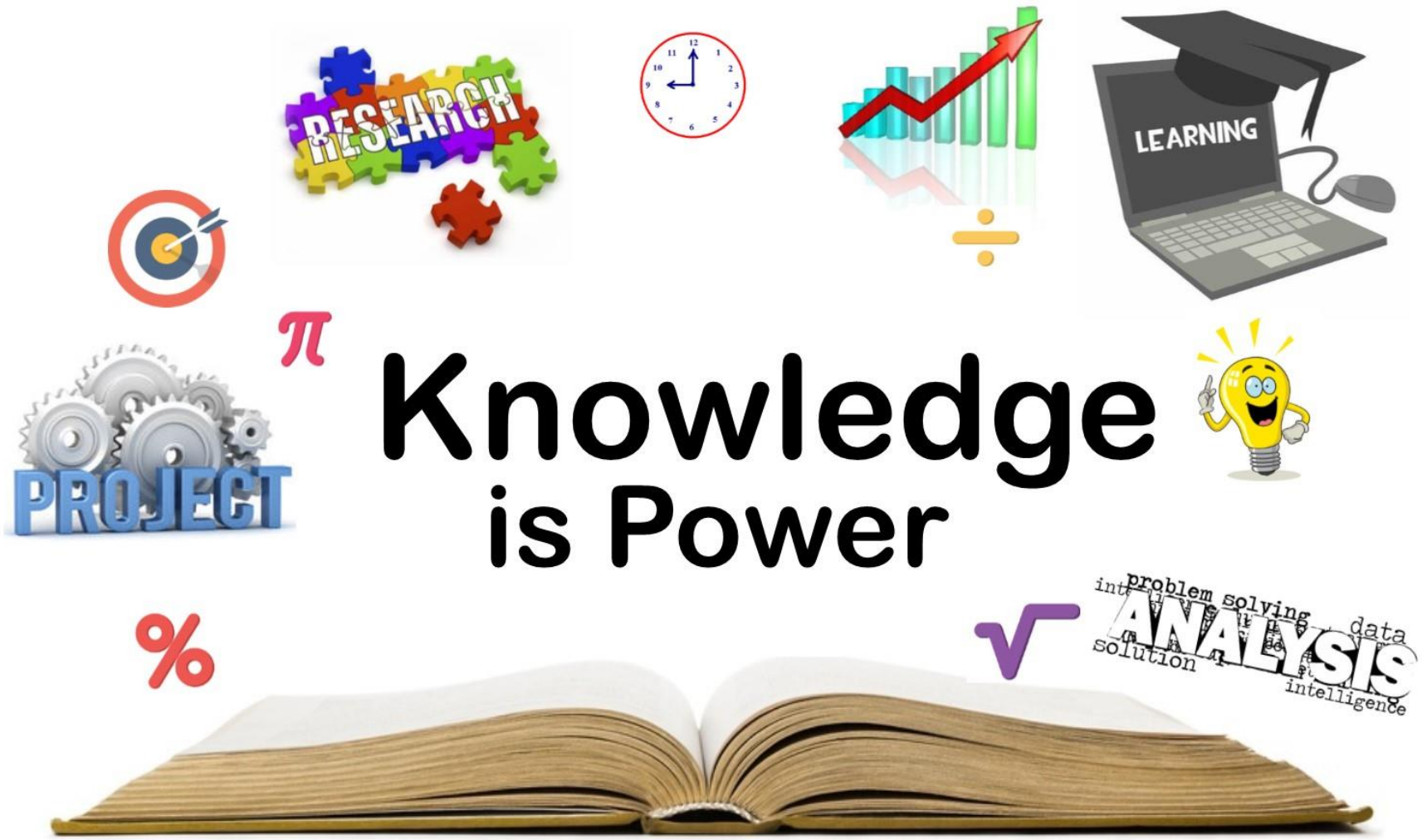
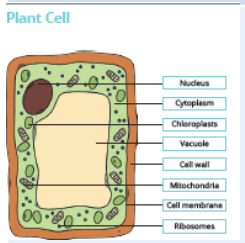
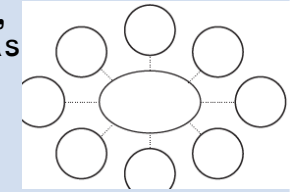
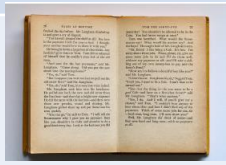


Year 7 Spring 1 - Knowledge Organiser

Just reading through your books or a knowledge organiser is not always an effective way to revise. Instead, you should do something with the information. Choose an example of the revision methods on the pages or see if you can come up with another method.

The knowledge is evolutionary not revolutionary. Approximately half the knowledge is new and half helps you revise. Many of the activities are changing. We hope you enjoy them.

In SKL this term we will be continuing with the GrangeEnders book during tutor time and in SKL lessons we will be looking at relationships. This will involve exploring the difference between banter and bullying, positive friendships and friendships online. We will also start to look at romantic relationships, boundaries and self-worth (how you feel about yourself). In the second half of the term we will be looking at Health and Puberty which will involve looking at healthy routines, influences on health, puberty, unwanted contact, and FGM (female genital mutilation)

Idea	Explanation
Make some flash cards or PowerPoint slides. Make top trumps. 	Write down key words, quotation, questions or equations on one side of a card. On the other side, write the definition or answer. Use them to test yourself.
 Make a poster.	Turn your notes into posters with lots of colour and illustrations. Summarising the key information in a different way is an effective way of learning and your brain will remember the colours more easily. Do the title last!
Draw spider diagrams, or for the adventurous mind maps. 	Write the topic/keyword in the centre of your page. Add everything you know in subtopics. Then explore each subtopic in turn adding more ideas. Colour/pictures help you recall.
Write a song or a rap. 	Are there songs that stick your head. Change the lyrics to the information you want to learn. If you record and listen back it will be a more fun way of revising.
 Plan a lesson	If you teach something to someone else the chance of recalling it is really high. This has been found to be the most effective way of learning something for the long term.
Write a story or comic strip. 	Take the keywords or facts that you need to learn and turn them into a story or a cartoon. The sillier the story the more likely you are to remember it.
Write a quiz. Design a game. 	Playing is how we learn as young children and it is a very powerful way of learning throughout life. If we enjoy the game it helps us remember.

Starter activity: What do you already know?

We will be reading an article from the BBC called "Footballers have 'worryingly poor' teeth."

Discuss the following questions.

- What things can you do to look after your teeth?
- Have you had a tooth ache before? What happened/ what did you do?
- What things can you do before performing a physical activity to help prevent injury?

PRE-READING STRATEGIES

Stand up if you agree with the statement.

Sit down if you disagree.

Footballers have 'worryingly poor' teeth

By James Gallagher
Health editor, BBC News website

3 November 2015

Professional footballers have worryingly poor teeth that could be affecting their performance on the pitch, say dentists.

1. On average, footballers have better teeth and dental health than the general population.
2. You only need to go to the dentist when you have a tooth ache. Regular check-ups aren't important.
3. Dental health is an important part of your overall health.
4. A tooth ache can affect how well a footballer plays.
5. Football teams should employ dentists as part of their medical team.
6. Dental problems can make other injuries (i.e. a pulled muscle in your leg) worse.
7. Sports/ health drinks often contain lots of sugar and are bad for your teeth.

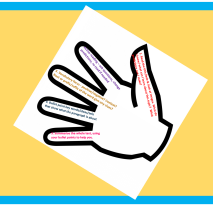
Let's read

- Ask questions, make connections, discuss, re-read, decide on key ideas

Click on the link!

https://www.bbc.co.uk/news/health-34699583

VOCABULARY FOCUS



Some words change their meaning depending on the context in which we use them.

Read the sentences below and look at the blue words in bold. What do they mean in these sentences?

1. "Professional footballers have worryingly poor teeth that could be affecting their **performance** on the pitch."
2. "Previous research has shown "**striking**" levels of bad teeth in athletes.
3. "These are individuals who otherwise **invest** so much in themselves."

VOCABULARY FOCUS

PiXL Unlock

Read It

Cavity

Define It

A decayed part of a tooth.

Digging Deeper:

In this context we are talking about teeth cavities, however the word can be used in other contexts to mean any empty space within a solid object. For example a hole in a tree or a rock could be described as a cavity if it is a hollowed out space.

Draw It

Use It

You should go to a dentist to treat a cavity.

Link It

Hole, chamber, hollow, pocket, space, socket

Deconstruct It

From the latin word 'cavus' which means hollow.

Related terms in the article:

Tooth decay- rot of the tooth

Dental erosion (see next slide)

Abscess- a build up of pus caused by infection

Oral health- relating to the mouth

Dental health- relating to the teeth

VOCABULARY FOCUS

PiXL Unlock

Read It

Erosion

Define It

The gradual destruction of something.

Digging Deeper:

Erosion can be used in different topics and subjects. For example in geography you might look at how rocks and cliffs are eroded by water and wind. In English or History you might talk about the erosion on an idea (i.e. an idea that was once widely held, but that has diminished over time.)

Draw It

Use It

Nearly four out of ten of the players had active tooth decay and dental erosion, in which the tooth structure is worn away by acid.

Link It

Wear away, abrasion, dissolving, crumbling, weathering, grinding down

Deconstruct It

From the latin word 'erodere' which means to wear or gnaw away.

VOCABULARY FOCUS

PiXL Unlock

Read It

Nutrition

Define It

The process of providing or obtaining the food necessary for health and growth.

Draw It

Use It

There is a direct link between nutrition and health.

Link It

Nourishment, nutrients, sustenance, food

Deconstruct It

From the latin word 'nuteire' which means to feed or noursih

Digging Deeper:

The human body converts the food consumed into energy in order to function and stay alive. The nutrients in food each provide a different amount of energy to the body.

POST READING: HAVE YOU CHANGED YOUR MIND?

Stand up if you agree with the statement.

Sit down if you disagree.

Footballers have 'worryingly poor' teeth

By James Gallagher
Health editor, BBC News website

3 November 2015

Professional footballers have worryingly poor teeth that could be affecting their performance on the pitch, say dentists.

1. On average, footballers have better teeth and dental health than the general population.
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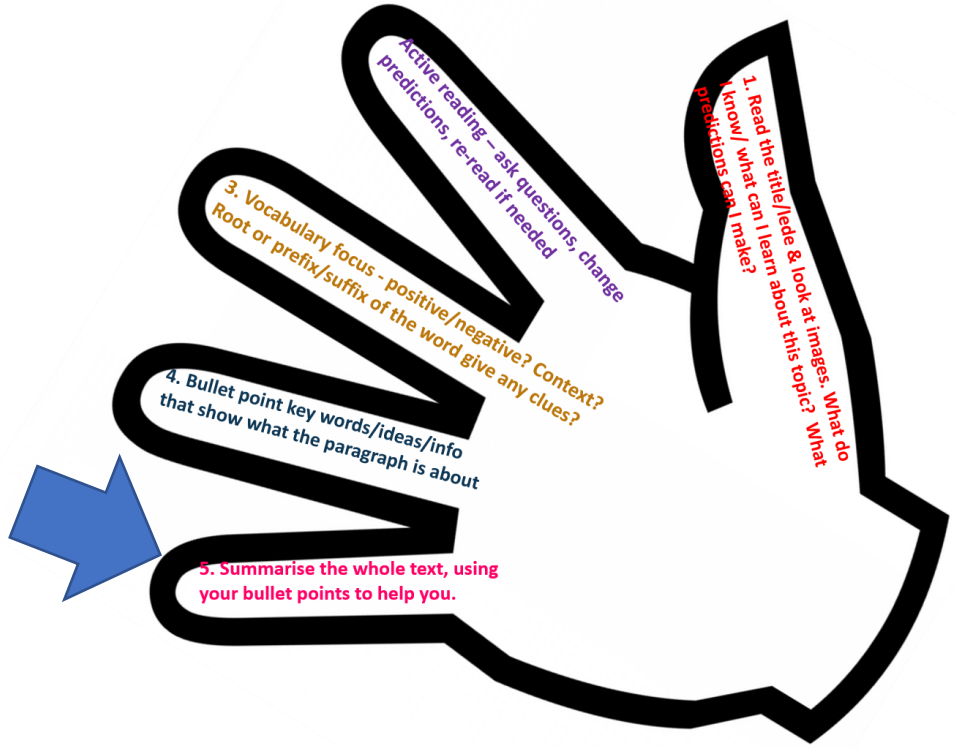
4. A tooth ache can affect how well a footballer plays.
5. Football teams should employ dentists as part of their medical team.
6. Dental problems can make other injuries (i.e. a pulled muscle in your leg) worse.
7. Sports/ health drinks often contain lots of sugar and are bad for your teeth.

