NOTTINGHAM
FREE SCHOOL

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER

Autumn Term 2

Name: _____ Tutor Set: _____

"By failing to prepare you are preparing to fail"

Benjamin Franklin

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Autumn Term 2 Timetable

The timetable below shows you which subjects you will be studying each day, for 30 minutes each, it does not show you which section of the subject KO to learn. This information will be given to you by your subject teacher and you should write this into your **planner.** The planner is also where you will have your KO work signed off each week.

Week 1: 4th November

	Subject 1	Subject 2
Monday	English	Phil & Ethics
Tuesday	Science	Geography
Wednesday	Maths	Computer Sci
Thursday	Science	History
Friday	Spanish	DT

Week 2: 11th November

	Subject 1	Subject 2
Monday	English	Drama
Tuesday	Science	Geography
Wednesday	Maths	Music
Thursday	Head of School	History
Friday	Spanish	PE

Week 3: 18th November

	Subject 1	Subject 2
Monday	English	Phil & Ethics
Tuesday	Science	Geography
Wednesday	Maths	Computer Sci
Thursday	Science	History
Friday	Spanish	DT

Week 4: 25th November

	Subject 1	Subject 2
Monday	English	PE
Tuesday	Science	Geography
Wednesday	Maths	Music
Thursday	Drama	History
Friday	Spanish	Head of School

Week 5: 2nd December

	Subject 1	Subject 2
Monday	English	Phil & Ethics
Tuesday	Science	Geography
Wednesday	Maths	Computer Sci
Thursday	Science	History
Friday	Spanish	DT

Week 6: 9th December

	Subject 1	Subject 2
Monday	English	Head of School
Tuesday	Science	Geography
Wednesday	Maths	Music
Thursday	Drama	History
Friday	Spanish	PE

You have an art project this half term, you must ensure you are working on this throughout the half term in order to complete it ready for the deadline – your art teacher will give you more information.

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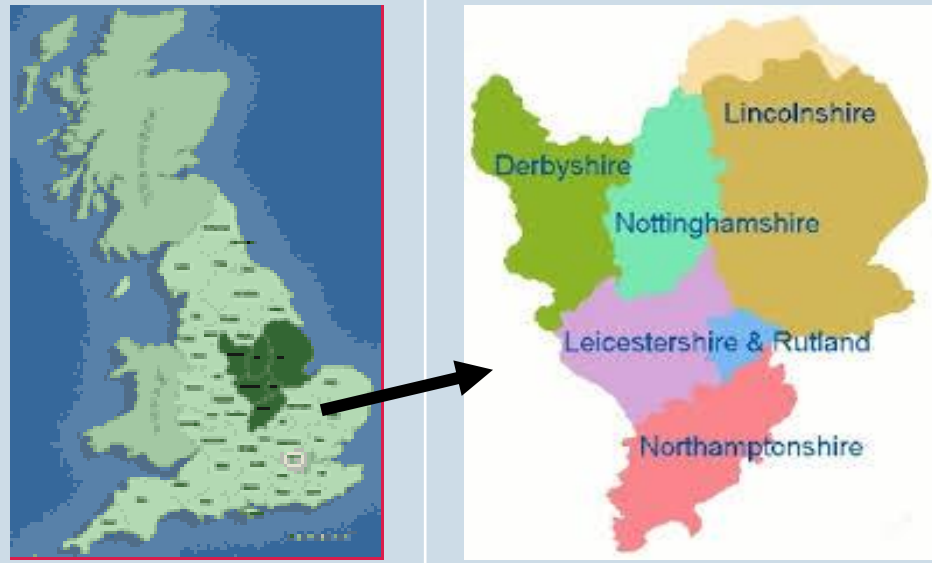
HEAD OF SCHOOL'S PAGE

General Knowledge

A: Our World – facts about the continents

Asia	includes 50 countries, and it is the most populated continent, 60% of the total population of the Earth live here
Africa	comprises 54 countries. It is the hottest continent and home of the world's largest desert, the Sahara, occupying the 25% of the total area of Africa
North America	includes 23 countries led by the USA as the largest economy in the world
South America	comprises 12 countries. Here is located the largest forest, the Amazon rainforest, which covers 30% of the South America total area
Antarctica	is the coldest continent in the world, completely covered with ice. There are no permanent inhabitants, except of scientists maintaining research stations in Antarctica
Europe	comprises 51 countries. It is the most developed economically continent with the European Union as the biggest economic and political union in the world
Australia/ Oceania	includes 14 countries. It is the least populated continent after Antarctica, only 0.3% of the total Earth population live here

B: Local facts – Counties in the East Midlands



C: The UK – Highest peaks

Country	Peak	Height (m)
England	Scafell Pike	978
Northern Ireland	Slieve Donard	850
Scotland	Ben Nevis	1345
Wales	Snowden	1085

D: Academic Vocabulary: words to help you learn

Word	Definition
approach	a way of dealing with a situation or problem.
deduction	the action of deducting or subtracting something.
dominant	having power and influence over others.
emphasis	special importance, value, or prominence given to something.
established	having existed or done something for a long time and therefore recognized and generally accepted.
institute	an organization having a particular purpose, especially one that is involved with science, education, or a specific profession.
interaction	reciprocal action or influence
indicate	point out; show.
justification	the action of showing something to be right or reasonable.
relevant	closely connected or appropriate to what is being done or considered.

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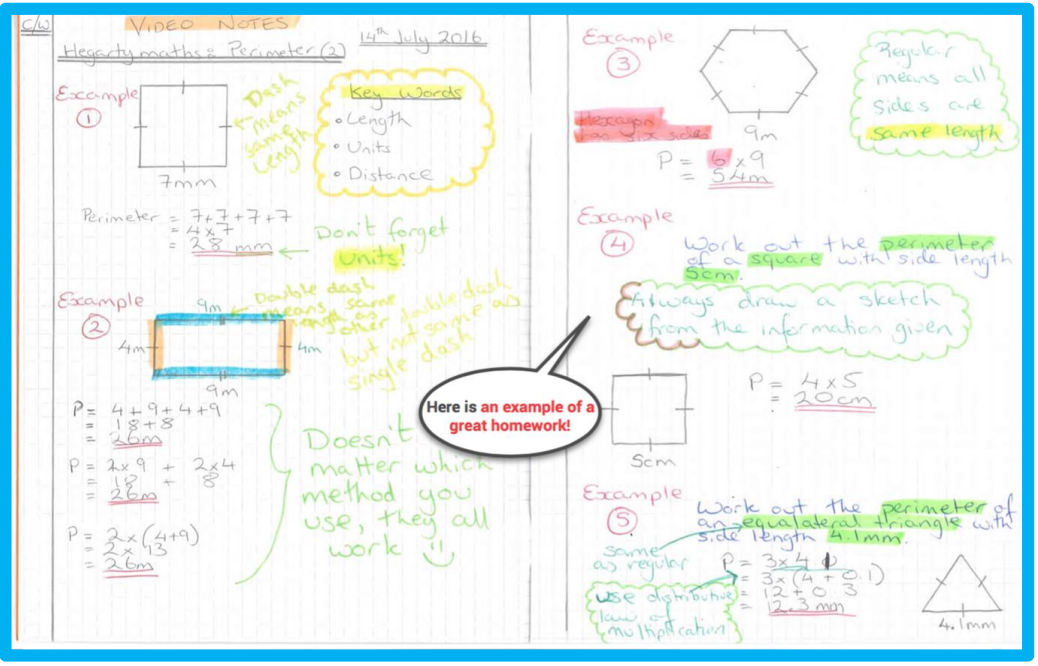
MATHS
Hegarty Maths Advice

Our weekly homework routines...

1	You will always be set at least one homework a week by your teacher.
2	Your teacher will choose the lesson they want you to learn and will pick it so that you are revising an important maths topic for revision. As such, you have already probably covered it in class but might have forgotten so your homework is to revise as, to be a great learner, you need to revise all the time (not just before tests!).
3	You need to spend **between 30 minutes and 1 hour** on your homework as this shows effort and commitment and will ensure that you do quality homework.
4	You will always be expected to i) watch the video + take notes; ii) write down your quiz workings neatly; iii) mark your own work, make corrections and write down your score at the end.
5	Homework will be checked by your teacher in class once a week during your starter. You will be expected to bring your homework book to class and leave it open on the desk for your teacher to inspect.



10 things a student should do when completing HegartyMaths homework

	Student checklist for good HegartyMaths homework	✓ or ✗
1	I always write the date, title, clip number and H/W for all my tasks.	
2	I always watch the video before attempting the questions.	
3	I always take full notes of all the examples modelled in the video.	
4	I copy every question that I attempt in my book.	
5	I show all my workings for every question in the quiz that I do.	
6	I try to model my work the way I was shown in the video by Mr Hegarty.	
7	I use a pencil and ruler for all diagrams.	
8	I mark my work correct/incorrect as I go.	
9	I write down corrections when HegartyMaths tells me the correct answer.	
10	I write down my score at the end of quiz .	

