowers and trees that stores and uses up water to reduce the risk of flooding
<b>Guerrilla Gardening</b>	converting a derelict or abandoned area into a garden, often without legal permission to do so
<b>Ordnance Survey (OS)</b>	maps – very detailed maps of Great Britain available at different scales
<b>Island</b>	Piece of land surrounded by water

## Year 7 Topic 1 Introduction of the UK

### 1.1 Our Island Home


- ✓ The British Isles is a group of islands, the largest of which are Great Britain and Ireland, separated from the rest of Europe by sea.
- ✓ The UK is made up of four nations: England, Scotland, Wales and Northern Ireland. Each nation is further divided into regions and counties.



- ✓ The UK has a huge variety of landscapes, traditions and cultures, which make it very popular with visitors from around the world.

### 1.2 The UK in Europe

- ✓ The UK is part of Europe.
- ✓ Many of the countries in Europe belong to the European Union. These countries have close economic, scientific and cultural links with one another.
- ✓ The UK trades with a whole range of countries both within the Europe and outside.
- ✓ Having links with Europe, the UK has many benefits such as tourism and trade
- ✓ Following a referendum in 2016, the UK voted to leave the European Union in 2019.



### 1.3 Exploring the local environment

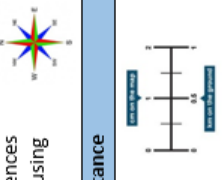
- ✓ Local environments can be redeveloped to make them more attractive places to live.
- ✓ If there is an old factory like the Old Glove Factory in Yeovil it can be redeveloped to make it useful and better for the environment
- ✓ The environment is currently at risk at being destroyed through new housing, laying patios in gardens instead of grass, new roads etc.
- ✓ Adding rain gardens to land will help improve the local environment as there will be somewhere for water to soak into and provides a habitat for animals and insects such as bees that are essential for life.
- ✓ Helps reduce flooding in areas as rain gardens absorb the water.

### Learning about the UK using OS maps

- ✓ Four and Six Figure Grid References
- ✓ Measuring distance on a map using the scale line

### Measuring Distance: Scale and distance

- ✓ Example of a scale bar with one two cms for every one km.
- ✓ Most maps have a scale. These help us to work out distances on maps. This is given by the scale statement (eg 1:25,000) and/or by showing a scale bar.
- ✓ The scale shows how much bigger the real world is than the map.

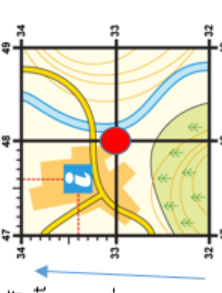


### Grid References: Things to remember:

#### Four Figure Grid References

When you give a grid reference, always give the easting first: "Along the corridor and up the stairs".

1. Start at the left-hand side of the map and go east until you get to the bottom-left-hand corner of the square you want (red circle). Write this number down.
2. Move north until you get to the bottom-left corner of the square you want.
3. Look at the number of this grid line and add it to the two-digit number you already have. This is your four-figure grid reference. In this case, the four figure grid reference is 48,33.



Sometimes it is necessary to be even more accurate. In this case you can imagine that each grid is divided into 100 tiny squares. The distance between one grid line and the next is divided into tenths.

#### Six Figure Grid References

Give the six figure grid reference for the Information Centre

1. First, find the four-figure grid reference but leave a space after the first two digits.
2. Estimate or measure how many tenths across the grid square your symbol lies. Write this number after the first two digits.
3. Next, estimate how many tenths up the grid square your symbol lies. Write this number after the last two digits.
4. You now have a six figure grid reference. In this instance, the tourist information office is located at 476334.

