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**Knowledge Organisers**  
**Year 8**  
**Spring 2021**

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# **Knowledge Organisers**

Some subjects like Design Technology organise the curriculum on a carousel, as such all the organisers for that subject are in the Spring Term booklet.

## **Contents**

An introduction to Knowledge Organisers

Art

Computing

Drama

Design Technology (DT)

English

Geography

History

Mathematics

MFL

Music

PSHE

Religion, Ethics and Philosophy (REP)

Science

\*Some subjects have Knowledge Organisers which last two terms or a year, therefore it will be the same as the Autumn Term.

## **An Introduction to Knowledge Organisers**

### **What is a Knowledge Organiser?**

A knowledge organiser is a document, usually one side of A4, occasionally two, that contains key facts and information that children need to have a basic knowledge and understanding of a topic, or in some cases a series of topics.

Students are expected to bring their Knowledge Organiser Booklet to school every day. Students will be issued with a new booklet to bring each term. However, it is important they keep the old booklets to help with revision for end of year exams.

### **What are the benefits of knowledge organisers?**

The main benefit of knowledge organisers is that they give students and parents the 'bigger picture' of a topic or subject area. Some topics can be complicated, so having the essential knowledge, clear diagrams, explanations and key terms on one document can be really helpful.

Research shows that our brains remember things more efficiently when we know the 'bigger picture' and can see the way that nuggets of knowledge within that subject area link together. Making links, essentially, helps information move into our long-term memory.

### **How can the students use them?**

As mentioned earlier, students are expected to bring their Knowledge Organiser Booklet to school everyday. In lessons they can be used in a number of ways, for example, to look up the meaning of key words, spell words correctly and do some additional work if they have finished classwork.

At home knowledge organisers can be used to support homework, independent work and revise for tests and exams. Two quick and easy ways to do this are:

1. Look, cover write, check – look at part of the knowledge organiser, cover it, write as much as you can remember and then check it
2. Word up – Pick out any words you don't understand. Use a dictionary or thesaurus to find the meaning. If they don't help ask your teacher.

The more often you do this the better. YouTube has some clips on them; search 'Mr Garner look, cover, write, and check' and 'Mr Garner word up'

### **How can parents use them?**

- Read through the organiser with your son/daughter – if you don't understand the content then ask them to explain it to you – 'teaching' you helps them to reinforce their learning.
- Test them regularly on the spellings of key words until they are perfect. Get them to make a glossary (list) of key words with definitions or a list of formulae.
- Read sections out to them, missing out key words or phrases that they have to fill in. Miss out more and more until they are word perfect.

### **How the booklet is organised**

The knowledge organisers are in alphabetical order by subject.

# Y8 ART SKILLS

Term 2

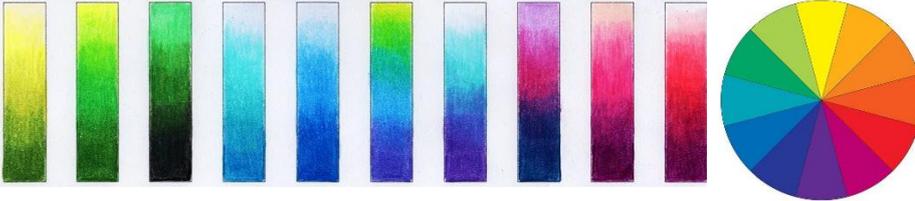
# KNOWLEDGE ORGANISER

You will be completing a series of skills-based work during the January half term  
These skills will be revisited throughout the year in class and homework – and can transfer across different materials and in different combinations



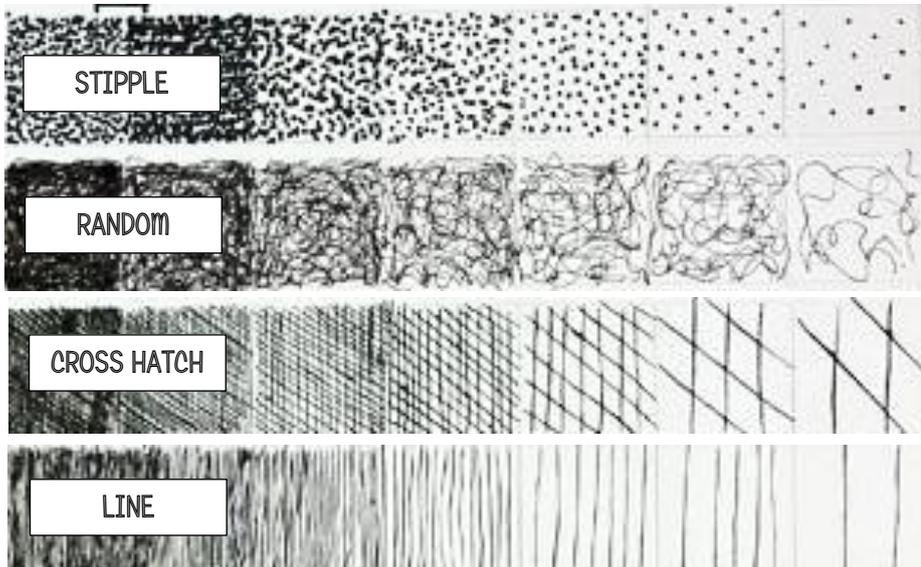
## PENCIL TONE

Complete drawings to show a full range of tone  
Try a 2B pencil to achieve this  
Use your pencil lightly in planning work



## COLOUR BLENDING

Layer different colour pencils to mix the correct shade  
Build up layers lightly  
Use colour wheel to help you mix shades



## MARK MAKING

Shows the surface of an object &/or highlights a materials qualities  
Look at the different ways the marks have been applied - the more marks – the darker the tone  
Surface detail/pattern can also reference an artist's application technique  
This is about control of the marks & focus to maintain it



**Top Tip**  
*Always draw what you see – not what you think you see*



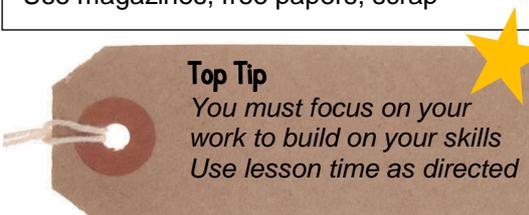
## PAINTING

Mix your colours carefully  
Follow the structure/steps from staff  
Use the brush as directed  
Consider paint consistency– wash, flat block, thick, textured  
Allow layers to dry  
Start with base layers & work towards details & darker colours



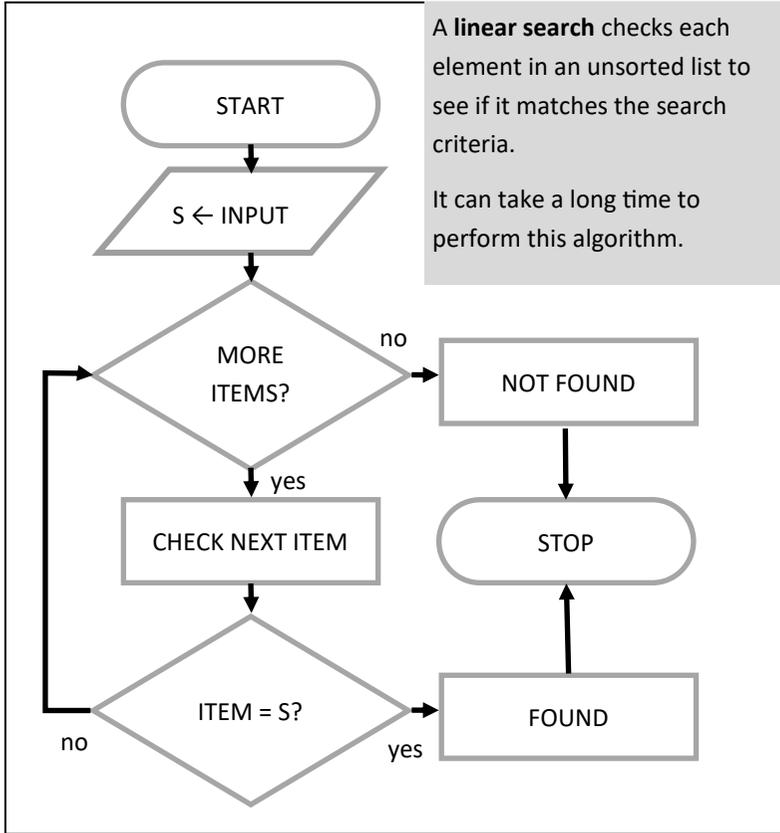
## COLLAGE

Plan accurate shape of your object/image  
Cut & tear paper carefully  
Select colours to show tone  
Use magazines, free papers, scrap



**Top Tip**  
*You must focus on your work to build on your skills  
Use lesson time as directed*

Check out our Instagram for inspiration and our YouTube channel for some videos of many of these skills



A **linear search** checks each element in an unsorted list to see if it matches the search criteria.

It can take a long time to perform this algorithm.

A **binary search** works by looking for items in an **ordered list**. The middle item is examined and half the list discarded. This happens until there are no items in the list or the item is found. Here is an example:

A. Search for **77**

B. Examine middle element of list (54)

3	29	34	39	54	57	59	63	77	91
---	----	----	----	----	----	----	----	----	----

C.  $77 > 54$ , so discard 54 and below

3	29	34	39	54	57	59	63	77	91
---	----	----	----	----	----	----	----	----	----

D. Examine middle element of list (63)

3	29	34	39	54	57	59	63	77	91
---	----	----	----	----	----	----	----	----	----

E.  $77 > 63$ , so discard 63 and below

3	29	34	39	54	57	59	63	77	91
---	----	----	----	----	----	----	----	----	----

F. Examine middle element of list (77). Search item found!

3	29	34	39	54	57	59	63	77	91
---	----	----	----	----	----	----	----	----	----

A binary search is much more *efficient* than a linear search.

A **merge sort** compares the first item in a two lists, removing the lowest and adding it to a new list.

[40]	[88]	[8]	[2]	[1]	[3]	[54]	[36]
[40,88]	[2,8]	[1,3]	[36,54]				
[2,8,40,88]	[1,3,36,54]						
[1,2,3,8,36,40,54,88]							

A **bubble sort** compares the first two items in a list, swapping if they are in the wrong order. It then moves to the next two items, until the end is reached. This happens repeatedly until there are no more items to swap. One pass through the list sends the highest value to the rear.

77	73	95	22
73	77	95	22
73	77	95	22
73	77	22	95
73	22	77	95
22	73	77	95

A bubble sort is much less *efficient* than a merge sort. It will take much longer to carry out on larger lists.

```

from turtle import *

down()
fd(50)
rt(90)
fd(50)
rt(90)
fd(50)
rt(90)
fd(50)
rt(90)
up()

```

This program draws a square. The **sequence** of instructions is important. If they are in a different order, the outcome of the program will be different.

down() and up() tell the turtle to start and stop drawing.

fd(50) moves the turtle forward 50 steps.

rt(90) rotates the turtle 90 degrees to the right (clockwise)

```

from turtle import *

down()
for i in range(4):
    fd(50)
    rt(90)
up()

```

This program does exactly the same thing. However, it uses a loop to repeat instructions, making it shorter and therefore easier to edit if necessary. This is known as **iteration**.

for i in range(4): means to repeat the instructions that are indented 4 times.

```

from turtle import *

sides = 4
steps = 50

down()
for i in range(sides):
    fd(steps)
    rt(360/sides)
up()

```

The program has been improved further here. It uses two **variables**, *sides* and *steps*.

This makes the program more flexible, by being able to draw shapes of different number of sides.

The number of degrees to rotate has been calculated by an **arithmetic operation**:  $360 \div \text{sides}$ . We use `'/'` as the division operator (instead of  $\div$ ) in computing.

## Computing: Programming with Python

```

from turtle import *

sides = input("How many sides?")
sides = int(sides)
steps = 50

down()
for i in range(sides):
    fd(steps)
    rt(360/sides)
up()

print("I've drawn a shape with",sides,"sides")

```

This time the program asks the user how many sides the shape should be. This is known as **user input** and the answer is stored in the variable *sides*.

Once the shape has been drawn, the program **outputs** text to the screen.

```

from turtle import *

print("Type r for a red shape, or b for blue")
col = input("")
if col == "r":
    color("red")
else:
    color("blue")

```

Finally, the user is given a choice of colours.

The user enters a colour which is stored as variable `'col'`

This part of the program uses a **Boolean expression** to compare `col` variable with `'r'`.

If this is *true* (the users types `'r'`), the pen colour is red.

If this is *false* (the user doesn't type `'r'`), the pen will be blue. *If... else* statements are known as **selection**.

# Drama Knowledge Organiser: Year 8

## Humpty Dumpty

- Creating and devising performances based around the theme 'Bullying'.
- Basic technique - Tableaux, thought track and hot seating.
- Improvisation- creating a performance on the spot.
- Using a script to create a character on stage.
- Non-naturalistic performance style.
- Sound scape - creating noise using voice and body as an ensemble.
- Engaging the audience through creating a tense atmosphere on stage.

## Soap Opera

- Soap Opera is a genre. A radio or television drama dealing with daily events and real life situations.
- Soap opera have stereotypical characters such as: The grandparent, the naughty teenager, the lad and the strong female.
- Storylines reflect real life issues such as mental health, marriages and death.
- Role on the wall- develop characterisation.
- Crosscutting - Two scenes happening at the same time with a split stage.
- Marking the moment - highlighting an important moment in the play.

## Christmas Carol

- An interpretation of the book 'A Christmas Carol' about a rich and selfish man called 'Scrooge'.
- Charles Dickens is a writer, journalist and editor in the 1800's.
- Role-play - acting out scenes from the book to develop characterisation.
- Scrooge- selfish, cruel and stubborn who has pushed his family away. His personality changes after Christmas to a joyful and selfless man who appreciates his family.
- Tiny Tim - A character who is disabled and needs the help of his uncle.
- The Ghosts - Christmas past, present and future.

## Blood Brothers

- Willy Russle wrote the play Blood Brothers in the 1970's.
- The main characters are Edward and Mickey; two twins separated by birth.
- Mrs Johnstone and Mrs Lyons demonstrate the class divides in Liverpool at the time. They are both the parents of the boys.
- Linda is both brothers' best friend and Mickey's future wife.
- Prologue - Piece of text before the action explaining what is about to happen.
- Musical theatre- Theatre created with song.

## STUDYING DRAMA THROUGH TEXT

- Understanding language and dialogue to interpret plot and character
- Monologues - One-character revealing information to an audience
- Exploring how characters develop as the plot progresses
- What is the purpose of the play? Why was it written?

## Borstal

- Borstal is a youth offending prison in the early 1900's.
- Monologue - One speech on stage in character telling the audience about yourself.
- Non- naturalistic style - Tableaux, thought tracking, transitions, ensemble and narration.
- Teacher in role - teacher acting in role to create a sense of realism for the students.
- Script writing - to develop a monologue using stage directions.
- Research into real life people using real life accounts.

