YEAR 7 HOMEWORK KNOWLEDGE ORGANISER

Spring Term 1

Name: _____ Tutor Set: _____

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

Contents Page

Page	Contents
Page 2	Contents
Page 3	Homework Timetable
Page 4	Head of School Page
Page 5	Maths – Hegarty Maths Advice
Page 6	English – Stories of Survival
Page 7	English –Oliver Twist
Page 8-9	Science – Physics Electricity
Page 10-11	Science – Physics Forces
Page 12-13	Science – Biology Adaptation and Competition
Page 14-15	Science – Chemistry Periodicity
Page 16	Spanish – Stem Changing Verbs

Page	Contents
Page 17	History – Castles and The Black Death
Page 18	Geography – The People of Nottinghamshire
Page 19	Geography – The Restless Earth
Page 20	Philosophy and Ethics – Inspirational People
Page 21	Art – The Colour Wheel
Page 22	Music - Salsa
Page 23	Drama – Naturalism and Characterisation
Page 24	Computer Science – How a Computer Works
Page 25-26	PE – Warm Ups and Netball
Page 27	DT – Food
Page 28	DT – Resistant Materials

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

Spring Term 1 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: 6th January

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

Week 2: 13th January

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

Week 3: 20th January

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

Week 4: 27th January

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

Week 5: 3rd February

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

Week 6: 10th February

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

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

HEAD OF SCHOOL'S PAGE

General Knowledge

A: Our World – tallest buildings in the world

Country	Name of Tower	Height (m)
Dubai	Burj Khalifa	828m
China	Shanghai Tower in Shanghai	632m
Saudi Arabia	Abraj Al Bait in Mecca	601m
China	Ping An International Financial Centre in Shenzhen	599m
China	Goldin Finance in Tianjin	597m
South Korea	Lotte World Tower in Seoul	555m
USA	One World Trade Centre in New York	541m
China	Chow Tai Fook Finance Centre in Guangzhou	530m
China	Tianjin Chow Tai Fook Binhai Centre in Tianjin	530m
China	China Zun Tower in Beijing	528m

B: Flags


Dubai

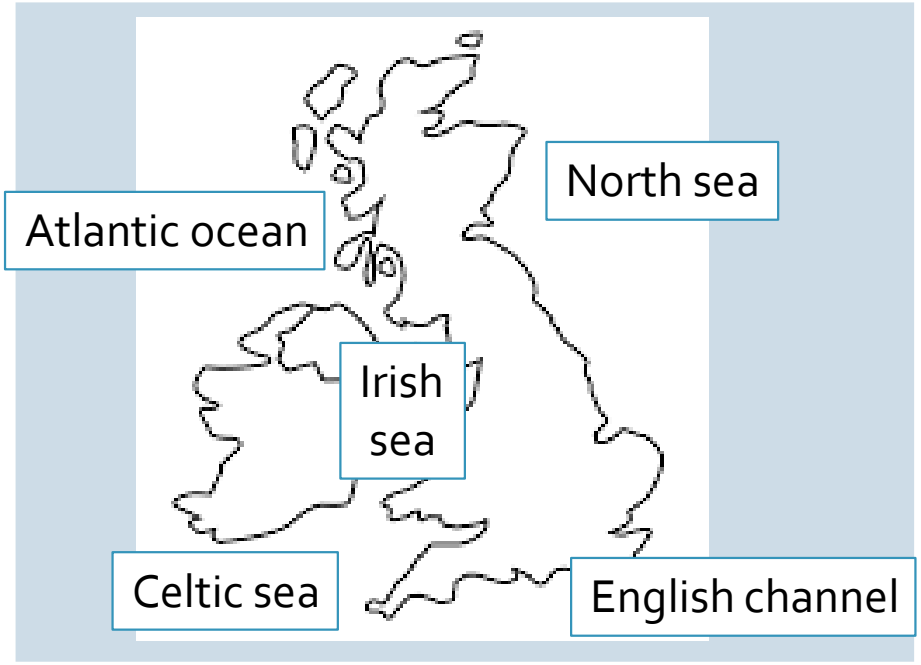

China


Saudi Arabia


South Korea


USA

C: UK Fatcs – seas around the UK



D: The UK – Longest rivers

Name of River	Length (miles)
Severn	220
Thames	215
Trent	185
Great Ouse	143
Wye	134
Ure	74

E: Academic Vocabulary: words to help you learn

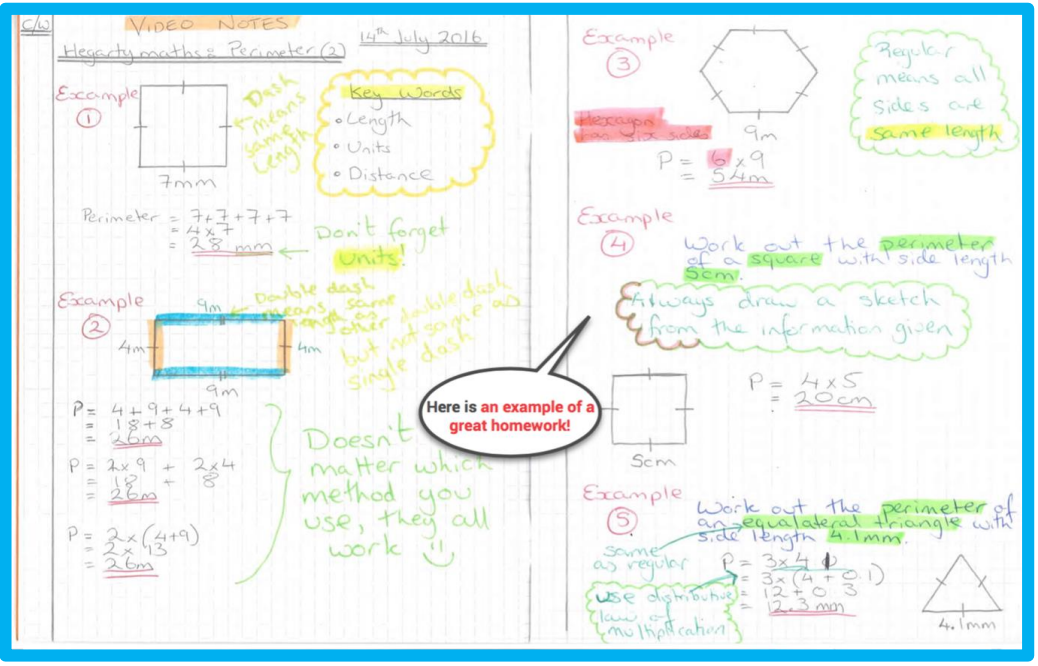
Word	Definition
analyse	Examine something in detail in order to interpret it
annotate	Add notation or labelling to a graph, diagram or other drawing
assess	Make an informed judgement
calculate	Work out the value of something
comment	Present an informed opinion
compare	Identify similarities and/ or differences
consider	Review and respond to given information
criticise	Form and express a judgement
debate	Present different perspectives on an issue
deduce	Draw conclusions from information provided

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

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.**

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

ENGLISH

Stories of Survival (Paper 2)

A: WRITING SKILLS

SPAG – Applying spelling, punctuation and grammar effectively. Capital letters, full stops, commas & apostrophes.
Challenge: colons, semi-colons, parenthesis, exclamation marks, hyphens.
Sentence structures – applying a variety for effect – simple, compound and complex. Using time and sequencing connectives.
Paragraphing.
Persuasion – Using a range of techniques effectively and suitably (AFOREST) .

B: Sample sentence openers

- Many people perceive this as a fractious issue.
- Picture the scene:
- Now, let's be clear, the real issue here is....
- Yes, I can see why some people may think....
- The solution is simple:

C: Synonyms

Good: Outstanding, exceptional, remarkable
Bad: Abhorrent, abysmal, appalling
Boring: Tedious, lacklustre, monotonous
Angry: Irritated, exasperated, vexed
Pointless: Futile, inane, absurd

D: Vocabulary	Definition
Convey	To communicate a message, information, idea.
Colloquial	Language used in ordinary and familiar conversations. Not formal.
Precise	Exact and accurate
Concise	Giving a lot of information clearly and in a few words.
Criticism	Disapproval
Courteous	Polite and respectful
Facilities	Places, amenities or things that are provided for a particular purpose
Provision	Providing or supplying something.
Reiterate	To say something a number of times.
Elaborate	To develop or present something in further detail.
Proposal	A plan or suggestion
Insufficient	Not enough
Inadequate	Not good enough
Negligible	Small and unimportant.
Recipient	Someone who receives something.

E: Terminology	Definition
Purpose	What a text trying to do. Is it informative, advisory or persuasive?
Audience	Who a text is aimed at
Format	The type of text (eg: letter, speech, report etc)
Tone	The way a piece of text sounds e.g. sarcastic etc. The mood or atmosphere in the writing.
Hyperbole	Use of exaggerated terms for emphasis.
Anecdote	A short story using examples to support ideas.
Directives	Using you, we or us.
Repetition	When words or phrases are used more than once in texts.
Statistics	Facts and figures
Authoritative	Commanding and self-confident. Likely to be respected and obeyed.
Superlative	Declaring something the best i.e. the ugliest, the most precious.
Passive voice	When the subject of the sentence has an action done to it but something or someone else. E.g. the dog was being washed by the girl.