# Geography

Key Terms	
Atmosphere	the layer of air around Earth
Weather	the day-to-day condition of the atmosphere (eg temperature, wind, rainfall)
Climate	the average weather conditions over a long period of time usually 30 years
Precipitation	water falling from the atmosphere to Earth's surface (eg rain, snow)
Air mass	a large body of air that travels from one area to another
Prevailing wind	the most common wind direction
Ocean current	a flow of warm or cold water in the ocean
Reservoir	a large lake where water is stored
Water cycle	the cycle of water between the oceans, atmosphere and land
Surface runoff	water flowing over the ground (eg rivers)
Evaporation	water changing from a liquid to a gas (water vapour)
Groundwater	water held underground in soil or in rock
Transpiration	water released from plant leaves into the atmosphere
Condensation	water changing from a gas to a liquid (water droplets)
Relief rainfall	warm moist air forced to rise over mountains, cools and condenses to form cloud and rain
Microclimate	weather and climate conditions in a small area such as a city or forest
Smog	a combination of smoke (pollution) and fog
Pollution	harmful substances entering the environment
Urban heat island	concentration of high temperatures recorded in a city
Isotherm	a line on a map joining points with the same temperature
Isoline	a line on a map joining points of equal value
Isohyet	a type of isoline joining points having the same amount of rainfall
Dredge	to clear the bottom of an area of water by scooping out mud, rocks and rubbish



## 3.1 Recording the Weather

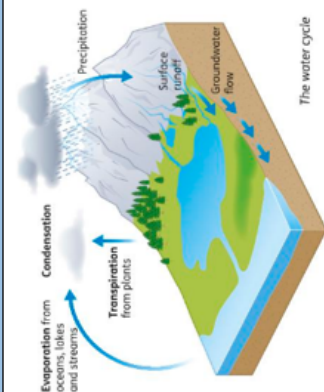
- ✓ The UK sometimes experiences unusual or extreme weather events.
- ✓ Weather conditions can be recorded by measuring temperature, precipitation, wind direction, wind speed and cloud cover.

Element	Instrument
Temperature	Thermometer
Precipitation	Rain gauge
Wind direction	Wind vane
Wind speed	Anemometer
Cloud cover	Satellite

- ✓ The weather is important to many groups of people for different reasons, for example farmers, sportspeople, shop and cafe owners or tourists.
- ✓ Scientists use powerful computer models to help forecast the likely weather conditions in the next few days and weeks.

## 3.3 Rain

- ✓ The water cycle describes how water is constantly being recycled between the atmosphere, the land and the oceans. Rain (precipitation) is an important part of the water cycle, transferring water from the atmosphere to the ground.
- ✓ Rain is formed when air-cools and condenses, turning water vapour into water droplets (which turn into clouds). As these droplets become larger and heavier, they fall to the ground as rain.
- ✓ Short periods of very heavy rainfall can sometimes cause widespread and devastating flooding in the UK.



The water cycle

## Year 7 Topic 2 Weather and Climate in the UK

### 3.2 Why is our weather so changeable?

- ✓ In March 2018 a blast of bitterly cold weather swept across the UK and Europe from Siberia, causing severe disruption and many deaths. It became known as 'The Beast from the East'.
- ✓ Weather in the UK is very changeable, due mainly to the effect of several air masses that come from different directions.
- ✓ Most of the time in the UK, a prevailing wind blows from the south-west across the Atlantic Ocean, bringing mild, cloudy and wet conditions.
- ✓ North Atlantic Drift is a warm ocean current that transfers warm water across the Atlantic from the Caribbean and brings warmer weather and rain to the UK, especially the south-west coast.



### 3.4 Urban microclimates

- ✓ Urban microclimates are characterised by higher temperatures, windy conditions, higher night-time temperatures, and a higher chance of storms, fog and smog.
- ✓ Urban microclimates are caused by the heat from buildings, roads, vehicles and industry, and by higher temperatures, pollutants and a lack of vegetation.
- ✓ An urban heat island is a concentration of higher temperatures in a city.

### 3.5 Extreme weather in the UK

- ✓ Recent examples of extreme record-breaking weather in the UK include the hot, dry summer of 2018 and the heavy rainfall in December 2015.
- ✓ The village of Glenridding, in the Lake District, suffered devastating floods when heavy rain caused the local river to burst its banks, damaging houses, shops, roads and bridges.







# THE ROMANS



## KNOWLEDGE ORGANISER

Diagram - Map of the Roman Empire

### Map of the Roman Empire (117AD)

This map shows the Roman Empire at its largest, during the rule of Trajan in 117AD. Much of what is now Europe and North Africa was dominated by the empire, as was virtually all of the Mediterranean coastline. However, with the increasing size, the Romans' ability to run the empire effectively was decreased, meaning that there was a gradual loss of territory from this point onwards, particularly in the 3rd Century.