AFTER READING– APPLYING AND SUMMARISING KNOWLEDGE

- Write down 5 key things you have learnt from this article.



QUIZ- Answer the following questions. Write your answers in full sentences.

1. How do the teeth of footballers compare to the general population?

2. Why were the researchers surprised by what they found?

3. What severe affect can poor dental health have on players?

4. Name two other ways players might be affected by their dental health?

5. Why are footballers and athletes more at risk of poor dental health? Name two factors the article suggests.

6. What are football clubs doing to improve the dental health of players?

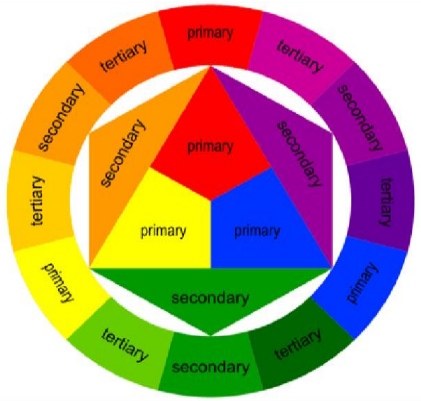
7. How do footballers teeth compare to other athletes?

1

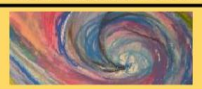
Media	The substance that an artist use to make art
Materials	The same as media but can also refer to the basis of the art work eg, canvas, paper, clay
Techniques	The method used to complete the art work, can be generic such as painting or more focus such as blending
Processes	The method used to create artwork that usually follows a range of steps rather than just one skill

3

Colour Theory	
Primary= RED, YELLOW, BLUE	Complimentary; Colours opposite on the colour wheel
Secondary= Primary+Primary	Harmonious; Colours next to each other on the wheel
Tertiary= Secondary+Primary	Monochromatic; shades, tones & tints of one colour
Shades – add black	Hue – the pigment
Tint – add white	Warm; RED, ORANGE YELLOW. Cold; BLUE, GREEN, PURPLE



2

Pencil		The basic tool for drawing, can be used for linear work or for shading
Biro		Drawings can be completed in biro and shaded using hatching or cross hatching
Pastel (chalk/oil)		Oil and chalk pastels can be used to blend colours smoothly, chalk pastels give a lighter effect
Coloured pencil		Coloured pencil can be layered to blend colours, some are water soluble
Acrylic paint		A thick heavy paint that can be used smoothly or to create texture
Watercolour		A solid or liquid paint that is to be used watered down and layered
Gouache		A pure pigment paint that can be used like watercolours or more thickly for an opaque effect
Pressprint		A polystyrene sheet that can be drawn into to print white lines – can be used as more than 1 layer
Monoprint		Where ink is transferred onto paper by drawing over a prepared surface
Collograph		A printing plate constructed of collaged materials
Card construction		Sculptures created by building up layers of card or fitting together
Wire		Thick or thin wire manipulated to create 2d or 3d forms
Clay		A soft substance used for sculpting, when fired can be glazed to create shiny colourful surfaces
Batik		A fabric technique using hot wax to resist coloured inks
Silk painting		Fabric inks painted onto silk, Gutta can be used as an outliner to prevent colours mixing

Art Key Stage 3

1

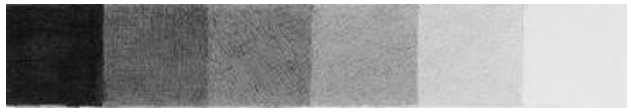
Methods of Recording

Observational drawing	Drawing from looking at images or objects
First hand observation	Drawing directly from looking at objects in front of you
Second hand observation	Drawing from looking at images of objects
Photographs	Using a camera or smartphone to record images will class as first hand observation
Sketches	Basic sketches and doodles can act as a starting point for development

Stages of Drawing

Basic shapes → Accurate shapes → Detail → Shade

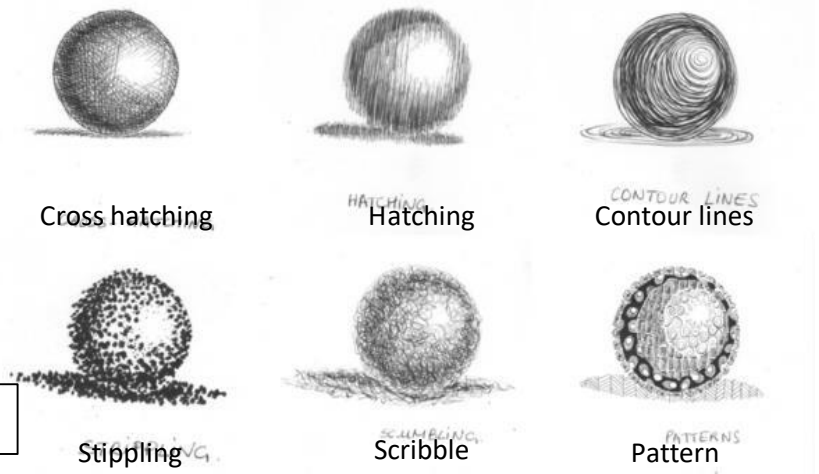
2



Tonal shade

Produce a range of tones by varying the pressure and layering – consider using softer pencils for darker shades

Alternative shade techniques



3

Annotation

Describes writing notes, using images and explaining your thoughts to show the development of your work.

Step 1 - Describe
What is this an image of?
What have you done here?
What was this stage of the project for?

Step 2 - Explain
How was this work made?
How did you produce particular effects? How did you decide on the composition?

Step 3 - Reflect
Why did you use these specific methods? Why do particular parts work better than others?
Why might you do things differently next time?

Art Key Stage 3

1

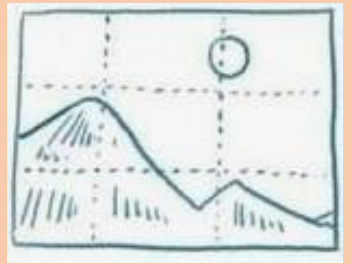
Formal Elements of Art

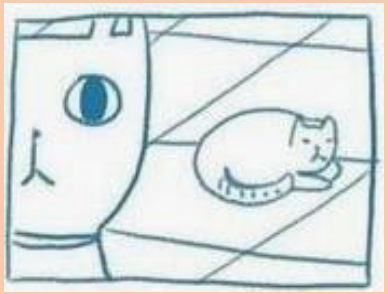
LINE	the path left by a moving point, e.g. a pencil or a brush dipped in paint. It can take many forms. e.g. horizontal, diagonal or curved.
TONE	means the lightness or darkness of something. This could be a shade or how dark or light a colour appears
TEXTURE	the surface quality of something, the way 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. can be manmade, like a design on fabric, or natural, such as the markings on animal fur.
COLOUR	There are 2 types including Primary and Secondary . By mixing any two Primary together we get a Secondary

2

Composition Layouts

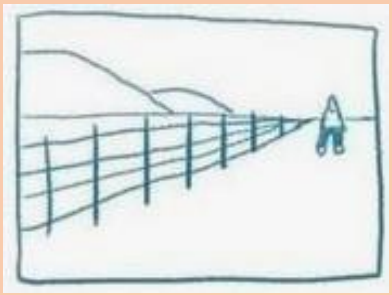
Rule of thirds – Place focal objects at 1/3 or 2/3 of the image horizontally or vertically. Not in the middle





Balance elements. If there is an emphasis on one side balance it out with smaller objects on the other

Simplify and fill. Enlarge or crop the image to fill the space



Use lines. Lines will draw the viewer in, they don't have to be straight, consider S or C

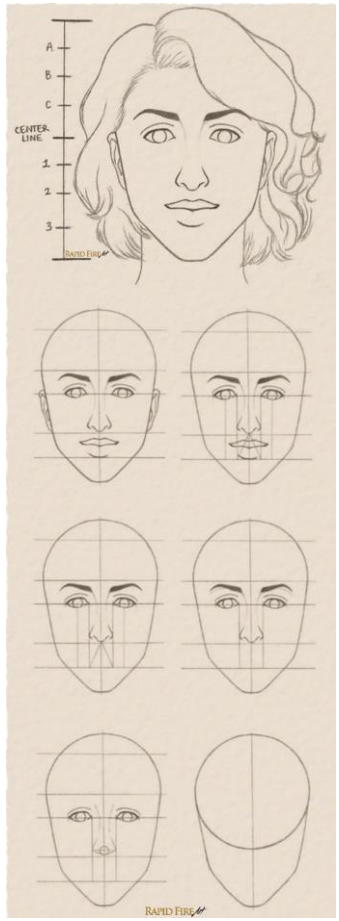
3

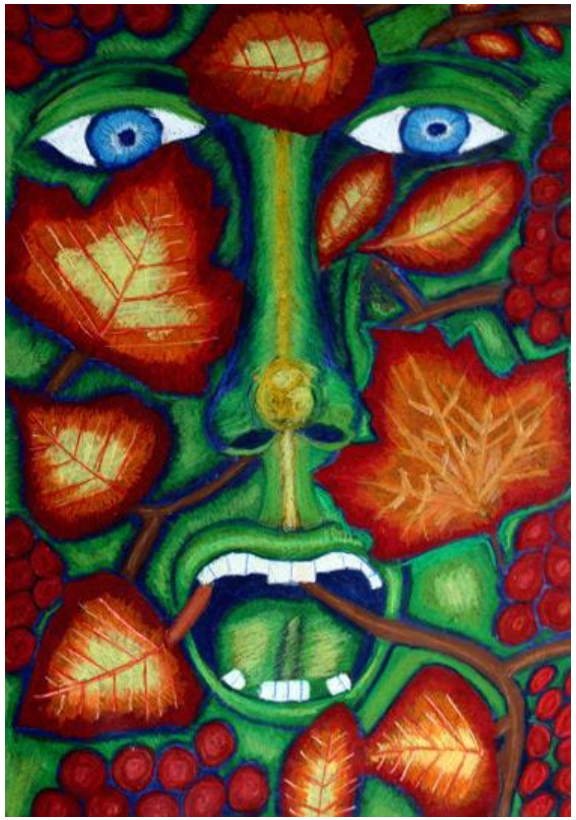
A Rough	A Visual/ Maquette	Final Piece
A basic sketch of a final idea	A small image or model created in selected materials	An image or sculpture pulling all preparatory work together

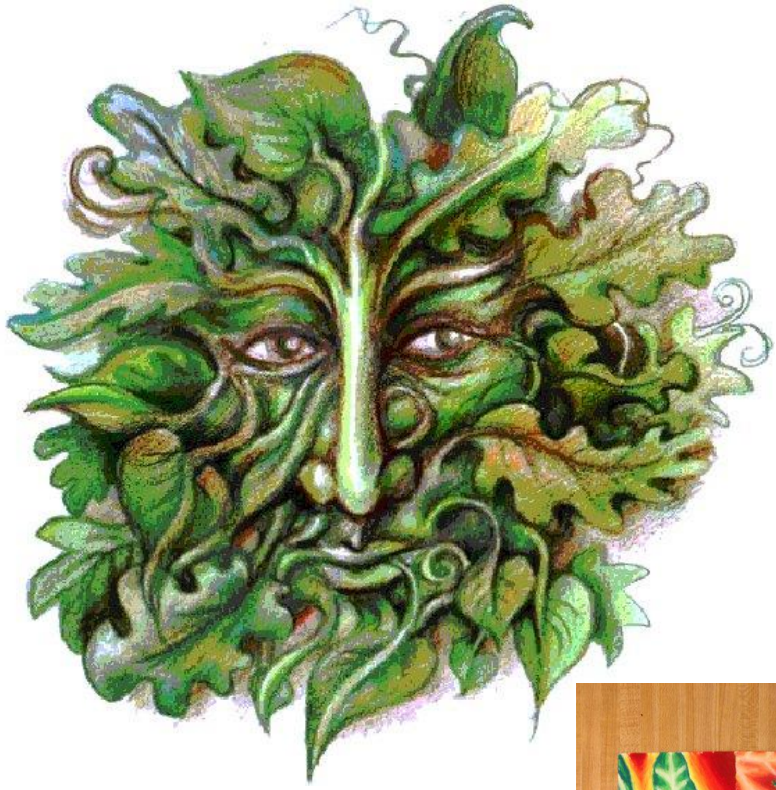
Art Key Stage 3

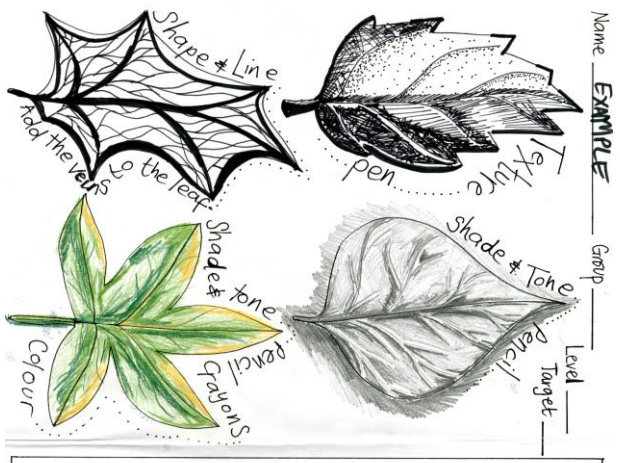
The Green Man

Year 7







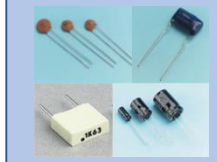


Year 7 Electronics – Spring 1 half term

Electronics

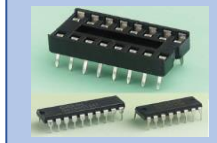
Basic electronics comprises the minimal "electronics components" that make up a part of everyday electronics equipment. These electronic components include resistors, transistors, capacitors, diodes, inductors and transformers. Powered by a battery, they are designed to work under certain physics laws and principles