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

ENGLISH

Oliver Twist

A: Key Words

morality – a code of right and wrong. vulnerable – in a situation in which you could
be easily harmed
brutal – very violent or cruel.
corrupt – a word used to describe a person
who uses their power in a dishonest or illegal
way in order to make life better for themselves.
villain – a 'baddie' who harms other people or
breaks the law to get what they want.
malicious – meant to hurt or upset someone.
victim – someone who has been harmed
workhouse – a place where people who
couldn't support themselves were sent to live and work

B: Context

1 Charles Dickens was born 7th February 1812 in Portsmouth.
2 His novels are set in Victorian times (1830- 1900).
3 Dickens had to work in harsh conditions as a child when his father was sent to prison.
4 Dickens lived next to a work house until he was 19.
4 Victorian London was a busy city growing bigger all the time due to the Industrial Revolution. Big cities were a place where
crime developed and in the early 1800s the first police force was created.
6 Poor Victorian children lived in poverty. In London, many lived in unsanitary slums.

C: Characters

Oliver: a 'pale, thin' orphan who is treated badly by almost everyone he meets.
Mr. Bumble: runs the workhouse and gives Oliver his name.
Fagin: an old man who runs the gang of pickpockets.
Jack Dawkins (The Artful Dodger): a young boy who introduces Oliver to Fagin's gang
who has 'all the airs and manners of a man'.
Bill Sikes: a 'rough man' who has been a criminal for many years.
Nancy: Bill's girlfriend who risks her life to help Oliver escape from the gang.
Mr. Brownlow: a wealthy older gentleman who takes Oliver in and looks after him.

D: Plot summary

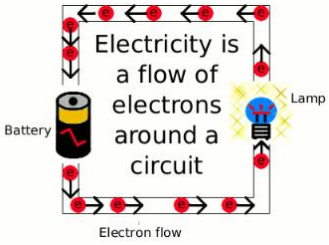
1. Oliver is born in the workhouse. When he is a bit older he is nominated to ask for more food because the boys are starving.
2 He is kicked out of the workhouse and sold to the Sowerberry family to be an undertaker's apprentice. He's bullied by Noah, they fight and he is locked up.
3 Oliver runs away to London, meets Dodger and is introduced to Fagin's gang.
4 Oliver is taken out with the gang and is horrified to see Dodger steal a gentleman's handkerchief. Oliver is wrongly arrested for the theft.
5 The gentleman, Mr. Brownlow, takes pity on Oliver and takes him in. The gang plot to get him back in case he reveals information about them.
6 Oliver is abducted by the gang whilst running an errand for Mr. Brownlow.
7 Oliver is used by Sikes in a burglary. They fail and Sikes runs away. Oliver is left behind but the people who live there feel sorry for him and look after him. They are called Fred and Rose Maylie.
8 When Bill and Fagin realise what has happened, they plot to catch Oliver again. Nancy overhears and visits Mr. Brownlow to warn him.
9 Fagin tells Bill about Nancy's betrayal and Bill murders her. Fagin is discovered and sent to prison and Bill dies trying to run away.
10 Oliver discovers who his parents were and joins Mr. Brownlow and the Maylies to live happily ever after

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

SCIENCE - PHYSICS

Electricity (Part 1)

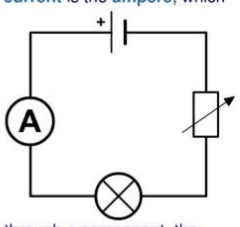
A: WHAT IS ELECTRICITY?



The unit of measurement for **current** is the **ampere**, which has the symbol A.

Current is measured using a device called an **ammeter**.

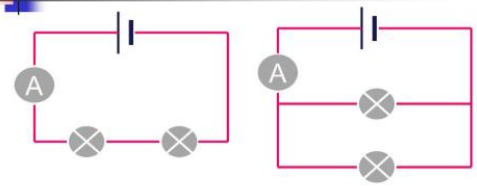
In a circuit diagram, an ammeter is shown by an 'A' in a circle.



When measuring the current through a component, the ammeter is always connected in **series** (in the same loop) with that component.

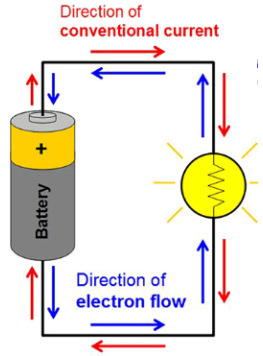
Measuring Current

This is how we draw an ammeter in a circuit.



SERIES CIRCUIT

PARALLEL CIRCUIT



B: WHAT IS POTENTIAL DIFFERENCE (VOLTAGE)?

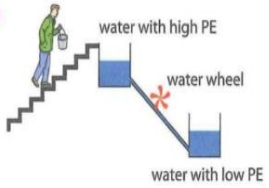
Potential Difference

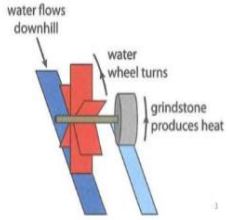
The easiest way to think about what batteries do is to use a water analogy.

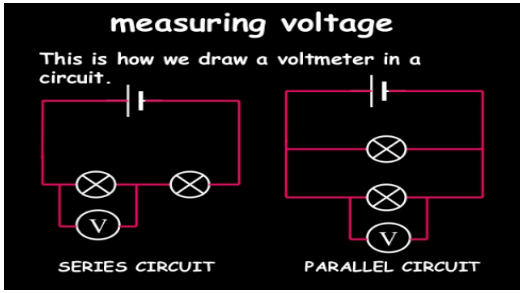
Batteries 'lift' **charges (Q)** to a higher **Potential (V)**.

There is a **Potential Difference (V)** between one end of the battery and the other.

Batteries store **Potential Energy** as **Chemical Energy**.





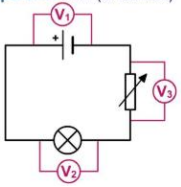


Voltage (also called **potential difference**) is measured using a device called a voltmeter. The unit of measurement for potential difference is the volt, which has the symbol V. In a circuit diagram, a voltmeter is given the symbol V.

When measuring the voltage across a component, the voltmeter is always connected in **parallel** with (or across) the component.

This is still a series circuit, as the voltmeter does not affect the circuit.

The voltage supplied by the battery is **shared** between all the components in a series circuit.



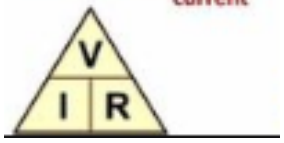
C: WHAT IS RESISTANCE IN A CIRCUIT?

Resistance is a measure of how easy or difficult it is for charges to flow through components.

Low resistance = easy (current will be high)
High resistance = not easy (current will be low)

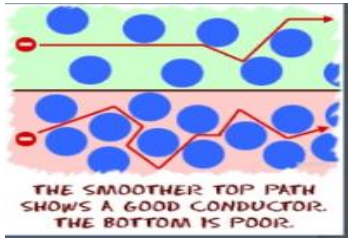
voltage = current x resistance V = I x R

$$\text{resistance} = \frac{\text{voltage}}{\text{current}}$$

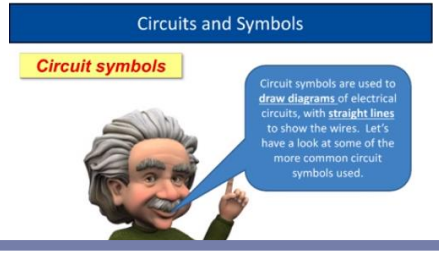


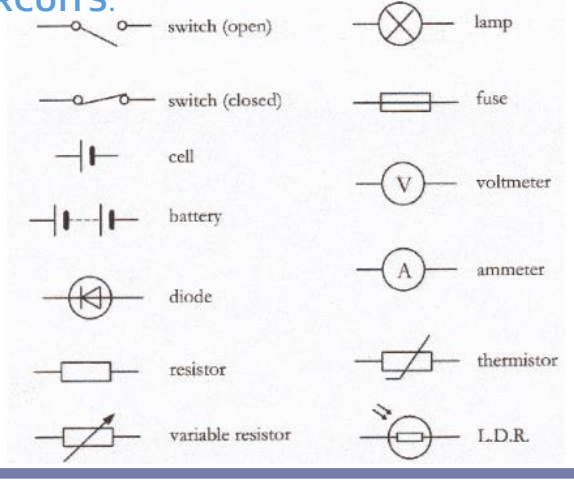
Resistance is measured in **ohms (Ω)**

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**.



D: CELLS, BATTERIES AND CIRCUITS.