### Roman Leaders and Emperors

#### Julius Caesar (100BC-48BC)

Julius Caesar was best known for being the first dictator of Rome - putting to an end the Roman Republic. A powerful army general, Caesar gathered enormous support amongst Romans. In opposition to the rules of the Senate, he marched his army to Rome and took control. As leader, he built many famous buildings and changed the calendar to the type we use today. He was eventually murdered by members of the Senate.



#### Augustus (63BC-14AD)

Augustus is best known for being the first Emperor of Rome and for establishing the Roman Empire. Formerly known as Octavian, Augustus gained his title when he became the ruler. After many years of civil war, he brought peace to the land, and began to rebuild the empire, including roads and buildings. He also expanded the empire around the Mediterranean, and brought peace and prosperity to Rome.



#### Marcus Aurelius (121AD-180AD)

Marcus Aurelius was considered the last of Rome's 'Five Good Emperors'. He was well-liked - the word 'Aurelius' itself means golden. He skillfully guided the Roman Empire through wars on several fronts, whilst also receiving loyalty from those in positions of power around him. Aurelius made sure that his son (Commodus) succeeded him after his death - a bad choice as Commodus proved to be self-centred and inexperienced.



#### Hadrian (76AD-138AD)

Hadrian was the Roman Emperor who is now best-known for building Hadrian's Wall, which marked the northern limit of Roman territory in Britain. He also built the Pantheon in Rome, amongst many other famous buildings. Hadrian was a kind Emperor who was considered the third of the 'Five Good Emperors'. Throughout his reign, he travelled to almost every province.

#### Claudius (10BC-54AD)

Claudius was the fourth Roman Emperor. He had some kind of disability, in both speech and walking, which meant he was kept from power until he was the last remaining male in the family, aged 38. Claudius, however, proved himself to be a good leader, expanding the Empire and doing a great deal for the public. Unfortunately his adopted son, Nero, later undid much of his good work.



### Roman Timeline

753 BC - The city of Rome is founded.  
509 BC - Rome becomes a republic. Rome is run by elected senators.  
73 BC - Spartacus the gladiator leads the slaves in an uprising.  
45 BC - Julius Caesar becomes the first dictator of Rome, signalling the end of the Roman republic.  
27 BC - The Roman Empire begins, with Augustus as the first Roman emperor.  
80 AD - The Colosseum is built.  
121 AD - Hadrian's Wall is built.  
306 AD - Constantine converts to Christianity, making Rome a Christian Empire.  
476 AD - Romulus is overthrown and the Roman Empire is no more.