Basic components and their function

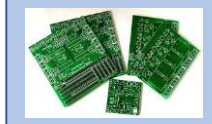


A capacitor is a component that can store electrical charge (electricity). In many ways it is like a rechargeable battery. A good way to imagine a capacitor is as a bucket, where the size of base of the bucket is equivalent to the capacitance (C) of the capacitor and the height of the bucket is equal to its voltage rating (V). The amount the bucket can hold is equal to the size of its base multiplied by its height, as shown by the shaded area.

A resistor is a device that opposes (or limits) the flow of electrical current in a circuit. The bigger the value of a resistor the more it opposes (or resists) the current flow.



Integrated Circuit The top picture is an IC holder placed into the PCB, below are ICs. The notch on the holder should line up with the notch on the PCB

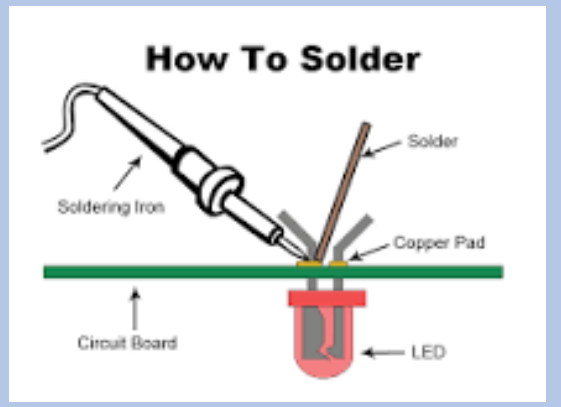


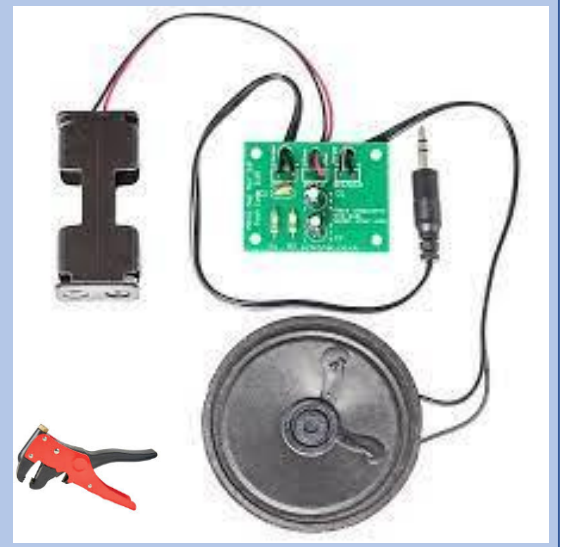
Printed circuit board (PCB). Components are soldered onto this and joined by a copper strip to create the circuit.

Batteries provide power to the circuit. Can you think of a renewable energy source?

Making a speaker

This is the finished circuit that you will make and test.





Tools to solder successfully
Soldering iron: Heats solder to attach components to PCB
Wire strippers: Strips the plastic coating from electrical
Wire to make soldering easier
Solder: lead substitute, when melted acts like glue to join components to the PCB

Soldering is a process in which two or more metal items are joined together by melting and then flowing a filler metal into the joint—the filler metal having a relatively low melting point. Soldering is used to form a permanent connection between electronic components

Watch these videos on how to solder safely
https://www.youtube.com/watch?v=gW-7yeUW7-k

Making your speaker box

Use PVA wood glue to stick all you box pieces together apart from the bottom piece.
When the glue has dried, use the sand paper and sanding boards to smooth the edges.
Use the fret saw to cut the base of your speaker box

Always be safe I the workshop!.

Nutrition

Nutrients

Macro nutrients – Needed in large quantities in the diet
1. Protein
2. Fats
3. Carbohydrates

Micro nutrients – needed in small quantities in the diet
1. Vitamins
2. Minerals

Protein

Food sources

Animal –beef, pork, lamb, poultry (chicken, turkey, duck), fish, cheese, butter milk
Plant – beans, chickpeas, lentils, peas, nuts, seeds, found in smaller amounts in some vegetables such as spinach and broccoli.

Function

Grown and repair of muscles and cells

Carbohydrates

There are two types of carbohydrates, complex and simple. They are also known as starchy (complex) and sugary (simple).

Food sources

Starchy – bread, rice, pasta, potatoes, bagels, oats, flour, cereal and some vegetables.
Simple – fruit, some vegetables, chocolate, sweets, biscuits, cakes

Function

Starchy/complex carbohydrates are digested slowly and provide long term energy.
Sugary/simple carbohydrates are digested slowly and provide short term energy

Fat

There are two types of fat, saturated and non saturated.
Saturated fats are classed as 'unhealthy fats', they are solid at room temperature and are generally animal based.
Unsaturated fats are classed as 'healthier fats' and are liquid or soft at room temperature and come from plant based sources.

Food sources

Animal –beef, chicken skin, processed meat (sausages, salami, pepperoni), bacon, butter, cheese, full fat milk
Plant – vegetable oils (sunflower, olive, rapeseed), avocado, nuts, seeds

Function

Keeps us warm (provides insulation), secondary source of energy, protects vital organs and bones.

Example exam questions:

Explain three causes of obesity (3 marks)
What is the function of sugary and starchy carbohydrates (2 marks)
Why is protein especially important for children? (2 marks)
What are the functions of fat? (3 marks)
List 5 food sources of plant based protein (5 marks)

Dietary Related Health Problems

Too much sugar can cause:
1. Weight gain (which can lead to obesity)
2. Tooth decay
3. Diabetes (your body cannot produce enough/any insulin to regulate your blood sugar levels)

Too much salt can cause:
1. High blood pressure (this can increase your risk of heart disease and a stroke).

Too much saturated fat can cause:
1. Weight gain (which can lead to obesity)
2. High cholesterol (this narrows arteries making it harder for the blood to travel around, putting you at risk of heart disease).

Energy

Energy is measured in CALORIES.

Foods that are energy dense have a lot of calories in them. For example fatty foods like bacon, cheese and cream.

Fruits and vegetables have a low energy density because they are high in water.

The three macro nutrients are protein, carbohydrates and fats. Fat contains the most energy per gram.

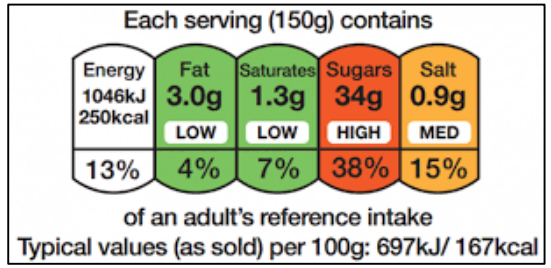
Carbohydrates – 4 calories per gram.
Protein – 4 calories per gram.
Fat – 9 calories per gram.

Energy density – this is when your energy is balanced. This means you are consuming the same amount of energy (calories) as you are burning off. If energy is not balanced, this could cause either weight loss or weight gain.

Reference Intake

You'll see reference intakes referred to on food labels. They show you the maximum amount of calories and nutrients you should eat in a day. Most packaging has a colour coded label on the front to help you make healthy choices.

Reference in take amounts:
Kcal (calories) – 2000
Total Fat -70g
Saturated fat – 20g
Sugar – 90g
Salt – less that 6g



Red means HIGH in that nutrient
Amber means MEDIUM in that nutrient
Green means LOW in that nutrient

Exam style questions.
1. What are the three problems linked to having a high sugar diet? (3 marks)
2. Which fat is healthier, saturated or unsaturated? (1 mark)
3. Why should we reduce our sugar consumption? (2 marks)
4. Which macro nutrient is the most energy dense? (1 mark)
5. What does energy balance mean? (2 marks)
6. Which type of foods have a low energy density and why? (3 marks)

Jam tarts

Ingredients

Pastry

30g margarine

50g Flour

1tbsp water

Filling

6tps jam

Equipment

Bowl

wooden spoon

Jug

Weighing scales

Cup cake tray

Cupcake cases

Rolling pin

Cookie cutter

Skills

Rubbing in method

Pastry making

Rolling out

1. Pre-heat the oven to 180°C. Rub the butter and flour together until it resembles breadcrumbs

2. Add the tbsp of water and mix. Use your hands to make the pastry into a ball.

3. Place on a floured surface and roll out evenly to the thickness of a £1 coin.

4. Use the cookie cutter to cut out 6 pastry cases.

5. Place the pastry cases into the cupcake cases in a tray.

6. Add a tsp. of jam to each case and bake in the oven for 15 minutes.

Pancakes

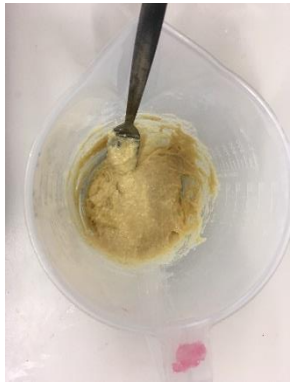
Ingredients
55g plain flour
Pinch of salt
1 egg
100ml milk
25g butter

Equipment
Bowl
Jug
Frying pan
Spoon
Spatula

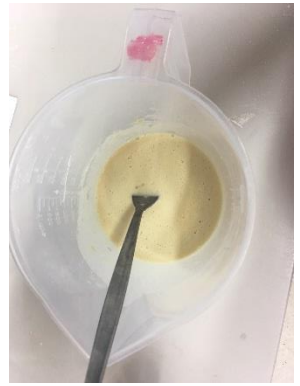
Skills
Weighing
Measuring
Mixing
Frying

How many different toppings can you think of to go with pancakes?

1. Weigh out the flour in a jug. add the salt and the egg.



2 Mix until its all combined.



3.. Gradually add the milk and keep mixing.

4. Once its smooth start heating pan with a little butter. Add a spoon of mixture and allow to cook.

5. When its golden, flip over and cook on the other side.

Serve hot with your favourite toppings ☺

Quesadillas

Ingredients

120g cheese

1 chicken breast

optional vegetables:

- pepper
- Spring onion
- Sweetcorn
- Spinach

These must be cut very small.

2 tortilla wraps

Equipment

Chopping board

Knife

Grater

Pan

Skills

Grating

Chopping

Frying

Adapting a recipe

1. Chop the chicken into small bite-sized pieces and grate the cheese.

2. Lightly fry the chicken and vegetables until cooked through.

3. Sprinkle 1/4 the cheese over half of the wrap followed by $\frac{1}{2}$ the chicken.

4. Cover the chicken with another $\frac{1}{4}$ of the grated cheese.

5. Fold in half and place in the frying pan.

6. Fry in a lightly oiled pan until golden on each side.

Repeat with the remining wrap, cheese and chicken.

Muscular Endurance

Muscular Endurance

'The ability of the muscles to work efficiently for long periods of time'

Watch this for information on components of fitness!