## KEY WORDS FOR YEAR 8 DRAMA

Pitch	Pace	Pause	Volume	Tone	Diction
Choral Speaking	Role on the wall	Gait	Body Language	Facial Expression	Posture
Cross - cutting	Marking the moment	Direct Address	Interpretation of text	Genre	Style

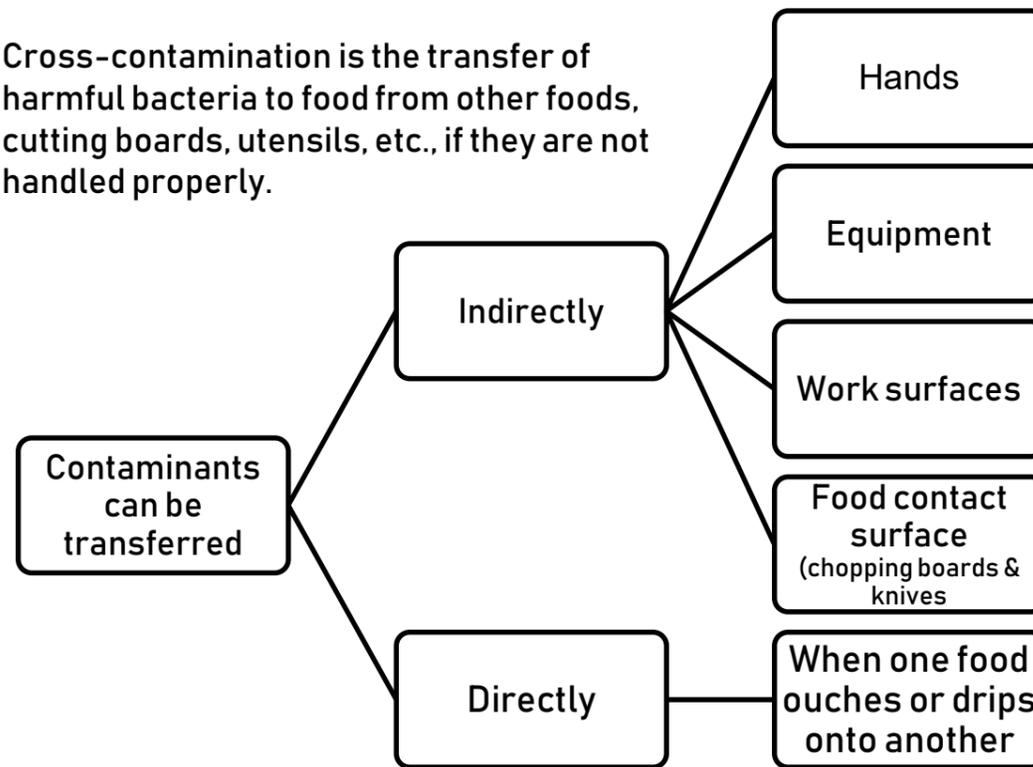


# Year 8 Cooking & Nutrition Mediterranean Cuisine Knowledge Organiser

## Food Hygiene

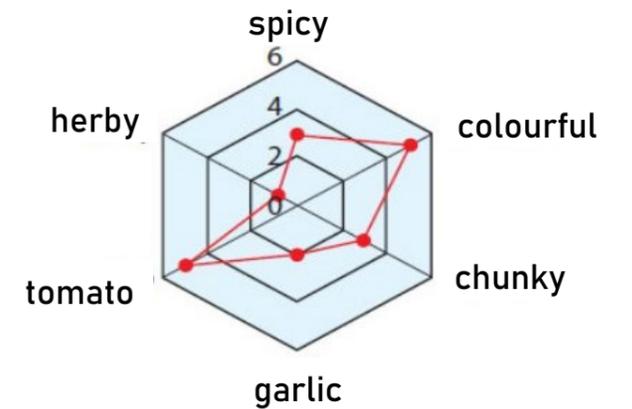


Cross-contamination is the transfer of harmful bacteria to food from other foods, cutting boards, utensils, etc., if they are not handled properly.



## Sensory Testing/Star Profile Charts

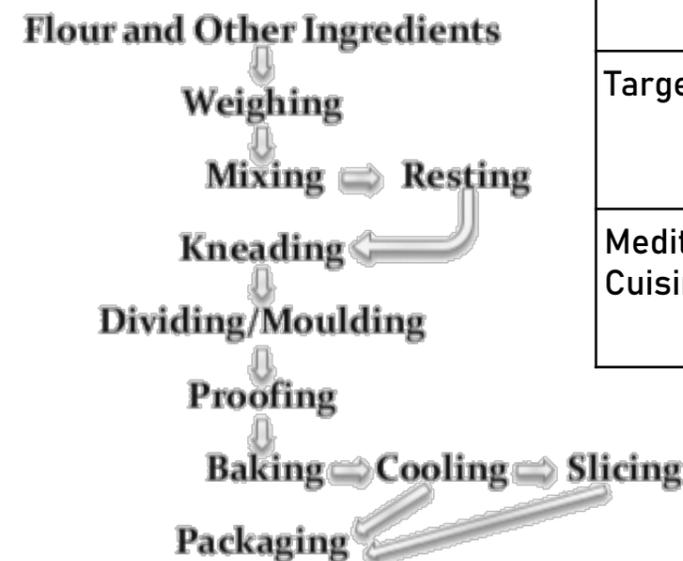
- These kind of tests can be used to find out what people particularly like about a food product to help build up a profile of it according to a range of sensory qualities such as saltiness, smoothness, crispiness, flavour.
- Star profile - This type of test gets testers to describe the appearance, taste and texture of a food product on a star chart.



Hygiene & Safety Rules	
Tie up long hair	
Wear an apron	
Tuck tie in	
Wash hands	
No running	
Use oven gloves when necessary	
Clean practical equipment thoroughly	

Key abbreviations: Weights and Measurements		
L	Litres	
g	Grams	
ml	millilitres	1000ml =1 litre
Kg	kilograms	1000g
Tbsp	tablespoons	15ml
Tsp	teaspoon	5ml
1pt	1 pint	568ml

## Bread Production Flow Chart



Key vocabulary	
Design Brief	An written outline which explains the aims and objectives and milestones of a design project.
Task Analysis	Breaking a design brief down to understand the requirements of the task.
Target Audience	The person or people most likely to be interested in your design or product.
Mediterranean Cuisine	Food from the countries that surround the Mediterranean Sea.

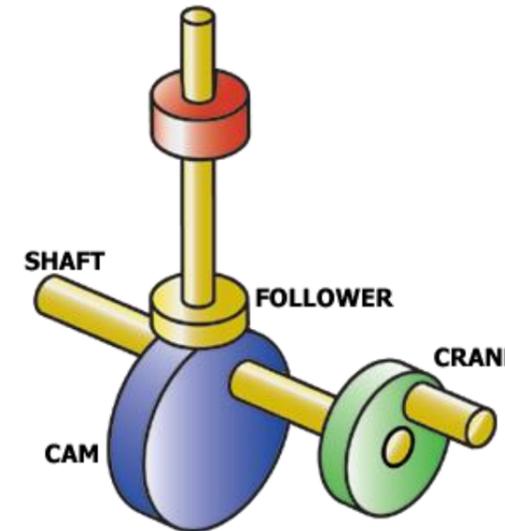
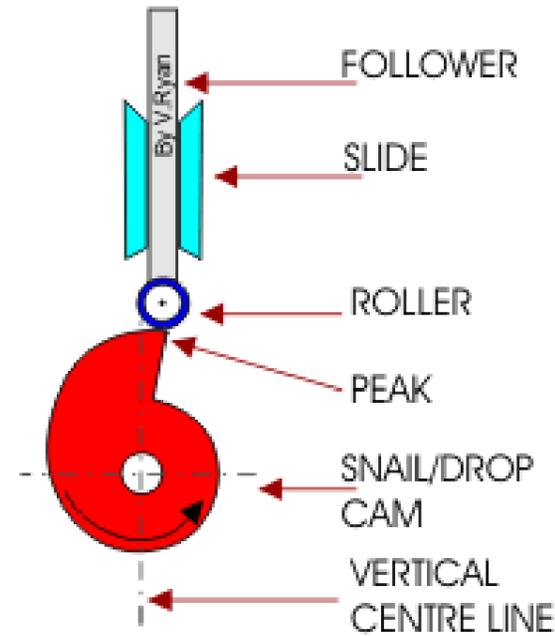
## Example Time Plan

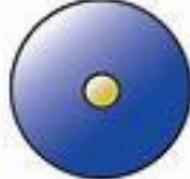
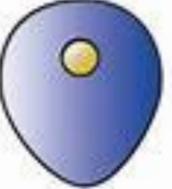
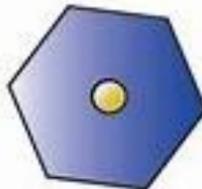
Time	Process	Hygiene & Safety
8:50 - 9:00	Collect all equipment and ingredients. Wash hands.	Is fridge 0°C - 4°C?
9:00 - 9:15	Dice onion, peppers and mushrooms.	Use a green chopping board. Use bridge and claw techniques.
9:15 - 9:30	Thread vegetables onto a skewer. Make dressing.	Ensure skewer has been soaked in cold water.

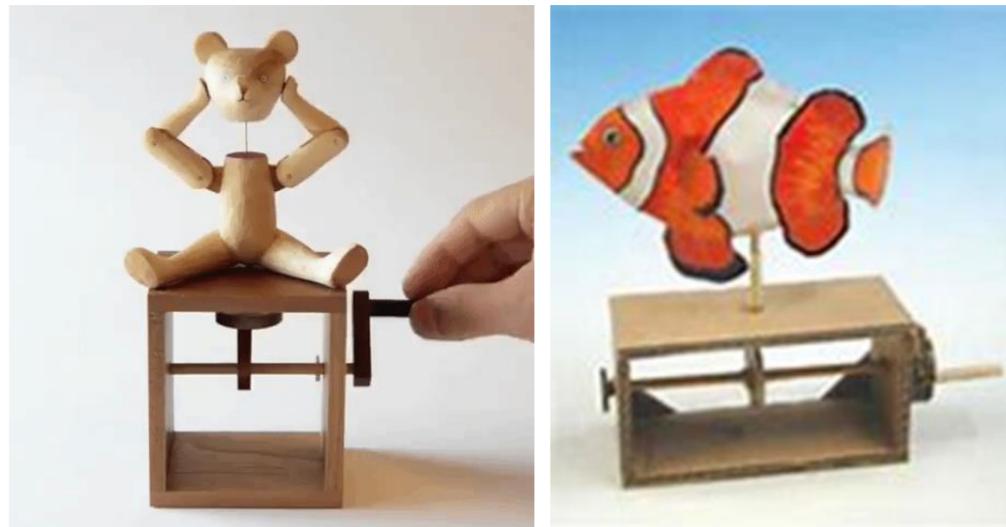
## Automata Project

### Key Skills

- Responding to a Design Brief
- Analysing & researching information
- Creating a suitable idea for a target audience
- Isometric drawing techniques
- Developing CAD drawing skills using:  
Serif Draw / Techsoft Design
- Rendering techniques
- presentation skills
- Developing & testing
- Manufacturing with modelling materials (card & paper)
- Evaluating the design & making process



Cams	
 ROUND	 EGG-SHAPED
 ELLIPSE	 ECCENTRIC
 HEXAGON	 SNAIL



### Key vocabulary

Design Brief	An written outline which explains the aims and objectives and milestones of a design project.
Target Audience	The person or people most likely to be interested in your design or product.
Function	What a product does, how it works and what it will be used for?
Mechanism	A system of parts working together in a machine.
Motion	Something moving or being moved.
Cam	A rotating or sliding piece used to transfer rotary motion into linear motion or vice versa.
Modelling	To present ideas to the user (target audience) or client.
Evaluating	To judge or calculate the quality, importance, amount, or value of something
Linea Motion	Motion moving along a straight line.
Rotary Motion	Motion moving clockwise or anti-clockwise.

# Year 8 Textiles Knowledge Organiser

## Sustainable Children's Toy



### Key Skills

- Responding to a Design Brief
- Analysing existing products
- Identifying a target audience
- Designing & annotating to include a range of a range of decorative and construction techniques
- Demonstrating ability to complete decorative techniques:
  - Appliqué (hand)
  - Reverse appliqué (hand)
  - Hand embroidery stitches (running stitch, blanket stitch & French knots)
- Using a range of construction techniques:
  - 3D features
  - Inserting wadding
  - Applying buttons & googly eyes
  - Seams



Health & safety
Follow teacher instructions
Move slowly around the room do not run
Tie long hair back
Hold scissors or shears correctly when walking around the room.
Report any injuries or breakages to the teacher immediately

Product features	
Consideration of a specified target market	Appliqué or reverse appliqué
Interactive	Creative & individual
Components used as decoration	Features are in proportion to the body shape
Recycled fabrics used	Accurate machine stitches
3D features	Seam allowance
Hand embroidery	Sustainable



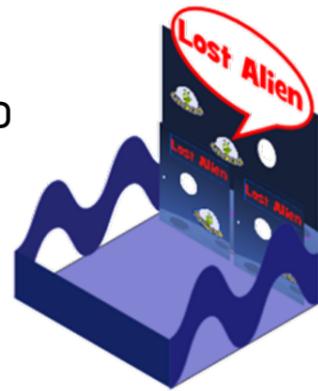
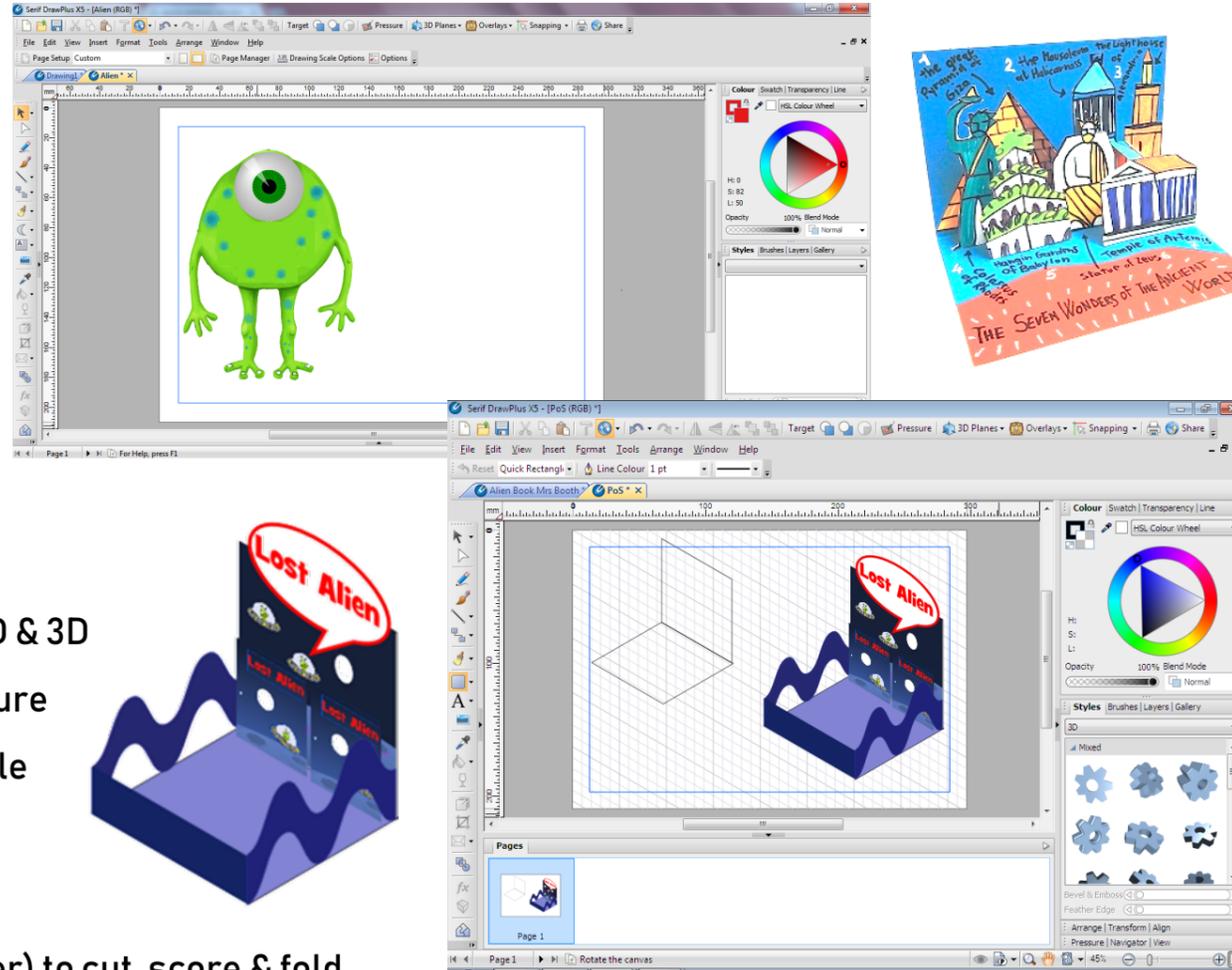
Key vocabulary	
Interactive	Components or features that can be attached/detached or have different textures
Materials	What the product is made from?
Components	The parts/materials/threads needed to make a product.
3D features	Use of wadding to make a feature stand up or raised off the backing fabric
Function	What a product does, how it works and what it will be used for? Is it sensory or educational or both?
Aesthetics	How a product or design looks .
Target Audience	The person or people most likely to be interested in your design or product.
Embroidery	Even stitch widths and lengths completed by hand sewn stitches
Reverse appliqué	A decorative technique whereby a fabric is sewn on the reverse of the top fabric and is visible from the front
Sustainable	Conserving an ecological balance by avoiding the depletion of natural resources.
Appliqué	A decorative technique whereby one material is sewn on top of another by machine
Design Brief	An written outline which explains the aims and objectives and milestones of a design project.

