NOTTINGHAM
FREE SCHOOL

YEAR 7
HOMEWORK
KNOWLEDGE ORGANISER

Spring Term 2

Name: _____ Tutor Set: _____

"You just have to find that thing that's special about you that distinguishes you from all the others, and through true talent, hard work, and passion, anything can happen."

Dr Dre

Rapper, Record Producer and Entrepreneur

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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 and where you can find ideas of how to learn the knowledge.

Week 1: 24th February

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

Week 2: 2nd March

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

Week 3: 9th March

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

Week 4: 16th March

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

Week 5: 23rd Macrh

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

Week 6: 30th March

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

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HEAD OF SCHOOL'S PAGE

General Knowledge

A: The UK– UK landmarks

Landmark	Location	Picture
Angel of the North	Northumbria	
Hadrian's wall	Cumbria	
Stonehenge	Wiltshire	
White cliffs of Dover	Dover, Kent	
Tower Bridge	London	
Blackpool Tower	Blackpool, Lancashire	
Edinburgh Castle	Edinburgh, Scotland	

B: Our World– major oceans

C: Academic Vocabulary: command words to help you learn

Word	Definition
accumulate	Gather together or get an increasing number of
catastrophe	An event causing great and usually sudden damage or suffering; a disaster
chronological	A record of events in the order in which they occurred
drastic	Likely to have a strong or extreme effect
elaborate	Involving many carefully arranged parts or details; detailed in design and planning
frequent	Occurring or done many times
lofty	Of great height
manipulate	Handle, control or influence in a clever or skilful way
persuade	Make someone do something through reasoning or argument.
strategy	A plan of action designed to achieve a long-term or overall aim

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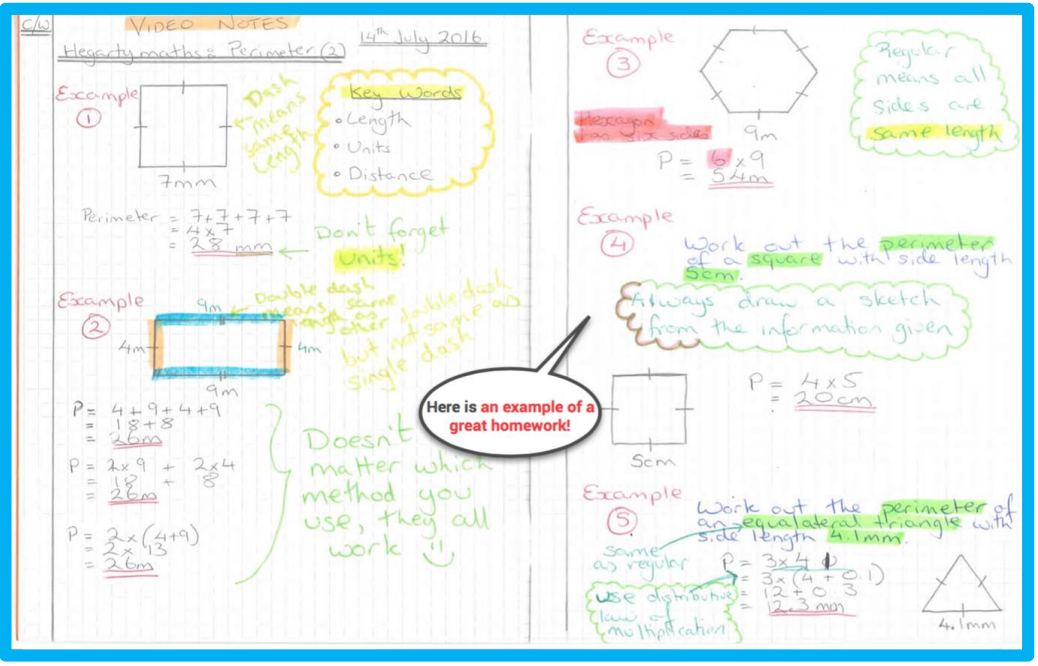
MATHS

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

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.

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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

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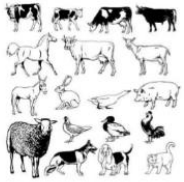
SCIENCE - BIOLOGY

Adaptation and Competition (Part 1)

A: ORGANISMS

ORGANISM

- A ***living*** thing.