Muscular Endurance requires your muscles to work for long periods, but they also need to work without getting tired. Below are some images of the world's greatest sporting performers. Each of these will require a large amount of muscular endurance. Can you give 3 specific sporting examples of these in the empty column? i.e. a cyclist continuing to peddle for many miles in the Tour de France.

Laura Kenny

Anthony Joshua

Harry Kane

Roger Federer

Press-ups and Sit-ups are a simple, cheap and effective way of building muscular endurance. It is easy because there is not many pieces of equipment needed and you can do these exercises anywhere. The negatives of these exercises is that if your technique is not very good or correct, you could become injured and your results will be affected.

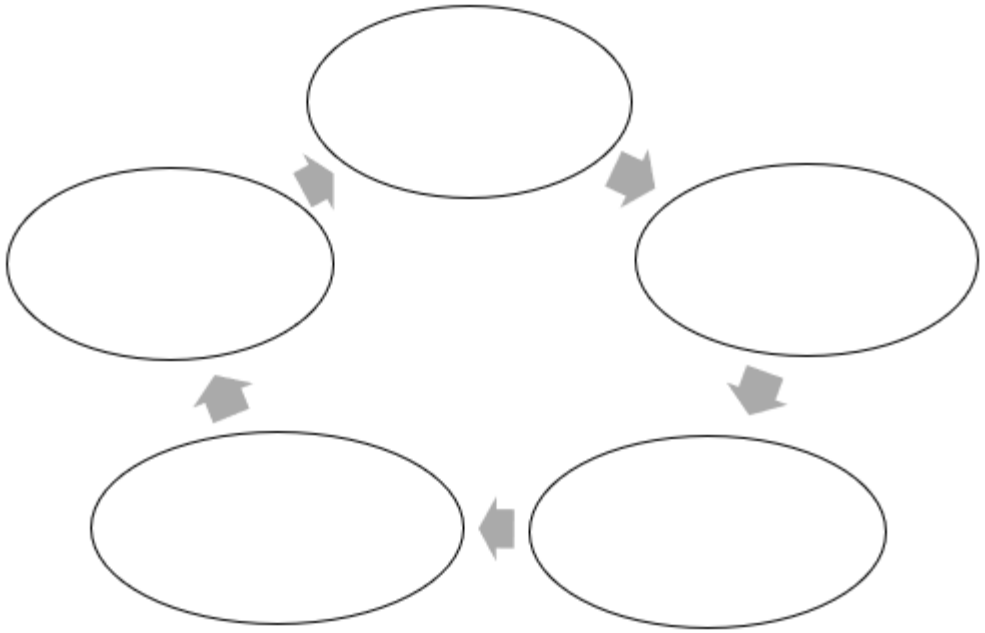
Sporting examples using the FITT principle.

1. .....
2. .....
3. .....

It is important to understand that different sports and sports performers require different aspects of fitness. Many sports need the same types of physical and skill related fitness, however some are unique and require specific components.

Dina Asher-Smith is a British and World Champion sprinter. She needs to have great **muscular endurance** for her races as well as **speed, power and reaction time** to cover as much distance as possible, respond to the starter's pistol and move powerfully out of the blocks to get a good start.

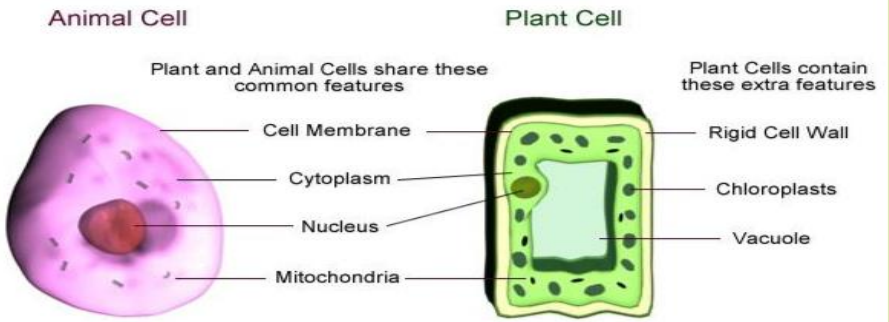
Circuit training sessions could help Dina when she is training for her events. Research what circuit training is and plan 5 exercises Dina could attempt to help her.



Key words and terminologies to consider in PE

Aerobic Endurance	Muscular Endurance	Muscular Strength
Speed	Flexibility	Body Composition
Pulse Raiser	Stretches	Skill related
Gastrocnemius	Hamstring	Gluteus Maximus
Quadriceps	Triceps	Pectorals
Pectorals	Oblique	Fibula
Biceps	Tibia	Humerus
Femur	Radius	Ulna
Scapula	Clavicle	Vertebral Column
Cranium	Ribs	Sternum
Agility	Power	Balance
Co-ordination	Reaction Time	Max. Heart Rate

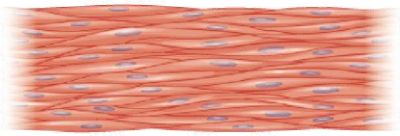
CELLS AND REPRODUCTION 1



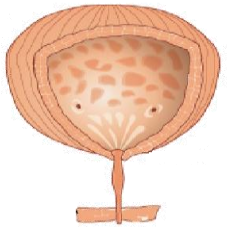
Key Terms	Definition
Cell wall	Made of cellulose, which supports the cell
Cell membrane	Controls movement of substances into and out of the cell
Cytoplasm	Jelly-like substance, where chemical reactions happen
Nucleus	Contains genetic information (chromosomes) made of DNA. Controls what happens inside the cell
Vacuole	Contains a liquid called cell sap, which keeps the cell firm
Mitochondria	Where most respiration reactions happen
Chloroplast	Where photosynthesis happens

Body organization
All living organisms are made up of one or more cells. **Unicellular organisms**, like amoebas, consist of only a single cell. **Multicellular organisms**, like people, are made up of many cells. Cells are considered the fundamental units of life.
The cells in complex multicellular organisms like people are organized into **tissues**, groups of similar cells that work together on a specific task. **Organs** are structures made up of two or more tissues organized to carry out a particular function, and groups of organs with related functions make up the different **organ systems.**

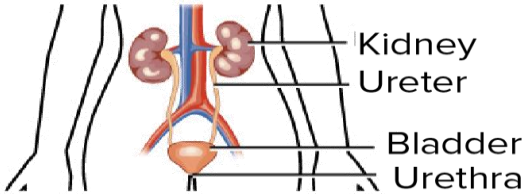
Muscle cell



Muscle tissue



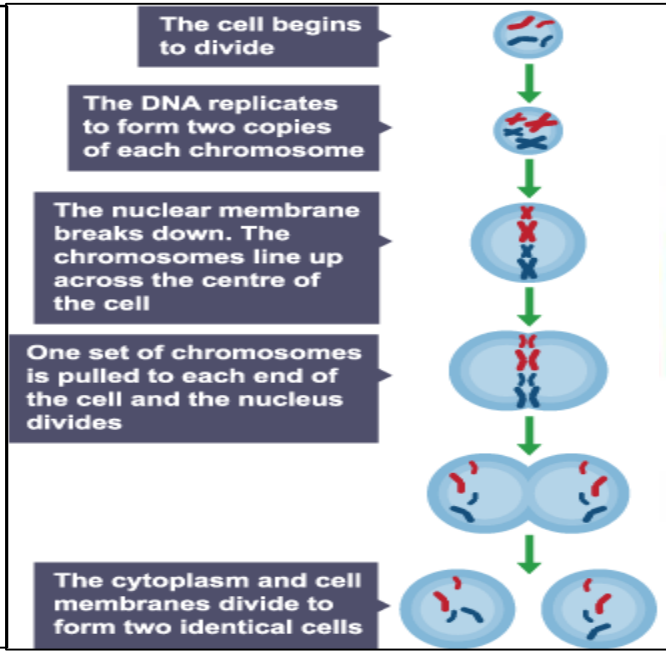
Organ (bladder)

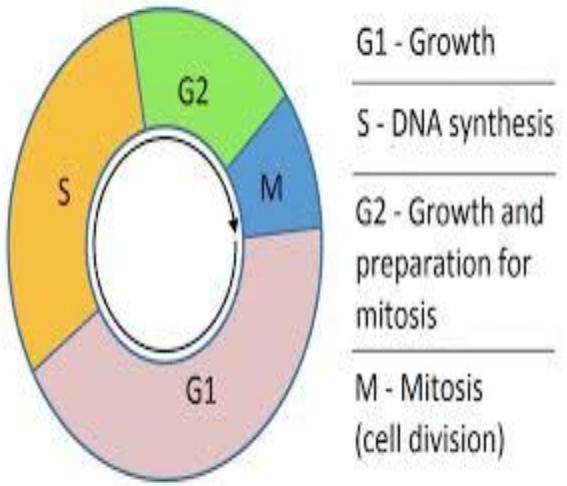


Organ system

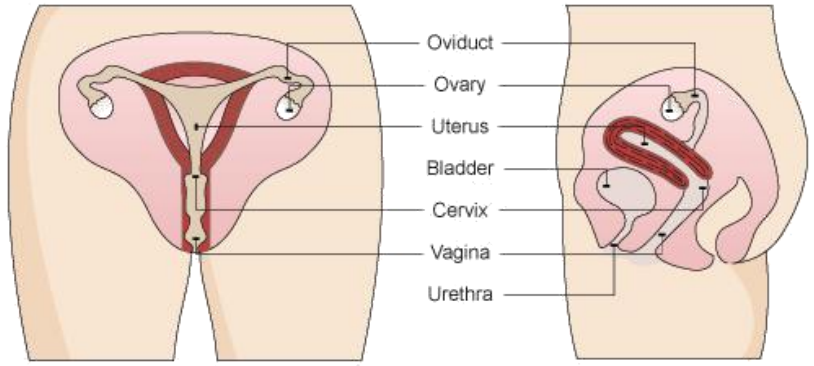
The human cell nucleus contains 46 chromosomes or 23 pairs. They are ultimately long strands of coiled up DNA.

Cells are continually lost or made. All cells have a life cycle known as the cell cycle To make new cells the body carries out cell division in a process known as mitosis





CELLS AND REPRODUCTION 2



The two **ovaries** (one of them is called an ovary) contain hundreds of undeveloped female **gametes** (sex cells). These are called **ova** (one of them is called an ovum) or egg cells. Women have these cells in their bodies from birth, whereas men produce new sperm continually.

Oviducts

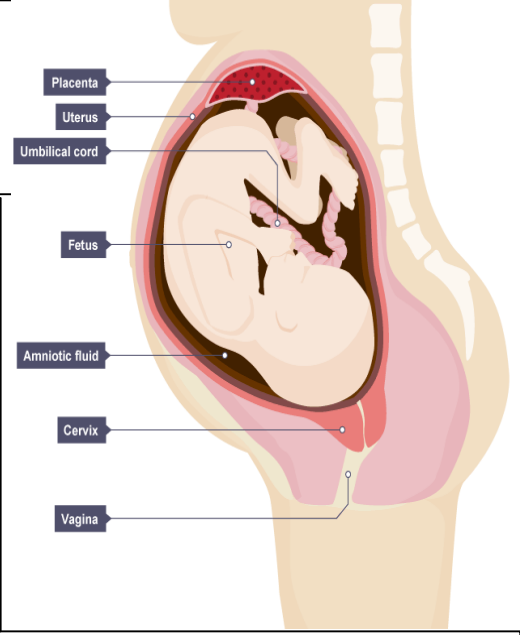
Each ovary is connected to the **uterus** by an **oviduct**. This is sometimes called a Fallopian tube or egg tube. The oviduct is lined with **cilia**, which are tiny hairs on cells. Every month, an egg develops, becomes mature and is released from an ovary. The cilia waft the egg along inside the oviduct and into the uterus.

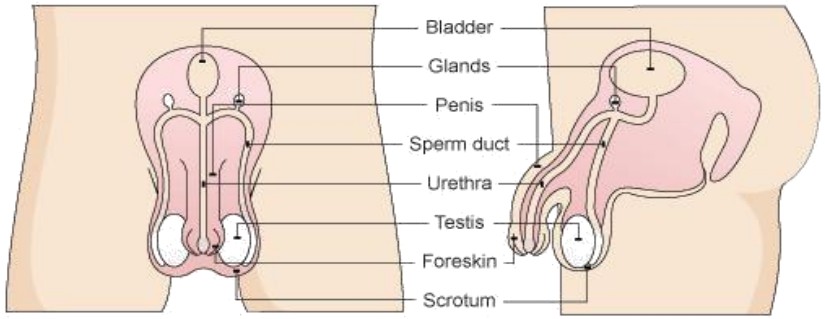
Uterus and cervix

The **uterus**, also called the womb, is a muscular bag with a soft lining. The uterus is where a baby develops until its birth.