# Year 8 Design & Technology (Graphic Products) Knowledge Organiser

## Pop Up Story Book

### Key Skills

- Responding to a Design Brief
- Analysing & researching information
- Creating a suitable and appealing story idea for an identified target audience
- Developing CAD drawing skills using:
  - Serif Draw Plus
- Manipulating/ editing images & graphics in 2D & 3D
- Rendering shapes, images with colour & texture
- Layout & placement of images and text to scale
- Developing & testing Pop-Up mechanisms
- CAD modelling & presentation skills
- Using a Stanley knife (cutting mat, safety ruler) to cut, score & fold
- Manufacturing with modelling materials (card & paper)
- Marketing - point of sale display design
- Evaluating the design & making process

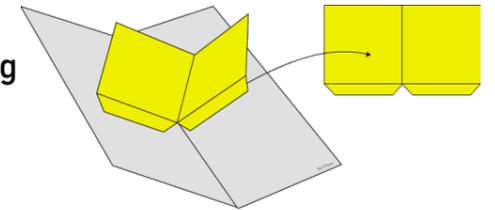


## Paper Engineering

Pop-Up mechanisms provide movement to make parts work together

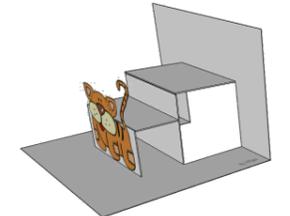
### V Folds

Reciprocating movement



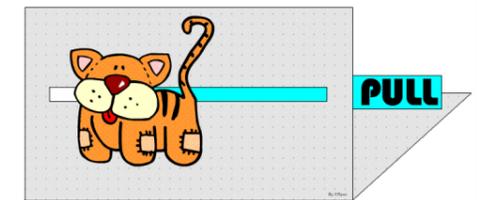
### Parallelograms

Reciprocating movement



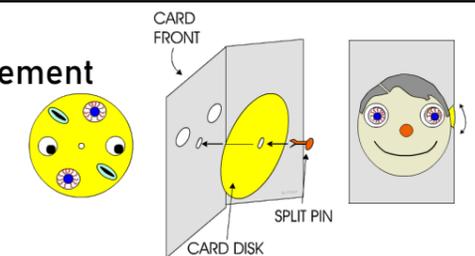
### Pull Strips

Reciprocating movement



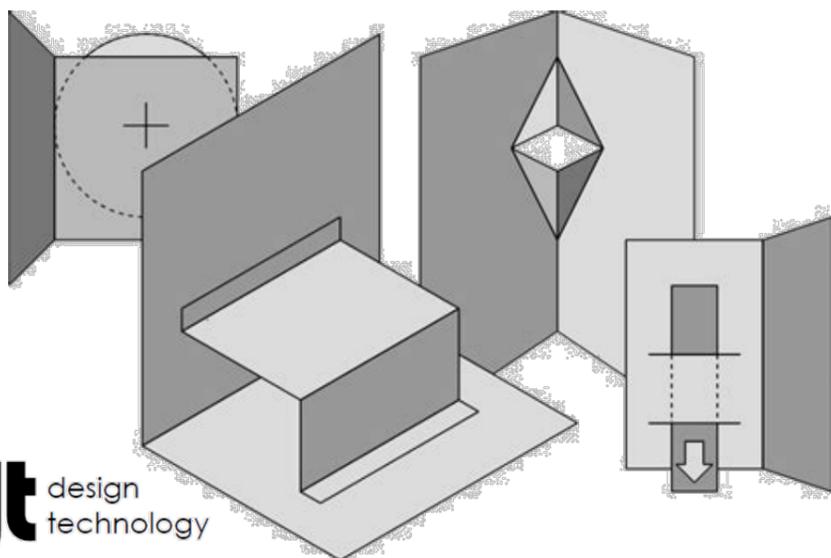
### Pivots

Rotating movement

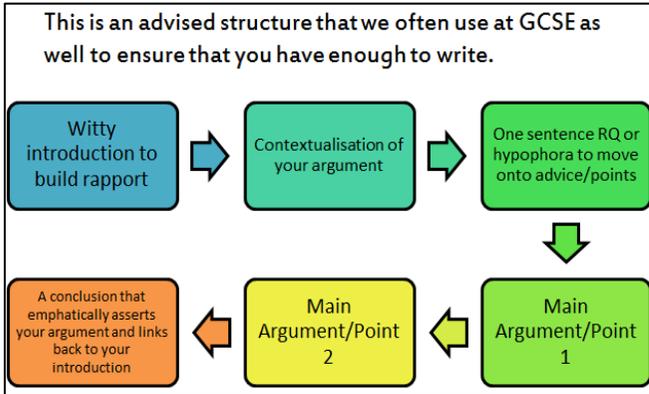


## Key vocabulary

Design Brief	An written outline which explains the aims and objectives and milestones of a design project.
Target Audience	The person or people most likely to be interested in your design or product.
Function	What a product does, how it works and what it will be used for?
Aesthetics	How a product or design looks
CAD	Computer aided design
Rendering	The process of adding shading, colour, texture or material to a drawing.
Materials	What something is made from e.g. paper & card.
Modelling	To present ideas to the user (target audience) or client.
Point of sale display	A specialised form of sales promotion found near or next to a checkout to draw the customers' attention to the products,



**HOW TO STRUCTURE VIEWPOINT WRITING**



**ADVANCED SENTENCE STRUCTURES AND PATTERNS**

*litotes	Begin with the negative: use 'Nothing...' or 'Never...' for example
*hypophora	A rhetorical question that is answered
*diacope	Repeated use of the same word within/across sentences
*isocolon	Series of phrases or sentences structured in the same way: <i>Keep fit, keep active, keep healthy!</i>
*epizeuxis	The repetition of a word or phrase in immediate succession: <i>Run, run, run!</i>
*anaphora	Using a phrase to begin more than one clause of sentence, such as 'I Have a dream...' in Martin Luther King's famous speech
*epistrophe	The repetition of a word at the end of successive clauses or sentences

**ADVANCED PUNCTUATION**

*semi-colon	Used to replace 'and' in a compound sentence: <i>Like an angel, the sun shone; there wasn't a cloud to be seen.</i>
*colon	Means 'Here's my evidence' and follows a simple statement: <i>Majestically, the princess created a stir: she was beautiful!</i>
*dash	Single: Used to emphasise a description at the end of a sentence: <i>Happily, the sun shone - its rays reached across the whole land.</i> Double: Used to emphasise a description with further emphasis: <i>The sun's rays - its burning, radiant rays - shone across the kingdom.</i>

**CONVENTIONS OF DESCRIPTIVE WRITING**

simile	Phrase with 'as' or 'like' to suggest similarity
metaphor	Suggesting something is something else
*motif	A metaphor used across a piece of writing
personification	Given an inanimate object human qualities like movement or emotion
alliteration	Repetition of consonant sounds
assonance	Repetition of vowel sounds
sibilance	Repetition of 's' sounds
pathetic fallacy	Where the weather or setting reflects a mood

**KEY SPELLINGS FOR THIS SCHEME OF WORK**

rhetoric	statistics	epizeuxis	interrogative (sentences)	simile
irony	anaphora	hypophora	imperatives	personification
anecdote	epistrophe	hyperbole	motif	alliteration
tripling	repetition	exclamation	metaphor	assonance

**ROMANTIC POETRY**

- Popular poetry of the late 18<sup>th</sup> and early 19<sup>th</sup> century
- The genre was introduced and developed by William Wordsworth and Samuel Taylor-Coleridge
- Wordsworth's *Lyrical Ballads* (1798) is the first major collection of Romantic Poetry
- Romantic poems celebrated the natural world
- Romantics thought we could learn from nature and understand life better from its example
- Romantics were fascinated by the human mind and imagination

**FAMOUS ROMANTIC POETS**

- William Wordsworth (1770-1850)
- Samuel Taylor Coleridge (1772-1834)
- William Blake (1757-1827)
- P.B. Shelley (1792-1822)
- Lord Byron (1788-1824)
- John Keats (1795-1821)

**‘JERUSALEM’ BY WILLIAM BLAKE**

- This poem was written by Blake by 1820
- It celebrates the past beauty of England by comparing it to the Holy land of Jerusalem
- It is a poem that fears the impact of industrial change on beautiful, rural England

**KEY QUOTES:**

- 'dark satanic mills'
- 'England's green and pleasant land'
- 'Bring me my chariot of fire!'

**‘OZYMANDIAS’ BY P.B. SHELLEY**

- This sonnet was written by P.B. Shelley in 1818
- Shelley wrote this poem, inspired by the discovery of the statue of Ramesses II in Egypt. He wrote it before the statue had even arrived in the British Museum in London, where you can still see it today
- Rameses was a tyrant who had immense power in Egypt; he fought many wars and built many monuments to celebrate this power
- Ozymandias is the Greek name for Ramesses II.

**KEY QUOTES:**

- 'Two vast and trunkless legs'
- 'Look on my works, ye Mighty, and despair!'

**‘SONGS OF INNOCENCE AND EXPERIENCE’ BY WILLIAM BLAKE**

- These collections of poems were counterparts to each other: *Songs of Innocence* was published in 1789 and the *Songs of Experience* in 1794.
- Blake explored childhood innocence in his first collection and then explored the adult world of 'experience' and suffering in a time of industrialisation and war. Here are some examples...

**‘THE LAMB’ (INNOCENCE) AND ‘THE TYGER’ (EXPERIENCE)**

These poems use animal symbolism to explore the innocence of childhood (*The Lamb*) compared to the corruption and industrialisation of the Victorian era (*The Tyger*)

**KEY QUOTES**

**The Lamb:** 'Little Lamb, God bless thee!'

**The Tyger:** 'Tyger tiger, burning bright/In the forests of the night'

**‘THE CHIMNEY SWEEPER’ POEMS**

These poems explore the experiences of young chimney sweepers. Blake criticises how institutions like the Church would justify this child labour through religion with working be the behaviour of good boys.

**KEY QUOTES**

**The Chimney Sweeper (Innocence):** 'If all do their duty they need not fear harm'

**The Chimney Sweeper (Experience):** 'They clothed me in the clothes of death'

**KEY SPELLINGS FOR THIS SCHEME OF WORK**

Romanticism	ballad	symbolism	pastoral
sublime	sonnet	refrain	radical
beautiful	meter	enjambment	persona
awesome	rhyme	caesura	speaker

# Year 8 Geography

## Unit 2: Population and Migration

KEYWORDS



### Lesson 1-3: Distribution and growth

Scotland - sparsely populated

The south east of England = densely populated



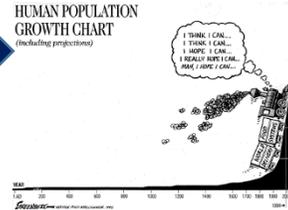
Densely populated	Sparsely populated
Fertile soil Jobs Flat/ gently sloping land Natural resources Good transport links/ close to other places	Too hot/ cold Steep relief Little industry Poor soils Poor transport links

UK and world population density

Population growth = overpopulation

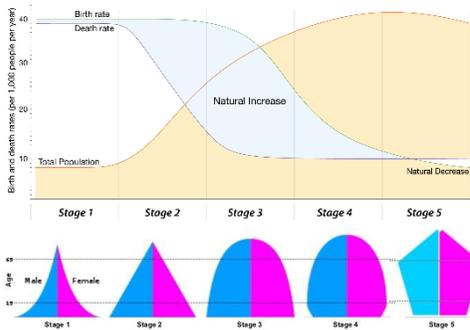
Problems with population growth: Overcrowding, distribution of resources (food/water), aging populations

HUMAN POPULATION GROWTH CHART (including projections)



Skills= choropleth maps (see the world map). The darker the colour, the higher the value of an area

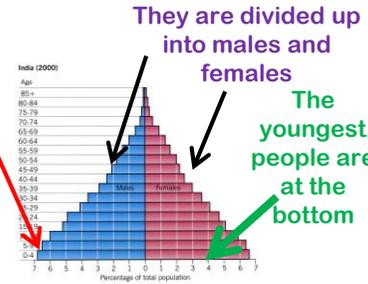
### Lesson 4-6: Pyramids and DTM



The shape changes based on how develop a country is. This links to the 5 stages of the DTM. Factors to consider: Family planning, Children needed for farming, Improvements in sanitation and healthcare, Emancipation of women (women's rights), Later marriages, Religious beliefs, Better food/water supply

Skills= Population pyramids

The data is sorted into different age groups



They are divided up into males and females

The youngest people are at the bottom

### Lesson 7-8: Aging Population

**WHY:** life expectancy has increased due to better health care  
**PROBLEMS:** increase pressure on healthcare and money spent on pensions



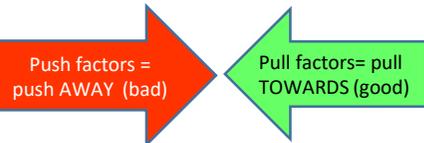
### Lesson 14-15: One Child Policy

1979. To control population/ reduce growth rate

- +ve = famine never happened/ economic growth
- ve = gender imbalance, abortions, 'little emperors', aging population

### Lesson 9-13: Migration

- Voluntary** = Poland to UK (legal); Mexico to USA (Illegal)
- Forced** = Refugee (E.G. Darfur/ Syria) Refugees are forced to migrate due to war/ instability or a natural disaster



Impacts (similar for both types of voluntary migration)

Skills=Histogram

	UK	Poland	People
Advantages	Help economy (jobs/ hard working) Cultural diversity	Less pressure on services Women = more job opportunities	Better paid jobs Money sent back home
Disadvantages	Conflict Overcrowding Pressure on services	Brain drain = less skilled worker Negative effect on economy	Exploitation = work very long hours Families separated

	Definition
<b>Birth Rate</b>	The number of births in a year per 1000 of the total population.
<b>Death Rate</b>	The number of deaths in a year per 1000 of the total population.
<b>Demographic Transition Model</b>	A model showing how populations should change over time in terms of their birth rates, death rates and total population size.
<b>Infant mortality</b>	The average number of deaths of infants under 1 year of age, per 1000 live births, per year.
<b>Life expectancy</b>	The average number of years a person might be expected to live.