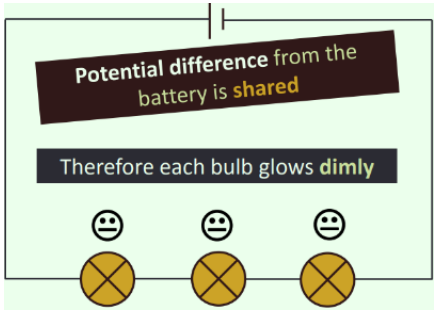


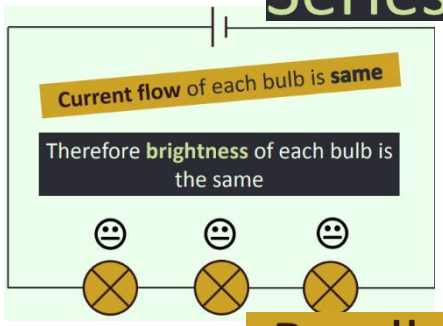
SCIENCE - PHYSICS

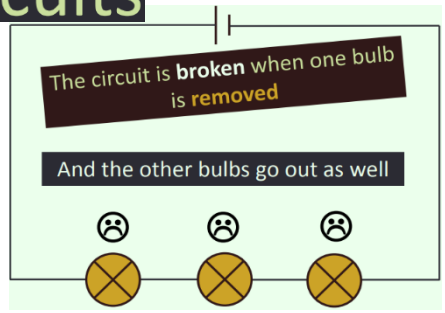
Electricity (Part 2)

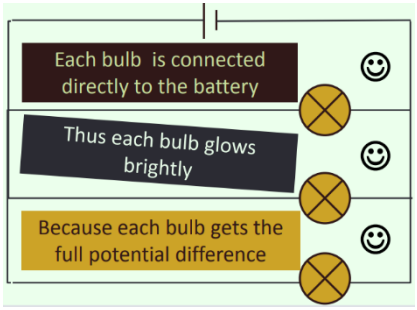
E: COMPARING SERIES AND PARALLEL CIRCUITS

Series Circuits

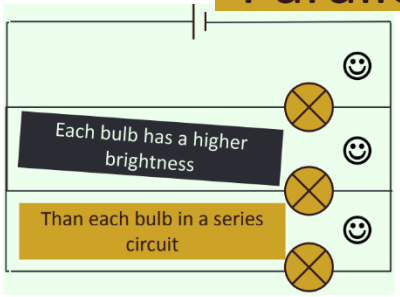


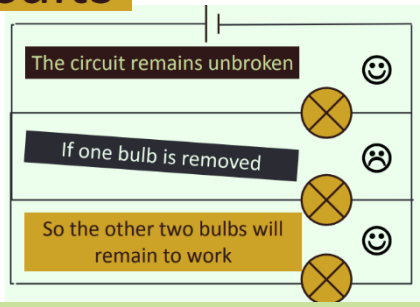






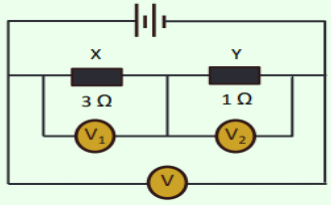
Parallel Circuits





Compare the Circuits' Potential Difference

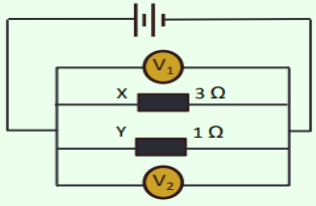
Series Circuit



Reading on V = Reading of V1 + V2

Potential Difference is shared by the two resistors

Parallel Circuit

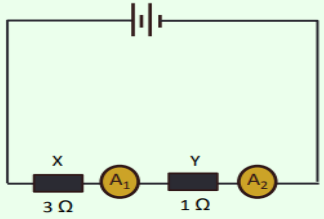


Reading on V1 = Reading on V2

Potential difference is the same across each resistor

Compare the Circuits' Current

Series Circuit

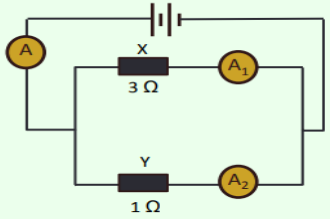


Current has only one path to flow

Reading on A1 = Reading on A2

Same current flows through each resistors

Parallel Circuit



Current splits into different paths

Reading on A = Reading on A1 + A2

Main current is shared between the two resistors

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

SCIENCE - PHYSICS

Forces (part 1)

A: WHAT IS A FORCE?

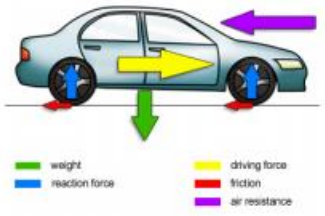
Force is measured in Newtons – symbol: N

A force is a push or pull

Key Terms	Definitions
Newton	The unit of force
Newton meter	A piece of equipment that can be used to measure the size of the force
Contact Force	A force caused by the contact between two objects
Non Contact Force	A force between two bodies that are not in contact for example gravity
Free body force diagram	A diagram which shows all the forces acting on an object

When a force is applied to an object it can lead to a change in the objects

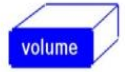
- Speed
- Direction of movement
- Shape (think about a rubber band)



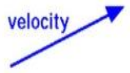
B: WHAT IS A VECTOR?

A scalar quantity has only magnitude.
A vector quantity has both magnitude and direction.

Scalar Quantities
length, area, volume
speed
mass, density
pressure
temperature
energy, entropy
work, power



Vector Quantities
displacement
velocity
acceleration
momentum
force
lift, drag, thrust
weight



Contact forces: interactions between objects that touch

applied force

spring force

drag force

frictional force

Non-contact forces: attract or repel, even from a distance

magnetic force

electric force

gravitational force

C: INTERACTION PAIRS.

A force is always a part of a mutual action that involves another force.

— Forces always occur in pairs.

When you push on the wall, the wall pushes on you.

The interaction that drives the nail is the same as the one that halts the hammer.

D:

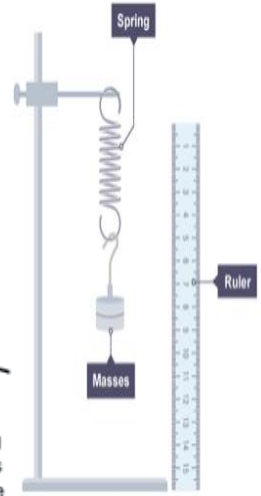
Hooke's Law states the amount a spring stretches is proportional to the amount of force applied

$$F = k \times e$$

F = Force in Newtons, N

e is the extension in metres, m

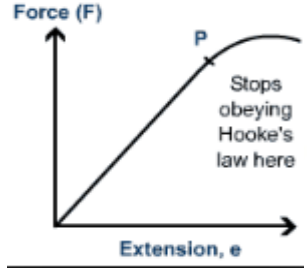
K = is the 'spring constant' in Newtons per metre, N/m



When a material fails to return to its original length it has reached its *elastic limit* or *limit of proportionality*.

After the elastic limit the loads produce much larger extensions of the specimen. This is called the plastic region.

At the end of this stage, the extension is even greater and a *yield point* is reached.



YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

SCIENCE - PHYSICS

Forces (part 2)

E: FRICTION

Friction Tries to Stop Objects Sliding Past Each Other

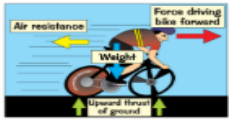
Friction is a force that always acts in the opposite direction to movement.
It's the force you need to overcome when pushing an object out of the way.

The Good Points of Friction — It Allows Things to Start and Stop

1) Friction allows the tyres on a bike to grip the road surface — without this grip you couldn't make the bike move forward and you wouldn't be able to stop it either — it'd be like riding on ice.
2) Friction also acts at the brakes where they rub on the rim of the wheel or on the brake disc. Friction also lets you grip the bike — important if you want to ride it without slipping off.

The Bad Points of Friction — It Slows You Down

1) Friction always wastes energy — friction between the moving parts of a bike warms up the gears and bearings — a waste of energy.
2) Friction limits top speed. The air resistance (a kind of friction, see below) takes most of your energy and limits your maximum speed.



Air and Water Resistance Slow Down Moving Objects

1) Air and water resistance (or "drag") push against objects which are moving through the air or water.
2) These are kinds of frictional force because they try to slow objects down.
3) If things need to go fast, then they have to be made very streamlined — which just means they can slip through the air or water without too much resistance. A good example is a sports car.

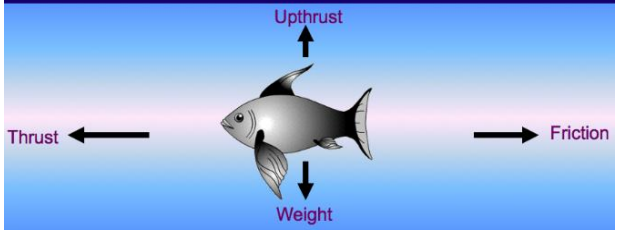
Reducing friction

Lubricants used in bicycle gears

Rolling motion in ball bearings

F: All liquids and gases are fluids (air, water, oil)

What is thrust?	A forward push
What is upthrust?	The upwards force on a body in a liquid or a gas (because pressure increases with depth in fluids)



Things float if they are less dense than the fluid they are in.

Things float if they weigh less than the buoyant force pushing up on them.

Things float if they are shaped so their weight is spread out.

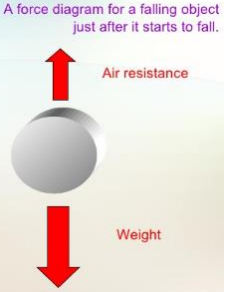
- Balanced forces = no change in motion
  – Often referred to as **equilibrium**
- Unbalanced forces = change in motion

Force diagrams help us understand forces.