The **cervix** is a ring of muscle at the lower end of the uterus. It keeps the baby in place while the woman is pregnant.

The **vagina** is a muscular tube that leads from the cervix to the outside of the woman's body. A man's penis goes into the woman's vagina during sexual intercourse.





Testes

The two **testes** (one of them is called a testis) are contained in a bag of skin called the **scrotum**. The testes have two functions:

- to produce millions of male **gametes** (sex cells) called **sperm**
- to make male sex **hormones**, which affect the way a man's body develops

Sperm duct and glands

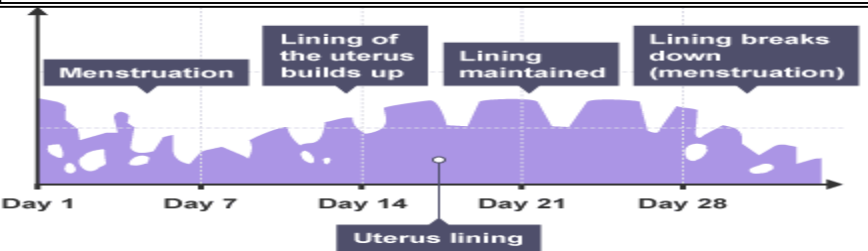
The sperm pass through the **sperm ducts**, and mix with fluids produced by the **glands**. The fluids provide the sperm cells with nutrients. The mixture of sperm and fluids is called semen.

Penis and urethra

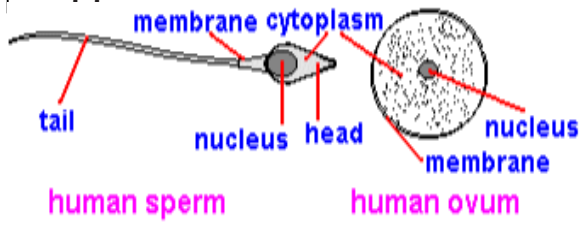
The **urethra** is the tube inside the penis that can carry urine or semen. A ring of muscle makes sure that there is no chance of urine and semen getting mixed up.

The menstrual cycle

The female reproductive system includes a cycle of events called the **menstrual cycle**. It lasts about 28 days, but it can be slightly less or more than this. The cycle stops while a woman is pregnant. These are the main features of the menstrual cycle:



Fertilisation happens if the egg cell meets and joins with a sperm cell in the oviduct. The fertilised egg attaches to the lining of the uterus. The woman becomes pregnant, the lining of the uterus does not break down and menstruation does not happen.



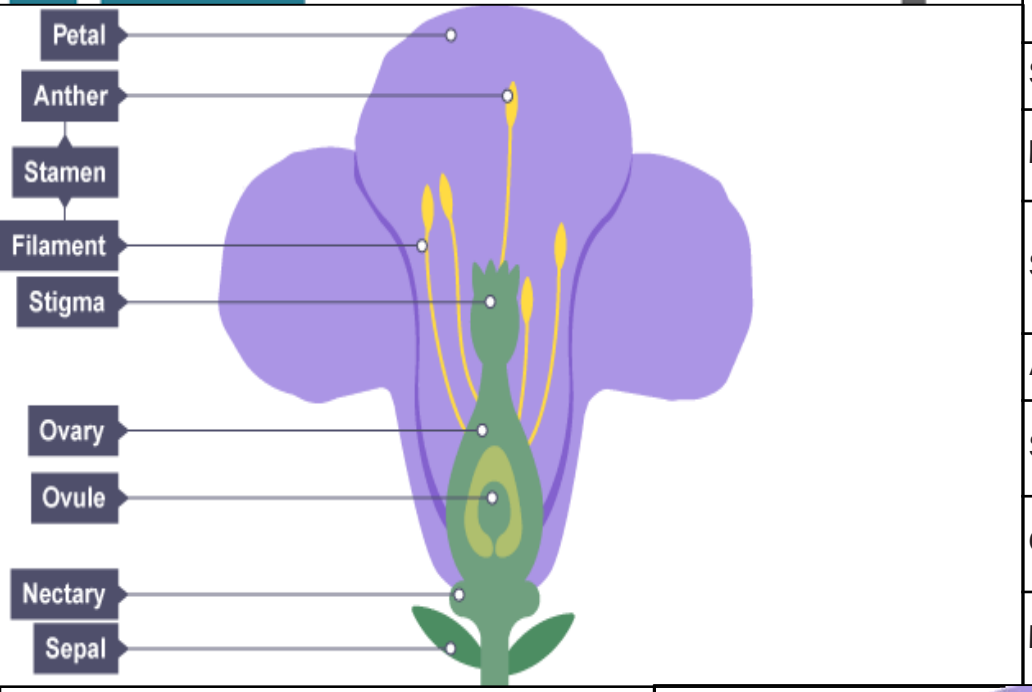
Fetal development and birth

The fertilised egg divides to form a ball of cells called an **embryo**. The embryo attaches to the lining of the uterus. It begins to develop into a **fetus** and finally into a baby.

The role of amniotic fluid, the placenta and the umbilical cord

CELLS AND REPRODUCTION 3

PLANT REPRODUCTION



Structure	Function
Sepals	Protect the unopened flower
Petals	May be brightly coloured to attract insects
Stamens	The male parts of the flower (each consists of an anther held up on a filament)
Anthers	Produce male sex cells (pollen grains)
Stigma	The top of the female part of the flower which collects pollen grains
Ovary	Produces the female sex cells (contained in the ovules)
Nectary	Produce a sugary solution called nectar, which attracts insects

Seed dispersal

The plant spreads the seeds out – this is called seed dispersal – so

their offspring don't compete with them for light or soil nutrients.

Seeds can be dispersed in many ways:

Animals – they eat the fruit and release the seeds in their waste

Wind – for example sycamore seeds

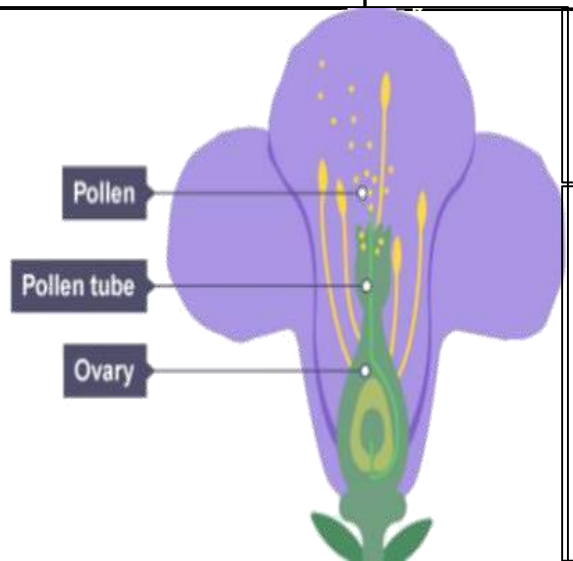
Water – for example coconuts

Pollination

Pollination is the transfer of pollen from the anthers of one flower to the stigma of another flower (of the same species).

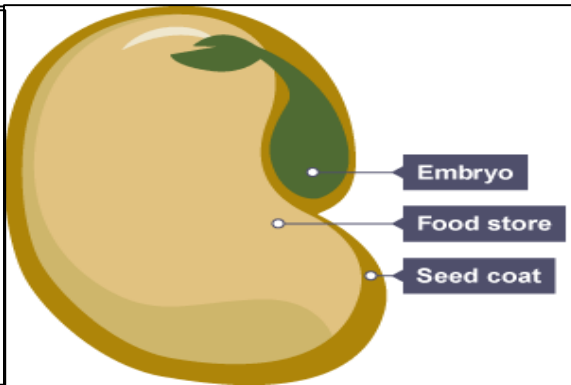
In wind pollination, the wind carries the pollen from the anthers of one flower to the stigma of another

In insect pollination, insects carry the pollen from anthers to stigmas. They go to flowers to get nectar for food (e.g. bees), and the pollen sticks to them so they carry it onwards



After fertilisation, the female parts of the flower develop into a fruit:
the ovules become seeds
the ovary wall becomes the rest of the fruit

Seeds
A seed has three main parts:
•embryo – the young root and shoot that will become the adult plant
•food store – starch for the young plant to use until it is able to carry out photosynthesis
•seed coat – a tough protective outer covering



German

Module 3: Freizeit – juhu! (Free time – yippy!)

Here is the vocabulary you will need for Module 3.
Remember to listen to the German by copying and pasting the blue codes next to the speaker icons here. The full address is: https://www.activeteachonline.com/view

QkIQP7f4

In this Module you will learn how to:

- talk about which sports you play
- talk about leisure activities
- talk about how often you do activities
- talk about mobiles and computers
- develop prediction strategies.

www.textivate.com
Username: openacademy
Password: surname123
Go to 'my resourses' to find your work.

Bist du sportlich?	Are you sporty?
Ich bin (sehr/ziemlich/ nicht sehr) sportlich.	I am (very/quite/not very) sporty.
Was spielst du?	What do you play?
Ich spiele ...	I play ...
Ich spiele gern ...	I like playing ...
Ich spiele ziemlich gern ...	I quite like playing ...
Ich spiele nicht gern ...	I don't like playing ...
Badminton	badminton
Basketball	basketball
Eishockey	ice hockey
Fußball	football
Handball	handball
Tennis	tennis
Tischtennis	table tennis
Volleyball	volleyball
Wasserball	water polo

Keep practising your German vocabulary on www.quizlet.com

- *Either*:

click on this link: https://quizlet.com/_8ievl8?x=1qqt&i=25q2il

- *Or*:

use your class link to go directly to your Quizlet class.

German

Read the Strategy Box for ideas on learning German vocabulary.

Strategie 3

Oft benutzte Wörter

High-frequency words are words that come up again and again, no matter what you are talking about. All of the *Wörter* pages have a list of these words, but there are many more. Look back through Chapter 3 and see how many you can find. Here are a few to get you started:

der, die, das, ein, eine, einen, und, aber, in, ich, es gibt, gern, ... You will find that some of these words appear in every chapter in *Stimmt! 1*. Can you predict which they are? Look through the book. Were you right?

Was machst du gern?

• What do you like doing?

Was machst du gern?	*What do you like doing?*
Ich fahre Rad.	*I ride my bike.*
Ich fahre Skateboard.	*I go skateboarding.*
Ich fahre Ski.	*I ski.*
Ich fahre Snowboard.	*I snowboard.*
Ich lese.	*I read.*
Ich mache Judo.	*I do judo.*
Ich mache Karate.	*I do karate.*
Ich reite.	*I go horse riding.*
Ich schwimme.	*I swim.*
Ich sehe fern.	*I watch TV.*
Ich spiele Gitarre.	*I play the guitar.*
Ich tanze.	*I dance.*

6i81yZmF

Wie findest du das?

• What do you think of it?

Ich finde es ...	*I think it's ...*
Es ist ...	*It's ...*
irre	*amazing*
super	*super*
toll	*great*
cool	*cool*
gut	*good*
nicht schlecht	*not bad*
okay	*okay*
langweilig	*boring*
nervig	*annoying*
stinklangweilig	*deadly boring*
furchtbar	*awful*

kxLBHBM

Was machst du in deiner Freizeit?

• What do you do in your free time?