5 things you should do when you want to do extra work

	Action	✓ or ✗
1	I go back to my donut and pick lessons that are **red** (<70%) to redo them to make them **amber** (>70%) or **green** (100%).	
2	I go back to my donut and pick lessons that are **amber** (>70%) to redo them to make them **green** (100%).	
3	When working on lessons that are **red** or **amber** and I cannot make them **100%,** I rewatch the video and look at the building blocks which may help me.	
4	I complete a **Fix-Up-5** where HegartyMaths gives me 5 practice questions on parts of maths that I might be weak on.	
5	If my teacher has given me a revision list of clips on HegartyMaths, then I pick a topic on that list and complete a homework the normal way by myself.	

You will **always** produce a set of well-written notes of all the modelled examples in the video as we want you to be an expert note-taker and to revise before you try the quiz. **If you know the material, you still have to take the notes as sometimes you have to revise topics you already know and it's good for your long-term maths memory.**

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ENGLISH

Novel: My Sister Lives on the Mantelpiece

A: Key Terms (Learn the spellings and definitions)

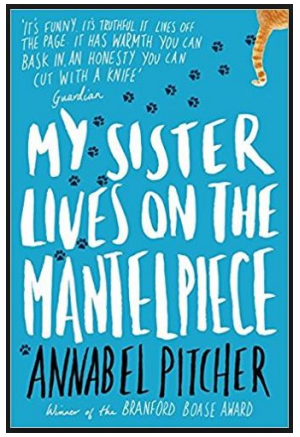
Antagonist: the main character in a work of fiction who comes into conflict with the protagonist (hero or heroine). Note that the antagonist does not always have to be a character; it could be a thing or a situation (a monster, a storm, a flood, etc.).
Climax: the moment of greatest intensity in a work of fiction; the most exciting and important part of a story, usually occurring at or near the end. The climax is the turning point in the action.
Conflict: a struggle, disagreement, or difference between opposing forces in a literary work, usually resolved by the end of the work.
Exposition: this also refers to the first stage of a plot, in which necessary background information is provided.
Foreshadowing: to give a suggestion of something that will happen in the story.
Imagery: the images collected and used in a written work to add to the ambiance; language used by a writer that causes readers to imagine pictures in their minds, which gives them a mental image of the people, places, and things in a story.
Protagonist: the principal or main character in a literary work.
Rising Action: the set of conflicts in a story that lead up to the climax.

B: Context

- London bombings of 2005, also called 7 July attacks or 7/7 attacks,
- They were coordinated suicide bomb attacks on the London transit system on the morning of July 7, 2005.
- At 8:50 AM explosions tore through three trains on the London Underground, killing 39.
- An hour later 13 people were killed when a bomb detonated on the upper deck of a bus in Tavistock Square.
- More than 700 people were injured in the four attacks.

C: Spellings

1. Friendship
2. Alcoholic
3. Abandoned
4. Separation
5. Stereotype
6. Racism
7. Isolation
8. Grieving
9. Relationship
10. Presentation



D: Key Quotes

1. "My sister Rose lives on the mantelpiece. Well, some of her does. A collarbone, two ribs, a bit of skull, and a little toe."
2. "Sometimes when I wake up, I forget that she's gone and then I remember and my heart drops like it does when you miss a step or trip over a kerb."
3. "In fact she was quite bad and according to Jas she was naughty at school, but no one seems to remember that now she is all dead and perfect."
4. "I swallowed all the doubt and all the disappointment and all the anger and they were almost too big, like vitamin pills that are difficult to get down even with water."
5. "If envy is red and doubt is black then happiness is brown. I looked from the little brown stone to the tiny brown freckle to her huge brown eyes."

E: Summary of Characters and Plot

- Ten-year-old Jamie Mathews
- His sister, Jas, who is 15
- His father, an alcoholic
- They move to the country from London after Jamie's mother has an affair and leaves.
- Sitting on the Mantelpiece in their new home is the ashes of Rose, Jas's twin sister, who was killed on September 9 in the London Bombings, five years earlier.
- Jas has been deeply troubled by the death of her sister, yet it doesn't bother Jamie since he was too young to really know Rose.
- At his new school, Jamie befriends Sunya, who is a Muslim.
- Jamie knows his father wouldn't approve of their friendship, as he hates Muslims and blames Rose's death on the entire Muslim population.
- This novel is narrated by Jamie and expresses his deep feelings.

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ENGLISH

Writing: Narrative and Descriptive

A: Sentence starts

(make sure you finish the sentence)
Verb – Running quickly, she .....
Adverb – Darkly, the night sky....
Adjective – Red light filled the ...
Preposition – Down there, all...
Connective – However, his life...

B: Language devices/Spellings

Simile
Metaphor
Personification
Onomatopoeia
Alliteration
Imagery
Symbolism
Oxymoron
Juxtaposition
Pathetic Fallacy

C: The basics

Capital letters
Full stops
Question marks
Commas
Apostrophes
Consistent tense
Paragraphs
Homophone
Spellings
Connectives
Semi-colons
Colons
Vary sentence starts/lengths
Vary paragraph lengths
Topic sentences

D: Effective opening lines

"All children, except one, grow up." **J.M. Barrie: Peter Pan (1911)**

"It was the day my grandmother exploded." **Iain Banks: The Crow Road (1992)**

"Mother died today. Or maybe, yesterday; I can't be sure." **Albert Camus: The Stranger (1946)**

"All this happened, more or less." **Kurt Vonnegut: Slaughterhouse Five (1969)**

"It was a bright cold day in April, and the clocks were striking thirteen." **George Orwell: Nineteen Eighty-Four (1949)**

"All happy families are alike; each unhappy family is unhappy in its own way." **Leo Tolstoy: Anna Karenina (1878)**

"It is a truth universally acknowledged, that a single man in possession of a good fortune, must be in want of a wife." **Jane Austen: Pride and Prejudice (1813)**

E: Stretch yourself

Learn these ways to help make your writing impressive and interesting to the reader.
Impressive vocab
Break the rules!!!
Reveal slowly/quickly
Dialogue
Parenthesis (brackets)
Cohesion (topic sentence, pronouns, prepositions)
Cyclical/non-linear structure

F: THE FIVE SENSES

Sight
Focus on just a handful of details (and allow readers to paint the rest of the picture for themselves).
Make those details the best ones you can find.

Smell
The smell of a woodland in summer after rain.
Sour milk in the refrigerator.
The first smell of the sea through a car window.

Sound
One solution is an onomatopoeia...
Jangle
Clatter
Crash
Similes work well, too – "the cry of the fox sounded like a child in terrible pain."

Taste
When a character arrives at the coast, the usual thing would be to have them *smell* the sea. Instead, have them *taste* the salt on the breeze.
When a young boy captures a frog at the bottom of the garden, have him lick it... then recoil.
When a woman returns to her childhood home, have her taste her mother's roast chicken when she's still 100 miles away.

Touch
A greasy stove.
Cracked lips.
A cold handshake.

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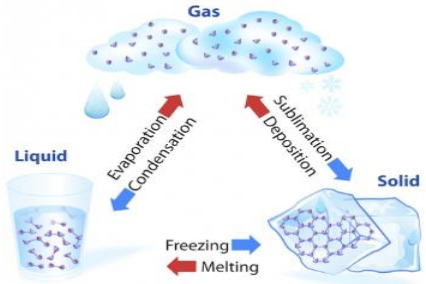
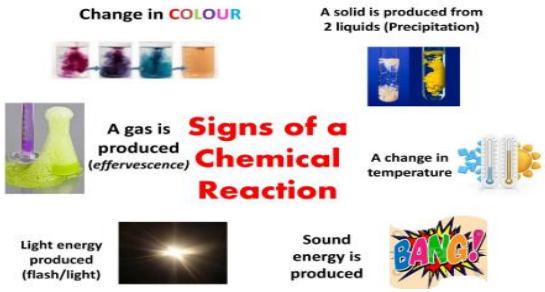
SCIENCE - Chemistry

Reactions

A: Chemical and physical changes

In a **physical change** no new product is made. An example of this is a **change of state**.

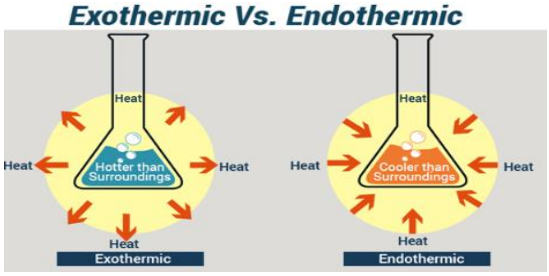




In a **chemical change** the atoms are rearranged and a new product is formed.

C: Endothermic and exothermic reactions

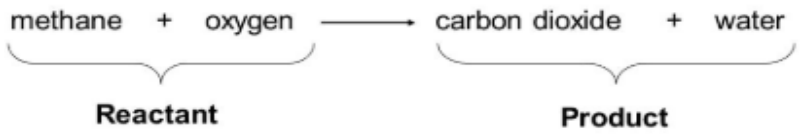
An exothermic reaction gives out energy to the surroundings so the temperature of the surroundings increases. Examples of exothermic reactions are combustion, oxidation and neutralisation.