The force is represented by an **arrow**.

The **direction** the arrow points shows the direction the force is acting.

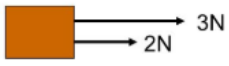
The **size** of the arrow can be used to compare the size of the forces.



G:

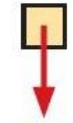
Resultant force

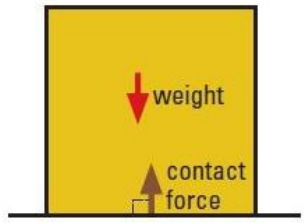
A number of forces acting on a body may be replaced by a single force which has the same effect on the body as the original forces all acting together.



This overall force is called **resultant force**.

In the example opposite, 5N is the resultant force of the 3N and 2N forces.





A diagram which shows all the forces acting on a body is called a free-body diagram

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

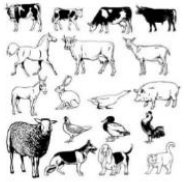
SCIENCE - BIOLOGY

Adaptation and Competition (Part 1)

A: ORGANISMS

ORGANISM

- A ***living*** thing.



- Bacteria, plants, animals, and insects are all ***organisms***.

Biotic vs. Abiotic

B: COMPETITION

What is COMPETITION?

- When species within an ECOSYSTEM compete for the same RESOURCES.
- Organisms in an ECOSYSTEM compete for:
  - FOOD
  - WATER
  - SPACE
- Example: In the ocean, dolphins, whales and large fish all compete for smaller fish.

Competition – Organisms within a population must compete for resources

- When populations grow, resources are in higher demand
- If demand is greater than supply.....population must decrease
  - Fight and kill each other
  - Reproduce less

What is adaptation?

Adaptation describes how a plant of animal is able to survive in various environments

Well adapted organisms can cope with the different aspects of their environment, for example, the temperature

C: ADAPTATION

Activities that an organism does to help it survive are called **behavioural adaptations**. These include:

- searching for food
- during winter, **hibernation**
- the herding of animals in large groups
- vocalisations, such as bird calls.

Behavioural adaptations can be **learnt** or **inherited**.

Inherited behaviour is instinctive and genetic. Learnt behaviour must first be taught, or learned, from experience.

Some adaptations are physical, such as the shape of a birds beak or the size of plant leaves. These are called **structural adaptations**.

Other structural adaptations include:

- fur thickness
- body shape
- teeth size and shape
- internal organisation, such as muscle structure.

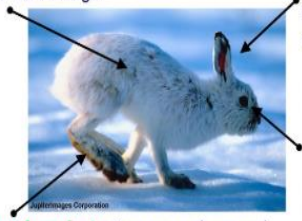
Adaptations relating to a feature, or a group of features, that allows an organism to perform a specific function are called **functional adaptations**.

For example, making slime, controlling body temperature and secreting poison.

Certain tropical frogs have poisonous skin that can make predators very ill or even die.

Functional adaptations aid the survival of an individual. They are controlled by genes, so can be passed down from generation to generation.

The snowshoe hare lives in northern parts of North America. How is it adapted to avoid predators such as lynxes?



YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

SCIENCE - BIOLOGY

Adaptation and Competition (Part 2)

D: SURFACE AREA TO VOLUME RATIO (SA:VOL.)

sides = 3
surface = 3^2 x 6 = 54
volume = 3^3 = 27

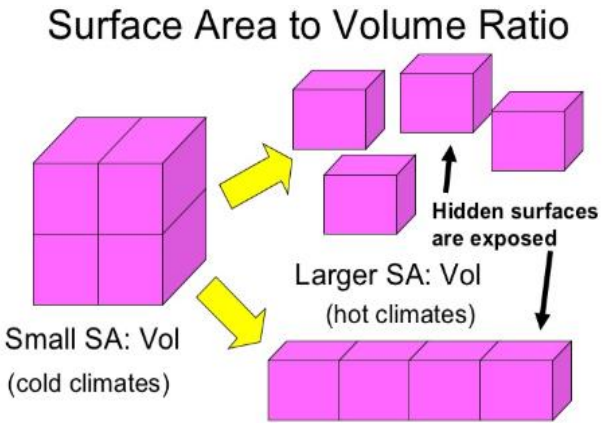
surface/volume = 2

sides = 2
surface = 2^2 x 6 = 24
volume = 2^3 = 3

surface/volume = 3

sides = 1
surface = 1^2 x 6 = 6
volume = 1^3 = 1

surface/volume = 6



A large SA:Vol ratio is not always an advantage:
Small, warm-blooded mammals lose heat very quickly due to their large SA:Vol ratio. They need to eat almost constantly! (Think about how hungry you get on a cold day)

Desert plants would lose water quickly with flat leaves – so they minimise their SA:Vol ratio so that they can conserve water in hot dry environments

E: PLANTS AND ADAPTATION

Plants need: light, carbon dioxide, water, oxygen, nutrients

Adaptation in plants

Water taken in through roots

Stoma in leaves allow gases in and out for **photosynthesis** and **respiration**

In dry climates:
– very wide root systems
– store water in leaves, stems or roots

Surface area:volume ratio
Curled leaves – traps layer of moist air, reduces surface area
Thick cuticle – stops evaporation
Or.. Broad leaves – large surface area to collect dew

Epiphytes – in rainforests live high above ground and collect water and nutrients from the air

Competition in animals and plants

Animals

- **Food** – more likely to be successful if eat a wide range. Competition between own species too, better adapted will survive
- **Territory** – compete for best space/ area
- **Mate** – males fight or display

Success depends on adaptations ...
Avoiding competition can also lead to success

Plants

- Light (photosynthesis) smaller plants may flower earlier in the year before the bigger plants to get more light
- Water (photosynthesis) different types of roots – spread along surface or deep underground
- Nutrients
- Space (roots and light)

Spreading seeds –
sycamore, dandelion,
Fruits, sticky

An extremophile is an organism that thrives in extreme conditions. Extremophile literally means 'extreme loving'

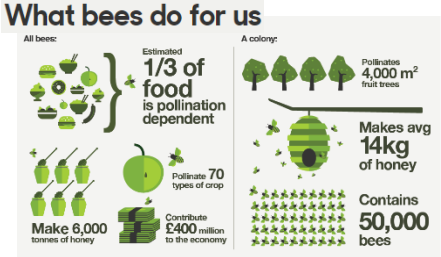
F: POPULATIONS AND COMMUNITIES

Population vs. Community

- *Species*
  - A group of organisms that are physically similar and can mate with each other
  - Example: bear
- *Population*
  - All members of one species in a particular area
  - Example: a group of deer in a forest
- *Community*
  - All different populations that live together in an area and are close enough to interact with each other
  - Example: birds, bears, snakes, all living in the forest

Species - a group of organisms capable of interbreeding and producing fertile offspring.

What bees do for us



- Flowers are dependant on bees for pollination
- Bees are dependant on flowers for food.
- We say they are **interdependent.**

A **stable community** is one in which the size of the populations of all species remain relatively constant over time

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

SCIENCE - CHEMISTRY

Periodicity (Part 1)

A: What is an element?

- A element is a pure substance made of one type of atom
- Elements are divided into metals and non-metals
- Examples of non-metal elements include carbon, oxygen, hydrogen, and nitrogen
- Examples of metal elements include aluminum, iron, copper, and gold

What is a chemical symbol?

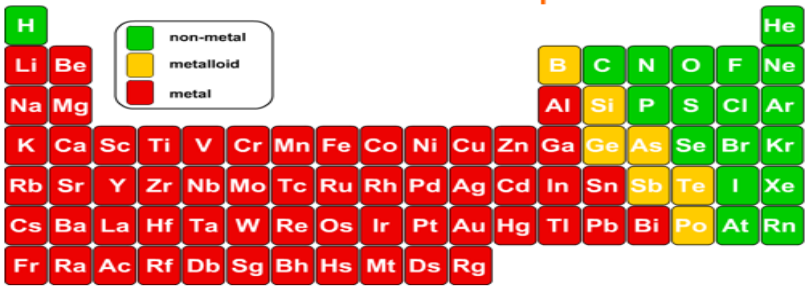
- The chemical symbol tells us what atom it is
- It's a short form (C = Carbon)
  - sometimes it's the Latin short form (Au = Gold)
- **Always a CAPITAL LETTER, sometimes followed by one or more lower case letters**
- Ex: Oxygen O, Nitrogen N, Sodium Na
- *Cobalt – Co *Carbon Monoxide – CO
- (Co is an element, CO is a compound)

6 C Carbon 12.0

13 Al Aluminum 27.0

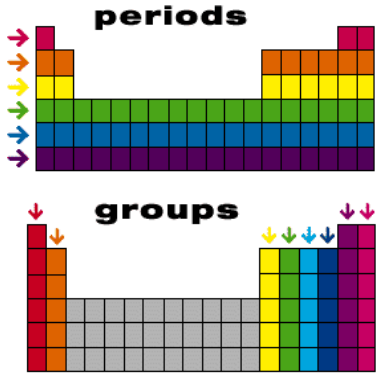
The periodic table

There are approximately 100 naturally occurring elements. All the known elements are shown in the periodic table.