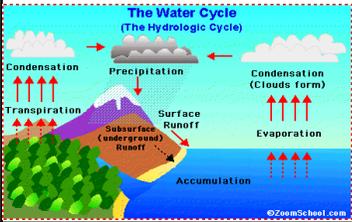
# Year 8 Geography

## Unit 3: River Landscapes

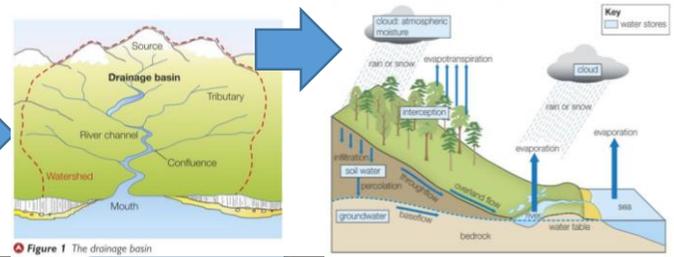
### KEYWORDS

LOOK  
SAY  
COVER  
WRITE  
CHECK

### Lesson 1-3

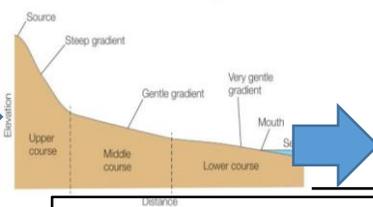


The water cycle is the never ending movement of water from the **air** to the **land**, to the **sea** and back to the air again. This continues over and over. Key transfers of water from these three areas are Surface Runoff, Evaporation, Precipitation and Transpiration.



### Lesson 4-6

The **long profile** shows the side view of the river from **source** to **mouth**. It is steepest in the upper course and more gentle in the middle and lower course. However, the river is slower in the upper course – Know why!



**Erosion** = Abrasion and Hydraulic Action  
**Transport** = Traction, Suspension  
**Deposition** = Dropping of material

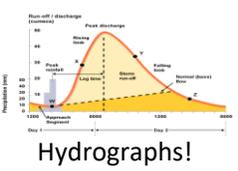
Upper Course landforms like a waterfall is formed when soft rock gets eroded quicker than hard rock and leaves a cliff. Here the soft rock undercuts the hard rock until it collapses into a plunge pool beneath.

### Lesson 9-11

Middle course landforms are meanders and sometimes oxbow lakes. These are bends in a river that get larger to faster moving water and erosion on the outside of the bend.

In the lower course the land is flat on each side of the river, this is where flooding can occur. This is called a floodplain. Farming takes place here and the floods deposit Nutrients which is good for crops.

Flooding can be caused by different features of a drainage basin. Eg steep slopes



### Lesson 12,14 – 16 HIC FLOODING EXAMPLE

**Boscastle floods in 2004** devastated the village in August. A flash flood caused by natural and human reasons. The effects were environmental, social and economic. Since then a number of hard and soft management methods have been used to prevent this happening again.

**HARD**      **SOFT**

### Lesson 17-18 LIC FLOODING EXAMPLE

**Bangladesh flooding in 2012** devastated large parts of this very flat country. Natural and human causes are responsible for this. **However, the effects are often a lot more serious – For example people rely on crops for food. Also flood water contaminates well water and cholera spreads.** Despite being a LIC Bangladesh has installed a number of basic but often effective flood protection methods – E.g. Earth Embankments, Stilt houses, Flood shelters and basic warning systems. Each has advantages and disadvantages. Which is best? Which are given by Aid?

*Some Causes of Flooding in Bangladesh*

1. Monsoon Climate: Brings very heavy rain and snow. Soils are leached and heavy runoff results in soil erosion.
2. Spring Snow-Melt: Results in soil erosion and a rapid increase in River Discharge.
3. Deforestation in Headwater Areas: Due to increasing population in Nepal & Tibet. Trees cleared for fuel and grazing land. Less Evapotranspiration, more runoff and faster soil erosion. Landslides also occur.
4. Rivers Silt-up: Due to increased soil erosion. This raises the river bed and reduces the capacity of the channel resulting in increased likelihood of flooding.
5. 80% of Bangladesh lies on a huge floodplain and delta, most of which is only 1m above sea level.
6. Much of the Ganges has been diverted for irrigation purposes, this removes some of the silt and prevents the floodplain further downstream from being built up.
7. Cyclones (violent storms) frequently hit Bangladesh.

	Definition
Drainage Basin	An area of land drained by a main river channel and it's tributaries.
Water Cycle	Where water is moved from the Air to the Land and then to the Sea in a never ending cycle.
Long Profile	The side view of a river from source to mouth. Then it enters the sea.
Meander	This is a bend in a river in the middle section usually.
Hard Engineering	Where expensive methods using concrete and steel are used to stop flooding.
Soft Engineering	Less expensive natural ways are used to cope with floods.

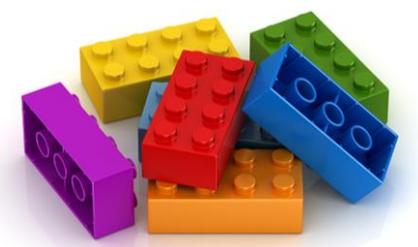


# Wellington History

## Year 8 HT 3 Knowledge Organiser

Why were the British so keen to build an Empire?

Disease, massacres and the taking of land? How did the British Empire change the World?



- ✓ What and why? You will learn about why the British began to conquer colonies and our legacy on the modern world.
- Stop, think and link: The Roman Empire.
- ❖ Causation Assessment – Why did the British want an Empire?

### ❖ Want to explore further?

Book: The rise and fall of the British Empire by Aaron Wilkes

Book: We need to talk about the British Empire by Afua Hirsch

Book: Barmy British Empire by Terry Deary

Websites:

<https://www.natgeokids.com/uk/discover/history/general-history/british-empire-facts/>

<https://www.bbc.co.uk/bitesize/guides/zf7fr82/revision/1>

<https://www.bbc.co.uk/bitesize/guides/zf7fr82/revision/1>

### Key Questions

- What do we know about Empires?
- Why did the British want an Empire?
- Where and when did the Empire grow?
- What was life like in British colonies?
- How did the British keep control of their Empire in the 18 and 19<sup>th</sup> Centuries?
- How should we remember the Empire?

### Keywords

#### **Empire**

When one country rules land outside of its own borders

#### **Colony**

Lands belonging to an Empire

#### **Trade**

The exchange of money and goods

#### **Nationalism**

Thinking your country is better than all others

#### **Indigenous**

People who originally live in a land

#### **Independence**

Being free to run your own affairs

#### **Missionary**

Someone who wishes to convert others to their religion

#### **Imperial**

An adjective for anything to do with an Empire

#### **Legacy**

What you leave behind for future generations

#### **Multi-Cultural**

A society made up of different peoples

#### **Atrocity**

A terrible crime



### Key events and Key People

1600 East India Company granted a royal charter

1606 Virginia Company granted a royal charter

1627 Barbados Company granted a royal charter

1756 The beginning of the Seven Years' War

1757 The Battle of Plassey

1759 Britain wins the Battle of Quebec

1763 End of the Seven Years' War

1765 Treaty of Allahabad

1770 Captain Cook claims Australia for Britain

1788 The first fleet of 11 convict ships reaches Australia

Australia

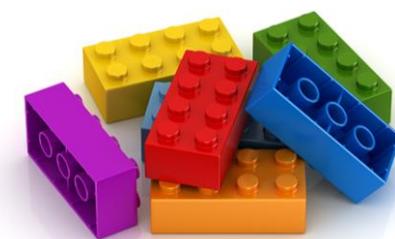


# Wellington History

## Year 8 HT 3 Knowledge Organiser

### What was the impact of the slave trade?

### How significant was the Haitian Revolution?



- ✓ What and why? You will learn how the transatlantic slave trade began, how Britain came to dominate it, what it was like to be enslaved and resistance to enslavement
- Stop, think and link: Why were the British so keen to build an empire? How did the British Empire change the world? How significant was Mansa Musa
- ❖ Consequence Assessment: What was the impact of the slave trade?

#### Want to explore further?

Book: Black and British: A short, essential history by David Olusoga

Book: A Short History of Slavery by James Walvin

Book: David Richardson, 'The British Empire and the Atlantic Slave Trade, 1660-1807' in *The Oxford History of the British Empire, Volume II - The Eighteenth Century*, edited by P.J.Marshall

Websites: <http://www.understandingslavery.com/>

<https://www.liverpoolmuseums.org.uk/history-of-slavery/europe>

<https://www.liverpoolmuseums.org.uk/history-of-slavery/west-africa>

#### Key Questions

- What was Africa like before the slave trade?
- What was Europe like before the slave trade?
- How & why did the slave trade begin?
- How did people in Britain benefit from slavery?
- How were slaves caught and transported?
- What were conditions for slaves like?
- Should the slave trade be called the triangular slave trade?
- Should we use the term 'The Middle Passage'?
- How did the captured resist slavery?
- Where were slaves taken?
- What was an auction like?
- What was work on a plantation like?
- What was the legacy of slavery?

Keywords

#### **Captive**

A person who has been taken prisoner

#### **Sub-Saharan Africa**

African countries south of the Saharan desert

#### **Merchant**

Person/company who trades with foreign countries

#### **Commodity**

A raw material or product than can be bought or sold

#### **Triangular**

Eurocentric view of the slave trade

#### **Enslaved**

The action of taking someone prisoner

#### **Colonists**

Foreign inhabitant of a country

#### **Plantation**

Estate where crops are grown e.g. sugar

#### **Auction**

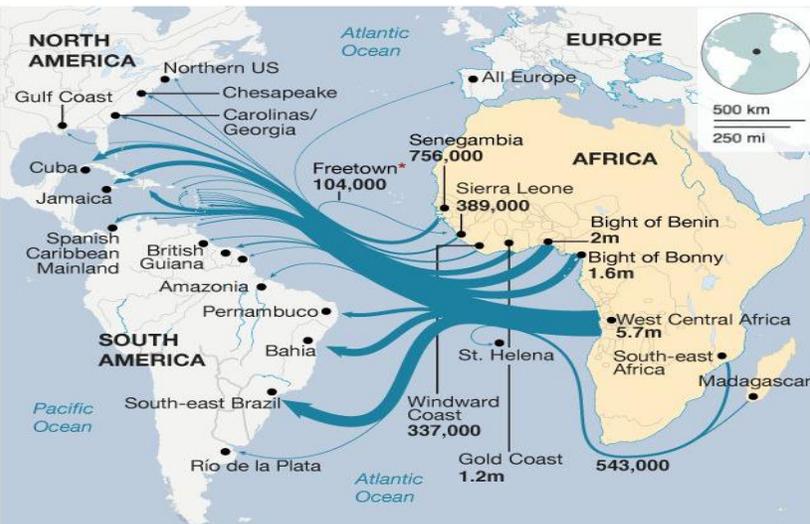
Public sale of goods/property

#### **Transatlantic**

Crossing the Atlantic Ocean

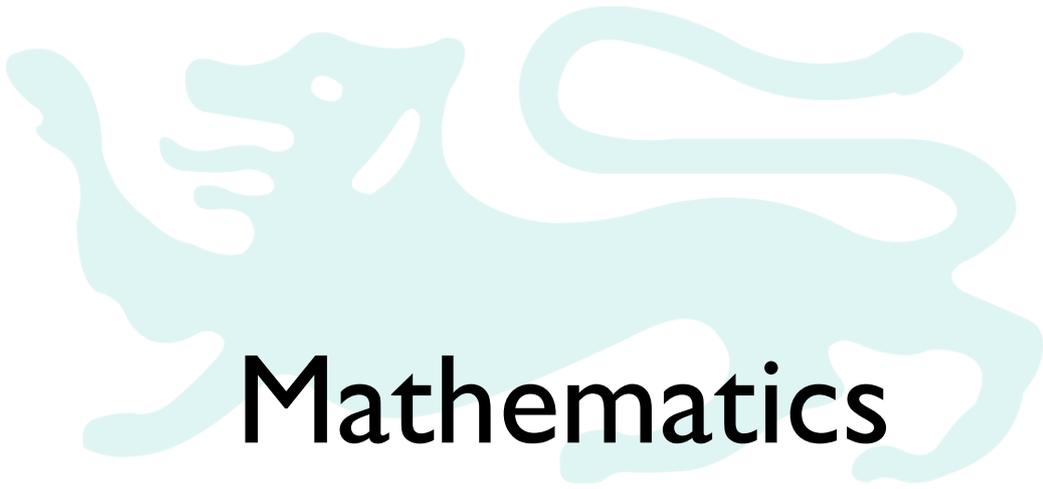
#### **Yoke**

Wooden stick to tie captives together



#### Key events and Key People

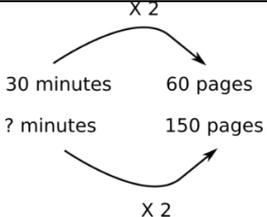
- 1555:** A group of Africans help the English break the monopoly that the Portuguese have over the African trade
- 1562-9:** John Hawkins becomes the first Englishman definitely known to have traded in Africans
- 1672:** The Royal African Company is formed in order to regulate the English slave trade
- 1698:** The trade is opened to private traders
- 1760:** Slave revolts in Jamaica last for several months
- 1783:** 133 Africans are thrown overboard alive from the slave ship Zong so that the owners can claim compensation
- 1784:** Cotton from America was first imported into Britain
- 1791:** A slave uprising triggers the Haitian Revolution
- 1804:** St Domingue declared the Republic of Haiti, the first independent black state outside of Africa.