Ich chille.	*I chill out.*
Ich esse Pizza oder Hamburger.	*I eat pizza or hamburgers.*
Ich gehe einkaufen.	*I go shopping.*
Ich gehe ins Kino.	*I go to the cinema.*
Ich gehe in den Park.	*I go to the park.*
Ich gehe in die Stadt.	*I go into town.*
Ich höre Musik.	*I listen to music.*
Ich mache Sport.	*I do sport.*
Ich spiele Xbox oder Wii.	*I play Xbox or on the Wii.*

9xycnf0u

German

Ich bin online • I'm online

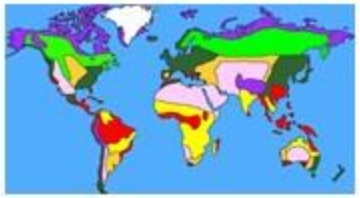
SVO8IKVZ

Was machst du am Computer?	*What do you do on the computer?*
Was machst du auf deinem Handy?	*What do you do on your mobile?*
Ich chatte mit Freunden auf Facebook.	*I chat with friends on Facebook.*
Ich lade Musik herunter.	*I download music.*
Ich mache Fotos oder Filme.	*I take photos or make films.*
Ich sehe Videos.	*I watch videos.*
Ich simse.	*I text.*
Ich spiele Computerspiele.	*I play computer games.*
Ich suche und lese Infos für die Hausaufgaben.	*I look for and read information for my homework.*
Ich surfe im Internet.	*I surf the internet.*
Ich telefoniere mit Freunden.	*I call my friends.*
Ich mache ziemlich viel auf meinem Handy.	*I do quite a lot of things on my mobile.*

Oft benutzte Wörter • High-frequency words

glViTgXQ

Wie oft?	*How often?*
(sehr/ziemlich/nicht so) oft	*(very/quite/not so) often*
einmal/zweimal/dreimal pro Woche/pro Monat	*once/twice/three times a week/a month*
jeden Tag	*every day*
jeden Morgen	*every morning*
manchmal	*sometimes*
immer	*always*
nie	*never*
Wann?	*When?*
am Wochenende	*at the weekend*
am Abend	*in the evening*
heute	*today*
morgen	*tomorrow*
am Montag	*on Monday*
nächste Woche	*next week*
in zwei Wochen	*in two weeks*



Year 7 Knowledge Organiser: Global Ecosystems (Biomes)

Topics covered

- ✓ What is an ecosystem?
- ✓ Types of ecosystem/biomes
- ✓ Locations of biomes
- ✓ Deserts distribution (where they are found) and climate
- ✓ Deserts adaptations
- ✓ Tropical Rainforests distribution (where they are found) and climate
- ✓ Tropical Rainforests (TRF's) adaptations
- ✓ Threats to TRF's
- ✓ Protecting TRF's

Key Ideas:

1. I can describe the location of global climate zones (average weather zones) and biomes
2. I can describe the characteristics (what it is like) for deserts and tropical rainforests (TRF's)
3. I can explain how TRF's are being threatened
4. I can suggest ways that TRF's can be protected

Skills

- ❑ Recognising/Describing geographical features from an image
- ❑ Describing a distribution on a global scale map
- ❑ Drawing a climate graph
- ❑ Research using ICT
- ❑ Writing a persuasive letter

Places and Environments

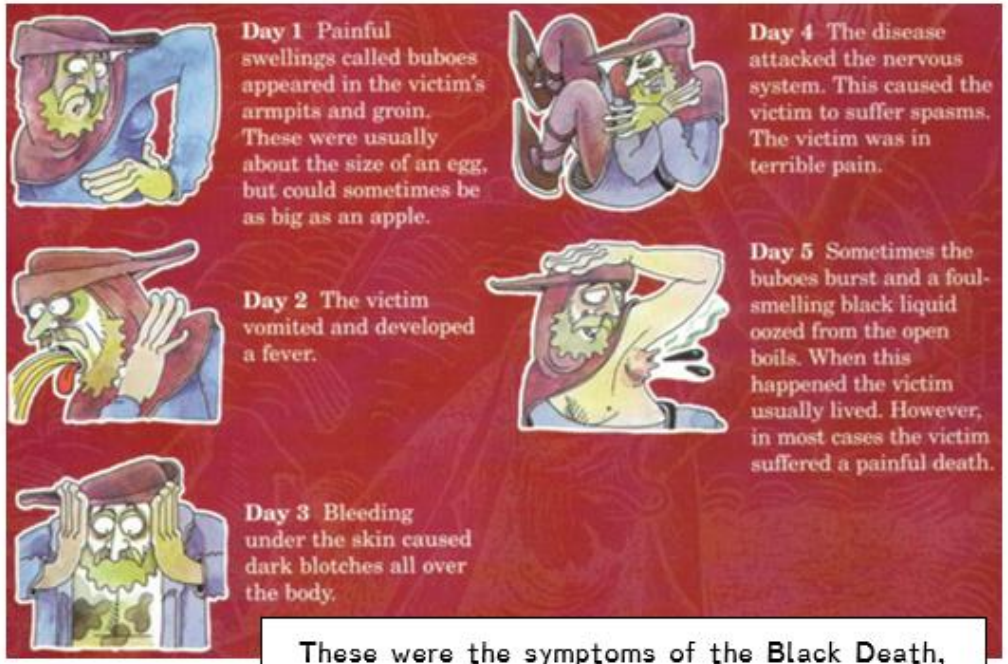
- ❖ The Sahara desert
- ❖ The Amazon Rainforest

Key Terms Used in this Unit

- ❑ Biomes
- ❑ Temperature
- ❑ Rainfall
- ❑ Climate
- ❑ Distribution
- ❑ Adaptations
- ❑ Evaporation
- ❑ Precipitation
- ❑ Lianas
- ❑ Buttress Roots
- ❑ Drip Tips
- ❑ Biodiversity
- ❑ Cattle ranching
- ❑ Plantations
- ❑ Palm Oil
- ❑ Sustainable

Year 7 History: HT3 – Black Death, Peasants Revolt, HT4 – King John

Key words	
Black Death	A disease that spread across Asia and Europe in the 14th century, killing up to 1/3 of Europe's population
Symptoms	An effect of a disease that can be observed in someone who has the disease
Cause	An event or factor that occurs which leads to a further event
Consequence	An event or outcome that occurs as a result of a cause
Peasants' Revolt	A large uprising in England that took place in 1381 where peasants protested against the Poll Tax and their situation
Lollards	A group of Christians in 14th century Britain who believed that all people should be equal
King John	King of England between 1199 and 1216. Seen by many as one of England's worst kings
Interpretation	A point of view on historical events that is based on evidence



These were the symptoms of the Black Death, which killed between 40-60% of Britain's population!

In many ways medieval Britain was similar to today. Humans have remained much the same for thousands of years! However, life in medieval Britain also had some key features that make it different to today:

- Britain was a Christian country, and most people were very religious – it was illegal not to attend Church!
- Hygiene was much less important than today.
- Particularly for peasants, life was very hard. Starvation and disease were very common.
- There was a small number of very rich people, but most of the population were very poor
- The vast majority of people worked on the land, growing food.

People at the time did not understand that the disease was actually caused by a bacteria, carried by fleas, rats and humans. As a consequence they had many of their own theories about what caused the plague based on their own understanding:

- The plague was caused by the positions of the planets
- The plague was a punishment from God
- The plague was caused by 'bad' or 'corrupt' air
- The plague was spread by Jewish people

This led to many attempted cures, most of which did not prevent the disease from spreading at all:

- Rubbing a dead chicken on buboes
- People known as 'flagellants' whipped themselves to apologise to God
- Many Jewish people were killed as they were blamed for the plague

The Peasants' Revolt, 1381 – In 1381 the peasants of Britain rose up against the King. In the end they were defeated in London, but this was a significant example of people with very little power standing up for themselves! You have learnt about what caused it.

Cause	Consequence
The Black Death and the Statute of Labourers	After the plague, so many peasants had died that there was a shortage. Survivors were able to demand higher wages. Wealthy people were angry so they lowered wages back to their previous levels. The peasants were angry about this!
The Feudal System	Under the Feudal System peasants spent their life working for other people, and were the 'property' of the nobles and barons. More and more people went to see this as unfair.
The Lollards	The Lollards were a radical Christian group who preached that all people were born equal. This led many people to believe that life was unfair and not in line with God's teachings.
The Poll Tax	This was a tax that all people had to pay equally, regardless of how much money they had. The peasants saw this as unfair as it hit them particularly hard.
The war with France	England was losing the 'Hundred Years War' with France. As many English people hated the French they were very angry about this

Interpretations of King John

Many people, including historians and those alive during his reign, have disagreed over the reign of King John. Although he is often seen as 'bad King John', or even England's worst ever King, others argue that he was not all that bad. We call these competing points of view interpretations, because historians have used sources in order to interpret the past.

John taxed his nobility heavily

John lost wars against France

John's owns barons rebelled against him in 1215

How bad was King John?

John introduced Magna Carta – the first time the King had to answer to his people

John strengthened England's control over Ireland and Wales

Year 7 – Spring 1 - Macbeth

Plot Summary

Act 1 - The play starts with the three witches in thunder and lightening arranging to meet again where they will speak with Macbeth. Macbeth has recently been very brave in a battle and fought well. The witches tell Macbeth and Banquo that Macbeth will become Thane of Cawdar and King. They tell Banquo his children will be Kings too. Due his bravery in battle Macbeth is promoted to Thane of Cawdor by King Duncan. Macbeth writes his wife a letter telling her about the witches and she persuades him to kill King Duncan.

Act 2 - Macbeth kills King Duncan. Duncan's sons are scared they will be next, so they run away; therefore, Macbeth becomes King.

Act 3 - Macbeth is worried Banquo is getting suspicious, so he tried to have Banquo and his son killed. Banquo is killed, but his son Fleance gets away. Later at a party Macbeth thinks he can see Banquo's ghost and he is terrified. Lady Macbeth thinks he is going mad.

Act 4 - Macbeth sees the witches again and several ghosts appear. They warn Macbeth to keep an eye on Macduff. They tell Macbeth that he will be safe until the woods start climbing up the hill to his castle. They also say that no man who has been born can ever kill Macbeth. Macbeth believes that he is invincible. Macduff is in England, so Macbeth has Macduff's wife and son killed.

Act 5 - Lady Macbeth has been having bad dreams because she feels guilty about murdering the king. Lady Macbeth dies. A messenger tells Macbeth that he's just seen some trees moving up the hill towards the castle. Macbeth starts to realise that the Witches have tricked him. The English army, camouflaged with branches, is marching up the hill towards him. Macduff was also delivered by way of Caesarean section, so in a way he wasn't born in the usual sense of the word. When Macbeth hears this, he realises that the Witches really did trick him. He decides to go down fighting, rather than give himself up. Macduff chops Macbeth's head off. Duncan's son, Malcolm, is made king.

Year 7 – Spring 1 - Macbeth

Context

- **Witchcraft** – King James I was obsessed by magic and ordered witch-trials during his reign. The Jacobean audience would have greatly feared the idea of witches and Shakespeare portrayed them as evil to please his King.
- **Patriarchal Society** – a patriarchal society is one where women are thought to be subservient to men. However, Shakespeare subverts these traditional gender roles with Macbeth & Lady Macbeth.
- **Devine Right & Religion** – A Jacobean audience would have been very religious and would have believed that the monarch was chosen by God. To commit regicide would have meant you were going against God and would therefore be punished by him.

Key Terminology

Soliloquy – speech in a play which reveals a character's thoughts

Dramatic Irony – when the audience knows something the characters do not.

Regicide – killing a King

Hubris – excessive ego/self-confidence

Tragic Hero – a character who starts good and suffers a downfall throughout the play

Treason – a crime betraying your country/monarch

Hamartia – a fatal flaw which causes the downfall of the tragic hero

Key Themes

Ambition – leads to evil. It makes Macbeth stronger and more determined, but then destroys his wife.

Supernatural – the idea there are forces controlling what is happening in our lives.

Reality & Appearance – the contrast between what is real and how things appear is also important in the play.

Loyalty & Guilt – breaking loyalties in turn causes guilt which destroys characters.

Characters

Macbeth – tragic hero of the play.

Lady Macbeth - married to Macbeth whose character goes against traditional gender ideas

Banquo – Macbeth's close friend who he betrays

King Duncan – King of Scotland

Macduff – Thane of Fife who is loyal to King Duncan

Malcolm – Duncan's son and rightful heir.

The Witches – deliver prophecies to Macbeth which initiate Macbeth's downfall.

Year 7 – Spring 1 – Macbeth – Task Sheet

Context Questions:

1. Create a class quiz on the context of the play. This could include questions about the monarch at the time, why certain themes are important and/or Shakespeare himself.
2. Why are the Witches so important and relevant to Macbeth?
3. Give an example where Lady Macbeth defies gender stereotypes.

Key Themes

1. Create your own witches spell, using rhyming couplets for your ingredients (links to theme of supernatural).
2. Two of the themes are ambition and guilt – which do you think causes the most trouble in the play. Give reasons for your choice.
3. Write a poem inspired by one of the key themes.