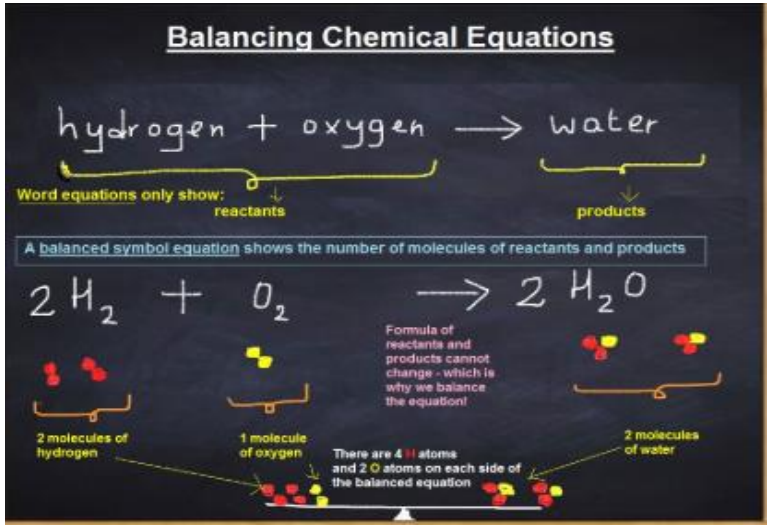
An endothermic reaction is when heat energy is taken from the surroundings so the temperature of the surroundings decreases. An example of an endothermic reaction is thermal decomposition.

B: Word equations and balanced symbol equations

A word equation is a way of using the names of substances to show what is happening in a chemical reaction.
The reactants are the substances required for a chemical reaction and the products are what are formed in the reaction.



In a chemical reaction we also use state symbols to tell us if the chemicals are a **solid (s), liquid (l), gas (g) or aqueous (aq).** Aqueous means dissolved in water.
Sometimes we use a balanced symbol equation that shows us how many of atom there are on both sides of the reaction. If it is balanced there will be the same number on both sides of the equation.
The big numbers before the chemical show us how many molecules there are and the small numbers tell us how many atoms there are.

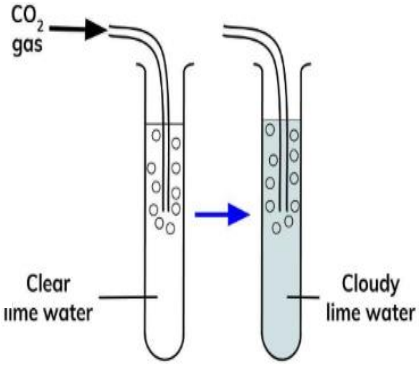


D: Combustion

Combustion means burning in oxygen. For something to burn you need fuel, oxygen and heat.

Complete combustion (when there is enough oxygen)
Fuel + oxygen → Carbon dioxide + water.
Incomplete combustion (when there is not enough oxygen)
Fuel + oxygen → Carbon monoxide + water + carbon (soot).

To test for carbon dioxide we use limewater. If the limewater turns cloudy then it shows carbon dioxide is present.



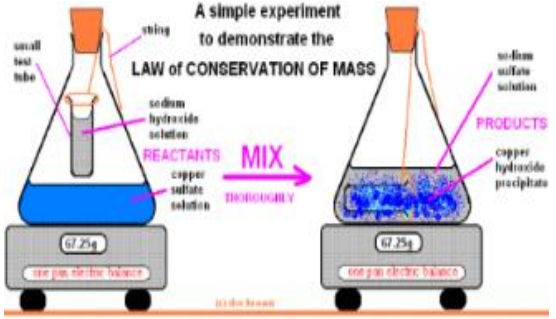
E: Conservation of mass

Conservation of mass means that in a chemical reaction atoms are not created or destroyed, they are just rearranged.

Sometimes it can seem as though this doesn't happen because one of the chemicals is a gas and gases can enter and leave a reaction.

Eg **Carbon (s) + oxygen (g) → Carbon dioxide (g)**
In **Magnesium (s) + oxygen (g) → Magnesium oxide (s)**

A gas is being added to the magnesium so it *appears* to have got heavier.



F: Oxidation and thermal decomposition

Oxidation is when a chemical gains oxygen during a chemical reaction. An example of oxidation is a combustion reaction.

Thermal decomposition is when a substance is broken down using heat.

Metal carbonate → Metal oxide + carbon dioxide

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SCIENCE – Biology

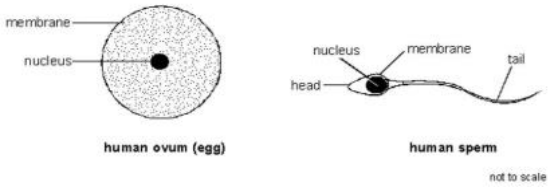
Reproduction

A:

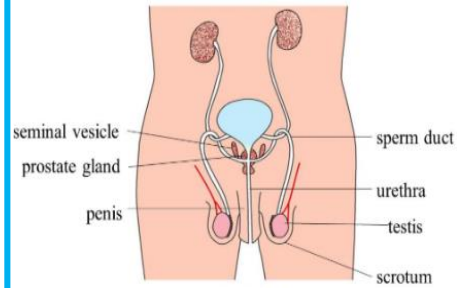
What is a Gamete?

Reproductive cell; Sex cell

Males have sperm and females have eggs

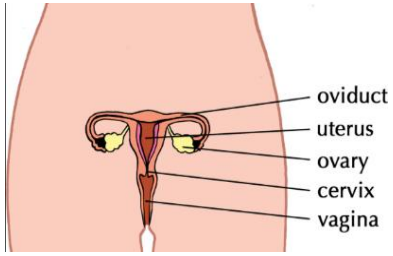


Male Reproductive System



Parts	Function
Testes	Produce sperms Produce male hormones, such as testosterone
Scrotum	Support and protect the testes. It's at slightly lower temperature for normal development of sperm
Seminal vesicle	Store sperms temporarily
Sperm ducts	Transport sperms to the urethra in preparation for ejaculation
Prostate gland	Contains fluid which is rich in nutrients and enzymes to nourish the sperms and activate them
Urethra	Carries semen and urine to outside of the body
Penis	Enter the vagina of a woman during sexual intercourse to deposit semen

Female Reproductive System



Parts	Function
Ovaries	Produces eggs Produces female sex hormones such as oestrogen and progesterone.
Oviducts/ fallopian tube	where egg is fertilised
Uterus	where the fetus or unborn baby develops during pregnancy
Cervix	enlarges to allow passage of the fetus during birth
Vagina	Where semen is deposited during sexual intercourse

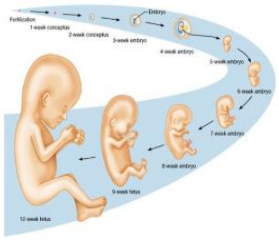
C: WHERE DOES THE BABY DEVELOP?

In order for the embryo to survive and grow it needs nutrition and for waste products to be removed.

The PLACENTA is the link between the baby and the mother. The two blood supplies run very close to each other to allow waste products and useful substances to pass between the baby mother.

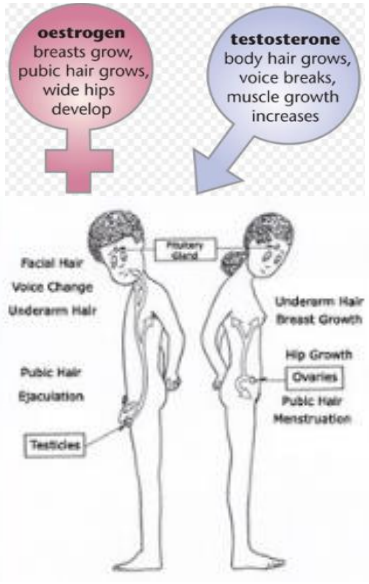
The baby is linked to the PLACENTA by the UMBILICAL CORD

Gestation period: the time during which development occurs



Amniotic fluid is the clear, yellowish fluid that surrounds and protects the fetus in the uterus

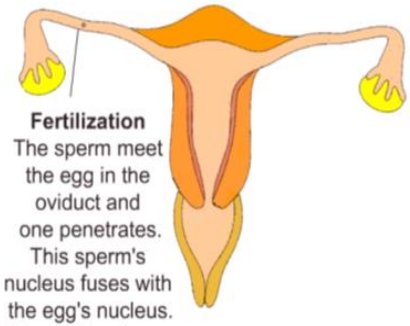
D: PUBERTY HORMONES



B: WHAT IS FERTILISATION?

Fertilisation normally happens in the oviduct. The fertilised egg then passes along the oviduct into the uterus and IMPLANTS into the thick, soft lining.

Fertilization is the fusing of an egg and a sperm cell. In this process the sperm's nucleus will join with the egg's nucleus.



Fertilization
The sperm meet the egg in the oviduct and one penetrates. This sperm's nucleus fuses with the egg's nucleus. The fertilized egg is called a zygote.

An embryo is a fertilised egg cell that has divided to form a ball of cells. An embryo if the earliest stage of development of a human baby.

After the first eight weeks of pregnancy, a human embryo is then called a foetus.