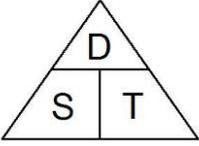
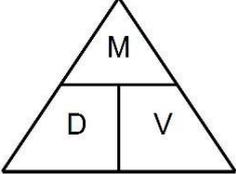
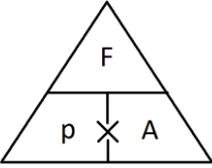
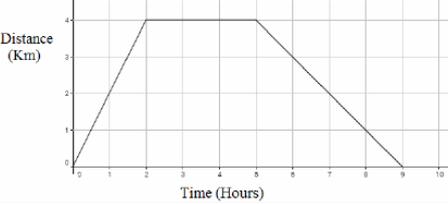


# Mathematics

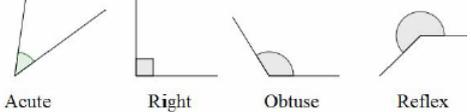
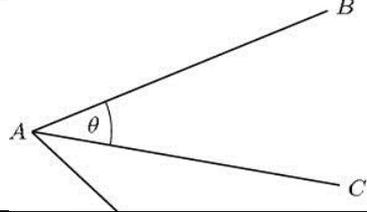
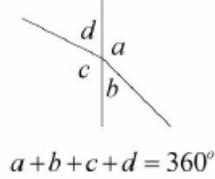
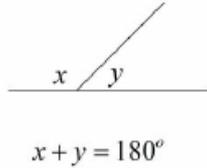
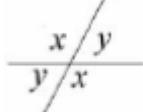
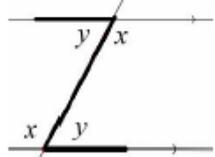
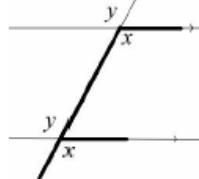
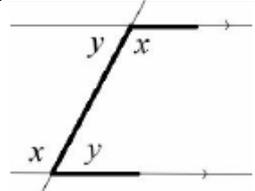
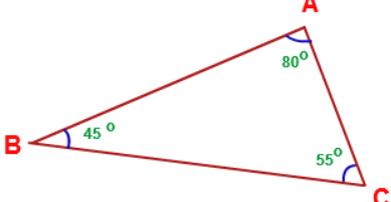


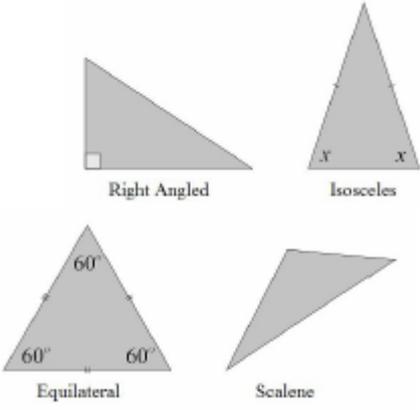
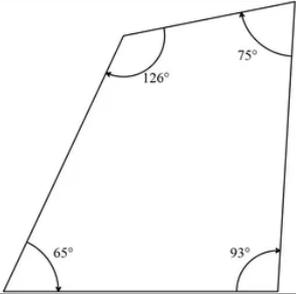
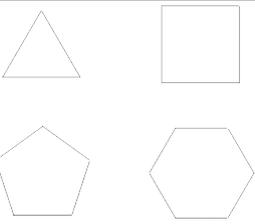
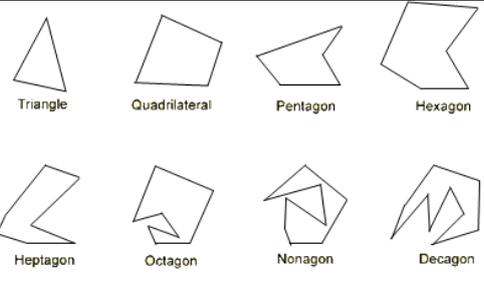
## Stage 8: Proportional Reasoning

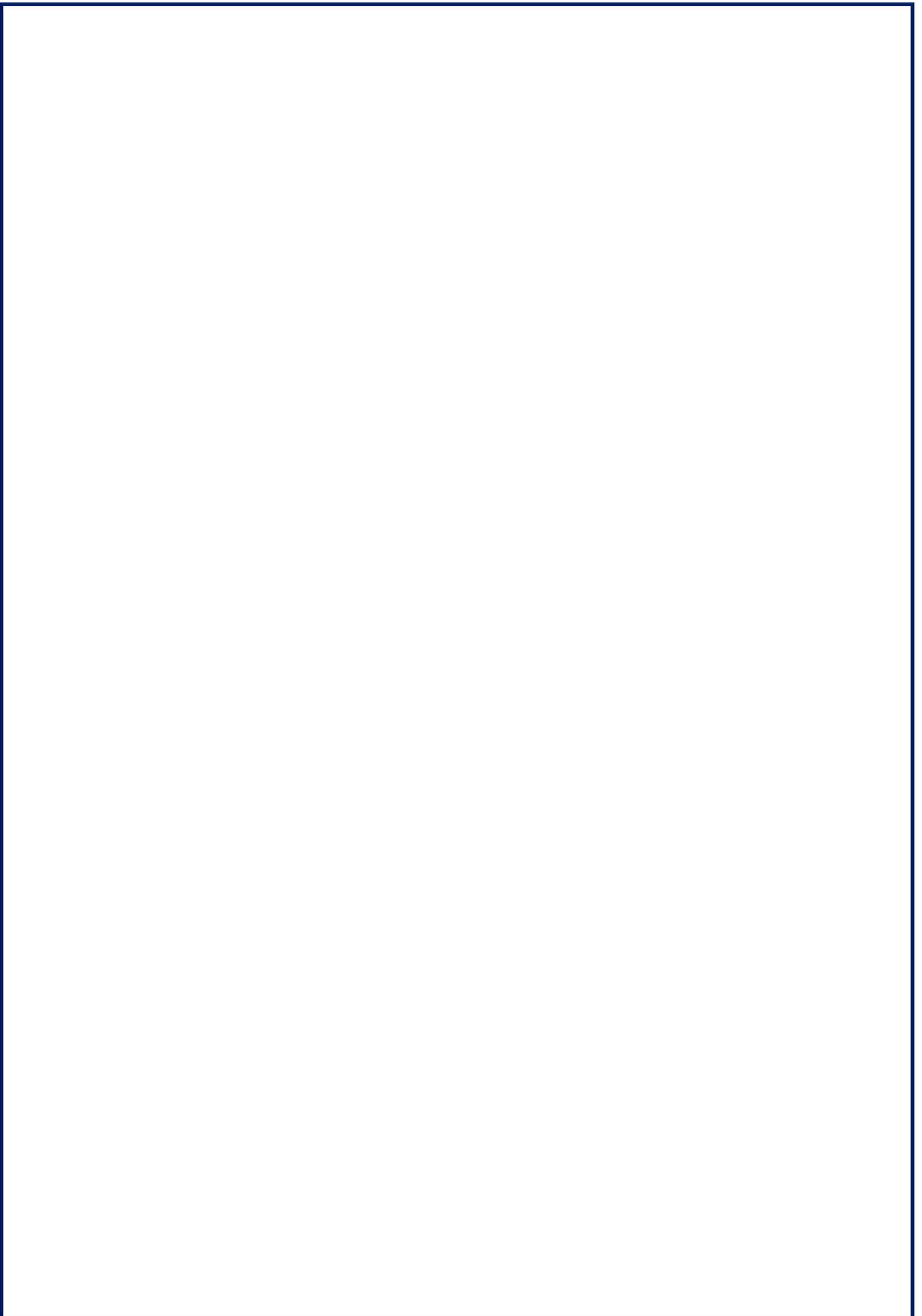
Topic/Skill	Definition/Tips	Example
1. Ratio	Ratio compares the size of <b>one part</b> to <b>another part</b> .  Written using the ':' symbol.	$3 : 1$ 
2. Proportion	Proportion compares the size of <b>one part</b> to the size of the <b>whole</b> .  Usually written as a fraction.	In a class with 13 boys and 9 girls, the proportion of boys is $\frac{13}{22}$ and the proportion of girls is $\frac{9}{22}$
3. Simplifying Ratios	<b>Divide</b> all parts of the ratio by a <b>common factor</b> .	$5 : 10 = 1 : 2$ (divide both by 5) $14 : 21 = 2 : 3$ (divide both by 7)
4. Ratios in the form $1 : n$ or $n : 1$	<b>Divide</b> both parts of the ratio by one of the numbers to make <b>one part equal 1</b> .	$5 : 7 = 1 : \frac{7}{5}$ in the form $1 : n$ $5 : 7 = \frac{5}{7} : 1$ in the form $n : 1$
5. Sharing in a Ratio	<b>1. Add</b> the total parts of the ratio. <b>2. Divide</b> the amount to be shared by this value to find the value of one part. <b>3. Multiply</b> this value by each part of the ratio.  Use only if you <b>know the total</b> .	Share £60 in the ratio $3 : 2 : 1$ .  $3 + 2 + 1 = 6$ $60 \div 6 = 10$ $3 \times 10 = 30, 2 \times 10 = 20, 1 \times 10 = 10$ £30 : £20 : £10
6. Proportional Reasoning	Comparing two things using <b>multiplicative reasoning</b> and applying this to a new situation.  Identify one multiplicative link and use this to find missing quantities.	
7. Unitary Method	Finding the <b>value of a single unit</b> and then finding the necessary value by <b>multiplying</b> the single unit value.	3 cakes require 450g of sugar to make. Find how much sugar is needed to make 5 cakes.  $3 \text{ cakes} = 450\text{g}$ So $1 \text{ cake} = 150\text{g}$ ( $\div$ by 3) So $5 \text{ cakes} = 750 \text{ g}$ ( $\times$ by 5)
8. Ratio already shared	Find what <b>one part</b> of the ratio is worth using the <b>unitary method</b> .	Money was shared in the ratio $3:2:5$ between Ann, Bob and Cat. Given that Bob had £16, found out the total amount of money shared.  $\pounds 16 = 2 \text{ parts}$ So $\pounds 8 = 1 \text{ part}$ $3 + 2 + 5 = 10 \text{ parts}$ , so $8 \times 10 = \pounds 80$
9. Best Buys	Find the <b>unit cost</b> by <b>dividing the price by the quantity</b> . The <b>lowest</b> number is the best value.	8 cakes for £1.28 $\rightarrow$ 16p each ( $\div$ by 8) 13 cakes for £2.05 $\rightarrow$ 15.8p each ( $\div$ by 13) Pack of 13 cakes is best value.

<p>10. Speed, Distance, Time</p>	<p><b>Speed = Distance ÷ Time</b>  <b>Distance = Speed x Time</b>  <b>Time = Distance ÷ Speed</b></p>  <p>Remember the correct units.</p>	<p>Speed = 4mph  Time = 2 hours</p> <p>Find the Distance.</p> $D = S \times T = 4 \times 2 = 8 \text{ miles}$
<p>11. Density, Mass, Volume</p>	<p><b>Density = Mass ÷ Volume</b>  <b>Mass = Density x Volume</b>  <b>Volume = Mass ÷ Density</b></p>  <p>Remember the correct units.</p>	<p>Density = 8kg/m<sup>3</sup>  Mass = 2000g</p> <p>Find the Volume.</p> $V = M \div D = 2 \div 8 = 0.25m^3$
<p>12. Pressure, Force, Area</p>	<p><b>Pressure = Force ÷ Area</b>  <b>Force = Pressure x Area</b>  <b>Area = Force ÷ Pressure</b></p>  <p>Remember the correct units.</p>	<p>Pressure = 10 Pascals  Area = 6cm<sup>2</sup></p> <p>Find the Force</p> $F = P \times A = 10 \times 6 = 60 \text{ N}$
<p>13. Distance- Time Graphs</p>	<p>You can find the <b>speed</b> from the <b>gradient</b> of the line (Distance ÷ Time)  The steeper the line, the quicker the speed.  A <b>horizontal</b> line means the object is not moving (<b>stationary</b>).</p>	

## Stage 8: Angles

Topic/Skill	Definition/Tips	Example
1. Types of Angles	<p><b>Acute angles</b> are less than <math>90^\circ</math>.</p> <p><b>Right angles</b> are exactly <math>90^\circ</math>.</p> <p><b>Obtuse angles</b> are greater than <math>90^\circ</math> but less than <math>180^\circ</math>.</p> <p><b>Reflex angles</b> are greater than <math>180^\circ</math> but less than <math>360^\circ</math>.</p>	 <p>Acute      Right      Obtuse      Reflex</p>
2. Angle Notation	<p>Can use <b>one lower-case</b> letters, eg. <math>\theta</math> or <math>x</math></p> <p>Can use <b>three upper-case</b> letters, eg. <math>BAC</math></p>	
3. Angles at a Point	<p><b>Angles around a point add up to <math>360^\circ</math>.</b></p>	 <p><math>a + b + c + d = 360^\circ</math></p>
4. Angles on a Straight Line	<p><b>Angles around a point on a straight line add up to <math>180^\circ</math>.</b></p>	 <p><math>x + y = 180^\circ</math></p>
5. Vertically Opposite Angles	<p><b>Vertically opposite angles are equal.</b></p>	
6. Alternate Angles	<p><b>Alternate angles are equal.</b> They look like Z angles, but never say this in the exam.</p>	
7. Corresponding Angles	<p><b>Corresponding angles are equal.</b> They look like F angles, but never say this in the exam.</p>	
8. Co-Interior Angles	<p><b>Co-Interior angles add up to <math>180^\circ</math>.</b> They look like C angles, but never say this in the exam.</p>	
9. Angles in a Triangle	<p><b>Angles in a triangle add up to <math>180^\circ</math>.</b></p>	

<p>10. Types of Triangles</p>	<p><b>Right Angle</b> Triangles have a <b>90°</b> angle in.</p> <p><b>Isosceles</b> Triangles have <b>2 equal sides</b> and <b>2 equal base angles</b>.</p> <p><b>Equilateral</b> Triangles have <b>3 equal sides</b> and <b>3 equal angles (60°)</b>.</p> <p><b>Scalene</b> Triangles have <b>different sides</b> and <b>different angles</b>.</p> <p><b>Base angles in an isosceles triangle are equal.</b></p>	
<p>11. Angles in a Quadrilateral</p>	<p><b>Angles in a quadrilateral add up to 360°.</b></p>	
<p>12. Polygon</p>	<p>A <b>2D</b> shape with <b>only straight edges</b>.</p>	<p>Rectangle, Hexagon, Decagon, Kite etc.</p>
<p>13. Regular</p>	<p>A shape is regular if all the <b>sides</b> and all the <b>angles</b> are <b>equal</b>.</p>	
<p>14. Names of Polygons</p>	<p><b>3-sided = Triangle</b>  <b>4-sided = Quadrilateral</b>  <b>5-sided = Pentagon</b>  <b>6-sided = Hexagon</b>  <b>7-sided = Heptagon/Septagon</b>  <b>8-sided = Octagon</b>  <b>9-sided = Nonagon</b>  <b>10-sided = Decagon</b></p>	
<p>15. Sum of Interior Angles</p>	<p><math>(n - 2) \times 180</math>  where n is the number of sides.</p>	<p>Sum of Interior Angles in a Decagon =  <math>(10 - 2) \times 180 = 1440^\circ</math></p>
<p>16. Size of Interior Angle in a Regular Polygon</p>	<p><math display="block">\frac{(n - 2) \times 180}{n}</math></p> <p>You can also use the formula:  <b>180 – Size of Exterior Angle</b></p>	<p>Size of Interior Angle in a Regular Pentagon =  <math display="block">\frac{(5 - 2) \times 180}{5} = 108^\circ</math></p>
<p>17. Size of Exterior Angle in a Regular Polygon</p>	<p><math display="block">\frac{360}{n}</math></p> <p>You can also use the formula:  <b>180 – Size of Interior Angle</b></p>	<p>Size of Exterior Angle in a Regular Octagon =  <math display="block">\frac{360}{8} = 45^\circ</math></p>