Key Terminology

1. Define the following words: regicide, hubris, hamartia & tragic hero.
2. What is dramatic irony and why is it effective in plays?
3. Write a soliloquy by Macbeth's ghost looking back at his behaviour throughout the play, examining his downfall.

Character Questions:

1. What does Macbeth admit makes him kill Duncan?
2. Who is Macbeth's friend?
3. Which word describes Macbeth?
4. What does Lady Macbeth ask evil spirits to do, to make her able to help Macbeth?
5. What do we know happens to Lady Macbeth?
6. Why does Macduff hate Macbeth so much?
7. What two things appear to Macbeth which might be a figment of his imagination?
8. Why can Macduff kill Macbeth?

Plot Summary Questions:

1. What do the Witches predict for Macbeth?
2. Who persuades Macbeth to kill King Duncan?
3. Which of Macbeth's victims appear as a ghost at the banquet?
4. What does Macbeth think the Witches mean when they say "none of woman born" can hurt him?
5. How does Macbeth realise the Witches have tricked him?
6. Why does Lady Macbeth go mad?
7. Who kills Macbeth?
8. Who becomes king after Macbeth dies?

1. **Themes:**

- Ambition
- Guilt
- Gender expectation
- Kingship
- Pride
- Fate and destiny

Look up these words and concepts and write out their definitions.

1.
2.
3.
4.
5.
6.

Can you think of moments in the play when you have seen evidence of any of these themes? Give as many examples as you can think of.

TASKS

Looking up the definitions of the keywords for each question will help you to answer them.

How does Macbeth change throughout the play? Use concise vocabulary to express your ideas, and give evidence (quotes) to support your answer.
Keywords: influenced, cowardly, masculine, proud, defiant, murderous

How does Lady Macbeth change throughout the course of the play? Use concise vocabulary to express your ideas, and give evidence (quotes) to support.
Keywords: Femininity, gender expectations, manipulative

Why are the Witches included in the play? What role or function do they serve? How might they entertain and affect the audience?
Keywords: supernatural, magic, witchcraft, ominous

What evidence do we have that Macbeth has a violent and ambitious nature? Think about what he has done in the play so far.
Keywords: masculinity, pride, warfare, loyalty

What is pride? Why is it considered a 'sin'? How is Macbeth proud?
Keywords: sin, pride

Is Lady Macbeth a villainous (evil) character? Explain your opinion. Hint:
Keywords: Manipulation, poison, gender expectations

Why do you think Shakespeare chose a 'dagger' as the murder weapon?
Keywords: Close combat, betrayal, deliberate

Why does Lady Macbeth see a permanent 'spot' of blood on her hands in the sleepwalking scene? What is her state of mind at this point in the play?
Keywords: remorse, hallucination

Why do you think Shakespeare includes hallucinations in this play? What does it show us that we would not otherwise see?
Keywords: hallucination, insights, madness

In many ways, Macbeth's actions can be viewed as quite cowardly, rather than brave and "masculine". To what extent do you agree? Can you explain your ideas?
Keywords: masculine, cowardly, extent

Solving problems with addition and subtraction

@whisto_maths

What do I need to be able to do?

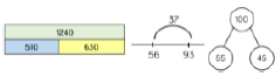
By the end of this unit you should be able to:

- Understand properties of addition/ subtraction
- Use mental strategies for addition/subtraction
- Use formal methods of addition/Subtraction for integers
- Use formal methods of addition/Subtraction for decimals
- Solve problems in context of perimeter
- Solve problems with finance, tables and timetables
- Solve problems with frequency trees
- Solve problems with bar charts and line charts

Keywords

Commutative: changing the order of the operations does not change the result
Associative: when you add or multiply you can do so regardless of how the numbers are grouped
Inverse: the operation that undoes what was done by the previous operation. (The opposite operation)
Placeholder: a number that occupies a position to give value
Perimeter: the distance/ length around a 2D object
Polygon: a 2D shape made with straight lines
Balance: in financial questions – the amount of money in a bank account
Credit: money that goes into a bank account
Debit: money that leaves a bank account

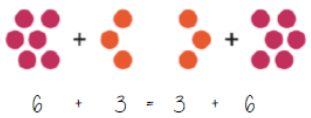
Addition/ Subtraction with integers



Modelling methods for addition/ subtraction

- Bar models
- Number lines
- Part/ Whole diagrams

Addition is commutative



6 + 3 = 3 + 6

The order of addition does not change the result

Subtraction the order has to stay the same

$360 - 147 = 360 - 100 - 40 - 7$

- Number lines help for addition and subtraction
- Working in 10's first aids mental addition/ subtraction
- Show your relationships by writing fact families

Formal written methods

	H	T	O
	1	8	7
+	5	4	2

	H	T	O
	4	2	7
−	2	4	9

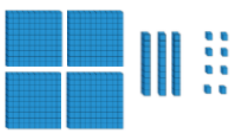
Remember the place value of each column. You may need to move 10 ones to the ones column to be able to subtract

Addition/ Subtraction with decimals

4	.	3	8	
7	.	9	0	+

0 can be used to fill empty places with value

The decimal place acts as the placeholder and aligns the other values



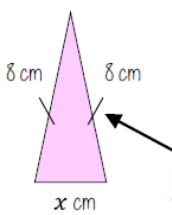
If  represents 1 instead of 100

$5.43 + \frac{8}{10}$

Revisit Fraction – Decimal equivalence
5.43 + 0.8

Solve problems with perimeter

Perimeter is the length around the outside of a polygon



Isosceles Triangle notation

The triangle has a perimeter of 25cm
Find the length of x

$8cm + 8cm + xcm = 25cm$
$16cm + xcm = 25cm$
$xcm = 9cm$

Solve problems with finance

Profit= Income - Costs

Credit – Money coming into an account

Debit – Money leaving an account

Money uses a two decimal place system
14.2 on a calculator represents £14.20

Check the units of currency – work in the same unit

Tables and timetables

Distance tables

	London		
211	Cardiff		
556	493	Glasgow	
518	392	177	Belfast

This shows the distance between Glasgow and London.
It is where their row and column intersects

Bus/ Train timetables

Harton	1005	1045	1130
Bridge	1024	1106	1147
Aville	1051	1133	1205
Ware	1117	1202	1233

Each column represents a journey, each row represents the time the 'bus' arrives at that location

TIME CALCUALTIONS – use a number line

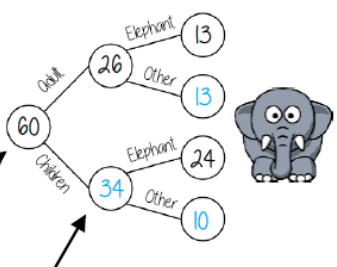
Two-way tables

	H	T
H	HH	HT
T	TH	TT

Where rows and columns intersect is the outcome of that action

Frequency trees

60 people visited the zoo one Saturday morning.
26 of them were adults. 13 of the adult's favourite animal was an elephant. 24 of the children's favourite animal was an elephant.

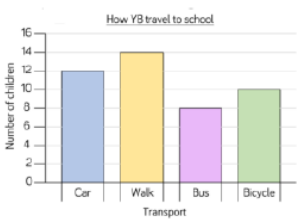


The overall total "60 people"

A frequency tree is made up from part-whole models. One piece of information leads to another

Probabilities or statements can be taken from the completed trees
e.g. 34 children visited the zoo

Bar and line charts



Use addition/ subtraction methods to extract information from bar charts.

e.g. Difference between the number of students who walked and took the bus.
Walk frequency – bus frequency

When describing changes or making predictions.

- Extract information from your data source
- Make comparisons of difference or sum of values.
- Put into the context of the scenario

Solving problems with multiplication and division

@whisto_maths

What do I need to be able to do?

By the end of this unit you should be able to:

- Understand and use factors
- Understand and use multiples
- Multiply/ Divide integers and decimals by powers of 10
- Use formal methods to multiply
- Use formal methods to divide
- Understand and use order of operations
- Solve area problems
- Solve problems using the mean

Keywords

Array: an arrangement of items to represent concepts in rows or columns
Multiples: found by multiplying any number by positive integers
Factor: integers that multiply together to get another number.
Milli: prefix meaning one thousandth
Centi: prefix meaning one hundredth
Kilo: prefix meaning multiply by 1000
Quotient: the result of a division
Dividend: the number being divided
Divisor: the number we divide by

Factors

Arrays can help represent factors

5 x 2 or 2 x 5

Factors of 10
1, 2, 5, 10

10 x 1 or 1 x 10

The number itself is always a factor

Square numbers have an ODD number of factors

Be strategic - Lay factors out in pairs can help you not to miss any

Factors of 4
1, 2, 4

Factors of 36
1, 2, 3, 4, 6, 9, 12, 18, 36

Multiples

Bar models can represent by something is a multiple. E.g. 20 is a multiple of 4

Lowest Common Multiples

LCM of 9 and 12

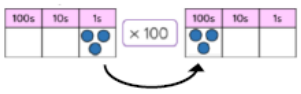
The first time their multiples match

LCM = 36

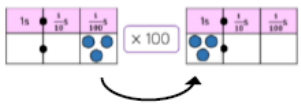
9: 9, 18, 27, 36, 45, 54

12: 12, 24, 36, 48, 60

Multiply/ Divide by powers of 10



3 x 100 = 300



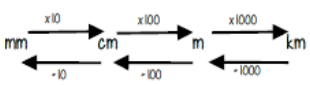
0.03 x 100 = 3

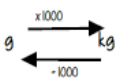
Repeated multiplication and division by powers of 10 is commutative

÷ 10 then ÷ 10 → ÷ 100

Metric conversions

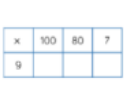
Useful Conversions



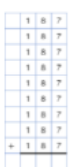


Multiplication methods

Long multiplication (column)



Grid method



Repeated addition

Less effective method especially for bigger multiplication

Multiplication with decimals

Perform multiplications as integers
e.g. 0.2 x 0.3 → 2 x 3

Make adjustments to your answer to match the question: 0.2 x 10 = 2
0.3 x 10 = 3
Therefore 6 ÷ 100 = 0.06

Estimations: Using estimations allows a 'check' if your answer is reasonable

Division methods

3584 ÷ 7 = 512

Short division

```
   5 1 2
7 | 3 3 5 8 1 4
```

Complex division

÷ 24 = ÷ 6 ÷ 4

Break up the divisor using factors

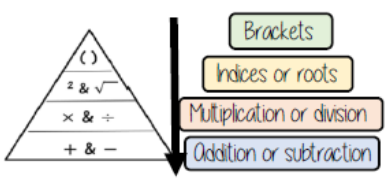
Division with decimals

The placeholder in division methods is essential – the decimal lines up on the dividend and the quotient

24 ÷ 0.02 → 24 ÷ 0.2 → 240 ÷ 2

All give the same solution as represent the same proportion
Multiply the values in proportion until the divisor becomes an integer

Order of operations



If you have multiple operations from the same tier work from left to right

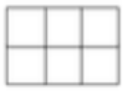
e.g. 10 – 3 + 5 → 10 - 3 → 7 + 5

6 x 4 + 8 x 2

24 + 16 = 40

Area problems

Rectangle
Base x Perpendicular height



Parallelogram/ Rhombus
Base x Perpendicular height

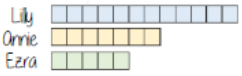
Triangle
½ x Base x Perpendicular height

A triangle is half the size of the rectangle it would fit in

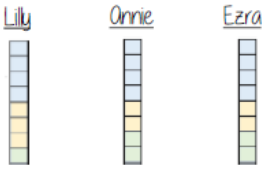
Mean problems

Mean – a measure of average
It gives an idea of the central value

Lilly, Annie and Ezra have the following cubes



Finding the mean amount is the average amount each person would have if shared out equally



The mean number of blocks would be 8 each

Fractions and percentages of amounts

@whisto_maths

What do I need to be able to do?