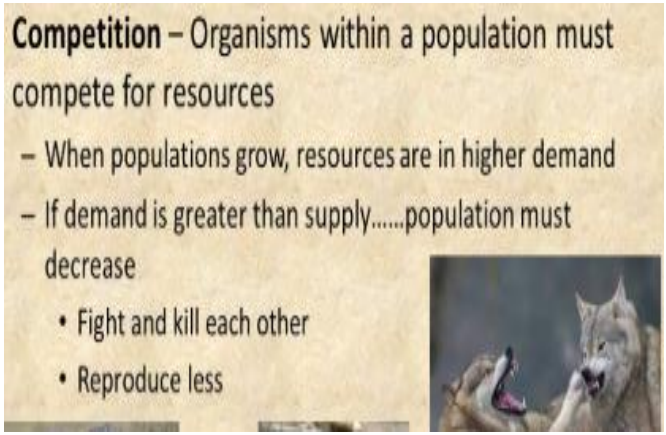


- Bacteria, plants, animals, and insects are all ***organisms***.

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.



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.

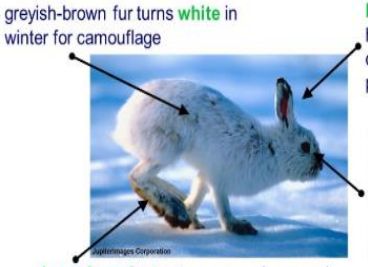
Adaptations relating to a feature, or a group of features, that allows an organism to perform a specific function are called **functional adaptations**.

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?



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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

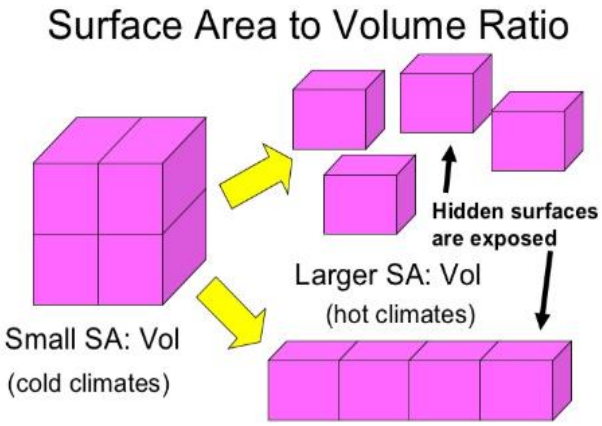
surface/volume = 2

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'

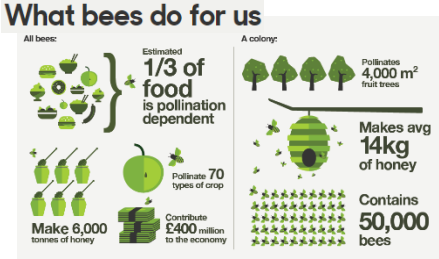
F: POPULATIONS AND COMMUNITIES

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

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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?

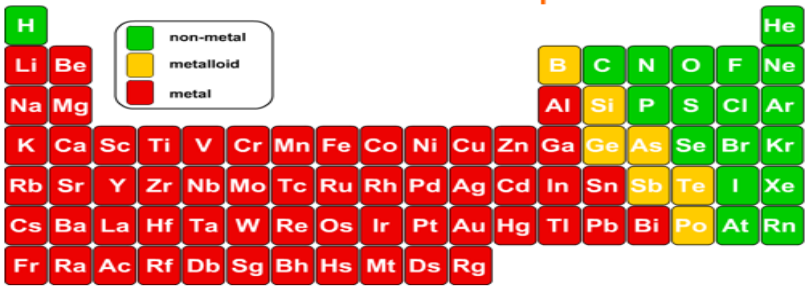
- The chemical symbol tells us what atom it is
- It's a short form (C = Carbon)
  - sometimes it's the Latin short form (Au = Gold)
- **Always a CAPITAL LETTER, sometimes followed by one or more lower case letters**
- Ex: Oxygen O, Nitrogen N, Sodium Na
- *Cobalt – Co *Carbon Monoxide – CO
- (Co is an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

6 C Carbon 12.0

13 Al Aluminum 27.0

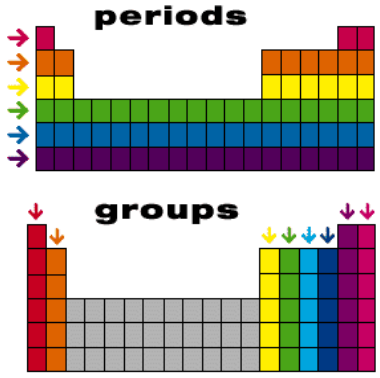
The periodic table

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.

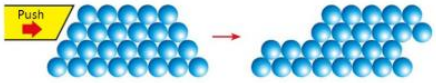
B: Properties of Non Metals

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

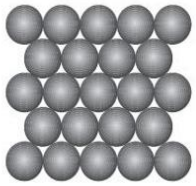
Transition metals. The **elements** in the centre of the periodic table, between groups 2 and 3, are called the **transition metals**. Most of the commonly used **metals** are there, including iron, copper, silver and gold.