### Important Places and Daily Life in the Roman Empire

<b>The Colosseum</b>		The Colosseum was built between around 80 AD by the Emperor Vespasian. It could seat about 50,000 spectators who came to watch events including gladiatorial combats, wild animal hunts and sporting games.	<b>Where?</b> Rome, Italy	<b>Key Fact:</b> The Colosseum is 189m long and 156m wide!
<b>The Pantheon</b>		The Pantheon was originally built as a temple to the gods of Ancient Rome, however was rebuilt in its current form in 126AD. It is the best preserved of the Roman buildings in Rome. Since it was built, it has always been used.	<b>Where?</b> Rome, Italy	<b>Key Fact:</b> Pantheon translates as 'temple of all gods.'
<b>Hadrian's Wall</b>		Hadrian's Wall, begun in 122AD, was a fortification designed to stop tribes in Scotland attacking England (part of the Roman Empire). It took over ten years to build. It was the most heavily fortified wall in the Empire.	<b>Where?</b> 73 miles along northern England	<b>Key Fact:</b> Lots of the wall still exists, and can be followed by path.
<b>Diocletian's Palace</b>		Diocletian's Palace was built as a retirement residence for the Roman Emperor Diocletian around 305AD. He lived in the palace until his death in 316AD. Although called a palace, it was also space for a whole army garrison!	<b>Where?</b> Split, Croatia	<b>Key Fact:</b> It is so huge that it makes up about half of the old town of Split!
<b>Aqueduct of Segovia</b>		The Aqueduct of Segovia is a well-maintained Aqueduct in Spain. It is predicted to have been built around 12AD. It once transported water from the Rio Frio river to Segovia.	<b>Where?</b> Segovia, Spain	<b>Key Fact:</b> At its tallest, the aqueduct reaches a height of 28.5m!
<b>Family Life</b>		Family was an important part of Roman life - laws were written to protect the family structure. The family that you belonged to had a lot to do with your place in Roman society.	<b>How?</b> Slaves and servants were counted as a part of the 'familia.'	<b>Key Fact:</b> The 'familia' of Roman Emperors could extend into billions!
<b>Slaves and Peasants</b>		Slaves performed much of the hard work and construction in the Roman Empire. Most slaves were people captured in times of war, but some children were born as slaves.	<b>How?</b> Most slaves worked in building or on farms.	<b>Key Fact:</b> Some people sold themselves into slavery to pay debts!
<b>Life in the City</b>		In Ancient Rome, the city was the hub of life. It was the place where goods could be traded, people could be entertained, and important decisions took place.	<b>How?</b> The Romans used city grids to plan their new cities.	<b>Key Fact:</b> Although Rome was the biggest, there were many other cities across the Empire.
<b>Life in the Country</b>		Most of the Roman population lived in the countryside - many were farmers. Life was hard, with most people working from dawn right up until dusk.	<b>How?</b> Oxen and donkeys in the country to be like Rome	<b>Key Fact:</b> The city of Rome had to import 5 million sacks of grain a year!
<b>School</b>		Roman children started school at the age of seven. Wealthy children could be taught by a tutor, whilst others went to public school. Poor children could not go to school.	<b>How?</b> Children learnt reading, writing and maths.	<b>Key Fact:</b> Many girls were not allowed to school.
<b>Food</b>		A wide variety of foods were available, depending upon a person's wealth and where they lived. The Romans ate 3 meals a day, with the largest meal eaten in the afternoon.	<b>How?</b> Foods were imported all around the Empire.	<b>Key Fact:</b> The poor largely ate a porridge called 'puls.'
<b>Clothes</b>		Most men and women wore tunics, with a belt. However the women's tunic was normally slightly longer. Women wore white until they were married. Most Romans wore sandals (made of leather) on their feet.	<b>How?</b> Most clothes were made from wool.	<b>Key Fact:</b> The rich could afford linen and silk clothes.

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# Maths

## Mathematics – Year 7

In Maths you will receive a separate knowledge organiser.

Your knowledge organiser will help you to:

- Know** which **MET\*** skills you should be learning
- Track** when you have learnt, revisited and revised a skill
- Identify** any gaps where you have missed lessons
- Guide** your revision when it comes to assessments

\*The **MET (Mathematics Expertise Tower)** shows you all the skills you will master during your lessons and how each skill builds upon the last.

It is arranged into **4 topic areas**:

Number & Ratio	Algebra & Graphs	Geometry & Measure	Probability & Statistics
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You can see the full **MET** in the Maths Corridor!

**Maths Equipment you must have every lesson:**

Pen, pencil, rubber, ruler, protractor, compasses, scientific calculator



## USEFUL WEBSITES:

My Login:

Password:



My Login:

Password:



[www.bbc.co.uk/bitesize](http://www.bbc.co.uk/bitesize)    [www.khanacademy.org](http://www.khanacademy.org)  
<https://corbettmaths.com>

Year 7				Term 1		Term 2		Term 3		Term 4		Term 5		Term 6	
				September	October	November	December	January	February	March	April	May	June	July	
				Induction (KS2 Recap)	Induction Test (2)	Sequences & Functions	Angles	Unit 1 Test	Percentages	Units, Area and Volume	Unit 2 Test	End of Year Test (2)	Presenting and Interpreting Data	Unit 4 Test	Probability
										Numeracy	Unit 3 Test				Unit 5 Test