By the end of this unit you should be able to:

- Find a fraction of a given amount
- Use a given fraction to find the whole or other fractions
- Find the percentage of an amount using mental methods
- Find the percentage of a given amount using a calculator

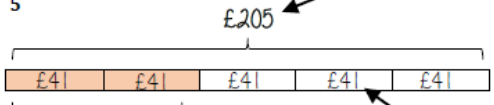
Keywords

Fraction: how many parts of a whole we have
Equivalent: of equal value
Whole: a number with no fractional or decimal part
Percentage: parts per 100 (uses the % symbol)
Place Value: the value of a digit depending on its place in a number. In our decimal number system, each place is 10 times bigger than the place to its right
Convert: change into an equivalent representation, often fraction to decimal to a percentage cycle

Fraction of a given amount

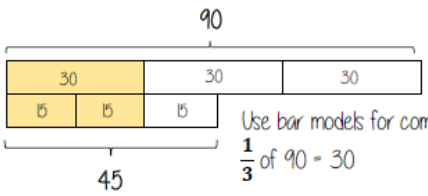
Find $\frac{2}{5}$ of £205

The bar represents the whole amount



2 out of the 5 equal parts
2 x £41 = £82

£205 ÷ 5 = £41
Each part of the bar model represents £41



Use bar models for comparisons

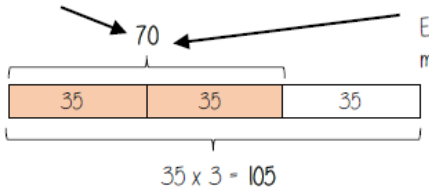
$\frac{1}{3}$ of 90 = 30

$\frac{2}{3}$ of 45 = 30

$\therefore \frac{1}{3}$ of 90 = $\frac{2}{3}$ of 45

Use a fraction of amount

$\frac{2}{3}$ of a value is 70. What is the whole number?

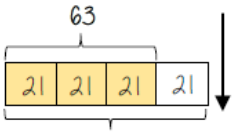


70 ÷ 2 = 35
Each part of the bar model represents 35

35 x 3 = 105
The whole number is 105

The wording of the question is important to setting up the bar model

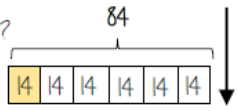
$\frac{3}{4}$ of a number is 63



Find the whole

What is $\frac{1}{6}$ of the number?

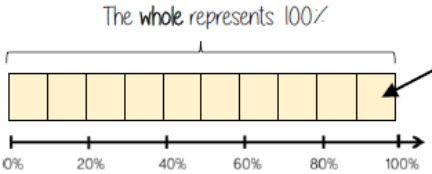
= 14



Use the whole to find a given part

Find the percentage of an amount (Mental methods)

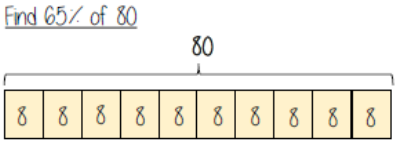
The whole represents 100%



10% = $\frac{1}{10}$ of the whole

10% = $\frac{1}{10}$ of the whole
20% = $\frac{2}{10} = \frac{1}{5}$ of the whole
50% = $\frac{5}{10} = \frac{1}{2}$ of the whole
5% = $\frac{1}{20}$ of the whole

Find 65% of 80



For bigger percentages it is sometimes easier to take away from 100%

Method 1:
65% = 10% x 6 + 5%
= (8 x 6) + 4
= 52

Method 2:
65% = 50% + 10% + 5%
= 40 + 8 + 4
= 52

Find the percentage of an amount (Calculator methods)

Using a multiplier

Find 65% of 80

Fraction, decimal, percentage conversion

65% = $\frac{65}{100}$ = 0.65 ← The multiplier

0.65 x 80 = 52

Using the percent button

Find 65% of 80

This brings up the % button on screen
You will see 65%

Type 65
Press SHIFT (%)
Press × 80 and then press =

You can also use the calculator to support non calculator methods and find 1% or 10% then add percentages together

"of" can represent 'x' in calculator methods

Year 7 RS: Does the existence of evil prove that God doesn't exist?

Key words	
Free Will	Humans have the ability to make their own choices.
Moral Choice	Humans have the ability to know right from wrong and can choose right or wrong behaviour.
Moral Evil	Actions that are caused by man that lead to suffering.
Natural Evil	Actions caused by nature that lead to suffering.
Omnipotent	The belief that God is all powerful.
Omnibenevolent	The belief that God is all loving and kind.
Omnipresent	The belief that God is all present– he is everywhere,
Omniscient	The belief that God know everything– the past, the present and the future.
The Fall	The original sin committed by Adam and Eve.

They feel that God is using suffering to test the faith of his followers (like the story of Job)
They also believe that suffering is a part of God's plan– he knows why everything is happening, but humans cannot understand.
Christians feel that evil is necessary for us to know what good is. Because evil exists we can be aware of what is good and choose to do good so that we can grow into the image of God.
Some Christians believe that evil is the sole responsibility of humans for making wrong choices e.g.: Adam and Eve brought evil

How do Christians respond to the problem of evil?

Christians respond to the problem of evil in several ways. For example:

Free will: God has given people free will – the ability to choose between right and wrong for themselves. God has shown people how they should live (e.g. the Ten Commandments), but it is up to them to decide whether or not to follow God's instructions. Suffering comes from humans misusing their freewill.

Spiritual growth: Some Christians point out that experiencing suffering ourselves or seeing other people suffer can teach us humility or help us develop compassion for others. Christians believe that God shares in our suffering (e.g. Jesus suffered on the cross).

The existence of evil and suffering is one of the commonest reasons people give for not believing in God, or for losing their faith in God:

- If God is all–loving, surely, he would not want people to suffer?
- If God is all–powerful, surely, he could prevent people from suffering?
- The fact that evil and suffering do continue to exist in the world makes some people question whether the all–powerful, all–loving God of Christianity actually exists. We call this **the problem of evil.**

Coping with Suffering

1. **PRAYER** – Christians pray to God when they are suffering, hoping that God will listen and comfort and strengthen them in dealing with their suffering. They may also pray for God's help in ridding them of the suffering e.g. curing them/someone else from an illness.

2. **IT IS PART OF GOD'S PLAN** – Even though humans may not understand or be aware of the plan, Christians believe that God does have a plan and purpose for everything that happens and this includes suffering. God works through all situations to bring about good, even if this may result in someone dying. It is comforting for Christians to think that a greater good will come out of the suffering they are feeling.

3. **JESUS HIMSELF SUFFERED** – Christians believe that God can understand the suffering that they go through because Jesus himself suffered on the cross. The Bible teaches Christians to share in the suffering of Jesus and in times of suffering Christians will look to God for strength and support.

Christians believe that when God created the world, Adam and Eve were in a state of innocent and in a perfect relationship with God, as it says in Genesis 3.

God forbade Adam and Eve to eat the forbidden fruit from the tree of knowledge, but Eve was tempted by the serpent to do so and Adam also shared the fruit.

Humanity now had knowledge of good and evil – they were no longer innocent and brought death and evil into the world be disobeying God. God punished Adam and Eve by banishing them from the Garden of Eden and making their lives harder e.g. woman pain in childbirth.

The Fall is the phrase used to show this shift from a perfect relationship with God to one of disobedience and a broken relationship.

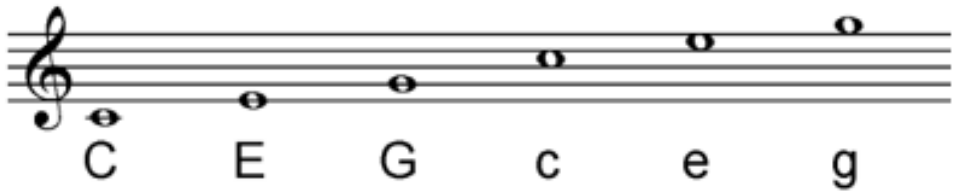
Many Christians believe that The Fall has affected all humans and that every person is born with original sin – born out of a relationship with God and needing to be saved by God. Without being saved by God, a person with original sin cannot gain eternal life in heaven

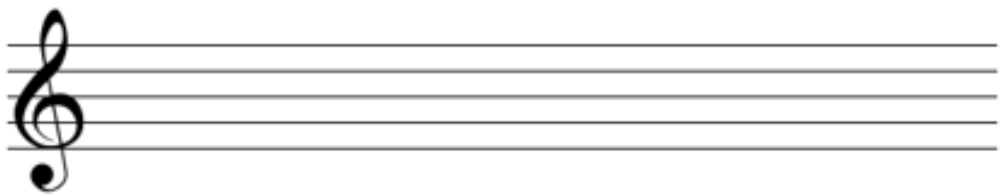
Christians believe that they must seek to have their broken relationship with God mended and restored and therefore ask for God's forgiveness in order to gain redemption (restoring a relationship with God). The way that Christians can do this is by following a life in the example of Jesus, because Jesus died on the cross for the sake of all humanity's sins so that humans can enter back into a relationship with God.

Christians believe that anyone who chooses not to follow Christ and live outside of a relationship with God, will be punished after death by hell.

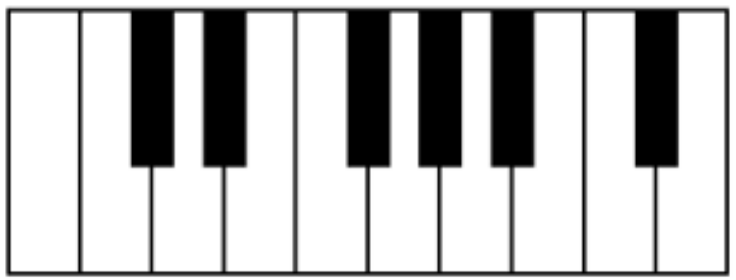
Year 7 Spring Term Knowledge Organiser

A fanfare is a call or flourish played on a trumpet and/or other brass instruments. A fanfare signals the arrival of an important person. Some fanfares are used to introduce a ceremony or event. Simple fanfares use the notes of a chord. They suit brass instruments because, without valves, brass players can produce the notes of a chord just by changing their lip pressure.





An ostinato is a musical pattern that repeats! You find them in all types of music, including fanfares, pop music, classical music and jazz!



Practice writing out notes on the blank stave above! Also, have a go at labelling the keyboard diagram over there!

Year 7 Autumn Term Knowledge Organiser

On this piece of fanfare music, see if you can find the following and label them: a crochet, a minim, a quaver, a treble clef, a G, 3 C's joined together, a pause sign, a bar line, a tempo marking and a dynamic marking!

Year 7 – Drama
Knowledge Organiser 2
Working as a chorus

Purpose of a chorus

The purpose of the chorus is to help to tell the story, to create a "background" for the main action by setting the scene and to act as a **moral compass**.

To help focus the audience a chorus can use **point**, **look** and **lean**.

The chorus may work in **unison** – **all** doing the same moves at the same times, or **canon** – one person does the move then the next then the next (like a Mexican wave).

When working as a chorus it is important to have good **spatial awareness**, meaning that you don't stand too close or too far from other people.

When working in a chorus it is important to make good use of **levels** to make sure that everyone can be seen.

Performing to an audience

When performing to an audience you need to remember to:

Make sure the audience can **see** everything – think about your position on stage, are you facing the right way? Have you used levels?

Make sure the audience can **hear** everything – do you know what you need to say? Are you speaking loudly enough? Are you speaking with expression?

Make sure that the audience can **understand** everything – are your actions and words clear enough?

If your audience can see, hear and understand what you are doing then you are one step closer to clearly **communicating** your story to them. **Commit** to your performance and be **confident** – if you believe in what you are doing then the audience will do to. Enjoy it and have fun!

What do you know about the United Kingdom of Great Britain and Northern Ireland?

Name and flag	Patron Saint	National Flower(s)	National Animal(s)	Coat of Arms	Motto	Anthem plus de facto /alternate
United Kingdom 	United Kingdom does not have a patron saint or flower. It does have Britannia as the embodiment of the nation. 		Lion  Bull dog 	Royal coat of arms of the United Kingdom 	Dieu et mon droit meaning "God and my right" The motto is said to have first been used by Richard I (1157–1199) as a battle cry and presumed to be a reference to his French ancestry (indeed he spoke French and Occitan but knew only basic English) It was adopted as the royal motto of England by King Henry V (1386–1422)	"God Save the Queen" King replaces Queen when a male is on the throne.
England 	St George	Tudor Rose 	Lion 			God Save the Queen / Jerusalem
Scotland 	St Andrew	Thistle 	Unicorn 		*In Defens* (Scots) "In Defence"	God save the Queen / flower of Scotland
Wales 	St David	Leek or daffodil  	Red Dragon 		*Cymru am byth* (Welsh) "Wales forever"	"Hen Wlad Fy Nhadau“ (Welsh) "Land of my Fathers"
Northern Ireland (currently no flag Ulster banner removed 1973)	St Patrick 	Flax or Shamroc 	None	Many disagree with it as the body that created it is defunct.	 *Quis separabit?* "Who will separate us?"	Londonderry Air