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.

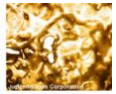


Metals have **high density** because there is little empty space between the atoms.



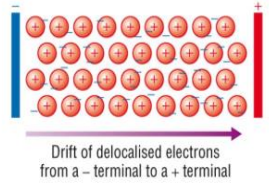
Atoms are packed close together in a metal.

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.



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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**

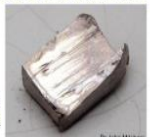
D: GROUP 1 METALS (ALKALI METALS)

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:

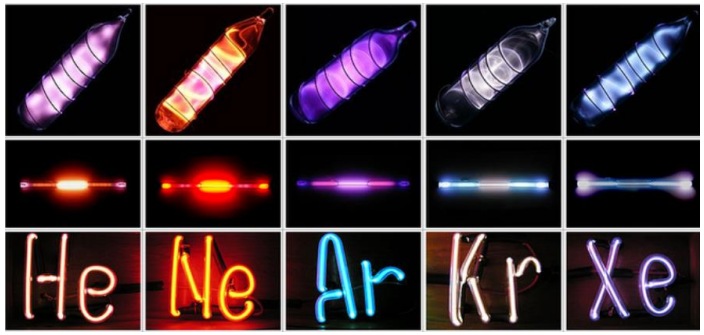
Trend: The colours get darker down the

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

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SPANISH

Near Future Tense

1 A Comparing – 'more than' and 'less than'

To make comparisons in English we use 'more than' and 'less than': 'Maths is more difficult than Spanish'. We also add -er to adjectives: 'Spanish is easier than Maths'.

Spanish is easier! You don't need to learn any more word endings. But you still have to remember to check that the verbs and adjectives are correct:

La fruta (f/s) es **más** sana **que** el helado. *Fruit is healthier than ice-cream.*

Las verduras (f/pl) son **más** sanas **que** las patatas fritas. *Vegetables are healthier than chips.*

Las verduras contienen **menos** grasa **que** las patatas fritas. *Vegetables contain less fat than chips.*

2

ir a – *to go somewhere*
voy a ... – *I'm going to ...*
vamos a ... – *we're going to*
¿quieres ir a ...? – *do you want to go to ...?*

Remember: *se come mucho ...* is a useful way of saying *we / you / they eat a lot of ...*

3

el desayuno – breakfast
desayunar – to have breakfast
What other groups of similar words have you seen in this unit?

Groups of expressions

Some verbs can be used with many different expressions. Record them together:

tener: *tengo hambre* (I'm hungry)
tengo sed (I'm thirsty)
tengo doce años (I'm 12 years old)

KO Quizlet link
https://quizlet.com/_5xv2vj

4

Tú and *vosotros* are the familiar ways of saying 'you'. Use them for friends, family and younger people.

Usted and *ustedes* are the polite ways of saying 'you'. Use them to strangers, teachers and older people.

Usted uses the same verb endings as *él* and *ella*. *Ustedes* uses the same verb endings as *ellos* and *ellas*. These are the 3rd person endings.

querer – to want				
person		pronoun		verb
1	Me =	yo	I want =	quiero
2	You =	tú	Do you want =	quieres
3	Him/her =	él / ella / **usted**	He/she wants =	quiere
4	Us =	nosotros	We want =	queremos
5	You (pl) =	vosotros	You(pl) want =	queréis
6	Them =	ellos / ellas / **ustedes**	They want =	quieren

5 The immediate future

You use this tense just like you do in English to say what you **are going to do** or what **is going to happen** in the near future.

Take the verb ***ir*** (to go) + ***a*** + the **infinitive** of the verb of action:

Voy	a	viajar en tren	I am going to travel by train
Vas	a	visitar Barcelona	You are going to visit Barcelona
Va	a	salir con sus amigos	She/he is going to go out with friends
Vamos	a	volar en avión	We are going to fly by plane
Vais	a	comer en un restaurante	You(pl) are going to eat in a restaurant
Van	a	jugar al tenis.	They are going to play tennis

YEAR 7
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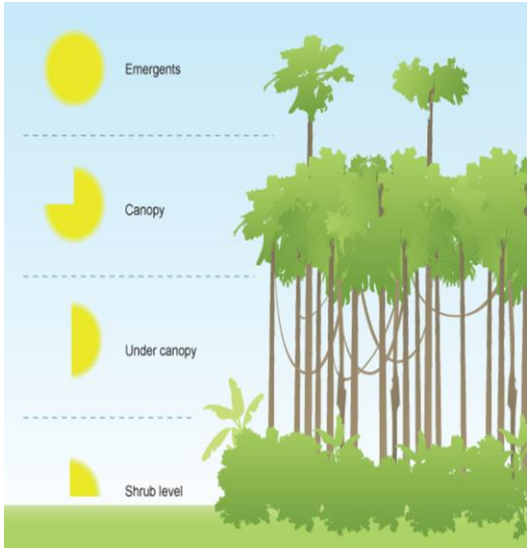
GEOGRAPHY