At this stage, the foetus has all the main human features.

E: SEXUAL AND ASEXUAL REPRODUCTION

There are two main ways by which organisms can reproduce: **sexual reproduction** and **asexual reproduction**.

In sexual reproduction, male and female **sex cells** fuse together to combine their genetic material and form a new living organism.

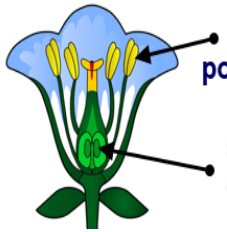
Asexual reproduction involves a **single parent** producing offspring with exactly the same genes as itself.

Organisms that reproduce asexually include:

- many **plants**, such as spider plants, strawberri and potatoes
- **microorganisms**, such as bacteria and fungi, including yeast
- some **insects**, such as aphids.

new strawberry plant produced asexually by its parent plant

In **flowering plants**, female gametes are called **egg cells** and male gametes are called **pollen cells**.

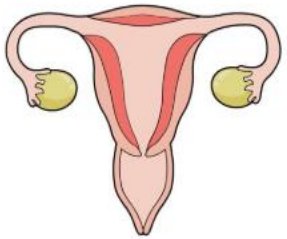


site of **pollen cells**

site of **egg cells**

F: THE MENSTRUAL CYCLE

An important part of puberty for girls is the beginning of their monthly cycle. This is known as the **menstrual cycle**.

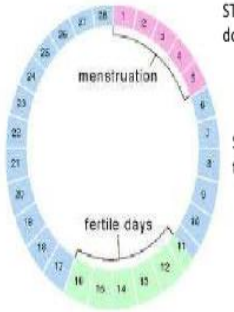


The menstrual cycle involves the preparation of the uterus lining so that it can receive a fertilized egg.

If an egg is fertilized, it can implant itself in the prepared uterus lining.

If the egg is not fertilized, the lining of the uterus breaks down and is lost from the body. This is called **menstruation**, or a period.

STAGE 4: The wall is maintained for these days. If no fertilised egg implants then the cycle starts again



STAGE 1: This is the break down of the uterus lining

STAGE 2: The lining of the uterus builds up

Menstrual cycle of 28 days

STAGE 3: An egg is released on day 14. These are the most fertile days

In the female, one of the ovaries produces an egg every 28 days. This is called **ovulation**.

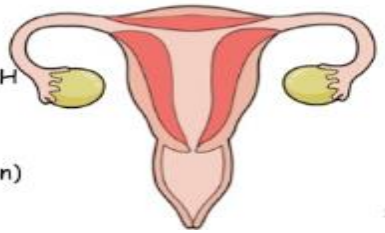
During sexual intercourse millions of sperm are **ejaculated** into the vagina.

If a sperm meets the egg, the sperm's nucleus can join with the egg's nucleus.

This fusing of the nuclei is called **fertilization**.

Menstrual cycle....its complicated!

1. The menstrual cycle is the reproductive cycle in women, which starts with a period (menstruation), if the woman is not pregnant.
2. There are four hormones involved: follicle stimulating hormone, luteinising hormone, oestrogen & progesterone.
3. FSH (released by the pituitary gland) causes eggs to mature in the ovaries.
4. FSH stimulates ovaries to produce oestrogen.
5. Oestrogen inhibits further release of FSH and stimulates release of LH.
6. LH (released by the pituitary gland) stimulates the release of an egg (ovulation) from an ovary.
5. LH stimulates secretion of progesterone by the empty follicle.
6. Progesterone inhibits the release of LH and FSH.
7. Oestrogen and progesterone maintain the lining of the uterus.



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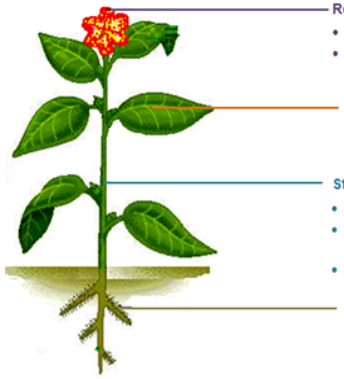
SCIENCE – Biology

Plants and Photosynthesis

A: WHAT ARE THE MAIN ORGANS OF A PLANT?



Reproductive structures
- function to make more plants
- include flowers, fruit, cones, and seeds

Leaves - the primary site of photosynthesis

Stems
- support and elevate the leaves
- transport water and nutrients between roots and shoots
- store water and nutrients

Roots
- anchor the plant
- absorb minerals and water
- store nutrients

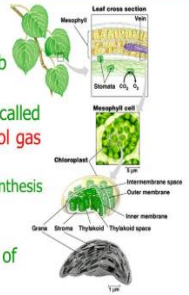
Roots

There are 5 main functions of roots:

1. To anchor the plant in the ground
2. To take in water and minerals
3. To bring water and minerals up to the stems (xylem)
4. To bring dissolved food from the stems to the roots (phloem)
5. To store food.

Leaf Form and Function

- ✓ Main organs that carry out photosynthesis
- ✓ Most leaves are flat to absorb sunlight
- ✓ Leaves have small openings called ***stomata*** (stoma) that control gas exchange and water loss.
  - ✓ A major limitation of photosynthesis is insufficient water
- ✓ Tiny structures called ***guard cells*** control the size of the stomata.



C: PLANT REPRODUCTION

Male reproductive organs (stamen):
- **Anther:** produces pollen grains
- **Filament:** supports anther above female reproductive organs

Female reproductive organs (carpel):
- **Stigma:** sticky landing site for pollen grains
- **Style:** tube that leads down to ovary
- **Ovary:** contains ovules that develop into seeds

- Sepals protect the bud until it opens.
- Petals attract insects.
- Stamens make pollen.
- Carpels grow into fruits which contain the seeds.

D: TESTING A LEAF FOR STARCH

WHAT IS STARCH?

- Starch is a complex carbohydrate stored in plants
- Cereal grains contain plant cells that are source of starch

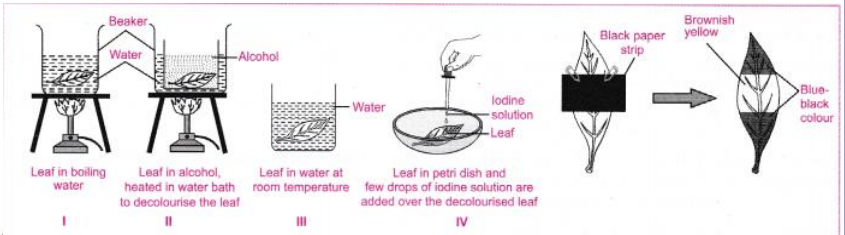


Fig. Procedure to decolourise the leaf and to test the presence of starch

Fig. Experiment to show that light is essential for photosynthesis

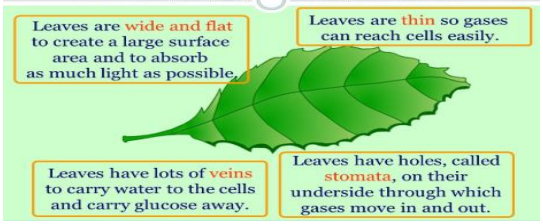
B: LEAVES

Palisade Cell

Structure:
- Found in the top of a leaf
- Tall and has a large surface area to catch as much sunlight as possible
- Packed with chloroplasts to absorb sunlight

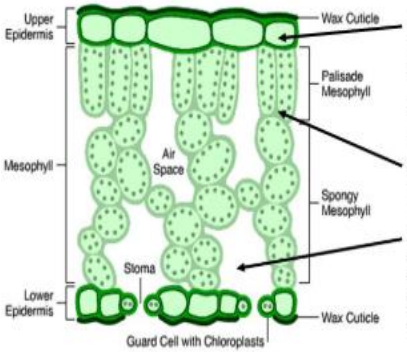
Function:
- to carry out photosynthesis
- to help make plant food.

How are leaves designed to maximize photosynthesis?



Key Words

Waxy cuticle	Waterproof layer atop the epidermis
Stoma	Pores that allow gaseous exchange
Air spaces	Found in the spongy mesophyll layer, enable gases to reach the leaf cells
Epidermis	One-cell thick outer layer of cells that prevent water loss from the leaf
Palisade mesophyll cell	Contain numerous chloroplasts and are densely packed
Spongy mesophyll cell	Loosely packed cells that do not contain as many chloroplasts as palisade cells



The **epidermal** tissue is a thin layer of cells that allow light through into the leaf.

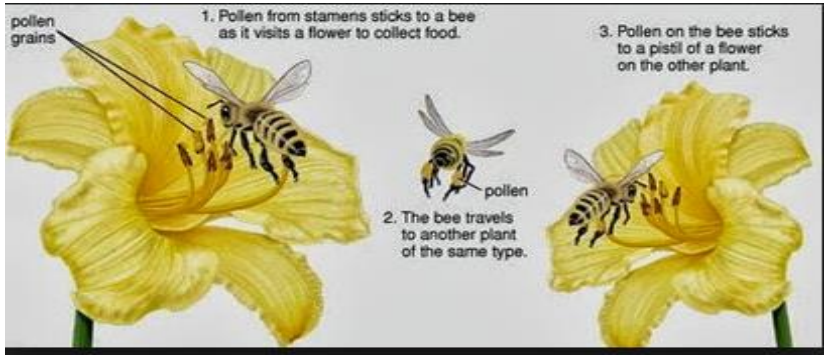
The light is absorbed in the chloroplasts contained in the **palisade** cells and sugar is made.