On the periodic table, the metals are found on the LEFT side of the zig-zag line.

Nonmetals
Located on the right side of the periodic table



Elements are organized on the table according to their atomic number, usually found near the top of the square.

- The atomic number **refers to how many protons** an atom of that element has.
- For instance, hydrogen has 1 proton, so it's atomic number is 1.
- The atomic number is unique to that element. No two elements have the same atomic number.

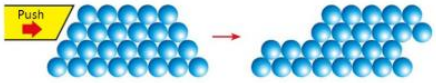
B: Properties of Non Metals

Shiny (Lustrous)	Solids at room temperature (except Mercury which is liquid)	High Density (feel heavy for their size)
Strong	Malleable (the bend without breaking)	Good conductor of heat
Good conductor of electricity	Are magnetic (only Iron, Nickel and Cobalt)	They make a ringing sound when hit (sonorous)
Dull appearance (not shiny)	At room temperature half are solids, half are gases, one is a liquid (Bromine)	Low density (feel light for their size)
Poor conductor of heat (insulator)	Brittle (they break or shatter when hammered)	Weak
Poor conductor of electricity (insulator (apart from graphite))	Not magnetic	Make a dull sound when hit

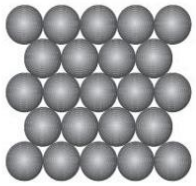
Transition metals. The **elements** in the centre of the periodic table, between groups 2 and 3, are called the **transition metals**. Most of the commonly used **metals** are there, including iron, copper, silver and gold.

In pure metals, *atoms of the same size* are packed regularly in layers.

Metals are **malleable** and **ductile** because the layers of atoms can slide over each other easily when a force is applied.

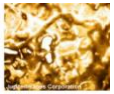


Metals have **high density** because there is little empty space between the atoms.



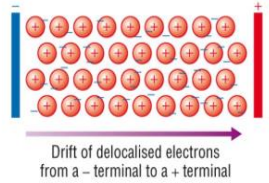
Atoms are packed close together in a metal.

Why do metals have high melting and boiling points? Gold, for example, has a melting point of 1064 °C and a boiling point of 2807 °C.



- Strong forces of attraction
- Between positive ions and negative electrons
- Sea of delocalised electrons
- As metallic bonds are so strong a large amount of force is needed to break them

The delocalised electrons can move freely anywhere within the metal lattice allowing them to conduct electricity.



YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

SCIENCE - CHEMISTRY

Periodicity (Part 2)

C: PROPERTIES OF NON-METALS

Properties of Nonmetals

- **Dull**
- **Brittle (shatters)**
- **Do not react with acid or copper chloride**
- **Do not conduct electricity**
- **Low boiling point**
- **Low melting point**
- **Usually found as a gas**

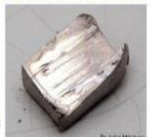
D: GROUP 1 METALS (ALKALI METALS)

The characteristic properties of the alkali metals are:

- They are **soft** and can be cut by a knife. Softness increases going down the group.
- They have a **low density**. Lithium, sodium and potassium float on water.
- They have **low melting and boiling points**.

These properties mean that the alkali metals are different to typical metals. However, alkali metals do also share some properties with typical metals:

- They are **good conductors** of heat and electricity.
- They are **shiny**. This is only seen when alkali metals are freshly cut.



Metal	Reaction with water
lithium	Bubbles of gas are given off quite quickly. When tested with universal indicator the water is now alkaline.
sodium	The sodium melts and skims over the surface producing a stream of small bubbles. Sometimes a yellow-orange flame appeared.
potassium	Potassium immediately produces a lilac flame as it skims around the surface making a fizzing noise.

E: GROUP 7 ELEMENTS: THE HALOGENS

Symbol and Name	Atomic Number	State and colour at room temperature and pressure, colour of vapour when heated
F Fluorine	9	pale yellow gas
Cl Chlorine	17	pale green gas
Br Bromine	35	dark red liquid, readily gives off a brown vapour
I Iodine	53	dark (~black) crumbly solid, purple vapour
At Astatine	85	black solid, dark vapour - highly radioactive!

Colour:

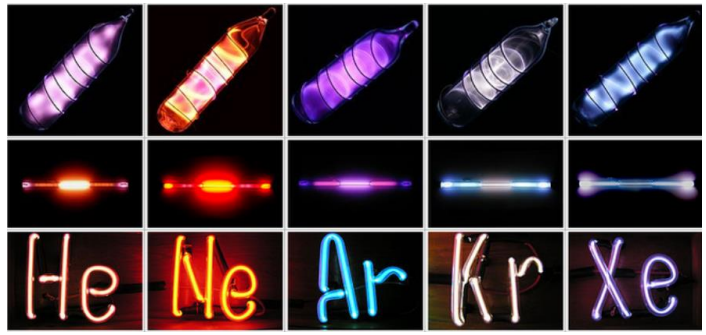
Trend: The colours get darker down the

Chlorine: **Chloro**- means **Green**
(as in **Chloro**phyll
Bromine is **Brown** (or Orange)
Iodine is **Grey** (as a solid)/ Dark **Purple** as a gas

F_2	Gas	Boiling point increases down the group
Cl_2	Gas	
Br_2	Liquid	
I_2	Solid	
At_2	Solid	

So ***Astatine*** should be darker than Grey = **Black**
And ***Fluorine*** should be lighter than Green = Pale Yellow

F: GROUP 0 ELEMENTS: THE NOBLE GASES



Physical Properties

- Colourless, odourless and tasteless.
- Sparingly soluble in water.
- Have very low melting and boiling points

	symbol
helium	He
neon	Ne
argon	Ar
krypton	Kr
xenon	Xe
radon	Rn

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

SPANISH

Stem-Changing Verbs

A Radical-changing verbs

These verbs change their spelling in the root or stem of the verb. Can you work out why this part of the verb is called the root or the stem?

u → ue
o → ue
e → ie

1

jugar		**poder**		**preferir**		**querer**	
juego	I play	**pue**do	I can	pref**ie**ro	I prefer	qu**ie**ro	I want
juegas	You play	**pue**des	You can	pref**ie**res	You prefer	qu**ie**res	You want
juega	He/she plays	**pue**de	He/she can	pref**ie**re	He/she prefers	qu**ie**re	He/she wants
jugamos	We play	podemos	We can	preferimos	We prefer	queremos	We want
jugáis	You(pl) play	podéis	You(pl) can	preferís	You(pl) prefer	queréis	You(pl) want
juegan	They play	**pue**den	They can	pref**ie**ren	They prefer	qu**ie**ren	They want

Think about the pattern. Where do the changes **not** happen?

Reflexive verbs

You will find these verbs in your dictionary with *se* attached to the end of the verb. Example: *levantarse* – to get up (to get **oneself** up)

These verbs have a reflexive pronoun which normally comes before the verb.

me levanto	nos levantamos
te levantas	os levantáis
se levanta	se levantan

4

me despierto – *I wake up*
me visto – *I get dressed*

despertarse	**vestirse**
me des**pie**rto	me visto
te des**pie**rtas	te vistes
se des**pie**rta	se viste
nos despertamos	nos vestimos
os despertáis	os vestís
se des**pie**rtan	se visten

B *Ser* and *estar*

Both *ser* and *estar* have the same meaning: **to be**.

Ser is known as the **permanent** 'to be' and it is used for:

- Origin: ***Soy** de Cuba, **soy** cubano.*
- Expressions of time: ***Son** las seis y cuarto. / Hoy **es** viernes.*
- Occupation: ***Mi** padre **es** profesor.*
- Relationships: *Luís y Juan **son** mis hermanos.*
- Description: *La casa **es** grande.*
- What things are made of: *El barco **es** de papel.*

Estar is known as the **temporary** 'to be' and it is used for:

- Temporary states: *Ana **está** enferma* (ill).
- Moods: ***Estoy** deprimido.*
- Location/position: *Londres **está** en Inglaterra. / El coche **está** en el garaje.*

ser (SER)	estar (ESTAR)
soy	estoy
eres	estás
es	está
somos	estamos
sois	estáis
son	están

I am
Are you?
He/she/it is
We are
Are you (pl)?
They are

5

☺	☹
me gusta	no me gusta
me encanta	me aburre
me apasiona	me molesta
me interesa	me fastidia
me flipa	
me mola	

2

Here is another irregular verb you need to learn off by heart.

ir – *to go*

voy	I go	vamos	We go
vas	You go	vais	You (pl) go
va	He/she goes	van	They go

Voy a ...	→	*I go/am going to ...*
a + el = al		Voy **al** instituto.
a + la = a la		Voy **a la** piscina.