South America

A: Brazil

- Located in South America.
- Brazil is the 5th largest country in the world by both land area and population.
- The population in 2012 was around 194 million people.
- The capital city is Brasilia, while the largest city is Sao Paulo.
- Other major cities include Rio de Janeiro, Salvador and Fortaleza.
- In Brazil they drive on the right-hand side of the road.
- Brazil has a large coastline on the eastern side of South America, stretching 7491 kilometres (4655 miles) in length.
- Brazil shares a border with all South American countries except for Chile and Ecuador.
- Brazil covers 3 time zones.

B: Layers of the Rainforest



D: Deforestation of the Rainforest

Deforestation means the **removal of trees**. It is happening at an alarming rate. It is **estimated** that an area of rainforest about the **size of a football** pitch is destroyed **each second.**

Causes of deforestation

Logging

Wood companies cut down trees for **wood**, which is mostly **sold to Rich countries.** In most cases, large areas of forest are destroyed just to remove a few highly valued trees. This has **consequences**:

- Heavy machines breaks the soil and makes it more likely to be eroded
- Mud is washed into rivers
- Wood roads open up the area to new people who remove even more trees

Farming

Land is cleared and planted with cash crops, usually just one - such as **palm oil.** Also, it will be use for grazing by **cattle farmers (ranchers).** Most **cash crops and cattle are eventually sold to Rich countries.**
These actions affect the soil for future use because **quality of the soil falls.** Only **farmers who can afford fertilisers** will be able to use the soil to grow crops in the future. If they can't afford fertilisers, **farmers simply move on and clear more land**, so more forest is lost.

Mining

Land is completely deforested. Chemicals are used in the mining process. **The run-off from this goes into local rivers and pollutes them.**

Road building

Wood companies and miners build roads to get their materials out. People use the roads to enter the forest and **build new settlements and set up industries.** The Trans-Amazonian Highway in South America is 5,300 km long and has opened up some remote parts of Brazil to development.

Settlement

Land is being cleared for new homes and settlements. There is more need for these in countries with increasing populations, especially around large overcrowded cities.

Dam building

Hydro-electric dams **provide energy** but also result in **deforestation**. Problems include:

- flooding of large areas of forest
- people may have to move
- drowned forest rots and adds carbon to the atmosphere

Fuelwood

Many people rely on wood for their main source of fuel (heating and cooking), particularly in LIC countries. As the population grows, more wood is chopped down.

C: Living in the Andes

E: Brazil v UK Development Indicators

Money Earnt Per Year
The total money received from all areas of the economy within a country.
UK = 675 billion pounds
Brazil = 570 billion pounds

Death Rate
The number of deaths per thousand of population per year.
UK = 9.4 per 1000
Brazil = 6.48 per 1000

Literacy Rate
A percentage of the population that has basic reading and writing skills.
UK = 99%
Brazil = 92%

Birth Rate
The number of live births per thousand of population per year.
UK = 12 births per 1000
Brazil = 14 births per 1000

Doctors Per 1000
The number of Doctors per thousand of the population.
UK = 2.81 doctors
Brazil = 1.89 doctors

Unemployment Rate
The number of fit and healthy people that cannot find work.
UK = 1,600,000
Brazil = 12,300,000

Life Expectancy
How long a normal person is expected to live for in that country. It is different for men and women.
UK = Male 79 years, Female 83 years
Brazil = Male 71 years, Female 78 years

Number of Voters
The number of people of age and able to vote.
UK = 44,441,081
Brazil = 142,822,046

F: Issues in Favelas

- **Overcrowding** - these settlements have a high population density.
- **Fires** - fires can spread quickly.
- **Lack of jobs** - jobs are in short supply.
- **Disease** - poor sanitation and limited health care can lead to the spread of disease.
- **Lack of space** - the newest and poorest arrivals may be forced to live on the worst quality land.
- **Poor Infrastructure** - services are poor, public transport is limited and connections to the electricity supply can be limited and sometimes dangerous.

