



LYMM  
HIGH SCHOOL

#3



NAME:

# Year 7 Knowledge Organisers



## Summer Term (Half term 5 and 6)





LYMM  
HIGH SCHOOL

# A Knowledge-Rich Curriculum at Lymm High School

## *Why are we using Knowledge Organisers?*

Research around memory suggests that “knowledge is sticky”: the more factual knowledge you know, the easier it is to learn more in future! But there is a catch: If knowledge is studied once, and not revisited or revised, it is not stored in long-term memory.

To strengthen your memory, and ensure information is stored permanently in your long-term memory, it must be revisited frequently. This means that after one lesson, or a single test, the knowledge is not fully embedded or learned unless it is studied again.

This is why your knowledge organiser is an important part of revising the essential information you learn in class!

## *Use of Knowledge Organisers for revision and in class*

As part of their home learning, students should be revising what they have learned recently, but also content they were taught previously. Therefore, as part of our strategy to ensure that knowledge is embedded over time, we have developed knowledge organisers, which contain the ‘bedrock knowledge’ necessary in each subject area. A mastery of this knowledge will ensure that students can progress comfortably to new units of learning, and can be successful in their subjects.

This information will provide the basis of our assessments and exams, and so getting into good revision habits with these resources will ensure students feel as prepared as possible.

Teachers may set specific areas of each knowledge organiser as part of homework tasks on ‘Satchel one’ – formerly ‘Show my Homework’ – however students should be using their knowledge organiser for independent revision regularly.

*For mastery of your subjects, remember:*

***“Don’t practise until you get it right. Practise until you can’t get it wrong!”***

As well as supporting revision at home, this knowledge organiser should be kept in students’ bags, and brought to school each day so that it can also be used and referred to in lessons.

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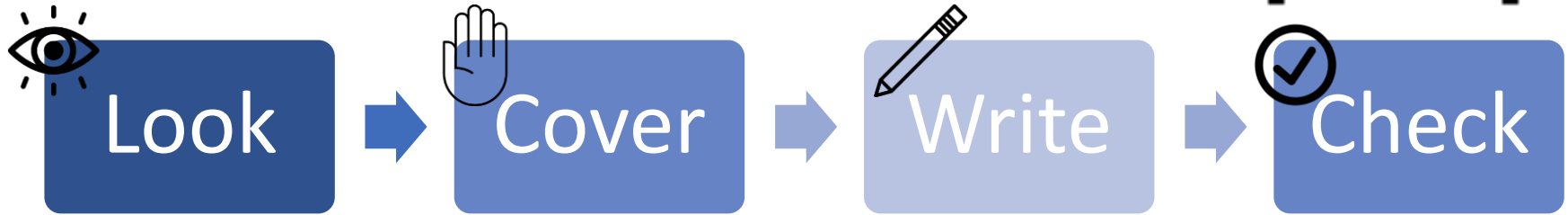
*(Subjects are arranged alphabetically)*

3	How to use your Knowledge organiser
4	Tier 2 Vocabulary
5	Art
6	Design Tech
19	English
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16	French
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# How to use your knowledge organiser:

Recommended strategies (*don't just read or highlight – get active!*):



- Create **mind maps**
- Create **flash cards**
- Write out **key points on post-it notes** and place somewhere visible so you see and review them regularly
- **Write your own quiz questions** based on your knowledge organiser – leave until the next morning, next day, or next week to see how well you have retained the information
- **Get someone else to test you**
- Use **key vocabulary** from your KO in sentences
- Use the formulae, vocabulary lists, facts, processes etc on your KO to **help you complete homework tasks**
- **Draw diagrams and flow charts** of key information
- **Summarise each section** into your own words – what are the MOST important facts or details in each box?
- **“Just a minute”** – time yourself for 60 seconds. **Can you talk about this topic or explain it to someone else without stopping for a whole minute?**
- **Draw images/symbols** to represent the different concepts and vocabulary
- **Teach someone else** about this topic. Research suggests we retain even more information when we teach a topic than when we learn it or revise it.