The cells in the **spongy** tissue also contain chloroplasts where light is absorbed and simple sugars are made.

STOMATA – ROLES, FUNCTIONS

- To control the entry and exit of gases into and out of the leaf
- Guard cells open and close to control this
- Stomata respond to outside conditions
- When conditions are right for photosynthesis, stomata open wide for gas exchange
- When it is too dry or dark, stomata close up.
- Closed stomata prevent water loss in plant

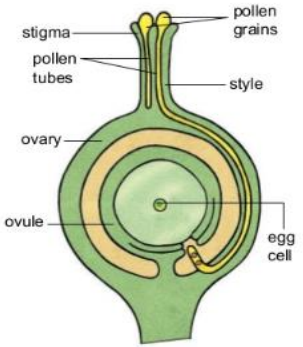
E: POLLINATION AND FERTILISATION

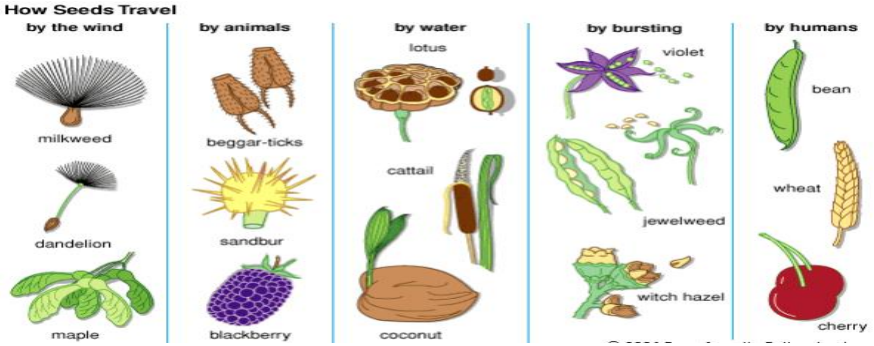


- Plants have adaptations to help them in pollination.
- Flowers that are pollinated by animals are usually large and colourful.
- They also have nectar and a fragrance so that the animals are attracted to them.

Fertilisation

- When a pollen grain lands on the surface of a stigma, it produces a tube.
- The inside of the tip of the tube contains the **male cells** of the flower.
- These tubes grow down the style to reach the ovules in the ovary.
- Inside each ovule is an **egg cell**.





There are **three** different ways pollination can occur: through **insect/ animal** transfer, through **wind** transfer and through **human** transfer.

F: WHAT DO PLANTS NEED TO GROW

What do Plants need to Grow?

A plant is a living thing. Plants need light, air and water to grow.

Plants need plenty of sunlight. Plants use sunlight to make their own food. They trap light from the sun using their leaves.

Plants also need plenty of water. Their roots absorb water from the soil after it rains.

Plants need air. They take in carbon dioxide from the air and release oxygen back into the environment.

Plants also use nutrients in the soil. They absorb the nutrients using their roots.

Plants need carbon dioxide and water for photosynthesis but they also need small amounts of **mineral salts** for healthy growth.

Where do plants get mineral salts from?

Mineral salts are dissolved in water in the soil and so plants absorb these nutrients in the water they take in from the soil.

The three main elements in mineral salts are:

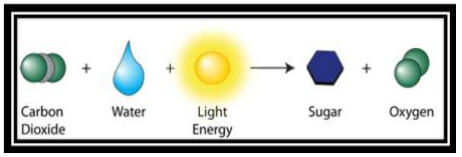
- **nitrogen (N)** – needed for healthy leaves;
- **phosphorus (P)** – needed for healthy roots;
- **potassium (K)** – needed for healthy flowers and fruit.

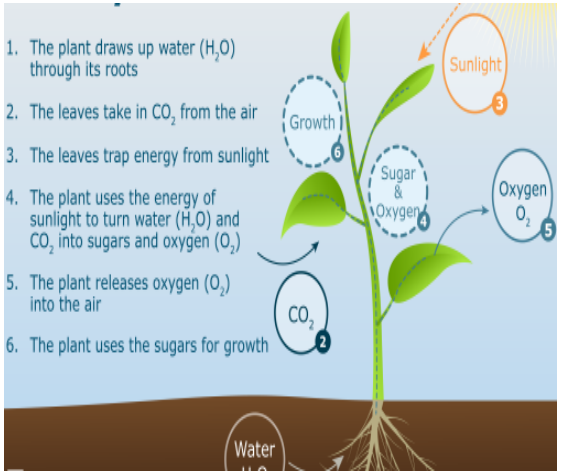
Photosynthesis Equation

REACTANTS → **PRODUCTS**

$6\ CO_2 + 6\ H_2O + \text{sunlight} \rightarrow C_6H_{12}O_6 + 6\ O_2$

carbon dioxide + water + energy → glucose + oxygen





Plant cells in the upper surface of leaves have chloroplasts which contain the green pigment called **chlorophyll**.

It is chlorophyll, which absorbs light energy from the Sun, that enables plants to carry out photosynthesis.

YEAR 7
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SCIENCE – Chemistry

Electric Circuits

A: ELECTRIC CIRCUITS

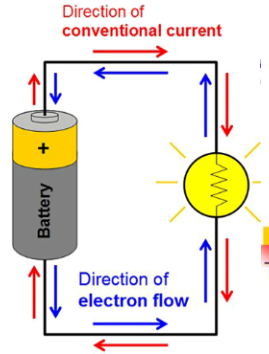
- **Electricity** is a form of energy
- **Circuit diagrams**: simplified circuit drawings using symbols.
- **Electrical component**: something used in a circuit and has a specific use

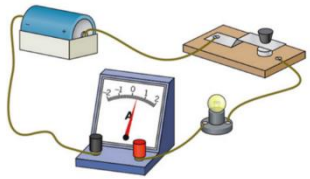
Symbol	
	open switch
	bulb
V	voltmeter
A	ammeter
M	motor
	battery
	closed switch
	cell

- **Batteries** provide the driving force
- If you add more batteries, the current will increase.

B: CURRENT

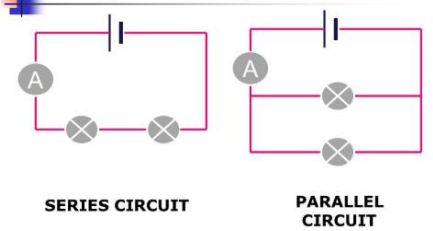
- **Current**: the flow of negative charge (electrons)
- Current is not used up
- **Ammeter**: measures current (in **amps,** A).
- Ammeters are connected in series (in the loop)





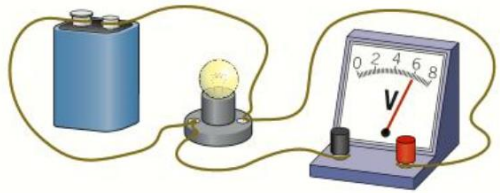
Measuring Current

This is how we draw an ammeter in a circuit.

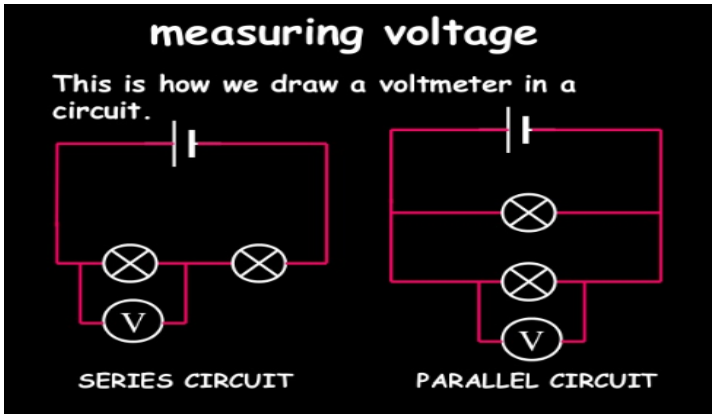


C: POTENTIAL DIFFERENCE

- **Potential Difference**: The amount of energy lost or gained by one unit of charge
- Potential difference is also known as voltage and is measured in **volts** (V) with a **voltmeter**.

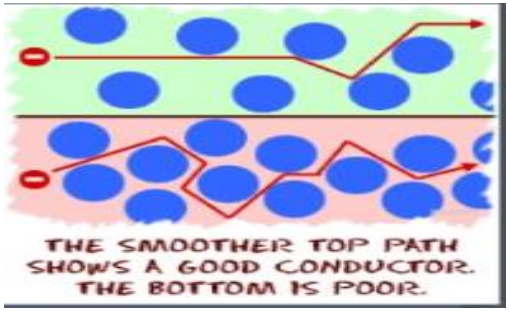


▲ You connect a voltmeter either side of the component.