G: Improving Favelas

Method of Improvement	Cost (£)	Positives	Negatives
Installing water pumps at various street corners that also treat dirty water	£250,000	Clean water will be supplied. Also decreases the risk of disease from mosquitos.	Expensive to maintain and can lead to community conflicts.
Hire a team of builders to make each house is safe and secure	£350,000	Buildings are safer against crime and the threat of collapsing.	An expensive option.
Set up **more police patrols** and **community meetings**	£200,000	Streets are safer at night and from gang and violence control.	Gangs might fight back. Police could be involved in corruption.
Build a new school and hire teachers	£150,000	Education for young people.	Cannot help older uneducated people.
Build a new doctors and vaccinate the local people against disease	£250,000	Peoples health and life expectancy improve.	People would have to pay a fee to see the doctor and receive health care.
Limit the number of people living in a house. Also, build new housing units	£225,000	New homes are built and safety improved.	Can lead to community tensions over new builds and the breakup of families.
Ban open fires and hire electricians to make wiring safe in all businesses and housing	£175,000	Risk of fire is massively reduced.	Very time consuming and is only a onetime event.

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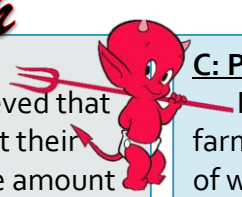
HISTORY

The Medieval Church and Medieval Lives

Medieval Church

A: Heaven and Hell



Everyone in Medieval England was Christian. They believed that their soul would live on after they die. They believed that their soul would go to either **heaven** or **hell** depending on the amount of **sin** that the person has committed during their lifetime. This meant that Medieval people would avoid committing crimes or doing others harm because they feared the consequence of Hell. The Church would use **doom paintings** to make people fear Hell. This showed people being tortured by devils for their sins. There were seven deadly sins: Pride, Envy (jealousy), Greed, Gluttony (greed for material objects/food), Lust (Fancying people you're not married to), Sloth (Laziness) and Wrath (Anger).

In Hell, you would be punished according to your sins. For example, for gluttony you would be force fed rats and snakes and for sloth you would be thrown in a snake pit! This certainly puts an R20 back into perspective!

B: Purgatory (and how to fast track your way through)

Only those who had committed **mortal** (very bad) **sins** were sent straight to Hell. The others were sent to Purgatory where their soul could be **cleansed** (cleaned) ready for entry into heaven. Because heaven is perfect, humans cannot enter heaven straight away, because humans are sinful. Therefore, they go through pain and suffering in purgatory first.

There were ways of reducing your time in Purgatory. These include:

- Pardons (pay the local priest for a pardon for your sins)
- Prayers for the dead (pay local monks to pray for your soul after death)
- Pilgrimage (go on a long journey to a shrine, barefoot, and don't forget to give a large donation when you arrive)

Medieval Lives

C: Peasant Life

In Medieval times, 90% of people were peasants. This meant that they were farmers. Most peasants lived in the same village all their lives, and tended to crops of wheat or barley (arable farming). Their village and its surrounding field was called a **manor** and there would be a **lord of the manor** who would live in the **manor house.** He was responsible for collecting rents and keeping law and order, but he was also very powerful and rich. Each community also had a **miller** who would mill the grain into flour – he would use the oven that belonged to the Lord of the Manor to do this. There was also a **reeve** who managed/oversaw the peasant farmers.

The peasants were very reliant on a good harvest in order to feed their families.

D: Town Life

Towns grew in Medieval England. They were often found near to a river and they became centres of trade, often focused around a market place. This was a place to buy and sell products, such as those produced locally (e.g. apple cider) and those brought over from the continent (e.g. spices). **Merchants** became very rich from buying and selling products in market towns. The town also allowed people to have a variety of jobs, such as being a cobbler (shoe-maker), tanner (leather-worker) and a blacksmith (horse-shoe-maker). Members of each trade would come together and form **guilds** where they would support one another and ensure that their trade gained a strong reputation. Some towns became famous for trading particular products, such as Bristol became famous for wool and Gloucester became famous for metalwork.

E: Law and Order

There was no police in Medieval Times. Instead, each male member of the community joined a **tithing,** which comprised of ten men that were each responsible for one another. If someone in the community committed a crime, a member of the tithing would call an alarm and there would be a **hue and cry** where everyone would chase after the accused person. They would then stand trial at the local manor court.

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PHILOSOPHY AND ETHICS

Inspirational Figures (Part 2)

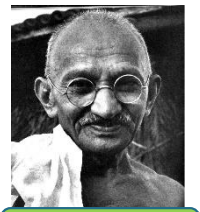
A: Key terms

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: Obeying God

Reasons TO obey God	Reasons TO NOT obey God
• Abraham had made a covenant with God. • He wanted to show God he was faithful and would do all God asked. • He trusted God completely – there must be reason God is asking him to do this. • Abraham had to be obedient and obey God.	• He loved his son very much. • He had wanted a son for many years. • His wife loved Isaac and had wanted a son for many years. • It is wrong to kill an innocent life – Isaac hadn't done anything to deserved being killed.