# Tier 2 Vocabulary – General academic vocabulary for success across all subjects



*“The limits of my language are the limits of my world” - Ludwig Wittgenstein*



List 1		List 2		List 3	
<b>approach (v)</b>	move towards/get closer	<b>factors (n)</b>	Influences/things involved in something	<b>precise (adj)</b>	exact
<b>assessment (n)</b>	test	<b>function (n)</b>	the point of something/what it does	<b>required (v, adj)</b>	needed
<b>authority (n)</b>	the person in charge/expert/power	<b>identify (v)</b>	pick out	<b>response (n)</b>	reply
<b>available (adj)</b>	free/not taken	<b>indicate (v)</b>	show	<b>sector (n)</b>	area
<b>consistent (adj)</b>	same every time	<b>issues (n)</b>	problems	<b>significant (adj)</b>	important
<b>contract (n)</b>	formal, signed agreement	<b>legislation (n)</b>	laws	<b>structure (n)</b>	how something is put together
<b>definition (n)</b>	what something means	<b>labour (n)</b>	work	<b>subsequent (adj)</b>	coming after
<b>derived (from) (v)</b>	coming from	<b>major (adj)</b>	important	<b>theory (n)</b>	An idea or belief (usually supported by evidence)
<b>denote (v)</b>	stand for	<b>method (n)</b>	way of doing something	<b>variable (n)</b>	A factor that might influence or change
<b>distribution (n)</b>	the spread of something	<b>period (n)</b>	chunk of time	<b>worthwhile (adj)</b>	worth doing
<b>economic (adj)</b>	to do with wealth and money	<b>procedure (n)</b>	Something which is done (e.g. an operation)	<b>yearn (v)</b>	To wish (usually for something you've lost)
<b>establish (v)</b>	Confirm or create something	<b>perspective (n)</b>	viewpoint	<b>youthful (adj)</b>	young



**Organic Forms**

Definition: Organic forms are associated with things from the natural world, like plants, fruit and animals.



Dawn Eaton

Born:  
Nationality:  
Current location:  
  
Inspiration:

Quote: 'I like to zoom in on the exquisite beauty growing out of the mud. I discover extravagant, intricately designed, lavishly coloured leaves and petals sprouting from the ground. I am captivated by the lighting, the colour combinations, the naturally flowing curves and the graphic patterns found in flowers and their surroundings.'

**What do I include on an artist research page?**

- Title (artist name)
- Images and drawings of the artists work.
- Facts/information and annotation (include your own opinion)
- Consider creative presentation. Try to make the page reflect the artists style.

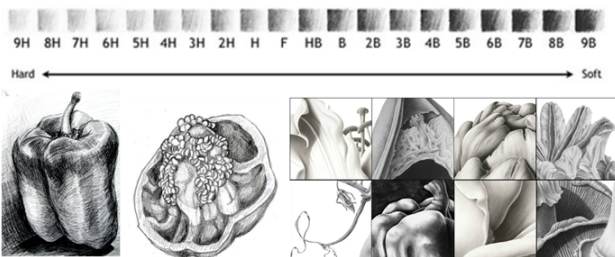
<b>Tone</b>	A tone is produced either by the mixture of a colour with grey, or by both tinting and shading.
<b>Scale</b>	Refers to the size of an object (a whole) in relationship to another object.
<b>Line</b>	A mark formed by drawing.
<b>Composition</b>	The position and layout of shapes on the paper.
<b>Mark making</b>	Different lines, patterns, and textures we create in a piece of art. It applies to any art material on any surface, not only paint on canvas or pencil on paper.
<b>Blending</b>	The technique of gently intermingling two or more colours or values to create a gradual transition or to soften lines.
<b>Abstract</b>	Seeks to break away from traditional representation of physical objects.
<b>Enlarge</b>	To make something bigger in size.
<b>Cropping</b>	The removal of unwanted outer areas from a photographic or illustrated image.
<b>Viewfinder</b>	A tool to help select a composition.

**Drawing accurately**

The easiest way to ensure an image is drawn accurately is by using a square grid. Over your image draw a grid. On a separate piece of paper, re draw the grid and start to plot out your image square by square.

**Enlarging an image by hand**

You can also use a grid to enlarge an image. Your second grid should be double in size so that when you plot your drawing it increases.



**Using watercolours**

Remember to hold your brush low so you have control of your strokes



**Using oil pastels**

**Heavy pressure blending:** Generously add oil pastel in one direction. You can layer colours to achieve a blended and rich look.

**Light pressure blending:** Lightly apply the oil pastel in one direction. You can layer colours over each other to create various hues.