A Ordinal numbers

3

1st	primero/a	6th	sexto/a
2nd	segundo/a	7th	séptimo/a
3rd	tercero/a	8th	octavo/a
4th	cuarto/a	9th	noveno/a
5th	quinto/a	10th	décimo/a

KO Quizlet link
https://quizlet.com/_5lisvs

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

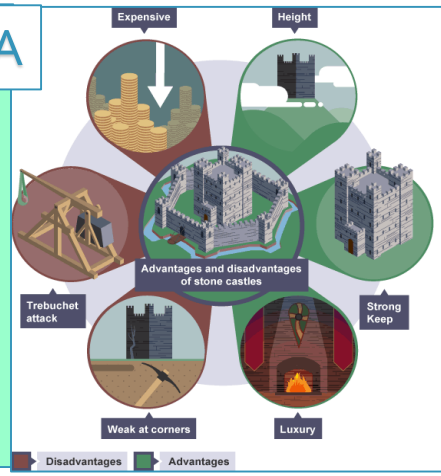
HISTORY

Castles and The Black Death

What is a castle?

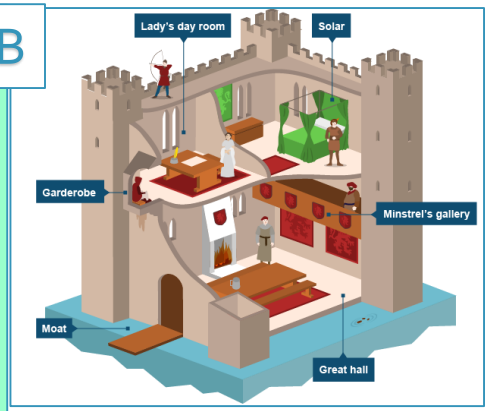
A castles is a large strong building, built in the past by a king or important baron to protect the people inside from attack. They were both a home and a fortress. They were built to provide safety and protection from attack and to display the owner's rank and wealth. Castles were often built on hilltops or surrounded by water to make them easier to defend.

A



Layout of a castle

B



- Many nobles lived in castles. The great hall was the centre of a castle and the walls were decorated with tapestries. There was a minstrel gallery for musicians and singers. At night, the servants slept on the floor.
- The great hall would have at least one fireplace with a chimney. This was a Norman invention and stopped the room filling with smoke.
- The toilet, called the 'garderobe', was usually a chute straight into the moat. One way to capture a castle was to climb up the chute, keeping your fingers crossed that the toilet wasn't occupied!

How did the Black Death (plague) arrive in England?

C

The plague arrived at Melcombe Regis in Dorset in June 1348 and it spread throughout the south of England. In 1349 it reached Wales, Ireland and the north of England. By 1350, it had made it to Scotland. Estimates suggest as much as half the population died.

What did people believe caused the Black Death?

Medieval doctors were not certain what caused the plague, but believed it could be the result of:

- the movements of the planets
- a punishment from God
- bad smells and corrupt air
- enemies who had poisoned the wells
- strangers to villages too were blamed

D

What did people believe cured the Black Death?

- Rubbing onions, herbs or a chopped up snake (if available) on the boils or cutting up a pigeon and rubbing it over an infected body.
- Drinking vinegar, eating crushed minerals, arsenic, mercury or even ten-year-old treacle!
- People who believed God was punishing you for your sin, 'flagellants', went on processions whipping themselves.
- Sometimes a plague doctor would burst the buboes – and as a result, sometimes the victim lived!a

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

GEOGRAPHY

The People of Nottinghamshire

A – History of Nottingham

- Over 1500 years ago, Nottingham was known as the "City of Caves"
- In Saxon times it was known as "Snotingham"
- Nottingham Castle was constructed in 1068 on a sandstone outcrop by the River Leen.
- During the Industrial Revolution, much of Nottingham's prosperity was founded on the textile industry.
- During the second half of the 20th century Nottingham saw urban growth with the development of new public and private housing estates and new urban centres

B – What is Nottinghamshire culturally famous for?

- Nottingham is a UNESCO world City of Literature because of Lord Byron and D. H. Lawrence amongst others
- Nottingham is known as the Home of English Sport due to Football, Cricket, Ice Hockey and Tennis.
- The city is home to two universities - Nottingham Trent University and the University of Nottingham
- The legend of Robin Hood
- Ye Olde Trip To Jerusalem, built into the cave system beneath Nottingham Castle, is a contender for the title of England's Oldest Pub, as it is supposed to have been established in 1189

C – What businesses does Nottingham have?

- Boots the chemists started in Nottingham
- The birthplace of Raleigh bicycles
- GM cricket bats are created in Nottingham
- Speedo swimwear is designed and created here
- Capital One and Experian finance groups are also based here

D – How is Nottingham sustainable?

Nottingham is sustainable by:

1. Bio-gas buses are used on the majority of bus routes in Nottingham. These are less polluting than normal buses.
2. Nottingham has over 650 miles of bicycle lanes. This encourages people to ride their bikes instead of driving their cars.
3. Nottingham has recycling bins which include glass and organic waste from gardens. The majority of Nottingham's black bin waste is burned in the incinerator which powers some of the city

E – Nottingham's Transport Links

- East Midlands Airport is only 15 miles south west of Nottingham City Centre.
- Nottingham Train Station is a major transport hub for the rest of the country.
- Nottingham is one of only 6 cities in the UK to have a Tram network.
- Nottingham City Transport (NCT) is the biggest transport operator in Nottingham, with 330 buses

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

GEOGRAPHY

The Restless Earth

A – Extreme Weather

- Definition of extreme weather - Unusual, severe or unseasonal weather; weather compared to the historical norms
- Examples of extreme weather: heat waves, heavy rainfalls, droughts, snowstorms, tropical storms
- Examples of Extreme Weather events in the UK: the 2019 Heatwave or the Beast from the East 2018

B – Tropical Storm Formation

- Tropical Storms need a lot of heat to form and a sea surface temperature of at least 26°C, which is why they usually occur over tropical seas.
- They also need to be between 5 and 20° north or south of the Equator.
- Sea water must be at least 60 meters deep
- The sea water is evaporated and condenses into clouds, these clouds gather together because of light winds and the spinning of the earth to form the giant storms

C – Tropical Storm Case Study

- Typhoon Haiyan happened On Friday morning, 8 November 2013, on the southeast coast of the Philippines with winds of up to 195 mph.
- Effects: The UN say Typhoon Haiyan has displaced nearly 600,000 people and damaged or destroyed 41,000 homes.
- 10,000 people may have died and 11 million people have been affected by the storm. The death tole is likely to rise.
- Responses: The UN and countries including the UK, Australia, Japan, Vietnam and the US have donated millions of pounds in aid and have sent supplies and medical teams

D – Climate Change

- Definition of climate change: the change in global or regional climate patterns compared to the historical norms

Evidence for climate change:

- The ten hottest years ever recorded all took place since 1998, with the hottest one of all being 2016.
- During the last century, sea levels rose by about 7-8 inches and now, the rate continues to accelerate.
- The Sahara Desert is enlarging by a rate of 48 kilometres per year.

E – Mitigation of Climate Change

- Definition of Mitigation: the action of reducing the severity and seriousness of something.

Ways to Mitigate Climate Change:

- Increase the use of public transport – buses, trains and trams instead of cars
- Afforestation – planting trees to remove CO_2 from the atmosphere
- International Agreements – countries agreeing to cut down on pollution
- Carbon Capture – capturing CO_2 from the air and storing it underground.

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

PHILOSOPHY AND ETHICS

Inspirational Figures (Part 1)

A: Key terms

Key Term	Definition
Abraham	Important prophet and religious figure in Judaism, Christianity and Islam.
Angel	Heavenly being that delivers messages from God.
Covenant	A promise made between God and Abraham
Dilemma	When you are not sure of the right thing to do.
Gabriel	Important angel.
Inspirational person	To offer something valuable which motivates others to bring out the best in themselves.
Isaac	The much loved son of Abraham and Sarah. (Ishmael in the Islamic version)
Loyalty	A strong love and devotion.
Obedience	To do whatever you are ordered.
Sacrifice	When you have to give up something you care about.
Sarah	The wife of Abraham. (Hagar in the Islamic version)

B: The Test of Abraham

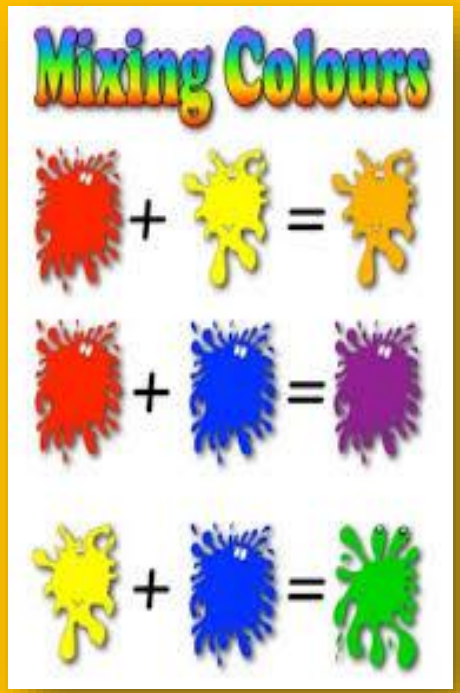
As Abraham did as God asked and moved his family to a new land- God fulfilled his promise to Abraham and gave his wife a son, even though she was 100 years old.
Isaac grew into a strong and healthy boy, and Abraham loved his son with all of his heart—and then some!
One day, God called out, "Abraham!"
"Here I am," said Abraham.
"Abraham, I want you to take your only son Isaac—the one you love so dearly—up to the mountains, and there offer him to Me," said God. "I will show you where to go." Abraham felt sad. He had waited so long for a son, and he didn't want to give him away. But Abraham obeyed.
Early the next morning, he rose and took his only son—the one he loved so dearly—up into the mountains.
After three days, Abraham finally reached the place God had told him about. "Father," said Isaac, "we have fire and wood, but where is the lamb for our offering?" "God will provide," said Abraham, with tears in his eyes. And he began to carefully arrange the firewood on the altar. At last he bound Isaac and laid him on top.
Just as Abraham was about to kill his only son Isaac God spoke "Stop!" cried the voice from heaven. "Do not harm the boy. Now I know that you trust me completely."
Abraham saw a ram caught in a bush. He and Isaac offered the ram to God. And Abraham named the mountain "God will provide."
God promised from then on he would provide Abraham with as many descendants as there are stars in the sky and Abraham promised his family would stay faithful to God.