C: Other Inspirational figures


Ghandi

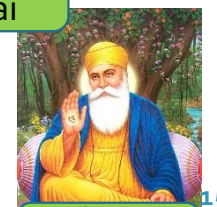
Martin Luther King Jr


Malala Yousafzai

Jesus


Buddha

Muhammad (PBuH)


Guru Nanak

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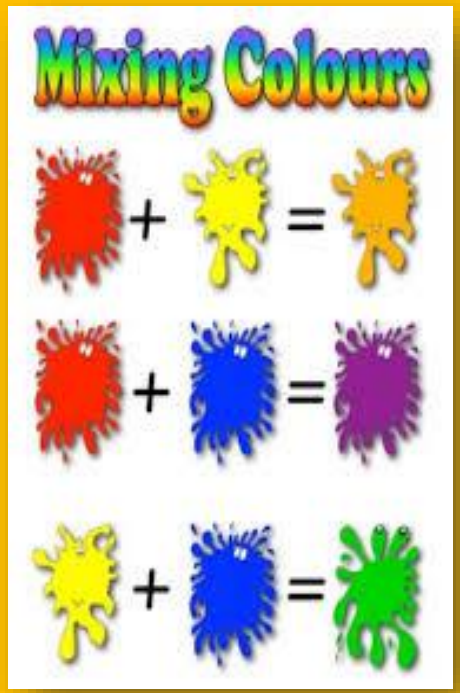
ART

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

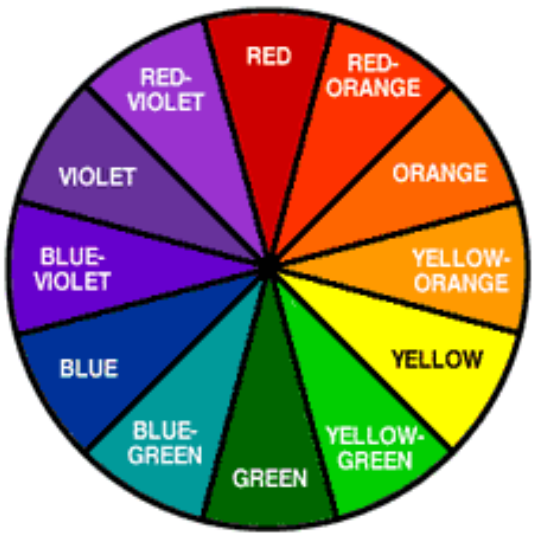
Part B

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.

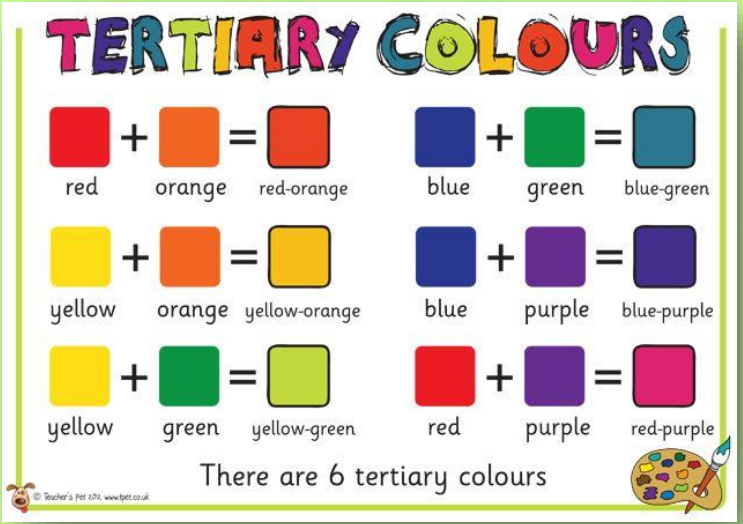

Orange and Blue

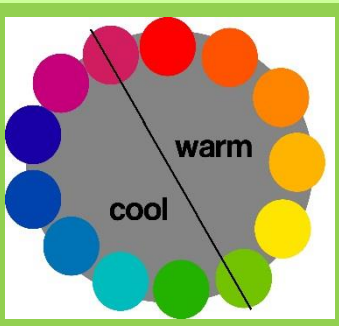

Green and Red


Purple and Yellow



Part C





Hot colours:
Red
Yellow
Oranges
Reddy purple
Yellowy green
Pink

Cold colours:
Blues
Bluey green
Bluey purple
Turquoise

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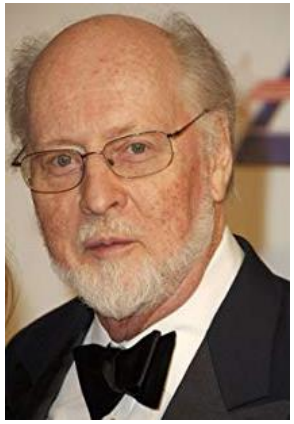
MUSIC