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## About me

Bonjour!	Hello!
Salut!	Hi! Bye!
Au revoir!	Goodbye!
Comment t'appelles-tu?	What's your name?
Je m'appelle ...	I'm called ...
Où habites-tu?	Where do you live?
J'habite en/au ...	I live in ...
l'Allemagne	Germany
l'Angleterre	England
la Belgique	Belgium
l'Écosse	Scotland
l'Espagne	Spain
la France	France
l'Italie	Italy
l'Irlande	Ireland
le pays de Galles	Wales
le Portugal	Portugal
la Suisse	Switzerland
Quelle langue parles-tu?	What language do you speak?
je parle	I speak
on parle	we/they speak
Anglais/allemand/français/ gallois	English/German/French/ Welsh
Je suis ...	I am ...
Allemand(e)/anglais(e)/ Écossais(e)/espagnol(e)/ Français(e)/gallois(e)/ irlandais(e)/belge	German/English/Scottish/ Spanish/French/Welsh Irish/Belgian
D'origine (tunisienne/ Sénégalaise).	of (Tunisian/Senegalese) origin

## Dates and birthdays

janvier	January	juillet	July
février	February	août	August
mars	March	septembre	September
avril	April	octobre	October
mai	May	novembre	November
juin	June	décembre	December

## 1-31

un	1	deux	2
trois	3	quatre	4
cinq	5	six	6
sept	7	huit	8
neuf	9	dix	10
onze	11	douze	12
treize	13	quatorze	14
quinze	15	seize	16
dix-sept	17	dix-huit	18

dix-neuf	19	vingt	20
vingt et un	21	vingt-deux	22
vingt-trois	23	vingt-quatre	24
vingt-cinq	25	vingt-six	26
vingt-sept	27	vingt-huit	28
vingt-neuf	29	trente	30
trente et un	31		
C'est quel jour aujourd'hui?	What is the date today?		
Quelle est la date de ton anniversaire?	What is the date of your birthday?		
C'est le premier/deux.	It's the first/second of January.		
Quel âge as-tu?	How old are you?		
J'ai (onze) ans.	I am (11) years old.		

## PHONICS

Ça (s)  
français  
tu/vous (u/oo)  
Suis/huit (we)  
j'ai/ez/er/ais (ay)  
trois/soir (wah)  
neuf (eu)  
deux/neuf (uh)  
cinq (a)  
Sept (set)  
Silent letters end of words- s/x

## GRAMMAR

Masculine, feminine and plural  
Le/la/l'/les- definite articles  
Un/une/des- indefinite articles  
Masculine, feminine and plural  
Different ways of saying you  
Imperative- (commands)  
Cognate- (words that look and mean the same as English)

# MFL - French

## Von 1 bis 31

## From one to 31

eins	one
zwei	two
drei	three
vier	four
fünf	five
sechs	six
sieben	seven
acht	eight
neun	nine
zehn	ten
elf	eleven
zwölf	twelve
dreizehn	thirteen
vierzehn	fourteen
fünfzehn	fifteen
sechzehn	sixteen
siebzehn	seventeen
achtzehn	eighteen
neunzehn	nineteen
zwanzig	twenty
einundzwanzig	twenty-one
zweiundzwanzig	twenty-two
dreiundzwanzig	twenty-three
vierundzwanzig	twenty-four
fünfundzwanzig	twenty-five
sechszwanzig	twenty-six
siebenundzwanzig	twenty-seven
achtundzwanzig	twenty-eight
neunundzwanzig	twenty-nine
dreißig	thirty
einunddreißig	thirty-one

## Wie alt bist du?

## How old are you?

Ich bin ... Jahre alt.	I am ... years old.
Ich habe am ... Geburtstag.	My birthday is on the ...
Ich habe im ... Geburtstag.	My birthday is in ...
Wann hast du Geburtstag?	When is your birthday?
am ersten/zweiten/dritten/ vierten	on the first/second/third/ fourth
am zwanzigsten	on the twentieth

## PHONICS

Jahre- y	v-f
Wann/zwanzig-v	z-ts
ß- ss	umlauts on vowels
ei-i ie-e	au-ow

## GRAMMAR

Genders- der, die, das (definite article)  
 Ein/eine/ein (indefinite article)  
 Recognise imperative commands/pronouns  
 Different words for you (du/ihr/Sie)  
 Imperative (command) words  
 ten/sten for dates

## der Monat

## month

Januar	January
Februar	February
März	March
April	April
Mai	May
Juni	June
Juli	July
August	August
September	September
Oktober	October
November	November
Dezember	December

## Wie geht's?

## How are you?

Mir geht's gut.	I feel good, I'm well.
fantastisch	fantastic
sehr gut	very good
nicht gut	not good
schlecht	bad

## Hallo

## Hello

Guten Tag	Hello/Good day
Guten Morgen	Good morning
Guten Abend	Good evening
Auf Wiedersehen	Goodbye
Tschüs	Bye

## Wie heißt du?

## What's your name?

Ich heiße ...	My name is .../I am called
Wie schreibt man das?	How do you spell that?
Das schreibt man ...	That is spelled ...