## Stage 8: Calculating with Percentages, Decimals, Fractions

Topic/Skill	Definition/Tips	Example
1. Increase or Decrease by a Percentage	<p>Non-calculator: <b>Find the percentage</b> and <b>add</b> or <b>subtract</b> it from the <b>original</b> amount.</p> <p>Calculator: Find the <b>percentage multiplier</b> and multiply.</p>	<p><u>Increase 500 by 20% (Non Calc):</u>            10% of 500 = 50            so 20% of 500 = 100            500 + 100 = 600</p> <p><u>Decrease 800 by 17% (Calc):</u>            100% - 17% = 83%            83% ÷ 100 = 0.83            0.83 x 800 = 664</p>
2. Percentage Multiplier	The <b>number</b> you <b>multiply</b> a quantity by to <b>increase or decrease</b> it by a <b>percentage</b> .	<p>The multiplier for increasing by 12% is 1.12</p> <p>The multiplier for decreasing by 12% is 0.88</p> <p>The multiplier for increasing by 100% is 2.</p>
3. Percentage Change	$\frac{\text{Difference}}{\text{Original}} \times 100\%$	<p>A games console is bought for £200 and sold for £250.</p> <p>% change = <math>\frac{50}{200} \times 100 = 25\%</math></p>
4. Reverse Percentage	<p>Find the <b>correct percentage given in the question</b>, then work backwards to <b>find 100%</b></p> <p>Look out for words like <b>'before'</b> or <b>'original'</b></p>	<p>A jumper was priced at £48.60 after a 10% reduction. Find its original price.</p> <p>100% - 10% = 90%</p> <p>90% = £48.60            1% = £0.54            100% = £54</p>
5. Simple Interest	Interest calculated as a <b>percentage of the original</b> amount.	<p>£1000 invested for 3 years at 10% simple interest.</p> <p>10% of £1000 = £100</p> <p>Interest = 3 × £100 = £300</p>
6. Compound Interest	Interest paid on the <b>original amount and the accumulated interest</b> .	<p>A bank pays 5% compound interest a year. Bob invests £3000. How much will he have after 7 years.</p> <p style="text-align: center;"><math>3000 \times 1.05^7 = £4221.30</math></p>
7. Adding or Subtracting Fractions	<p>Find the <b>LCM of the denominators</b> to find a common denominator.</p> <p>Use equivalent fractions to change each fraction to the <b>common denominator</b>.</p> <p>Then just <b>add or subtract the numerators</b> and keep the <b>denominator the same</b>.</p>	<p style="text-align: center;"><math>\frac{2}{3} + \frac{4}{5}</math></p> <p>Multiples of 3: 3, 6, 9, 12, <b>15</b>..            Multiples of 5: 5, 10, <b>15</b>..            LCM of 3 and 5 = 15</p> <p style="text-align: center;"><math>\frac{2}{3} = \frac{10}{15}</math></p>

		$\frac{4}{5} = \frac{12}{15}$ $\frac{10}{15} + \frac{12}{15} = \frac{22}{15} = 1\frac{7}{15}$
8. Multiplying Fractions	<b>Multiply the numerators</b> together and <b>multiply the denominators</b> together.	$\frac{3}{8} \times \frac{2}{9} = \frac{6}{72} = \frac{1}{12}$
9. Dividing Fractions	<p><b>‘Keep it, Flip it, Change it – KFC’</b>            Keep the first fraction the same            Flip the second fraction upside down            Change the divide to a multiply</p> <p>Multiply by the reciprocal of the second fraction.</p>	$\frac{3}{4} \div \frac{5}{6} = \frac{3}{4} \times \frac{6}{5} = \frac{18}{20} = \frac{9}{10}$

## Stage 8: Equations

Topic/Skill	Definition/Tips	Example
1. Solve	To find the <b>answer</b> /value of something  Use <b>inverse operations</b> on both sides of the equation (balancing method) until you find the value for the letter.	Solve $2x - 3 = 7$  Add 3 on both sides $2x = 10$ Divide by 2 on both sides $x = 5$  Solve $3x + 1 = 5x - 3$  Subtract $3x$ (the smallest amount of $x$ ) from both sides $1 = 2x - 3$ Add 3 on both sides $4 = 2x$ Divide by 2 on both sides $2 = x$
2. Inverse	<b>Opposite</b>	The inverse of addition is subtraction. The inverse of multiplication is division.
3. Rearranging Formulae	Use <b>inverse operations</b> on both sides of the formula (balancing method) until you find the expression for the letter.	Make $x$ the subject of $y = \frac{2x-1}{z}$  Multiply both sides by $z$ $yz = 2x - 1$ Add 1 to both sides $yz + 1 = 2x$ Divide by 2 on both sides $\frac{yz + 1}{2} = x$ We now have $x$ as the subject.
4. Writing Formulae	<b>Substitute letters for words</b> in the question.	Bob charges £3 per window and a £5 call out charge.  $C = 3N + 5$  Where $N$ =number of windows and $C$ =cost
5. Substitution	<b>Replace letters with numbers.</b>  Be careful of $5x^2$ . You need to square first, then multiply by 5.	$a = 3, b = 2$ and $c = 5$ . Find: 1. $2a = 2 \times 3 = 6$ 2. $3a - 2b = 3 \times 3 - 2 \times 2 = 5$ 3. $7b^2 - 5 = 7 \times 2^2 - 5 = 23$



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**Modern Foreign  
Languages**

## Year 8 French

### Knowledge Organiser HT3

#### La technologie

une maison	a house
un appartement	a flat
la rue	the street
à la campagne	in the country
dans un village	in a village
dans une ville	in a town

#### Rooms in a house

chez moi	in my home
la chambre	the bedroom
la cuisine	the kitchen
le jardin	the garden
la salle à manger	the dining room
la salle de bains	the bathroom
le salon	the living room

#### Prepositions

devant	in front of
derrière	behind
en face de	opposite
sur	on
sous	under

#### Intensifiers

vraiment	really
très	very
assez	quite
trop	too
un peu	a bit

#### Giving an opinion

je pense que	I think that
à mon avis	in my opinion
je préfère	I prefer
je trouve ça	I find it
je suis fan de	I am a fan of
j'ai horreur de	I hate
ça me fait rire	it makes me laugh
ça me fait pleurer	it makes me cry

#### Present tense key verbs

Je regarde	I watch
Tu regardes	you watch
il/elle regarde	he/she watches
nous regardons	we watch
vous regardez	you (formal) watch
ils/elles regardent	they watch

je vais	I go
tu vas	you go
il/elle va	he /she goes
nous allons	we go
vous allez	you go
ils /elles vont	they go

je fais	I do
tu fais	you do
il/elle fait	he/she does
nous faisons	we do
vous faites	you do
ils/elles font	they do

#### Weather

Il fait beau	it is nice
Il pleut	it is raining
Il fait chaud	it is hot
Il fait froid	it is cold

#### On TV

les dessins animés	cartoons
les infos	the news
les jeux télévisés	game shows
la météo	the weather
les séries	series
les documentaires	
les émissions de sport	
les émissions de télé-réalité	

#### Internet

Je fais des achats en ligne	I do online shopping
Je fais des recherches	I do searches
J'envoie	I send
Je mets à jour	I update
Je joue à des jeux en ligne	I play games on line

#### Time phrases: When?

le weekend	at the weekend
le matin	in the morning
l'après midi	in the afternoon
le soir	in the evening/at night
samedi matin	on Saturday morning
dimanche après-midi	on Sunday afternoon

#### Past tense

J'ai discuté	I discussed
J'ai écouté	I listened
J'ai envoyé	I sent
J'ai joué	I played
J'ai posté	I posted
J'ai regardé	I watched
J'ai surfé	I surfed
J'ai tchatté	I chatted
J'ai téléchargé	I downloaded

#### Connectives and sequencers

cependant	however
aussi	also
puis	then
d'abord	firstly
ensuite	next
après	after
avant	before

#### Adjectives

ennuyeux	boring
rasant	boring
barbant	boring
passionnant	exciting
amusant	fun/funny
confortable	comfortable
douillet	cosy
assez bien	quite good
chouette	excellent
effrayant	frightening
émouvant	moving
passionnant	exciting
pratique	practical

## Year 8 French Knowledge

### Organiser HT4

#### Intensifiers

vraiment	really
très	very
assez	quite
trop	too
un peu	a bit

#### Giving an opinion

je pense que	I think that
à mon avis	in my opinion
je préfère	I prefer
je trouve ça	I find it
je suis d'accord	I agree
je ne suis pas d'accord	I don't agree

#### Relationships

On s'amuse	We have fun
On se chamaille	We squabble
On se confie des secrets	We tell each other secrets
On se dit	We tell each other
On se dispute	We argue
On s'entend	We get on
On se fâche	We get angry

#### Mon caractère

Je suis	I am
Je pense que je suis	I think that I am
Je ne suis pas	I am not

Je ne suis pas du tout I am not at all

Mon meilleur ami/Ma meilleure amie est... My best friend is

Adorable	adorable
Arrogant(e)	arrogant
Amusant(e)	funny
Casse-pieds	annoying
Curieux/se	curious
Débrouillard(e)	resourceful
Drôle	funny
égoïste	selfish
gentil(le)	nice
intelligent(e)	intelligent
optimiste	optimistic
paresseux/se	lazy
patient(e)	patient
pessimiste	pessimistic
rigolo(te)	funny
sociable	sociable
sympa	nice

#### les vêtements Clothes

Normalement, je porte... Normally, I wear

Des baskets	trainers
Des bottes	boots
Des chaussures	shoes
Une chemise	a shirt
Un chapeau	a hat
Un jean	jeans
Une jupe	a skirt
Un pantalon	trousers
Un pull	a jumper

un sweat à capuche	a hoodie
un tee-shirt	a T-shirt
une veste	a jacket

#### Verbes essentiels Key verbs

Je vais	I am going/I go
Tu vas	You go/You are going
Il/elle va	He/She is going/He/S he goes
On va	We are going/we go

#### Using the past tense

Hier	Yesterday
La semaine dernière	Last week
Je suis allé(e)	I went
J'ai regardé	I watched
J'ai dansé	I danced
C'était	It was...

#### Using the present tense

Normalement	Normally
D'habitude	Usually
Je vais	I go
Je regarde	I watch
Je danse	I dance
C'est	It is

#### Using the future tense

Ce weekend	This weekend
Cet été	This summer
Je vais aller	I'm going to go
Je vais regarder	I'm going to watch

Je vais danser	I'm going to dance
Ça va être	It's going to be

#### Les couleurs

Beige	beige
Blanc(he)	white
Bleu turquoise	turquoise
Gris(e)	grey
Marron chocolat	chocolate brown
Noir(e)	black
Orange	orange
Vert kaki	khaki

#### Les mots essentiels High frequency words

Avec	with
Bien	well
Comme d'hab	as usual
En général	in general
En plus	in addition
Ensemble	together
Même	same
Ou	or
Partout	everywhere
Plutôt	rather
Quand	when
Sinon	otherwise
Surtout	especially
Souvent	often
Tout(e)	all, every
Tout le temps	all the time
Vraiment	really

**Was isst du gern?**

Ich esse gern  
Ich esse nicht gern

**Was trinkst du gern?**

Ich trinke gern  
Ich trinke nicht gern

Brot.  
Joghurt.  
Käse.  
Kuchen.  
Marmelade.  
Schinken.

**,denn es ist süß.**

**,weil es schmackhaft ist.**

**Was hast du gegessen?**

Ich habe ...gegessen

**Was hast du getrunken?**

Ich habe ...getrunken

Ich fand es lecker

Es war eklig

**What do you like to eat?**

*I like eating  
I don't like eating*

**What do you like to drink?**

*I like drinking  
I don't like drinking*

*bread.  
yoghurt.  
cheese.  
cake.  
jam.  
ham.*

*because it is sweet.*

*because it is tasty.*

**What did you eat?**

*I ate*

**What did you drink?**

*I drank*

*I found it delicious*

*It was disgusting*

**Im Café**

**Was möchtest du ... ?**

als Vorspeise  
als Hauptgericht  
als Nachtisch

**Was möchtest du trinken?**

**Sonst noch etwas?**

Haben Sie....?  
Die Speisekarte, bitte?  
Die Rechnung, bitte?  
Wo sind die Toiletten?

Ich möchte  
den Fisch  
den Salat  
die Pizza  
die Tomatensuppe  
die Torte  
das Eis  
das Hähnchen  
das Steak  
einen Milchshake  
eine Limo  
ein Mineralwasser  
Nichts, danke  
Wir haben keinen/ keine/ kein..

**In the café**

**What would you like ... ?**

*as a starter  
as a main course  
as dessert*

**What would you like to drink?**

**Anything else?**

*Do you have...?  
The menu, please?  
The bill, please?  
Where are the toilets?*

*I would like  
the fish  
the salad  
the pizza  
the tomato soup  
the cake  
the ice-cream  
the chicken  
the steak  
a milkshake  
a lemonade  
a mineral water  
Nothing, thanks  
We have no...*

**Wo gehst du einkaufen?**

Ich gehe gern einkaufen  
**Normalerweise gehe ich ..**

zum Modegeschäft  
zum Sportgeschäft  
zum Kaufhaus  
zum Musikladen  
zur Buchhandlung  
zur Konditorei  
zur Drogerie  
zur Metzgerei  
zur Bäckerei

**Was hast du letzte Woche gemacht?**

**Letzte Woche habe ich**

Taschengeld bekommen

**Ich bin** ich in die Stadt  
gegangen.

**Was hast du gekauft?**

**Ich habe .... gekauft**

**Where do you go shopping?**

*I like going shopping*

**Normally I go**

*to the clothes shop  
to the sports shop  
to the department store  
to the music shop  
to the book shop  
to the cake shop  
to the chemist  
to the butcher's  
to the bakery*

**What did you do last week?**

*Last week I got pocket money*

**I went** to town

**What did you buy?**

**I bought**

**Was kostet das?**

**How much is that?**

zehn Euros €10  
zwanzig Euros €20  
dreißig Euros €30  
vierzig Euros €40  
fünfzig Euros €50  
sechzig Euros €60  
siebzig Euros €70  
achtzig Euros €80  
neunzig Euros €90

**Das kostet**

**That costs**

**einundzwanzig** Euros €21  
**zweiunddreißig** Euros €32  
**dreiundvierzig** Euros €43  
**vierundfünfzig** Euros €54  
**fünfundsechzig** Euros €65  
**sechundsiebzig** Euros €76  
einhundertachtzig Euros €180  
zweihundertneunzig Euros €290  
dreihundertfünfzig Euros €350

**Was kaufst du nächstes Wochenende?**

**Nächstes Wochenende kaufe ich**  
Bücher.

**What are you going to buy next weekend?**

**Next weekend I'm going to buy**  
books.

## Year 8 German Knowledge Organisers

<b>Fernsehsendungen</b>	<b>TV programmes</b>
der Film(-e)	<i>film</i>
der Dokumentarfilm(-e)	<i>documentary</i>
der Zeichentrickfilm(-e)	<i>cartoon</i>
der Krimi(-s)	<i>detective story</i>
die Kindersendung(-en)	<i>children's programme</i>
die Musiksendung(-en)	<i>music programme</i>
die Quizsendung(-en)	<i>quiz</i>
die Sportsendung(-en)	<i>sports programme</i>
die Tiersendung(-en)	<i>animal programme</i>
die Komödie(-n)	<i>comedy</i>
die Seifenoper(-n)	<i>soap opera</i>
die Nachrichten	<i>the news</i>

<b>Skater</b>	<b>Skateboarders</b>
Wo wohnt er?	<i>Where does he live?</i>
Er wohnt in ...	<i>He lives in ...</i>
Wie alt ist er?	<i>How old is he?</i>
Er ist (siebzehn) Jahre alt.	<i>He is (17).</i>
müssen	<i>must</i>
Wie oft muss er trainieren?	<i>How often does he have to train?</i>
Er muss jeden Tag trainieren.	<i>He has to train every day.</i>
Was macht er am Wochenende?	<i>What does he do at the weekend?</i>
Am Wochenende muss er zu Skateshows fahren.	<i>At the weekend he has to go to skateboarding shows.</i>
Was braucht er zum Skaten?	<i>What does he need for skateboarding?</i>

<b>Siehst du gern (Filme)?</b>	<b>Do you like watching (films)?</b>
Ja, ich sehe gern (Filme).	<i>Yes, I like watching films.</i>
Nein, ich sehe nicht so gern (Filme).	<i>No, I don't really like watching (films).</i>
Ich sehe lieber (Seifenopern).	<i>I prefer watching (soaps).</i>
Was ist deine Lieblingssendung?	<i>What is your favourite programme?</i>
Was kommt um zehn Uhr?	<i>What's on at ten o'clock?</i>
Wann beginnt / endet der Film?	<i>When does the film start / finish?</i>
Was für eine Sendung ist das?	<i>What kind of programme is that?</i>
Das ist eine Komödie.	<i>That's a comedy.</i>
Was hast du gestern Abend gesehen?	<i>What did you watch on TV last night?</i>
Ich habe ... gesehen.	<i>I watched ...</i>
Ich habe nichts gesehen.	<i>I didn't watch anything.</i>