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

ART

The Colour Wheel and Mixing Colours

Part A



Primary colours cannot be mixed.
Red, Yellow and Blue

How to mix secondary colours:
Orange = Yellow and Red
Purple = Red and Blue
Green = Blue and Yellow

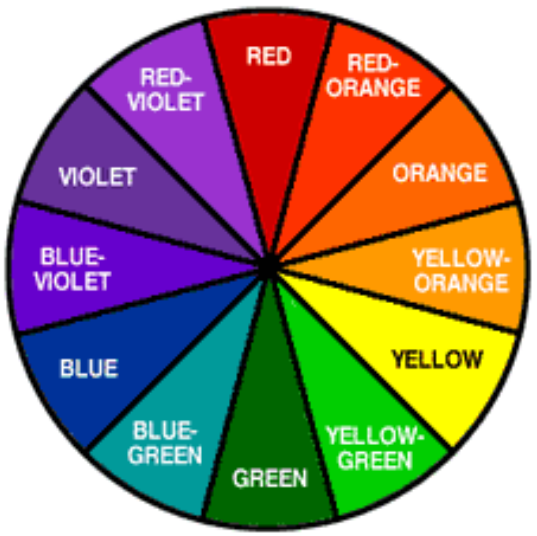
Part B

Complementary colours
- Two colours that contrast with each other.
- They are always a primary and secondary colour.
- They are always opposite each other in the colour wheel.

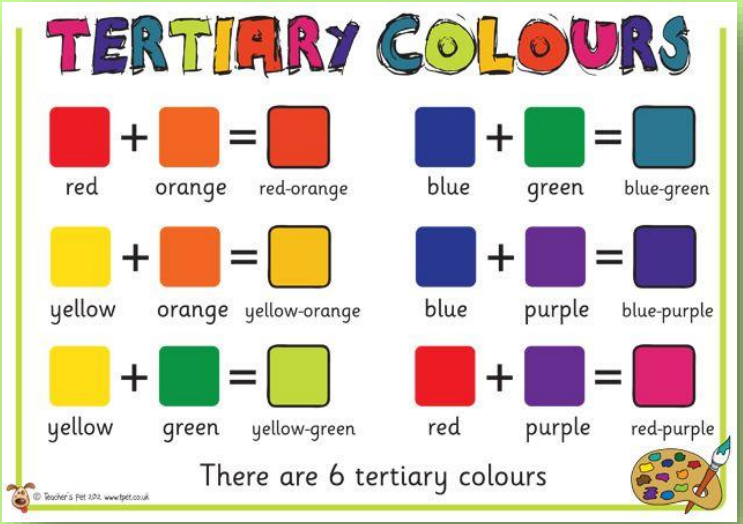
Orange and Blue

Green and Red

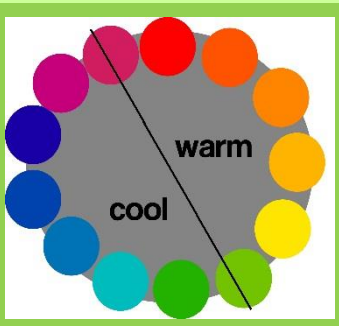
Purple and Yellow



Part C



Hot colours:
Red
Yellow
Oranges
Reddy purple
Yellowy green
Pink



Cold colours:
Blues
Bluey green
Bluey purple
Turquoise

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

MUSIC

Salsa

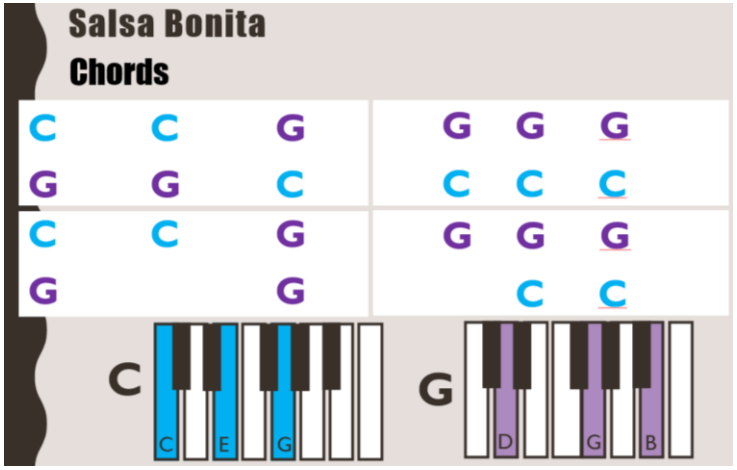
A: History of Salsa

- Salsa originates from Cuba but started in New York.
- Cuban immigrants brought their music to New York and it grew in popularity.
- Salsa features many percussion instruments and is all about making people move.
- Salsa normally features a vocalist and they would normally sing in Spanish.
- Salsa is a dance! The music needs to be fast and in a regular time in order for people to dance to it.
- The rhythm is normally syncopated.

B: Salsa Bonita

C C E C D D G G G
Can you hear me playing … the SAL-SA?
D D F D E E G G G
Can you hear me playing … the SAL-SA?
E E G E F F G G G
Can you hear me playing … the SAL-SA?
G G .F .E .D E C
Play the Sal-sa Bo – nita

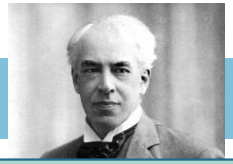
C: Note Values



YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

DRAMA

Naturalism and Characterisation



A: NATURALISM, CHARACTERISATION AND BACKSTORY

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.

Constantin Stanislavski felt that actors should understand their character's backstory, as it gives them motivation and makes for a more convincing performance. (Naturalism)

How to create a backstory:

1. Decide what **age** your character is
2. Decide where your play is set, as the **social and historical context** of the play will determine how your character behaves.
3. Are there any **significant events** that have happened in your character's past?

B. REHEARSAL TECHNIQUES FOR CHARCATERISATION

Key steps to character creation:

- Backstory
- Social/historical Context – this affects how the character will behave and react to situations.
- Role on the wall – what you think of yourself as the character and what others think of the character.
- Hot seating – audience can ask the character questions to get more information from them about their history etc.
- Conscience Alley –One participant walks between 2 lines of students as they make comments that are either positive and encouraging or negative and discouraging.
- Status games: it's important for a performer to understand their relationships with other characters. Arranging the cast into a tableau, using levels and space to indicate high and low status characters and their relationships with each other. Can also show how different characters might treat each other.
- Defend a character: this involves being a character's lawyer and defending them against some of the things they have done – justifying the character's actions.

C. DRAMA CONVENTIONS

Dialogue:
This is the term given to lines that are spoken between characters.

→ **Monologue**
Duologue
Soliloquy
Aside

FLASHBACK:

- Scenes that go **back in time**
- **Create a non-linear plot** without causing the audience too much confusion.

Stage Directions:
Instructions written in a script to explain how a play should be performed.

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

COMPUTER SCIENCE

How a Computer Works

A: Definition of a computer

A computer is a type of machine. It doesn't have a brain like us and it can't think or have ideas, but it can follow stored instructions and do lots of useful things. It is also known as a an electronic device for storing and processing data, typically in binary form, according to instructions given to it in a variable program.

B: Different types of computers

- Laptop
- Desktop PC
- Smartphone
- Tablet

C: Different components of a Desktop PC

D: Software

Hardware - Computer hardware refers to the physical parts of a computer and related devices. Internal hardware devices include motherboards, hard drives, and RAM. External hardware devices include monitors, keyboards, mice, printers, and scanners

Software Computer software is a general term that describes computer programs. Related terms such as software programs and applications

Examples of Software

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

Definitions of the hardware

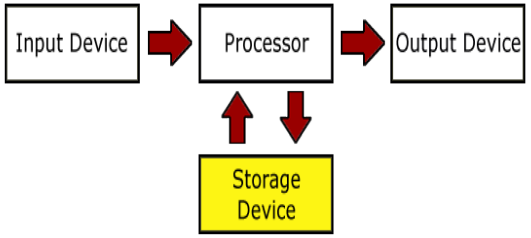
RAM - Random-access memory is a form of computer data storage which stores frequently used program instructions. It is categorized as temporary storage

ROM - computer memory that is used to permanently store applications and data. It has the Boot Up system stored.