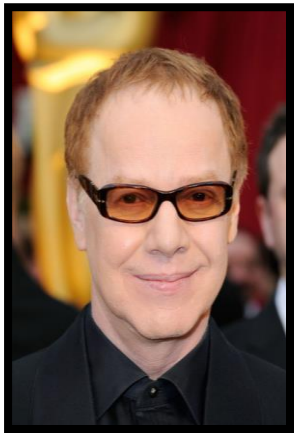
Film Music

A: Film Music Composers and their films.



John Williams
Star Wars
Jurassic Park
Harry Potter
Indiana Jones
Jaws
E.T.
Home Alone
War Horse
Hook

Hans Zimmer
Inception
Lion King
Pirates of the Caribbean
The Dark Knight
Interstellar
Kung Fu Panda
Madagascar
Megamind



Danny Elfman
The Nightmare Before Christmas
The Simpsons Movie
Hulk
Batman Returns
Spiderman 3

B: How Music Changes Film

- Film music is used to convey the emotion that is shown on screen.
- Film music uses the elements of music in EXTREME measures
- Film characters have their own 'theme' known as a leitmotif.
- Films can change their genre just by changing the music.
- Timing is very important in Film Music. Composers normally watch the scene first to see what key moments need to addressed in the music.

C: Film Music Key Words

Diegetic - Music whose source is present on screen.

Non-Diegetic - Music that is added for effect.

Leitmotif - A character's theme tune.

Mickey-Mousing – Music that is written to fine details of the scene.

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DRAMA

History of Theatre 550BC - 1642

Section A: Dramatic beginnings

It is thought that the first theatrical performances arose from *rituals and religious ceremonies.* These ceremonies were coupled with myths or stories. Over time, the myths themselves separated from the ritual aspect and soon were performed for the primary purpose of telling a story.

What is the purpose of theatre?

Educate

Political commentary

Social commentary

Unifying

Inform

Communication

Section B: Greek Theatre 550 BC - 220 BC

Amphitheatre –Greek stage

Almost every Greek city had a theatre because plays were part of many religious festivals. The Greeks enjoyed singing and dancing. At first, theatres were only used for festivals.

The theatres were built on hillsides in the open air and could often hold more than 18,000 spectators. The theatres were open air and built in a semi-circular shape with rows of tiered stone seating around it. The shape of the theatres gave everyone in the audience excellent viewing and also meant they could hear the actors well too. In the centre of the theatre was a circular dancing floor (orchestra), with an altar for sacrifices dedicated to Dionysus. The stage was a raised area within this circle.

All the actors were men. They wore large masks that exaggerated facial features and emotions. The mouth hole was large to help amplify the voices. Greek plays were either comedies or tragedies. Tragedies were often about the past, whereas comedies tended to be about current and everyday life. Actors in comedies wore bright colours. Actors in tragedies wore dark colours.

Plays were either spoken or sung in rhyme.

Section C: Medieval Theatre 401 - 1500

The **Medieval theatre** was a source of entertainment and education for residents of the **Middle Ages**. Though initially tinged with religious zeal, **Medieval theatre** went through centuries of evolution and themes outside of the Bible were eventually accommodated.

Section D: Commedia 1510 - 1650

An early form of professional theatre, originating from Italy, that was popular in Europe from the 16th to the 18th century. *Commedia dell'arte* was formerly called Italian comedy.

Section E: Elizabethan Theatre 1562 - 1642

This is the style of the plays of William Shakespeare, Christopher Marlowe and Ben Jonson when **Queen Elizabeth I** was on the throne.

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COMPUTER SCIENCE

Digital Graphics

A: Definition of graphics

A graphic is an image or visual representation of an object. Therefore, computer graphics are simply images displayed on a computer screen. Graphics are often contrasted with text, which is comprised of characters, such as numbers and letters, rather than images

B: Examples of Graphics

- Symbols
- Logos
- Brands
- Icons

C: What graphics are used for

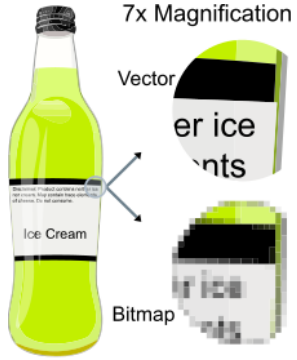
D: Main 2 types graphics

BITMAP

- A bitmap is an image composed of pixels with a fixed resolution
- The number of pixels in an image determines the quality of the image (resolution)
- Resizing can result in pixelation
- A bitmap is also known as a raster graphic