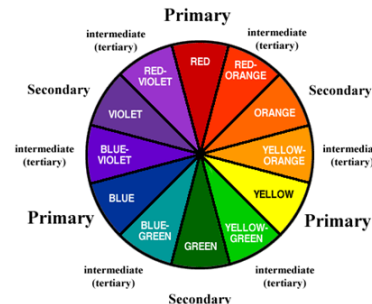
**Colour Mixing:** Apply a layer of oil pastel and follow with a contrasting colour.

**Sgraffito:** Overlap two thick layers of different colours. Use a paper clip or sharp edge to scratch and scrape away the top layer to reveal the underneath colour.

**Stippling:** Use small choppy strokes to create a stippled effect. Layer colours to create texture and depth.



<b>The colour wheel</b>	This is a diagram that shows how colours are mixed or the relationship between colours.
<b>Primary colours</b>	Red, blue and yellow. These are colours that cant be made by mixing other colours together.
<b>Secondary colours</b>	Green, orange and purple. Mix two primary colours to create a secondary colour
<b>Tertiary colours</b>	These are colours create by mixing a primary and a secondary colour together.
<b>Complimentary colours</b>	These are colours that are opposite on the colour wheel.
<b>Harmonious colours</b>	These are colours from the same section of the colour wheel. These work well when blending.
<b>Cool colours</b>	Fall on one half of the colour wheel. Calm or soothing in nature. They are not overpowering and tend to recede in space. For this reason, they typically make a space seem larger.
<b>Warm colours</b>	Fall on the opposite side to the cool colours on the colour wheel. They are vivid or bold in nature. They tend to advance in space and can be overwhelming.



**Macro Photography**

Macro means you're taking super close-ups of objects at 1:1.

Scan the QR code to learn more about Macro photography



## Year 7 Material Focus: Timber & Timber Products

### Types of wood.....

#### Hardwood

You can have evergreen hardwood trees which do not lose their leaves and Deciduous trees which lose their leaves in winter

Tend to have a tighter grain  
They can be very Expensive.  
Most evergreens are found in **tropical or sub-tropical** countries such as South America



These are usually quite hard. They are broad leaf trees and the seed are enclosed in the fruit that the tree produces

They generally grow in **temperate** climates including the British Isles

They are slower growing trees it can take 100 years to grow fully

#### Softwood

They mainly grow in a cooler climate like Canada

These cone bearing trees are called conifers

They have a looser grain structure

They are often used as building material.



These are usually softer and easy to work

The trees grow tall and straight which makes it easier for the manufacturer to cut long straight planks of wood

Evergreen trees which means they do not lose their leaves.

These grow quite faster and so are cheaper

**Manufactured wood** - Manufactured, or man-made, wood is board produced using industrial production techniques. It consists of gluing together wood layers or wood fibres. Manufactured boards are usually made in very large sheets. Designers choose manufactured boards when they require consistency in strength, workability and texture. Their plain appearance is often disguised by more decorative material.

#### Manufactured boards (man made woods)

Type of wood	Description	Usage
MDF medium density fibre board	Smooth even surface. Easily machined and painted or stained. Also available in water and fire-resistant forms	Used mainly for furniture and interior panelling due to its machining qualities. Often veneered or painted
Plywood	A very strong board which is constructed of layers of veneer or plies which are glued at 90degrees to each other. Interior and exterior grades available	Structural panelling in building construction. Furniture making. Some grades used for boat building and exterior work
Hardboard	A very inexpensive particle board which sometimes has a laminated plastic surface	Furniture backs, covering curved structures. Door panels
Chipboard	Made from chips of wood glued together. Usually veneered or covered in plastic laminate	Kitchen and bedroom furniture when veneered or plastic laminated. Shelving and general DIY work

**Scan the QR code to learn how plywood is manufactured.....**



#### Hardwoods

Type of wood	Description	Usage
Oak <small>American White Oak</small>	A very strong wood Light brown in colour. Open grained Difficult to work with	High quality furniture Beams used in buildings Veneers
Mahogany <small>Mahogany</small>	An easy to work with materials, Reddish brown in colour	Indoor furniture Shop fittings Bars Veneers
Beech <small>Beech</small>	A straight-grained wood with a fine texture. Light in colour Very hard but easy to work with Can be steam bent	Furniture Toys Tool handles
Teak <small>Teak</small>	A very durable oily wood Golden brown in colour. Highly resistant to moisture	Outdoor furniture Boat building Laboratory furniture and equipment