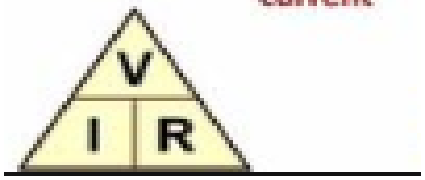


D: RESISTANCE

- **Resistance** is anything that slows down the flow of current.
- measured in **ohms** (Ω)
- If you add more bulbs in series, the resistance increases



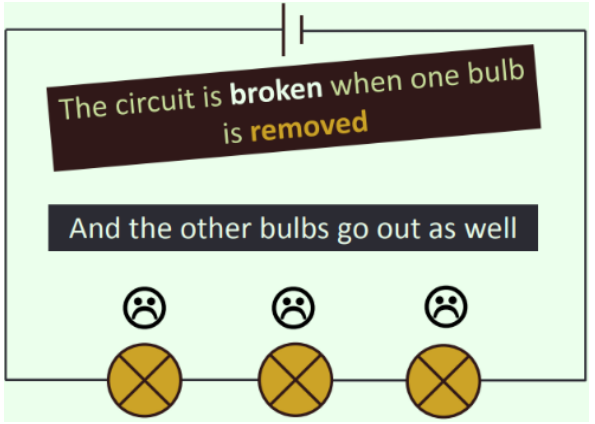
resistance = voltage / current

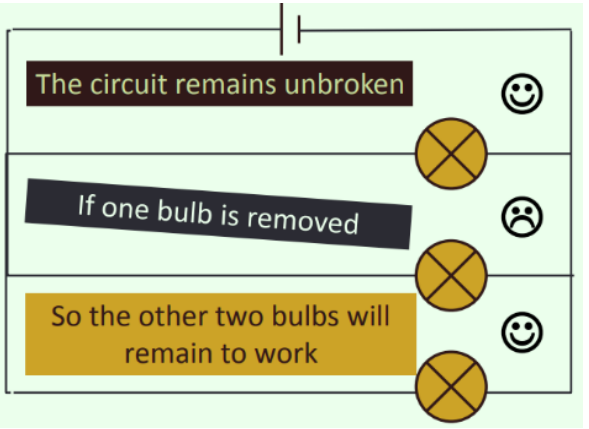


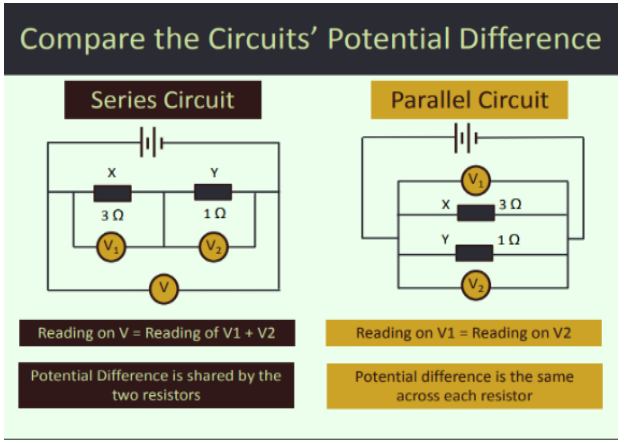
Some materials allow electric charges to pass through them easily, these materials are called **conductors**. Other materials do not allow electric charges to pass through them easily, these materials are called **insulators**.

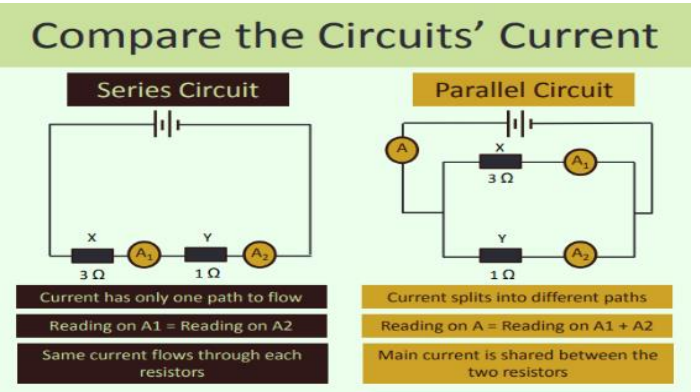
E: SERIES AND PARALLEL CIRCUITS

	Current Measured with ammeter	Potential difference Measured with voltmeter
Series 1 loop	The current is the same everywhere	The p.d from the battery is shared across components
Parallel More than 1 loop	It is shared between the branches but the total stays the same	The p.d across each component is the same as the p.d across the battery.









YEAR 7
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SPANISH

Possessive Adjectives

KO Quizlet link
https://quizlet.com/_5kno4e

1 Possessive adjectives

		Singular (one thing owned)	Plural (two or more things owned)
Singular (1 owner)	*my*	mi → mi perro	mis → mis perros
	your	tu → tu perro	tus → tus perros
	his/her/your (formal)	su → su perro	sus → sus perros
Plural (2 or more owners)	*our*	nuestro → nuestro perro nuestra → nuestra rata	nuestros → nuestros perros nuestras → nuestras ratas
	your	vuestro → vuestro perro vuestra → vuestra rata	vuestros → vuestros perros vuestras → vuestras ratas
	their/your (formal)	su → su perro	sus → sus perros

2 Verbs – present tense

Pronombres personales (Who?)		Regular –AR *Ejemplo:* cocinar *(to cook)*	Regular –ER *Ejemplo:* leer *(to read)*	Regular –IR *Ejemplo:* escribir *(to write)*
Singular	yo	cocino I cook	leo I read	escribo I write
	tú	cocinas Do you cook?	lees Do you read?	escribes Do you write?
	él/ella	cocina He/she cooks	lee He/she reads	escribe He/she writes
Plural	nosotros/as	cocinamos We cook	leemos We read	escribimos We write
	vosotros/as	cocináis You(pl) cook	leéis You(pl) read	escribís You(pl) write
	ellos/as	cocinan They cook	leen They read	escriben They write

3

el profesor es simpátic**o** m/s
la profesora es simpátic**a** f/s
los profesores son simpátic**os** m/pl
las profesoras son simpátic**as** f/pl

Remember!
la camisa azul
las camisas azules

Remember:
tener – to have
tengo – I have
tienes – you have
tiene – he / she has
tenemos – we have
tenéis – you (plural) have
tienen – they have

These help you improve the quality of your Spanish and achieve a higher level. Use them frequently to avoid short repetitive sentences.

un poco	*a little*	y	*and*
bastante	*quite*	pero	*but*
muy	*very*	también	*also*
demasiado	*too*	sin embargo	*however*

4

hay – *there is / there are*
hay un comedor – *there is a canteen*
no hay biblioteca – *there isn't a library*

Me gusta	Nos gusta
Te gusta	Os gusta
Le gusta	Les gusta

ir – *to go*
voy
vas
vamos
vais
van

6

estudiar
estudio
estudias
estudia
estudiamos
estudiáis
estudian

comer
como
comes
come
comemos
coméis
comen

vivir
vivo
vives
vive
vivimos
vivís
viven

Radical-changing verbs

Some verbs change their spelling in all the persons except *nosotros* (we) and *vosotros* (you plural). The way they change is shown in the dictionary like this: *jugar (ue)*.

Jugar changes as follows:

juego	jugamos
juegas	jugáis
juega	**jue**gan

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HISTORY

1066/Norman Conquest

A: The problems on the death of Edward the Confessor

Edward had promised the throne to two people.

Edward was 62 when he died but had no heir.

In 1066, there were three men who were strong, experienced warriors who wanted to be king

B: Key People

Harold Godwinson
An Englishman who was in control of Wessex and wanted to take more power as king.

Harald Hardraada
A Viking who was planning to invade England and take the throne.

William of Normandy
A French ruler who eventually became William the Conqueror.

C: The Battle of Stamford Bridge

Harold Godwinson had to move quickly to deal with the Viking invasion. Harold had already disbanded the southern army earlier in the month, so he moved north with his army and gathered forces as he went.

King Harold reached the outskirts of York, on 24th September 1066. He waited overnight with his troops and came upon the Viking troops at Stamford Bridge the following day. The Vikings camped on the opposite side of the River Derwent from the English and had not defended the bridge across the river properly. Many of the Vikings were without armour as they were unprepared.

The battle was long and bloody. Harald Hardraada was killed.

D: William's preparations for the battle

1. William ensured his invasion force was massive: it took 300 ships to transport 10,000 men and 2000 horses from France.
2. William positioned watchmen on the road to London, so that he knew when Harold's forces arrived.
3. William ensured that his men were well-rested and had feasted before the Battle. This meant they had energy and were relaxed.