Er braucht ein gutes Skateboard.	<i>He needs a good skateboard.</i>
Was sind seine Lieblingstricks?	<i>What are his favourite tricks?</i>
Seine Lieblingstricks sind Sliden und Grinden.	<i>His favourite tricks are sliding and grinding.</i>
Wie ist er?	<i>What is he like?</i>
Er ist impulsiv und ehrgeizig.	<i>He's impulsive and ambitious.</i>
Ich / Er muss ... trainieren.	<i>I / He must ... train.</i>
einen Helm tragen.	<i>wear a helmet.</i>
zu Skateshows fahren.	<i>go to skating shows.</i>
sehr fit sein.	<i>be very fit.</i>

<b>Das war ...</b>	<b>It was ...</b>
lustig.	<i>funny.</i>
spannend.	<i>exciting.</i>
doof.	<i>stupid.</i>
zu lang.	<i>too long.</i>
toll.	<i>great.</i>
interessant.	<i>interesting.</i>
langweilig.	<i>boring.</i>

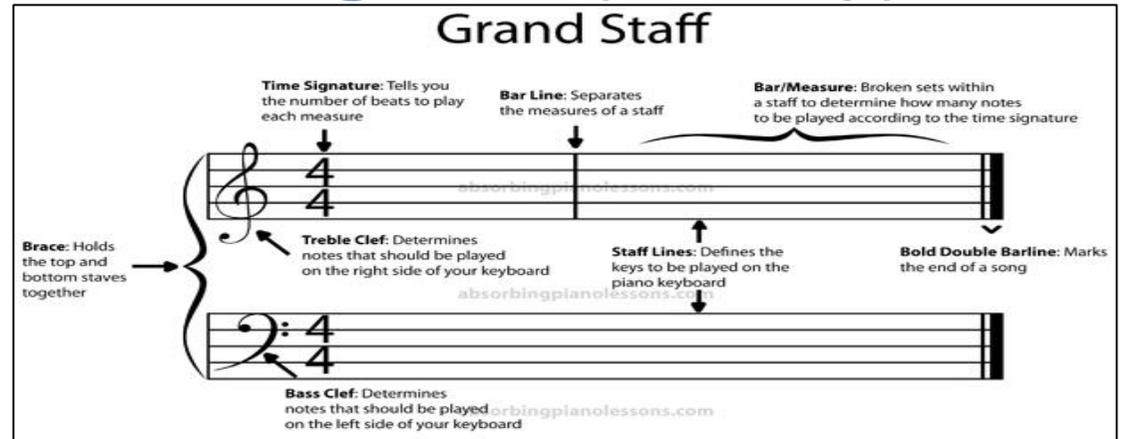
<b>Ein Ausflug</b>	<b>A trip</b>
Wir haben im Bus ...	<i>On the bus we ...</i>
Musik gehört.	<i>listened to music.</i>
Bücher gelesen.	<i>read books.</i>
SMS geschickt.	<i>sent text messages.</i>
geschlafen.	<i>slept.</i>
Schwarzwälder Kirschtorte gegessen.	<i>ate Black Forest gateau.</i>
Chips gegessen.	<i>ate crisps.</i>
Limo getrunken.	<i>drank lemonade.</i>
Wir sind ...	<i>We ...</i>
mit dem Zug gefahren.	<i>travelled by train.</i>
mit dem Bus gefahren.	<i>travelled by bus.</i>
schwimmen gegangen.	<i>went swimming.</i>
wandern gegangen.	<i>went hiking.</i>
nach Hause gefahren.	<i>went home.</i>

<b>Was machst du nach der Schule?</b>	<b>What do you do after school?</b>
Ich besuche meine Freunde.	<i>I visit my friends.</i>
Ich gehe einkaufen.	<i>I go shopping.</i>
Ich gehe ins Sportzentrum.	<i>I go to the sports centre.</i>
Ich helfe zu Hause.	<i>I help at home.</i>
Ich mache meine Hausaufgaben.	<i>I do my homework.</i>
Ich surfe im Internet.	<i>I surf the Internet.</i>
Ich schicke SMS.	<i>I send text messages.</i>
Ich übe Klavier.	<i>I practise the piano.</i>
Sie sehen fern.	<i>They watch TV.</i>
Sie spielen Fußball.	<i>They play football.</i>
Sie gehen angeln.	<i>They go fishing.</i>
Sie kaufen Make-up.	<i>They buy make-up.</i>
Sie fahren Skateboard.	<i>They go skateboarding.</i>
Sie helfen zu Hause.	<i>They help at home.</i>
immer oft	<i>always often</i>
manchmal	<i>sometimes</i>
ab und zu	<i>now and then</i>
nie	<i>never</i>

# Year 8 Music – Composer’s Logbook (melody)

## KEYWORDS

- 1- Time Signature:** to specify how many beats are to be contained in each bar and which note value is equivalent to one beat.
- 2- Bar:** Each bar usually has the same number of beats in it. Music that feels like 1-2-3-4 will be divided into bars with four beats worth of music in each bar.
- 3- Barline:** The bar line is a vertical line written in the music which separates the **bars**.
- 4- Rest:** an interval of silence in a piece of music, marked by a symbol that corresponds to a particular note value.
- 5- Melody:** the main tune of a song.
- 6- Phrase:** a short musical passage; a musical sentence.
- 7- Pentatonic:** 5-notes. A pentatonic scale is a series of 5-notes used to create a piece.
- 8- Call and Response:** 2 phrases that occur in different parts one after another. Often a solo part then repeated by a chorus (African music).
- 9- Question and Answer:** 2 phrases that occur one after another, the second in direct response, and complimentary to the first.
- 10- Ostinato:** a persistent phrase or motif repeated over several bars or more.
- 11- Dorian mode:** a medieval **mode** whose scale pattern is that of playing d to d on the white keys of a piano (T-s-T-T-s-T).
- 12- Drone:** an accompaniment where a note is continuously heard/played throughout a piece
- 13- Harmony:** parts that play together simultaneously create harmony. Often accompanying or secondary parts to a melody.
- 14- Dictation:** the ability to hear a piece of music and quickly write it down.



Note	Name	Beats	Rest	Note	Name	Beats	Rest
	Semibreve, Whole Note	4 beats			Dotted Semibreve, Dotted Whole Note	6 beats	
	Minim, Half Note	2 beats			Dotted Minim, Dotted Half Note	3 beats	
	Crotchet, Quarter Note	1 beat			Dotted Crotchet, Dotted Quarter Note	1½ beats	
	Quaver, Eighth Note	1/2 beat			Dotted Quaver, Dotted Eighth Note	3/4 beat	
	Semiquaver, Sixteenth Note	1/4 beat			Dotted Semiquaver, Dotted Sixteenth Note	3/8 beat	

Oh Suzana in C major pentatonic

C D E G G A G E C D E E D C

D C D E G G A G E C D E E D D C

### 5 characteristics of a good melody

A Good Melody...

1. Starts and ends on the same note (C)
2. Moves mainly by step
3. Has a smooth contour/shape
4. Has 2 or 4 bar phrases
5. Uses similar short motifs to give it a clear character

Annotate the melody above to identify its use of the '5 characteristics of a good melody'.

# Unit 2: Animal Rights

## Year 8

### Skills

- Engage with and reflect on different ideas, opinions and beliefs to help develop personal opinion.
- Express and explain opinions through discussion and written assessments.
- Reflect on the knowledge and skills needed for setting realistic targets and personal goals.
- Work individually and with others to negotiate, plan and take action.
- Analyse and reflect upon action taken and progress made.

### Knowledge

Learn and understand about Animal Rights & the law related to animals

Understand what is Battery farming & the law on battery farming

Appreciate why animals are used in research



# Unit 3: Sex Education

## Year 8

### Skills

- Engage with and reflect on different ideas, opinions and beliefs to help develop personal opinion.
- Can express and explain opinions through discussion and written assessments.
- Develop empathy with the situations others may find themselves in

### Knowledge

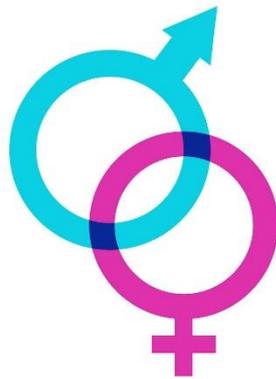
Be aware of current teenage pregnancy statistics

Develop awareness of the different methods of contraceptives

Gain knowledge and understanding about STIs and the dangers of them

Eliminate myths about STIs

Gain knowledge and understanding about HIV & AIDS





# Y8: Unit 1 Judaism

Judaism is one of the oldest religious traditions with Abraham as the 'founding father'. It is a monotheistic religion (i.e. they believe in one God only). Judaism shares a lot of similarities with the religions of Christianity and Islam as will be explored. In this unit of work you will be examining various parts of Jewish history and how these events effect both Jewish traditions, lifestyle and practices today.

## Knowledge Organiser

### Religions

#### Lesson 1

##### **What are the key features of Judaism?**

What does "a monotheistic religion" mean?

Can you name 5 key features of Judaism?

Find out about 3 new facts not covered in this lesson.

#### Lesson 4

##### **Judaism and slavery - what is Passover?**

What was the Passover story?

Can you give three reasons why the Passover story would make Jewish people think Moses is important?

What are the 10 plagues and what order did they come?

#### Lesson 7

##### **Bar/Bat Mitzvah- what happens at a coming-of age ceremony?**

Why do Jewish children go through a bar/bat mitzvah?

What are key features of a bar mitzvah? What is done/worn? List at least 5

Do you think everyone should have an event where they take on more responsibility? One reason for and one against.

### Ethics

#### Lesson 2

##### **Kosher food laws – why bother?**

Can you name two foods that aren't Kosher and why they aren't?  
Create a flowchart that shows the process that meat goes through to become kosher.

Give two reasons why Jewish people follow Kosher laws.

#### Lesson 5

##### **Modern day slavery – does it still happen?**

What are three facts about modern slavery?

Explain the link between modern slavery and the history of the Jewish people

Modern slavery provides a better life for some. Give 2 reasons why it is and 2 reasons why it is not.

#### Lesson 8

##### **What age are we responsible for our behaviour?**

Jews follow the 10 commandments, which do you think are the three most important and why?

What new rule would you make that everyone should follow?  
"Following the 10 commandments make you a better person" Give 2 reasons why it might and 2 reasons why it might not.

### Philosophy

#### Lesson 3

##### **Is it worth being religious?**

Jews follow 613 rules but does this make them a better person?

Give 3 ideas

What do people gain from having a faith?

Is religion a force for good. Give 2 reasons why it is and 2 reasons why it is not.

#### Lesson 6

##### **The Holocaust: How has Jewish persecution challenged faith in God?**

Why were the Jewish people persecuted in the Holocaust? Can you list at least 3 reasons?

What effect might the Holocaust have on Jewish people today?

How do Jewish people justify their belief in God after the holocaust?

#### Lesson 9

##### **Are our actions ever truly free?**

Can you give two examples of actions out of our control?

Can you give two examples of actions that we DO control?

Create a list of 5 things that you can do to make the lives of those around you better.

*\*Following these 9 lessons pupils will be assessed and feedback will be given in exercise books.*



# Y8: Unit 2 Hinduism

Hinduism is the third biggest religion in the world, existing for around 4000 years. Hinduism is made up of a variety of different religious beliefs and practices which originated near the river Indus in India. In this unit of work, you will learn about the Hindu religion, analyse and understand ethical ideas such as potential consequences of actions and equality among all and philosophical questions surrounding human existence.

## Curriculum Organiser

### Religions

#### Lesson 1

##### **Hinduism: What is it all about?**

*How and where did Hinduism originate?*

*Describe a day in a life of a typical Hindu teenager.*

*Give 3 ways that Hinduism is different to Judaism (Unit 1).*

#### Lesson 4

##### **Hindu festivals – what is celebrated?**

*What is the story behind Diwali?*

*Name and explain the traditions behind one other Hindu festival.*

*“Religious festivals are just an excuse for a party”.  
Give 3 reasons to agree and disagree.*

#### Lesson 7

##### **Samskaras – what are significant events in the life of a Hindu?**

*What does the term samskara mean?*

*Explain 5 different samskaras.*

*Compare 3 samskaras with 3 Jewish life events. What are the similarities and differences?*

### Ethics

#### Lesson 2

##### **Karma, samsara and rebirth – how does it work?**

*How do Hindus reach moksha?*

*Explain the concept of karma and how it relates to the samsara cycle.*

*Is there any evidence for rebirth? Give 2 reasons for and against.*

#### Lesson 5

##### **Equality P4C - Are some people more important than others?**

*What is the difference between equality and fairness?  
What are the 9 protected characteristics of the Equality Act 2010?*

*Some people say that we don't need a law to tell us that we're all equal – do you agree or disagree? Explain your view.*

#### Lesson 8

##### **Should we all have goals that benefit others? Or just ourselves?**

*What are the 4 key goals in a Hindu's life?*

*Do you think that you are achieving your dharma in life?*

*“Money doesn't bring happiness” – what would a Hindu say to this?*

### Philosophy

#### Lesson 3

##### **How do Hindus understand God?**

*Explain the difference between monotheism and polytheism. Which is Hinduism?*

*Explain how the Trimurti represents Brahman.*

*How might a Hindu's belief in God influence their daily lives?*

#### Lesson 6

##### **The Caste system - What is the perfect way to organise society?**

*Describe the different levels of the caste system.*

*What decides the caste that someone is in?*

*“Life is easier if everyone knows their place.” Give 2 reasons to agree and disagree.*

#### Lesson 9

##### **Is this whole world an illusion? What is real?**

*Explain the terms maya and moksha.*

*Could a Hindu still be a scientist?*

*How could the belief in maya influence a Hindu's daily life?*

*\*Following these 9 lessons pupils will be assessed and feedback will be given in exercise books.*



**Science**

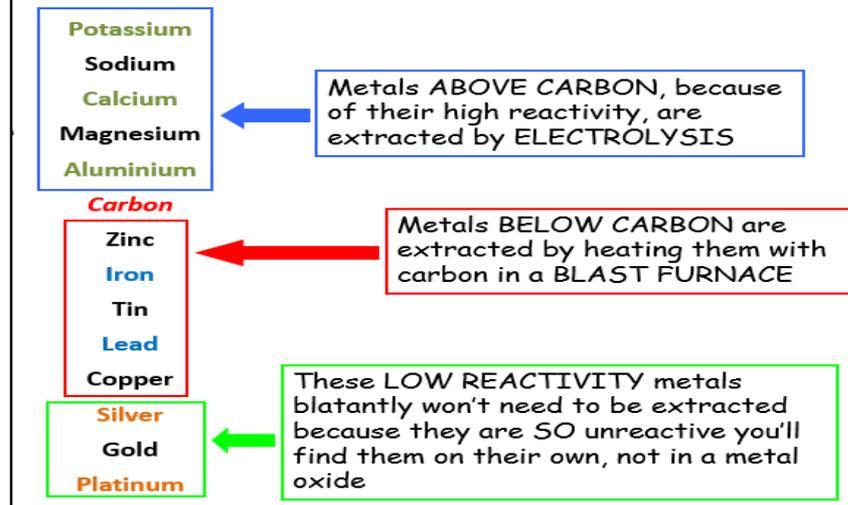


# 8C2 Metals

## Properties of metals and non-metals

Property	Metals	Non-metals
Appearance	Shiny	Dull
State at room temp	Solid (except mercury)	Half are solids, half are gases, one is liquid (bromine)
Density	High	Low
Strength	Strong	Weak
Malleable or brittle	Malleable (can bend without breaking)	Brittle (will shatter when hammered)
Conduction (heat/electricity)	Conduct both well	Poor (graphite only non-metal conductor)
Magnetic	Only iron, cobalt and nickel	None