#### Softwoods

Type of wood	Description	Usage
Spruce <small>Spruce</small>	Creamy-white colour Has small hard knots Not very durable	General indoor work Used mainly for kitchens and bedrooms
Scots Pine <small>Scots Pine</small>	A straight-grained wood, but knotty. Light cream/pale brown in colour Fairly strong but easy to work with. Inexpensive	Readily available for DIY Constructional work and simple joinery work
Parana Pine <small>Parana Pine</small>	Hard and straight grained. Almost knot free. Fairly strong and durable. Expensive Pale yellow in colour with red/ brown streaks	Better quality pine furniture and fittings such as doors and staircases
Yellow cedar <small>Yellow Cedar</small>	A pale yellow colour with fine even texture Light in weight but stiff and stable	Furniture, amateur aeroplane building, boat building, veneers

**Scan the QR code to learn how timber is processed.....**

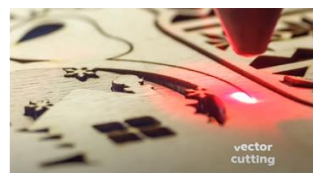


## Manufacturing Processes

### CAD/CAM (Computer Aided Design/Computer Aided Manufacture)



Laser cutter



vector cutting



**Scan the QR code to learn how laser cutters work.....**

A drawing is sent from a CAD program such as 2D Design, to the laser cutter.

A laser cutter can cut through acrylic, laser plywood and some metals.

### Tools and Equipment.....

#### Wasting Tools....

##### Cutting....



Coping Saw



Tenon Saw



Hack Saw

#### Drilling....



Pillar Drill



File

#### Finishing....



Glass Paper (Wood)



Wet & Dry Paper (Plastic & Metal)



Wood Oil

#### Drilling....

##### Twist Drill



##### Counter Sink Drill



#### Holding....



Metal Vice



Machine Vice



#### Joining....



Nut and bolt

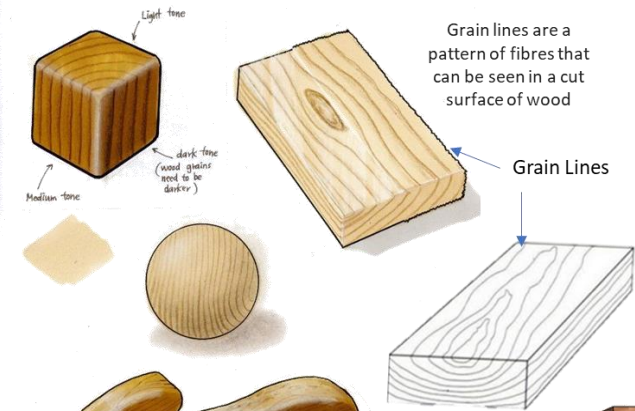


Screw



### Shading an object to look like wood....

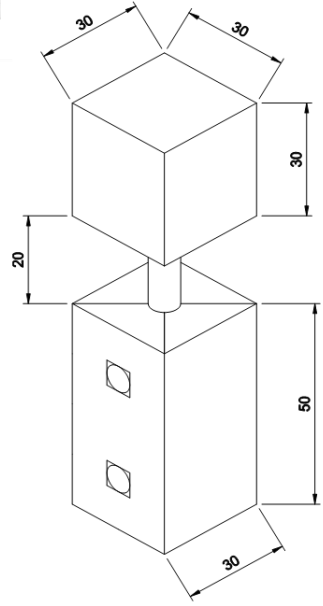
Shade the back ground colour of the wood first and then add the grain lines. Look at your pine wood to copy the detail of the grain lines.