E: The reasons for William's victory

Luck – *William was able to cross the English Channel, due to the change of weather, when Harold Godwinson was battling Harald Hardraada.*

Leadership – *William arranged his troops carefully and was skilful at leading in battle.*

Harold's mistakes – *Harold's best troops died at Stamford Bridge and he was disorganised when preparing his troops.*

F: Pictures

The Bayeaux Tapestry

William of Normandy

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GEOGRAPHY

The Land of Nottinghamshire

A – The land of Nottinghamshire

Sedimentary Rocks: types of rock that are formed by the deposition of small particles of mineral or organic material on the floor of oceans or other bodies of water at the Earth's surface.
Sandstone: A sedimentary rock composed of sand-sized grains (generally visible to the eye, but less than 2 mm in size).
Limestone: A sedimentary rock consisting mainly of calcium carbonate grains such as shells and coral fragments.
Alluvial: referring to the environments, actions and products of rivers and streams.
Glacio-fluvial: A term referring to the sediments or land-forms produced by meltwater from a glacier.

B – What is Nottinghamshire like?

Nottingham is located on an area of low hills, along the lower valley of the River Trent, and is surrounded by the Sherwood Forest in the north, the Nottinghamshire, Derbyshire and Yorkshire Coalfields in the west, and the Trent and Belvoir Vales in the east and south.
Nottingham has a temperate climate and experiences warm mild summers and mild to cool winters with abundant rainfall throughout the year.
Native wildlife includes red fox, peregrine falcon and common kingfisher. Notable nature reserves around the city include Attenborough Nature Reserve and Sherwood Forest National Nature Reserve.

C – The River Trent

The Trent rises on the Staffordshire moorlands near the village of Biddulph Moor.
The Trent passes through Stoke-on-Trent and merges with the rivers Lyme and Fowlea.
As it enters Nottingham it passes the suburbs of Beeston, Clifton . On reaching West Bridgford it flows beneath Trent Bridge near the cricket ground and beside The City Ground, home of Nottingham Forest.
Downstream of Nottingham, it passes Stoke Bardolph and Burton Joyce before reaching Gunthorpe. The river now flows north-east.
The river reaches the boundary with Yorkshire and joins the River Ouse to form the Humber which flows into the North Sea.

D – Erosional Processes in a River

Hydraulic Action: the force of the water breaks rock particles away from the river channel
Abrasion: eroded rocks picked up by the river scrape and rub against the channel, wearing it away.
Attrition: eroded rocks picked up by the river smash into each other and break into smaller fragments. Their edges also get rounded off as they rub together.
Solution: river water dissolves some types of rock, e.g. chalk and limestone

E – Transportation Processes in a River

Traction: large particles like boulders are pushed along the river bed by the force of the water
Saltation: Pebble-sized particles are bounced along the river bed by the force of the water
Suspension: Small particles like silt and clay are carried along by the water
Solution: soluble materials are dissolved in the water and are carried along
Deposition: This is when a river drops eroded material (load). It happens when a river slows down (loses velocity).

F – River Trent Flood Management

Hard engineering: Man-made structures built to control the flow of rivers and reduce flooding
Dams: a type of hard engineering. Huge walls built across rivers. An advantage is that you can make hydroelectric power. A disadvantage is that it is very expensive to build a Dam.
Soft engineering: Schemes set up using knowledge of a river and its processes to reduce the effects of flooding, these methods are more natural.
Flood Plain Zoning: a type of soft engineering. Where areas are banned from being built on. An advantage is that the risk of flooding is lower. A disadvantage is that some areas cannot be built on.

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PHILOSOPHY AND ETHICS

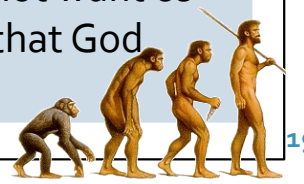
Does God exist?

A: Key terms

Key Term	Definition
Agnostic	Do not believe you can prove whether God exists or not or you don't know.
Atheist	Do not believe in God.
Big Bang	Scientific theory for the beginning of the universe.
Creationist	Someone who believes that the universe was created just as it says in their scripture. (literally true)
Literal	Scriptures are the word of God and should not be changed or interpreted.
Liberal	A belief that scriptures need to be interpreted and not taken literally. They should be read like a myth.
Evolution	Living things adapt and develop to their environment.
Omnibenevolent	All loving
Omnipotent	All powerful
Omniscient	All knowing

B: Arguments against the existence of God

Against
Big Bang: The Big Bang is an event that some people believe was the beginning of the universe. They argue that the universe began when gas and matter expanded outwards from a single point. Galaxies and planets formed over millions of years.
Evolution: Life formed on earth through a process called evolution. Plant life developed first. Then simple life forms appeared. These gradually evolved over millions of years into the birds, fish and animals, including humankind, we have today. This theory was developed by Charles Darwin.
The Problem of Evil: There is too much evil and suffering in the world. If God was omnipotent then he would stop evil things happening. If God was omniscient then he would know bad things were going to happen and stop them before they happened. If God was omnibenevolent then he would not want us to suffer. Therefore many people believe that God does not exist.



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ART

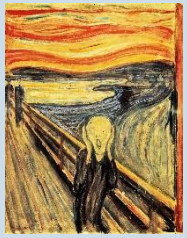
Project: Identity and Emotion

There is no Knowledge Organiser for art this half term as you will be completing a project on identity and emotion. Further details of this will be given by your art teacher and this will be split into 3 chillies to help you complete the project through the term, please ensure you keep this sheet in your homework folder safely.
You should use the weekly slot for art in order to complete this project through the term.

Artists you may study in your project:

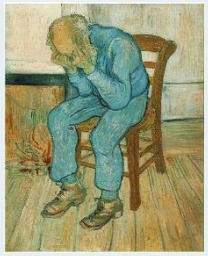
Julian Opie

Edvard Munch



Roy Litchenstein

Vincent Van Gogh



Francoise Nielly

Key Words you may use in your project:

colourful, bold, expressive, simple, composition, composed, contrast(ing), symmetrical, asymmetrical, texture, tone, pattern, bright, detailed, realistic, distorted, lively, subtle, muted, emotive, mood, rough, smooth, pigment, sadness, happiness, form, line, disturbed, flat, expressionless, abstract, animated, brushstrokes.

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MUSIC
African Drumming

A: African Instruments


Marimba


Udu


Shekere


Kalimba


Talking Drum


Balafon


Djembe

B: Key Words

Oral Tradition - Music that is passed down through listening and speaking rather than notation.

Layered Rhythms - Different rhythms that are being played at the same time.

Improvisation - Music that is created without preparation.

Ostinato - A repeated pattern.

Call and Response - Repeating a pattern or melody after it has been played.

Syncopation - Music that is played off beat.

C: Note Values


Semibreve = 4


Minim = 2


Crotchet = 1


Quaver = 1/2


Semiquaver = 1/4

YEAR 7
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DRAMA

Physical Theatre / Surrealism

Section A: Mime and Slow Motion and tableau.

Mime
The theatrical technique of suggesting action, character, or emotion without words, using only gesture, expression, and movement.

Slow motion
The theatrical technique of using movement that is slowed down and is often exaggerated to create an effect or mark an important moment in a performance.

Tableau
A still image created by the actors to mark an important moment of a performance or for a transition between scenes

Surrealism means out of this world, unusual and weird. Almost as if existing in dreams.

B: Performance Styles – NATURALISM AND PHYSICAL THEATRE

Naturalism
CONSTANTIN STANISLAVSKI

- A style of theatre that aims to recreate real life on stage. Can also be known as ***realism.***
- Every aspect of the performance has to be ***believable*** including set, costume, sound and lighting.
- To maintain the illusion, the performers cannot break the ***fourth wall*** or interact with the audience. They must stay in character at all times.

Physical Theatre
ANTONIN ARTAUD + BERTOLT BRECHT

- A style which uses ***choreographed movement and dancing*** to tell a story.
- These movements can be combined with traditional dialogue or used on their own.
- Sometimes the ***actors' bodies are used as objects onstage.***
- There is ***nothing realistic*** about this way of movement.
- Performers can ***communicate emotion*** to the audience that would be difficult to convey using dialogue.

C: Stimulus, Soundscape and Essence Machine

Soundscape
Using the voice and the body to make sound for a performance.

Stimulus
An item (object, song, picture, quotation) that evokes a response of some sort.

Essence machine
A combination of sound and gesture that is repeated for effect.

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COMPUTER SCIENCE

Presenting Data

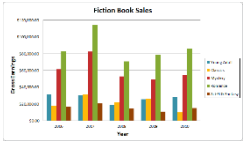
A: Definition presenting information

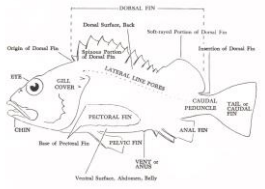
Presenting information clearly and effectively is a key skill to get your message or opinion across and, today, presentation skills are required in almost every field.

B: Ways of presenting information

- Text
- Sound
- Images
- Charts and tables

C: What can be produced to present information





D: Audience and what is it

A target audience is a specific group of people with shared characteristics who are most likely to be interested in your products or services..

E: Memorisation

There are key elements of each examination course that need to be fully memorised in order for you to obtain the highest marks possible in the exam. The information below should be a priority for memorising.

What to include when planning for target audiences:

Choice of fonts
Choice of colours
Layout
Design
Content

5 elements of web design:

Navigation
User ability
Accessibility
Content
Layout/design

Information threats :

Hacking – illegal entry to data through computer misuse
Phishing – fake websites and emails that take your personal information
Viruses and malware – software that harms the PC

WIX:

What is it?