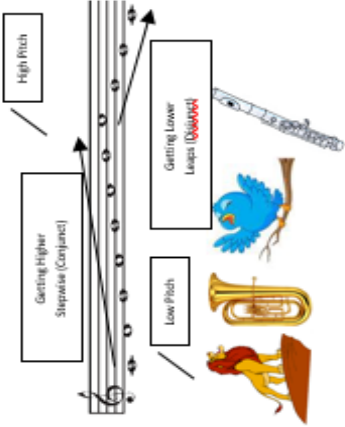



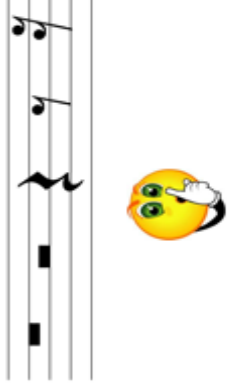
## Länder

## Countries

Ich komme aus ...	I come from ... (+ country)
Ich wohne in ...	I live in ... (+ country)
Deutschland	Germany
die Schweiz	Switzerland
die Türkei	Turkey
Frankreich	France
Italien	Italy
Österreich	Austria
Polen	Poland
Spanien	Spain

# MFL—German

# Music

Building Bricks		Exploring the Elements of Music	
<p><b>A. Pitch</b></p> <p>The <b>highness or lowness</b> of a sound.</p>  <p>Getting Higher Stepwise (Conjunct)</p> <p>High Pitch</p> <p>Getting Lower Leap (Disjunct)</p> <p>Low Pitch</p>	<p><b>B. Tempo</b></p> <p>The <b>speed</b> of a sound or piece of music.</p> <p><b>FAST:</b> <i>Allegro, Vivace, P.</i></p> <p><b>SLOW:</b> <i>Andante, Adagio, Lento</i></p> <p><b>GETTING FASTER –</b> <i>Accelerando (accel.)</i></p> <p><b>GETTING SLOWER –</b> <i>Ritardando (rit.) or Rallentando (rall.)</i></p> 	<p><b>C. Dynamics</b></p> <p>The <b>volume</b> of a sound or piece of music.</p> <p><b>VERY LOUD:</b> <i>Fortissimo (ff)</i></p> <p><b>LOUD:</b> <i>Forte (f)</i></p> <p><b>QUITE LOUD:</b> <i>Mezzo Forte (mf)</i></p> <p><b>QUITE SOFT:</b> <i>Mezzo Piano (mp)</i></p> <p><b>SOFT:</b> <i>Piano (p)</i></p> <p><b>VERY SOFT:</b> <i>Pianissimo (pp)</i></p> <p><b>GETTING LOUDER:</b> <i>Crescendo (cresc.)</i></p> <p><b>GETTING SOFTER:</b> <i>Diminuendo (dim.)</i></p> 	<p><b>D. Duration</b></p> <p>The <b>length</b> of a sound.</p>  <p><b>SHORT</b></p> <p><b>LONG</b></p> 
<p><b>E. Texture</b></p> <p>How <b>much sound</b> we hear.</p> <p><b>THIN TEXTURE:</b> (<i>sparse/solo</i>) – small amount of instruments or melodies.</p> <p><b>THICK TEXTURE:</b> (<i>dense/layered</i>) – lots of instruments or melodies.</p>	<p><b>F. Timbre or Sonority</b></p> <p>Describes the <b>unique sound or tone quality</b> of different instruments voices or sounds.</p>  <p>wood block</p> <p><i>Velvety, Screechy, Throaty, Rattling, Mellow, Chirpy, Brassy, Sharp, Heavy, Buzzy, Crisp, Metallic, Wooden etc.</i></p>	<p><b>G. Notation</b></p> <p>How music is <b>written</b> down.</p> <p><b>STAFF NOTATION</b> – music written on a <b>STAVE</b> (5 lines.).</p> <p><b>GRAPHIC NOTATION/SCORE</b> – music written down using shapes and symbols to represent sounds.</p> 	<p><b>H. Silence</b></p> <p>The opposite or absence of sound, <b>no sound</b>. In music these are <b>RESTS</b>.</p> 