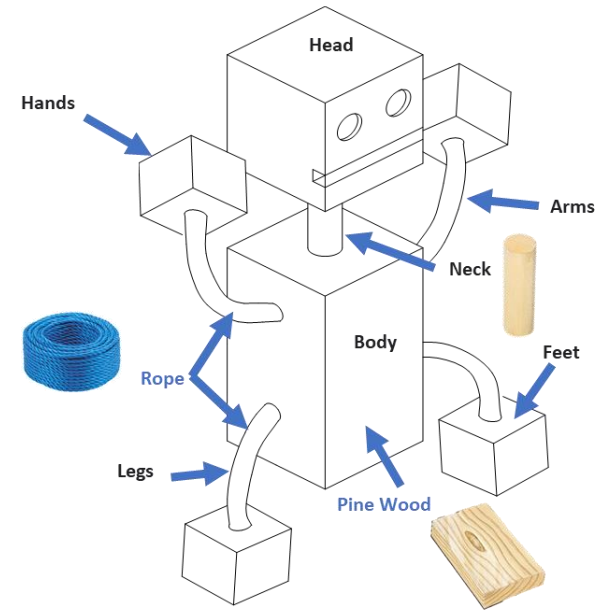
### YEAR 7 BLOCK-BOT PROJECT



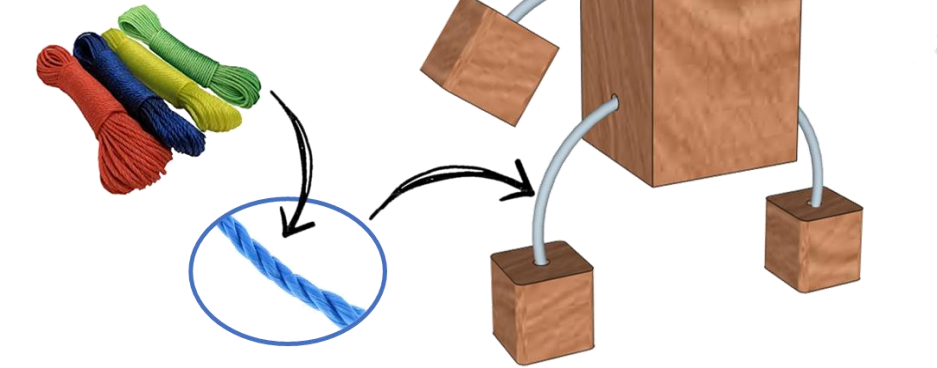
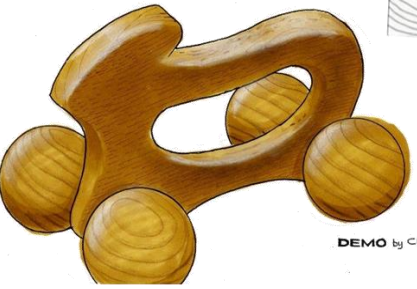
Scan the QR code to learn how to shade a wooden texture.....



Block Bot with dimensions All dimensions in mm

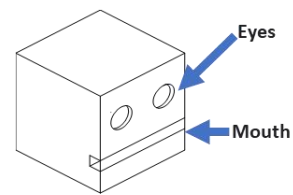


Final Block Bot Isometric Drawing



You will use coloured rope to join the hands and feet on to the body. Try to show what the rope will look like and shade it the colour that you would like it to be. The rope can be different colours for the arm piece and leg piece.

1



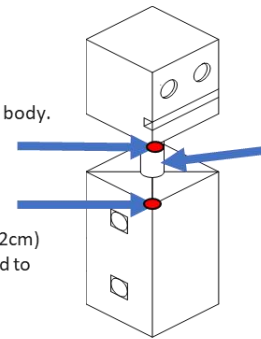
Draw the head. Then add the detail of the eyes and the mouth.

2

Draw the body.

Leave 20mm (2cm) from the head to the body.

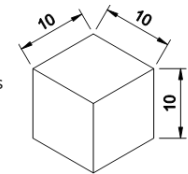
3



Then draw the neck. The neck is made from a piece of wooden dowel.

4

Then draw the hands and feet.



They will be connected with a piece of rope to create the arms and legs.



## Analysing Sentence Starters

I think that.....  
 I liked/disliked this design as.....  
 It would appeal to a target audience of.....  
 The strengths of this design are..... because.....  
 The weaknesses of this work are..... because.....  
 Aesthetically this design.....  
 The use of the colours..... means/allows.....

## Design Explanation Sentence Starters

I have chosen the colours..... because  
 This product is designed to.....  
 My product is made from.....  
 What I like about my design is.....  
 My design follows the theme of.....  
 I could improve my design further by.....

## Annotation

### Negatives:

What are the negatives about your design?

### Positives:

What parts of your design work well?

### Improvements:

What could you change and improve about your design?

### Environment:

What impact would your design have on the environment?

### Manufacture:

How would your design be manufactured?

### Target Market:

Who would this design appeal to and why?

### Materials

What materials would you use to create this?