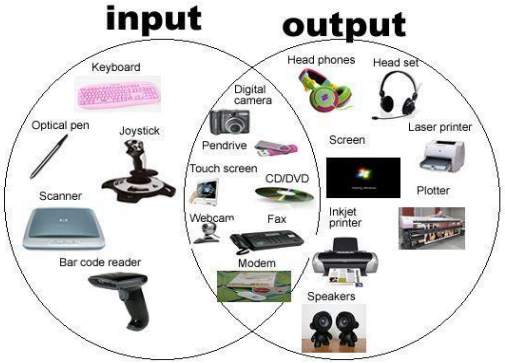
CPU -A central processing unit is the electronic circuitry within a computer that carries out the instructions of a computer. It is also known as the "brain of the computer"

Hard Drive -The hard disk drive is the main, and usually largest, data storage hardware device in a computer. The operating system, software titles, and most other files are stored in the hard disk drive. It is known as permanent storage

E: Computer Life Cycle Diagram



F: Input and Output Devices



PE

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
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

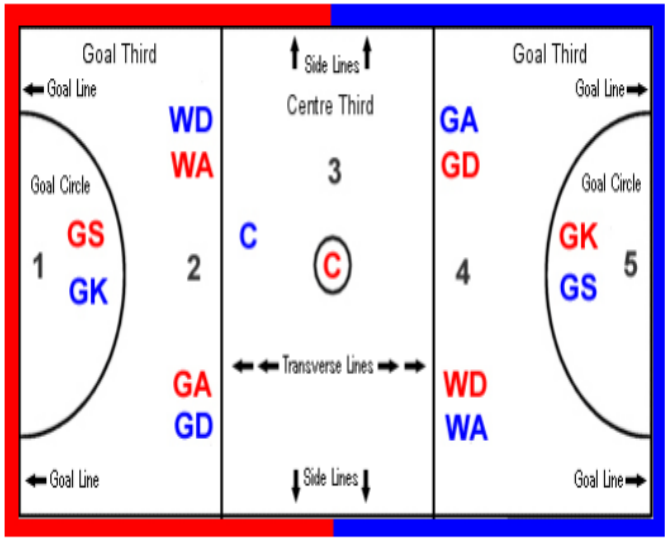
PE

Netball

A: Players and Positions

PLAYERS:
A netball team consists of up to 12 players with 7 players allowed on court at any one time. A team may take the court with a minimum of 5 players.

Netball Court showing starting positions for a centre pass



Positions, Responsibilities and Areas Permitted

Position	Responsibilities	Court Area
GS	To score goals and to work in and around the circle with the GA	1 & 2
GA	To feed and work with GS and to score goals	1, 2 & 3
WA	To feed the circle players giving them shooting opportunities	2 & 3
C	To take the Centre Pass and to link the defence and the attack	2, 3 & 4
WD	To look for interceptions and to prevent the WA from feeding the circle	3 & 4
GD	To win the ball and reduce the effectiveness of the GA	3, 4 & 5
GK	To work with the GD and to prevent the GS from scoring goals	4 & 5

B: Rules

PLAYING TIME: A game consists of 4 x 15 minute quarters
CENTRE PASS: Alternate for each team. The Centre must be wholly within the Centre Circle and must obey the footwork rule after the whistle has been blown. The Centre pass must be caught or touched by a player standing in or landing wholly within the Centre third.

MINOR INFRINGEMENTS- FREE PASS
Breaking the following rules will result in a FREE PASS (can be marked by the offender) being awarded to the opposing team.
OFFSIDE: Player moving out of permitted area, with or without ball (on a line counts as within either area).
BREAKING AT THE CENTRE PASS: A player moving into the Centre third before the whistle is blown for the Centre pass.
PLAYING THE BALL: 3 seconds to pass or shoot, after catching otherwise it is a HELD BALL. A player may bounce or bat the ball once (with one hand) to gain control. A player on the ground must stand up before playing ball
OVER A THIRD: Ball may not be thrown over a complete third without being touched or caught by a player wholly within that third.
FOOTWORK: Passing or shooting the ball, whilst moving/hopping/dragging your landing foot.

MAJOR INFRINGEMENTS- PENALTY PASS
Breaking the following rules will result in a PENALTY PASS or PENALTY PASS OR SHOT (can't be marked by the offender) being awarded to the opposing team.
A PENALTY PASS (or PENALTY PASS/ PENALTY SHOT if in the goal circle) is awarded where the infringement occurred. The offending player must stand beside the thrower until the pass or shot has been taken.
OBSTRUCTION: Player with the ball: Standing closer than 0.9m / 3ft
Player without ball: the defender may be close, but not touching, providing that no effort is made to intercept/defend the ball and there is no interference with the opponents throwing or shooting action. Arms must be in a natural position, not outstretched, and no other part of the body or legs may be used to hamper an opponent.
CONTACT: No player may contact an opponent, either accidentally or deliberately, in such a way that interferes with the play of that opponent or causes contact to occur.
OUT OF COURT - THROW IN: Taken for a ball which leaves the court. Must be set from where it went out (in-line with Umpire).
TOSS-UP: For all simultaneous infringements. The two players stand facing each other with hands by their sides. Umpire flicks the ball upwards the height of the tallest person's shoulder.

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

DT – Miss Cockayne

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

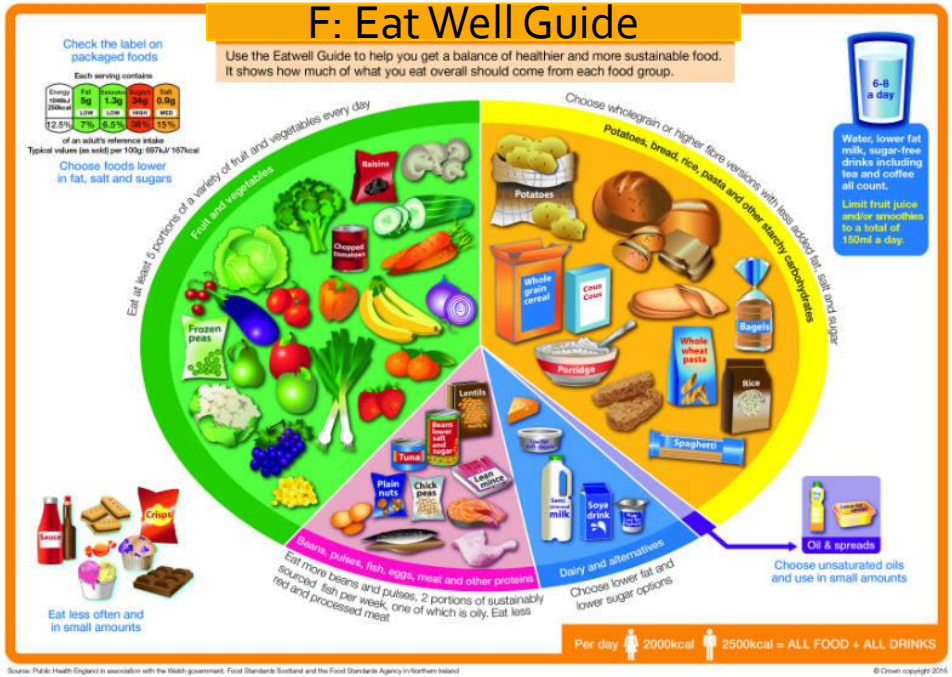
Make a bridge over the vegetable with your hand

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.

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER
Spring Term 1

DT – Miss Radford

Resistant Materials

Section A - Key tools and equipment

Image	Tool Name	Uses
	Vice	To hold material securely in place
	Wet and Dry Paper	To polish the material
	File	To remove material and scratches
	Coping Saw	To cut curves

Section B – Material properties and uses

Name: Polymethyl methacrylate (Acrylic)

Properties	Uses
Stiff, hard but scratches easily, durable, brittle in small sections, good electrical insulator, machines and polishes well	Signs, covers of storage boxes, aircraft canopies and windows, covers for car lights, wash basins and baths

Section C – Plastic sources

Natural
Natural sources of plastics include:
- **plants**
- **trees**
- **animals**
- **insects**

Synthetic
Synthetic plastics are chemically manufactured from:
- **crude oil**
- **coal**
- **natural gas**

Thermoplastics and thermoset plastics
Plastics are divided into thermoplastics and thermoset plastics.
Thermoplastics can be heated and shaped many times.
Thermoset plastics can only be heated and shaped once.

Section D – Process of making plastic

1. Oil field
2. Oil tanker
3. Crude oil refinery and distillation
4. Distribution
5. Processing plant
6. Plastic granules
7. Factory
8. End product



Section D – Product analysis

ACCESSFM	
A	**Aesthetics** What does it look like? e.g. colour, shape, style Is the product appealing to the client?
C	**Cost** How much does the product cost to buy? Is this a suitable price?
C	**Client** Who is the product aimed at? How is it suitable for the client?
E	**Environment** How has the product been made sustainable?
S	**Safety** Is the product safety to use during intended use? How has the product been made safe?
S	**Size** What size is the product (mm)? Is this a suitable size for the product?
F	**Function** What does the product do? Does it do the job well?
M	**Materials** What is the product made from? Is this a suitable material for the product? Why?

Notes/Reminders:

Notes/Reminders:

Notes/Reminders:


WORK
HARD
BE KIND