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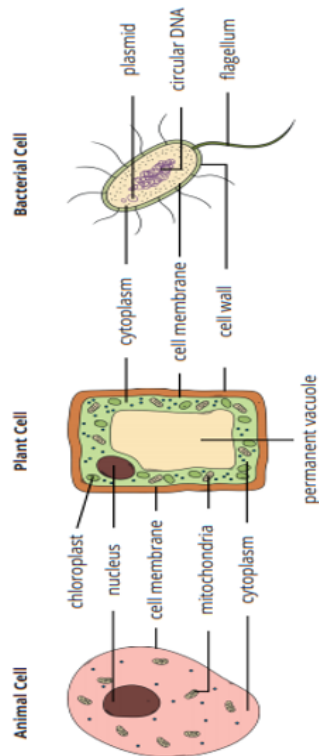
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KS3 PHYSICAL EDUCATION – KNOWLEDGE ORGANISER AUTUMN TERM	
All students will participate in at least 4 of the following activities this term. They are Rugby, Hockey, Basketball, Netball and Trampolining	
<b>INVASION GAMES:</b> Rugby, Hockey, Netball and Basketball	<b>GYMNASTICS:</b> Trampolining
<u>Invasion games:</u> Team games in which the purpose is to 'invade' the opposition's territory to score points whilst trying to make sure the other team does not score.	<u>Spotters:</u> stand around the trampoline and ensure that the person on the trampoline is safe at all times. A spotter will prevent the trampolinist from falling off the trampoline if they get too close to the sides or the ends.
<u>Receiving the ball:</u> when you catch a ball or receive the ball with a stick	<u>Basic Jumps:</u> tuck, pike and straddle
<u>Passing the ball:</u> throwing a ball to your teammate or passing it with your stick to a teammate.	<u>Basic landing positions:</u> Seat landing, Front landing and Back landing
<u>Spatial awareness:</u> when you recognise your position in relation to your opponent and the ball/object you are playing with.	<u>Combinations:</u> Seat to front, front to seat, seat $\frac{1}{2}$ twist to feet, $\frac{1}{2}$ twist to seat, front $\frac{1}{2}$ twist to feet, $\frac{1}{2}$ twist to front
<u>Defending strategies:</u> defending a space or area to stop your opponents from scoring. Defending the goal or try line.	<u>Twists:</u> Swivel hips, Back $\frac{1}{2}$ twist to feet, $\frac{1}{2}$ twist into back
<u>Attacking strategies:</u> Creating space for yourself and your teammates. Moving into space to receive a pass.	<u>Advanced twists:</u> Roller, Cradle, Cat twist, Half turntable, Full turntable
<u>Tackling:</u> forcing your opponent to lose possession of the ball in order for you or your teammates to gain possession.	<u>Basic Somersaults:</u> Hands and knees turnover to feet, back pullover to feet, Back pullover to front, Back to front landing, $\frac{3}{4}$ front to back landing, Front somersault, Back somersault



## Year 7 Cells



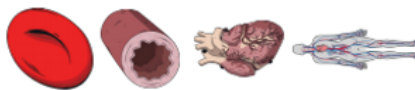
### Building an Organism

**Cell** - smallest unit of a living organism

**Tissue** - group of the same cells working together

**Organ** - group of different tissues working together for a particular job

**Organ system** - different organs working together for a particular function



### Parts of the Blood

**Plasma** - straw coloured liquid carrying proteins, CO<sub>2</sub> and glucose

**Red blood cell + white blood cells**

**Platelets** - clot together to form scabs to stop microbes entering the body

Nucleus	Controls cells activities, contains DNA
Plasmids	Rings of DNA found in bacterial cells
Mitochondria	Place of cell respiration
Chloroplasts	Contains chlorophyll - place of photosynthesis
Cell Wall	Helps strengthen the cell in plants
Cell Membrane	Controls movement of substances in and out of the cell
Cytoplasm	Jelly like substance where chemical reactions occur
Flagellum	A tail like structure to allow the cell to swim
Permanent vacuole	Filled with cell sap to keep the cell rigid