VECTOR

- A vector is created by using a series of mathematically defined lines and curves rather than pixels
- When a vector is resized, the formula is recalculated
- The image will have the same quality—no matter what size
- Also called draw-type graphics



E: What you should think about when making graphics

- What is it for?
- Who is the target audience?
- What are the images used?
- Is the image is appropriate/inappropriate?
- What type of text is used and text colour
- Use of white space

F: File types

G: 4 main principles of graphic design

- **Contrast** - Making a specific element stand out or draw attention to the eye
- **Repetition** - is simply the process of repeating elements throughout a design
- **Alignment** refers to lining up the top, bottom, sides, or middle of text or graphic elements on a page
- **Proximity** is simply the process of ensuring related design elements are placed together

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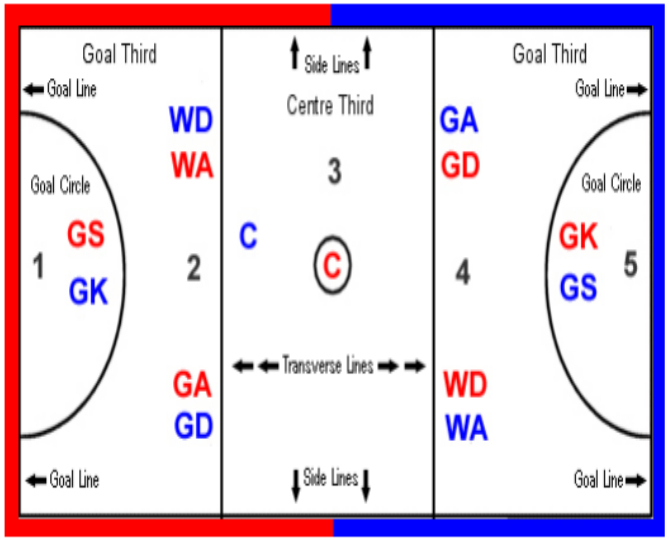
PE

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.

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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:

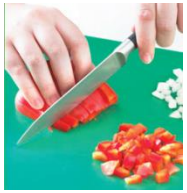




D: Bridge and claw method for safe cutting

Make a bridge over the vegetable with your hand

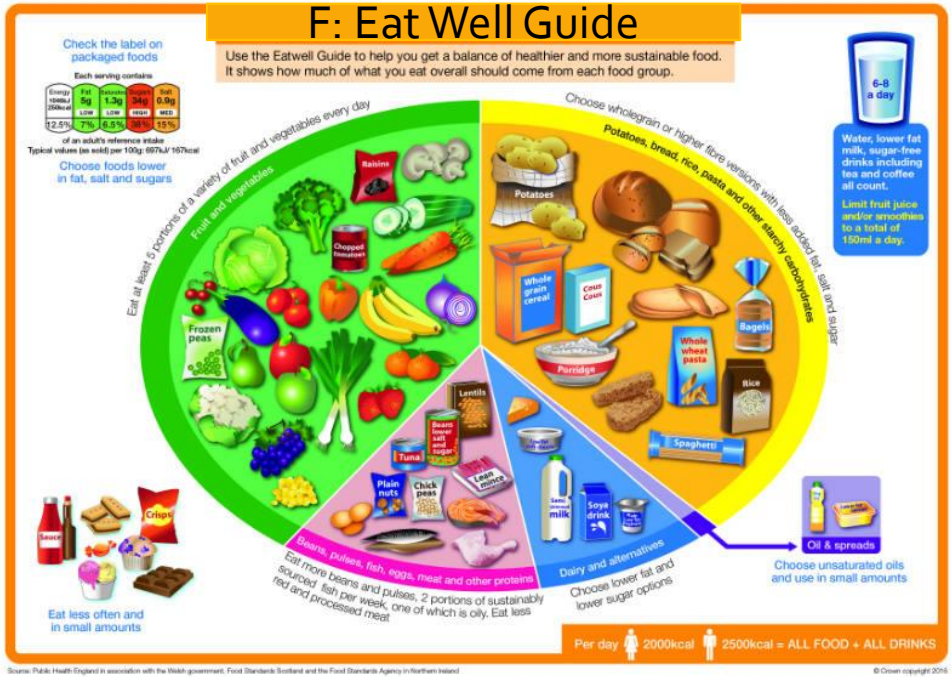
Make a claw with your hand by partly curling your fingers together



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.

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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:


WORK
HARD
BE KIND