Wix.com offers stunning designs and an easy to use website builder

How to use it

Log into www.wix.com and make an account

Keywords associated with wix

- Editor
- Template
- Navigation
- Images
- Text
- Menu
- Slideshow
- Tools
- Video
- Background
- Page background

F: Software used to present information

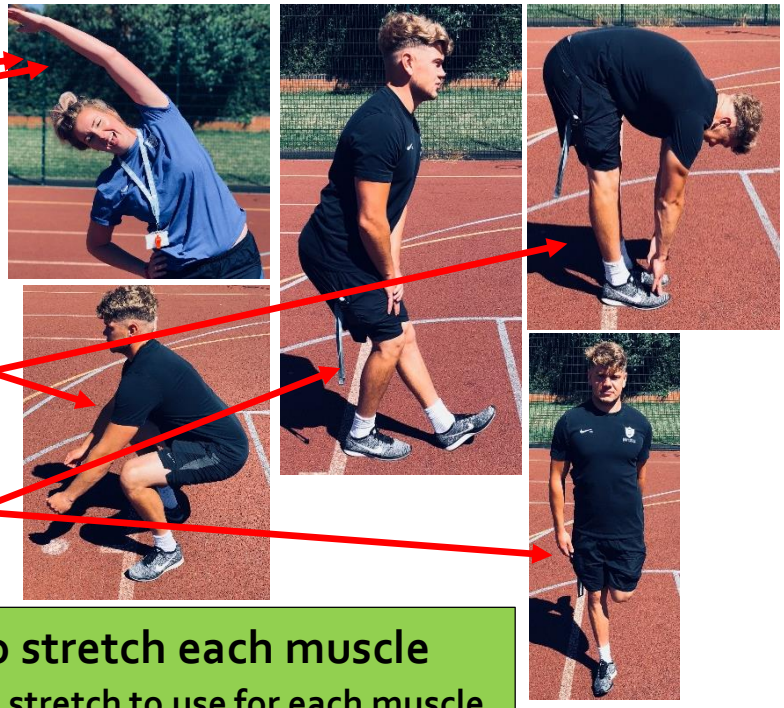
PowerPoint **Publisher** **Photo Shop** **Dream Weaver**

PE – Boys and Girls

Warm Ups

A: Location and names of muscles

Learn where they are found in the body and how to spell them.



B: How to stretch each muscle

Learn which stretch to use for each muscle.

YEAR 7
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DT – Miss Radford's Group

Food

A: Key words

The bridge hold- Shaping your hand like a bridge for safe chopping
The claw grip- Shaping your hand like a claw for safe cutting
Aesthetics- making your final product attractive
Portion size- A recommended serving size for your age
Mis en place- Preparation time at the start on a practical
The Eatwell Guide- A healthy eating guide for a balanced diet

B: Key Verbs

Chopping
Whisking
Mixing
Measuring
Rubbing in
Beating
Sieving
Weighing

C: At the start of every practical lesson:

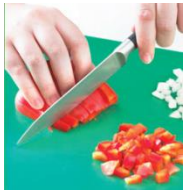




D: Bridge and claw method for safe cutting

Make a bridge over the vegetable with your hand

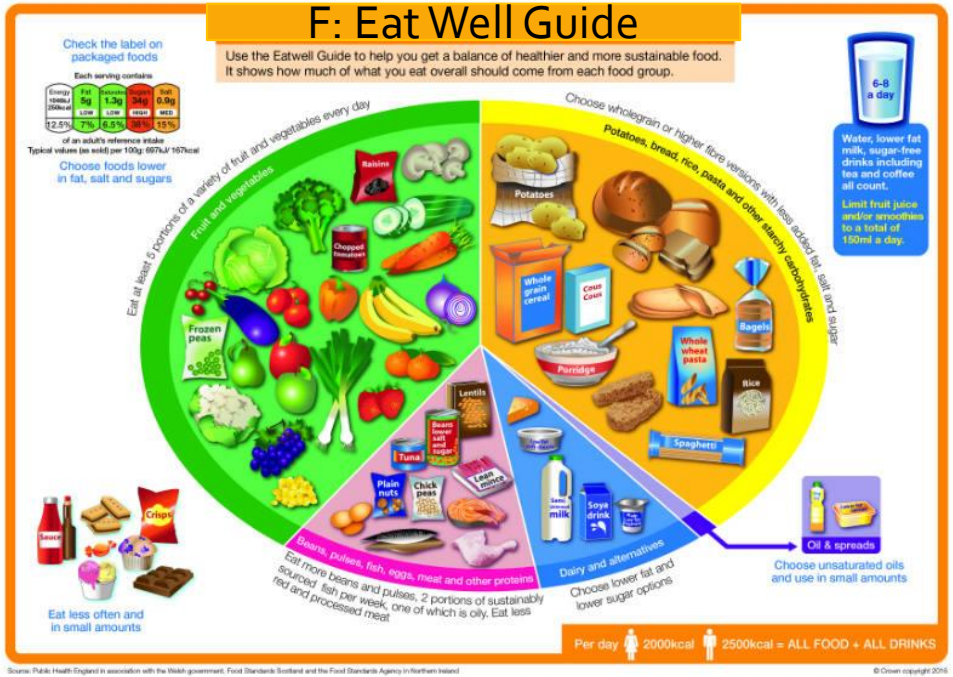
Make a claw with your hand by partly curling your fingers together



E: How much sugar is in your food?

Children aged 11 and over should be having no more that **7tsp** of sugar per day.

F: Eat Well Guide



G: 8 government guidelines for a healthy diet

1. Base your meals on starchy foods.
2. Eat lots of fruit and vegetables.
3. Eat more fish- including a portion of oily fish each week.
4. Cut down on saturated fat and sugar.
5. Eat less salt- no more than 6g a day for adults.
6. Get active and be a healthy weight.
7. Don't get thirsty- drink plenty of water.
8. Don't skip breakfast.

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DT – Miss Cockayne's Group

Textiles

A: Fabric

Natural Fabrics: Cloth made from natural substances, such as; cotton and linen from plants, wool from goats and sheep and leather from cows' skin.

Man-made Fabrics: Cloth made from man made chemicals, usually different forms of plastic, such as Polyester, Nylon, Viscose and Lycra. All these are made from oil.

Decorative: Something done to look attractive

Pattern: Templates used in sewing to cut fabric to the right shape and size.

Fabric Scissors: Special sharp scissors used for cutting fabric only.

B: Health and Safety in the Textiles Room

- Make sure the sewing machine is switched off while threading up.
- Carry scissors with the blade pointing down.
- Keep noise levels low so you can hear teacher instructions
- During practical keep all chairs tucked under the tables.
- Only one person on each sewing machine.

Danger

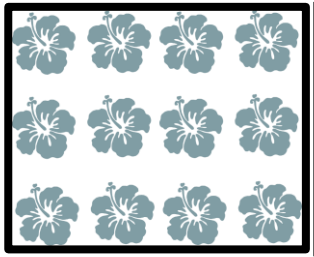
C: Block Printing

Block printing involves carving a pattern or design onto a block. The design is covered in paint, ink or dye and then stamped onto fabric.

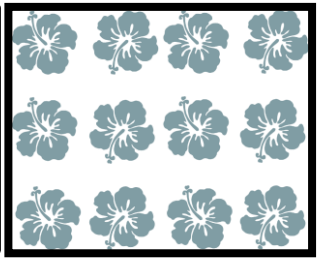
D: Equipment Guide

E: Creating a Pattern

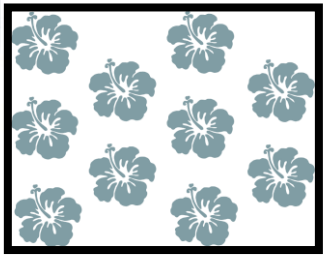
Repeat



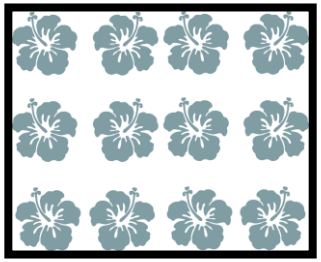
Rotation



Half Drop



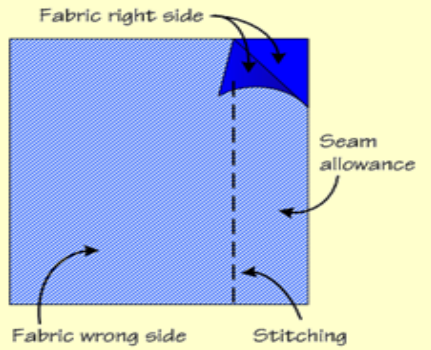
Reflection



F: Seam Allowance

The standard seam allowance is 15mm. Usually this measurement is already added onto a dress-making pattern but occasionally you may have to add it yourself.

Maintaining a **standard seam allowance** is one of the most important ways in which we use **Quality Control** to produce accurate and symmetrical products.



All our sewing machines have markings on the needle bed to help your accuracy in measuring and maintaining this seam width.

Notes/Reminders:


WORK
HARD
BE KIND