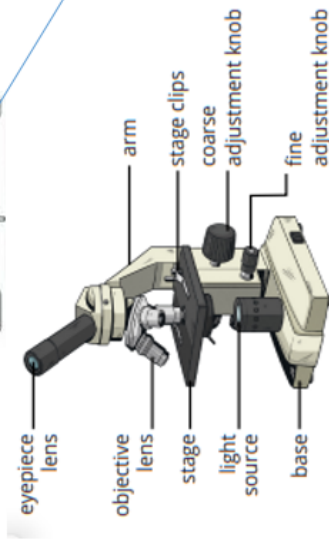
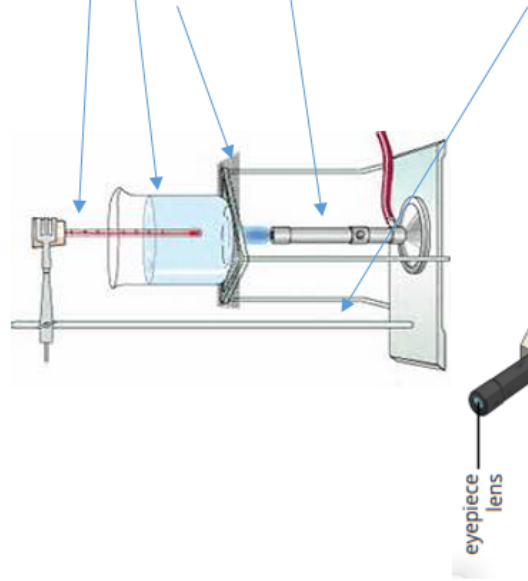
### Specialised Cells

Name	Function	Adaptation
Root hair cell	Absorbs water from the soil	Large surface area
Palisade cell	Place of photosynthesis	Packed full of chloroplasts
Sperm cell	Swim and fertilise the egg	Tail & full of mitochondria
Egg cell	Fertilised by sperm	Full of nutrients for the developing embryo
Red blood cell	Carries oxygen (O <sub>2</sub> ) around the body	Biconcave, no nucleus to carry more O <sub>2</sub> in the haemoglobin.
White blood cell	To fight infection	Can change shape to engulf pathogens, produce antibodies
Nerve cell	Carries nerve impulses around the body	Long and thin connecting to other nerves and muscles
Muscle cell	Allows the body to move	Contains proteins that can contract & relax. Packed full of mitochondria.

## Working in the Lab Knowledge Organiser

## Key Equipment

Equipment	Role
Safety Glasses	Worn to protect the eyes
Thermometer	Measures temperature
Beaker	Holds larger volumes of liquids
Gauze	Holds glassware on the tripod
Measuring Cylinder	Accurately allows us to measure volume of liquids
Test Tube	Holds liquid substances
Tripod	Used with the bunsen when heating
Conical Flask	Allows liquids to be stirred or swirled safely
Bunsen burner	Used to heat substances
Balance	Measures mass
Evaporating Basin	Used to evaporate liquids from dissolved solids
Filter paper and funnel	Used to separate solids from liquids
Clamp Stand	Used to hold equipment in place



### Using a Light Microscope

- Plug in the microscope and turn on the light.
- Place the slide on the stage and hold it in place with the stage clips.
- Turn to the objective lens with the lowest magnification.
- Look down the eyepiece lens and use the adjustment knobs to focus the specimen.
- Increase the magnification by turning to a higher power objective lens, then use the fine adjustment knob to bring the cells back into focus.

## Using a Microscope

Parts	Role
Eye piece lens	You look down this to see the specimen
Objective lens	This changes as you increase the magnification
Stage	Where the slide is placed
Light source	This allows you to clearly see the specimen
Coarse adjustment knob	Used to focus on the lowest magnification so you can find the specimen
Fine adjustment knob	For the higher magnification so you can see the image more clearly
Specimen	The object you are looking at
Magnification	How zoomed in the image is
Resolution	How much detail you can see