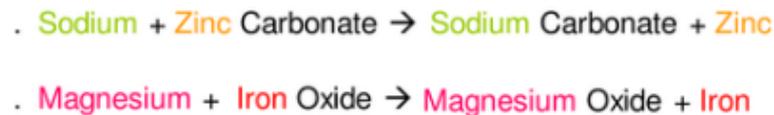
## How metals are extracted



## General Equations for metal reactions



**Displacement-** When a more reactive metal will displace a less reactive metal from solutions of its compounds



Metal		Reaction with AIR	Reaction with WATER	Reaction with ACIDS
Potassium	K	Burn vigorously to form metal oxides	React with <b>cold water H<sub>2</sub>O (l)</b> to form H <sub>2</sub> (g) and (metal)OH <sub>(aq)</sub>	Strong reaction with <b>diluted acid (aq)</b> to form H <sub>2</sub> (g). Metal replaces H in compound to form a salt.
Sodium	Na			
Calcium	Ca	Burn with decreasing vigour down the series to form metal oxides	Only reacts with <b>steam H<sub>2</sub>O(g)</b> to form H <sub>2</sub> (g) and metal oxide	
Magnesium	Mg			
Aluminium	Al			
Zinc	Zn			
Iron	Fe			
Lead	Pb	React slowly (when heated) to form an oxide layer	No reaction	React with <b>concentrated acid (l)</b> . Metal replaces H to make a salt. Some of the acid decomposes into <b>NO<sub>2</sub>(g)</b> and <b>H<sub>2</sub>O (l)</b> .
Copper	Cu			
Mercury	Hg			
Silver	Ag	No reaction	No reaction	No reaction
Gold	Au			

### Advantages of Recycling

Conserves raw materials.  
 Less energy is used so less fossil fuels are used.  
 Reduces waste in landfill.  
 Avoids the use of mining for ores.  
 Less damage to habitats.  
 Less energy needed to melt and reform metals than to extract them.  
 Produces less carbon dioxide.

### Disadvantages of Recycling

Carbon dioxide is a greenhouse gas.  
 Greenhouse gases cause global warming.  
 Electricity for electrolysis is expensive and usually comes from fossil fuels.

# 8P1 Knowledge organiser: Forces and Motion

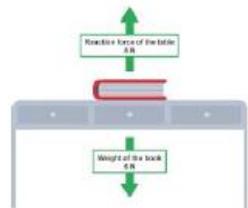
## Force Diagrams

To show the forces acting on a body we use a free body force diagram. A **free body force diagram** shows all of the forces that are acting on the body. It has arrows that show the direction the force acts, the larger the arrow, the larger the force. A free body force diagram should always have labelled arrows.

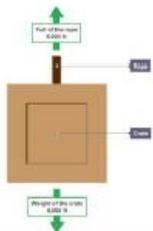
A boat floating



A book on a desk



A crate held up by a rope



## Unbalanced Forces

If the forces are unbalanced on an object there are two things that could happen:

1. If the object is stationary then it will move in the direction of the resultant force
2. If the object is moving, then the object will speed up or slow down in the direction of the resultant force.

For example, what is the resultant force on the lorry below?

$$100\text{N} - 60\text{N} = 40\text{N (to the right)}$$



Remember the resultant force does not tell you what direction the lorry is moving in.

- If the resultant force is in the same direction as the movement of the lorry then the lorry will speed up
- If it is in the opposite direction the lorry will slow down

The larger the resultant force the larger the change in movement.

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)**

Forces can also be divided into 2 types, contact forces and non contact forces.

1. Contact forces for example friction, are caused when two objects are in contact.
2. Other forces for example gravity, are non contact forces. The two objects do not need to be in contact for the force to occur.

Gravity	The force of attraction between two objects with mass
Electrostatic	The force between two charged objects
Magnetic	The force that enables a compass to work
Air resistance/ Drag	The force when a material travels through a fluid
Friction	The force when two materials rub together
Upthrust	The upwards force felt by an object in a fluid
Normal contact force	The force that acts at the point of contact between two objects
Tension	The force that is transmitted through a string, rope, cable or wire when it is pulled tight by forces acting from opposite ends.
Elastic	Force exerted by a compressed or stretched spring upon any object that is attached to it

## Balanced Forces

When we talk about the total force acting on object we call this the **resultant force**. When the forces acting in opposite directions are the same size we say the forces are **balanced**. This means one of two things:

1. The object is stationary (not moving)
2. The object is moving at a constant speed

This is known as Newton's first law.



For example, the resultant force acting on this object is  $5\text{N} - 5\text{N} = 0\text{N}$

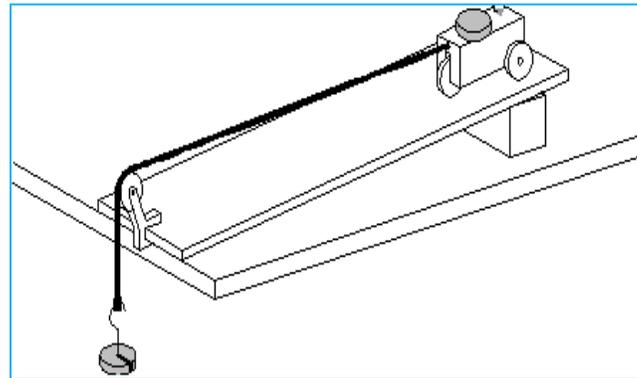
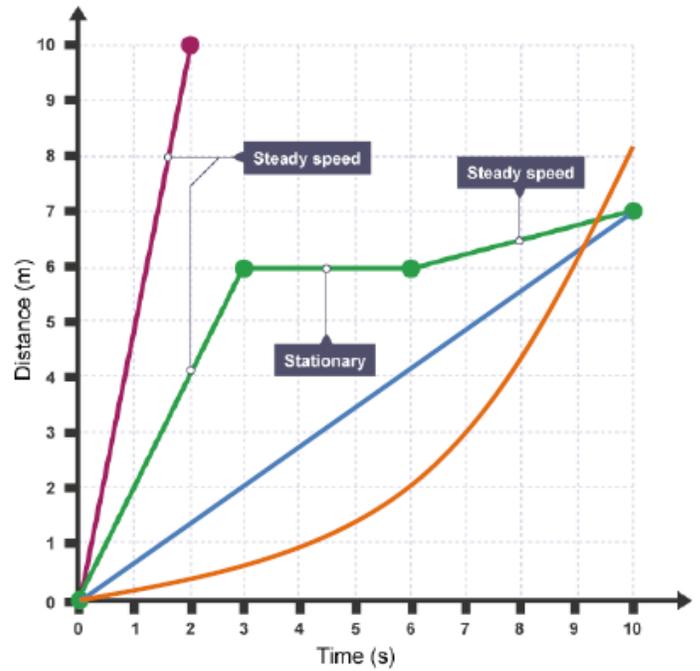
$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$\text{Weight} = \text{Mass} \times \text{GFS}$$

$$F = m \times a$$

**Interpreting Distance-time graphs**

- A straight diagonal line of a distance-time graph shows that the object is travelling at a steady/constant speed.
- A straight horizontal line on a distance-time graph shows that the object is not moving (stationary)
- If a curved line were to appear on a distance-time graph (orange line) this shows the object is accelerating.



**F=ma practical**  
 Independent variable: Mass of trolley  
 Dependant variable: Acceleration of trolley  
 Control variable: Height of ramp, surface of ramp, force on pulley, trolley.  
 Results: As the mass of the car increases the acceleration of the trolley decreases.

20 mph (32 km/h)	6 m	6 m	= 12 metres (40 feet) or three car lengths
30 mph (48 km/h)	9 m	14 m	= 23 metres (75 feet) or six car lengths
40 mph (64 km/h)	12 m	24 m	= 36 metres (118 feet) or nine car lengths
50 mph (80 km/h)	15 m	38 m	= 53 metres (175 feet) or thirteen car lengths
60 mph (96 km/h)	18 m	55 m	= 73 metres (240 feet) or eighteen car lengths
70 mph (112 km/h)	21 m	75 m	= 96 metres (315 feet) or twenty-four car lengths

**Thinking distance**

Distance travelled from seeing the hazard to the moment you react to it

**Braking distance**

Distance travelled from when the brakes are applied to when the car comes to a stop.

**Factors that increase stopping distance:**

- Alcohol/Drugs
- Mobile phones
- Distractions
- High mass car
- High starting speed
- Worn brakes and tyres
- Icy/wet roads

Mass
The amount of <b>matter</b> in an object
<b>Never changes</b>
Measured in <b>kg</b>

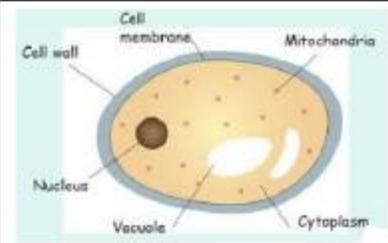
Weight
The <b>force</b> acting on an object, due to gravity
Changes depending on the <b>strength of gravity</b>
Measured in <b>N</b>

Newton's 1<sup>st</sup> Law: Motion will not change unless there is a balanced force acting on an object.  
 Newton's 2<sup>nd</sup> Law: The bigger the size of the resultant force on an object, the more the object will accelerate.  
 Newton's 3<sup>rd</sup> Law: If object A pushes on object B, then object B pushes on A with the same force but in the opposite direction.

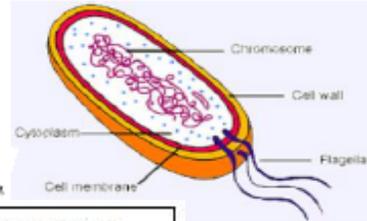
# Year 8 Knowledge Organiser : Health and Disease

**Pathogens** are microorganisms that cause infectious disease. Pathogens may be viruses, bacteria, protists or fungi. They can be spread by direct contact, by water or by air. Bacteria and viruses may reproduce rapidly inside the body.

Fungi can also cause disease, by growing on living tissue (for example, athlete's foot is caused by a fungus).

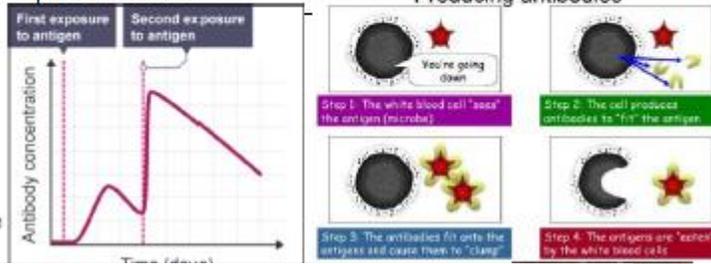
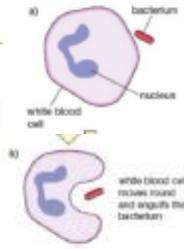


Bacteria reproduce rapidly and can release poisonous chemicals, called toxins, that damage our cells. Examples of diseases caused by pathogenic bacteria include cholera, tuberculosis (TB) and food poisoning.



## The specific defence system:

White blood cells help to defend against pathogens by: phagocytosis, antibody production & antitoxin production.

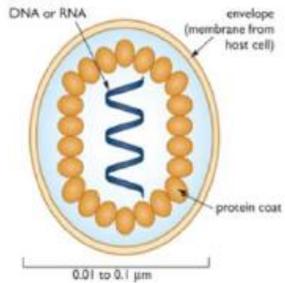


**Antibiotics**, such as penicillin, are medicines that help to cure bacterial disease by killing infective bacteria inside the body. It is important that specific bacteria should be treated by specific antibiotics. The emergence of strains resistant to antibiotics is of great concern. Antibiotics cannot kill viral pathogens.

**Painkillers** and other medicines are used to treat the symptoms of disease but do not kill pathogens.



Viruses need a host to survive. They cause disease symptoms by reproducing inside cells, and bursting the cell from the inside. This releases them, so they can be passed onto other host cells or other people (e.g. by coughing or sneezing out mucus that contains the viruses).



The non-specific defence systems of the human body against pathogens include the skin, nose, trachea and bronchi & stomach.

## First Lines of Defence



FACTS

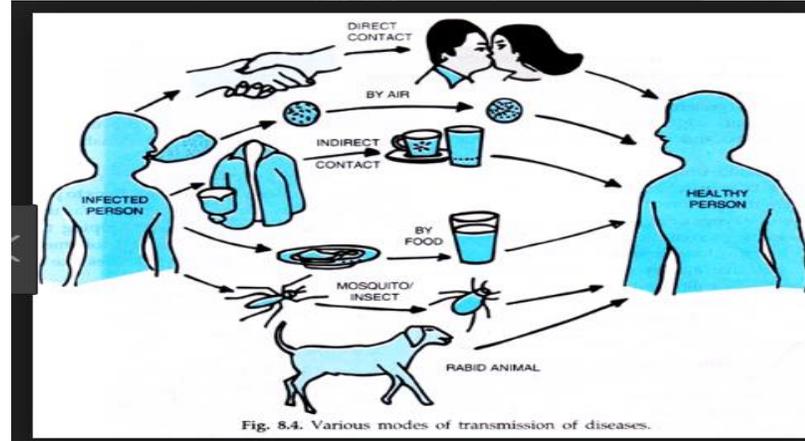
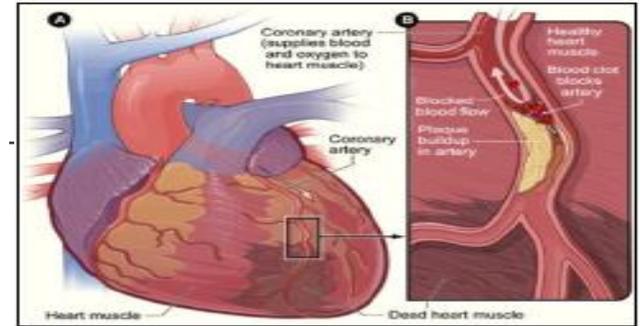
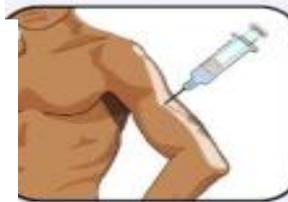


Fig. 8.4. Various modes of transmission of diseases.

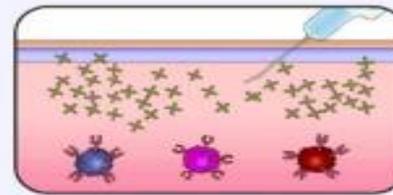
In **coronary heart disease** layers of fatty material build up inside the coronary arteries, narrowing them. This reduces the flow of blood through the coronary arteries, resulting in a lack of oxygen for the heart muscle.



**Health** is the state of physical and mental well-being. Diseases, both communicable and non-communicable, are major causes of ill health. Other factors including diet, stress and life situations may have a profound effect on both physical and mental health.



Weakened or harmless version of pathogen is introduced into your body



2. White cells respond to presence of pathogens

**Vaccination** involves introducing small quantities of dead or inactive forms of a pathogen into the body to stimulate the white blood cells to produce antibodies. If the same pathogen re-enters the body the white blood cells respond quickly to produce the correct antibodies, preventing infection. The spread of pathogens can be reduced by immunising a large proportion of the population