## Key Words

Design  
 Technology  
 Analysis  
 Investigate  
 Research  
 Generate  
 Develop  
 Model  
 Evaluate  
 Reflect  
 Manufacture  
 Sketch  
 Prototype  
 Aesthetics  
 Safety  
 Tenon saw  
 Coping saw  
 Pillar drill  
 Bench hook  
 Pine  
 Plywood

## Describing Words

Accurate	Cheap	Curved	Fragile	Overlapping	Uneven
Attractive	Complex	Defective	Imaginative	Repeated	Smooth
Bland	Colourful	Delicate	Innovative	Rough	Subtle
Bright	Contrasting	Elegant	Interesting	Shiny	Suitable
Bulky	Creative	Geometric	Organic	Simple	Symmetrical

## Function

Does the product do the job it was intended to do?  
 How does it work?  
 How easy is it to use?  
 What effects will using it have, including those beyond intended use and user?

## Safety

How has the designer considered safety issues in the products design?  
 Think about the ways it is being used and how different parts have been joined together.  
 Are there any risk assessment issues in relation to the use of the product?

## Customer

Who is the product designed for?  
 How and where would they use it?  
 What effect will it have on their lives and relationships?  
 Will it add value?  
 How is the product promoted to attract customers?  
 Has the designer considered how people will interact with the product?  
 Does the product target a particular age group or sector of people?  
 What assumptions have been made about the potential buyers/users?

## Aesthetics

Does the product look good?  
 Does it make good use of colour and texture?  
 What has inspired its appearance? (E.g. is it organic? Is it industrial?)

## Material

What materials are used to make the product and why?  
 Would another type of material work better?  
 What impact could the designers choice of material have on the environment?  
 Where do the materials and other resources needed for production come from?  
 Are they likely to run out?

## Size

Are the product's proportions appropriate for its use?  
 If you increased or decreased the products size, would it look or function better?

## Environment

What is the product's impact on the environment?  
 What happens to the product after use?  
 How long will it last?  
 What factors limit/lengthen its life span?  
 Can it be repaired? Can parts be replaced?  
 How easily can it be recycled?  
 Who would pay for the cost of recycling?

## Cost

What is the estimated cost of the product?  
 What is the retail price?  
 What is the relationship between the two?  
 Is the product affordable?  
 Does it offer value for money?  
 What is the product's cost in relation to the income of potential buyers/users?



Scan the QR code to learn how to carry out a Task Analysis using ACCESSFM

Questions to consider when analysing a product



# Design and Technology

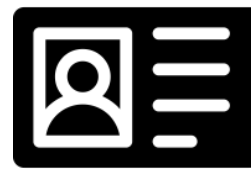
# KS3 Design Technology Sentence Starters – Annotation Support Product Analysis.....










# Year 7 Half-Term 5

## Identity Poetry



Key Context	
	<p><b>Postcolonialism</b> The study of the cultural legacy of colonialism, focusing on the human consequences of the control and exploitation of colonised people and their lands.</p>
	<p><b>Emigration</b> The act of leaving one's own country to settle permanently in another; moving abroad.</p>
	<p><b>Racial Segregation</b> Racial segregation is the separation of people into racial or other ethnic groups in daily life. It may apply to activities such as eating in a restaurant, drinking from a water fountain, using a public toilet, attending school etc. On December 1, 1955, in <u>Montgomery, Alabama</u>, Parks rejected bus driver <u>James F. Blake's</u> order to vacate a row of four seats in the "<u>colored</u>" section in favor of a white passenger, once the "white" section was filled.</p>
	<p><b>Apartheid</b> (in South Africa) a policy or system of segregation or discrimination on grounds of race.</p>
	<p><b>Windrush Generation</b> The Windrush generation refers to the immigrants who were invited to the UK between 1948 and 1971 from Caribbean countries such as Jamaica, Trinidad and Tobago and Barbados. The name derives from the ship MV Empire Windrush, which on June 22, 1948, docked in Tilbury, Essex, bringing nearly 500 Jamaicans to the UK.</p>

Word class	Definition	Example
Verb	A verb is a word or set of words that shows action (runs, is going, has been painting); feeling (loves, envies); or state of being (am, are, is, have been, was, seem)..	The child, <u>tore</u> off the wrapping paper and <u>beamed</u> at her gift. She <u>was</u> elated.
Adverb	An adverb labels how, when or where something happens (and they often end in '-ly').	The dog growled <u>menacingly</u> whenever the bird flew <u>gracefully</u> towards the window.
Noun	Nouns are names, places and things; they also signify imagined things like 'a ghost'; and ideas or concepts, such as 'love', 'guilt' or 'fate'.	There was a flash of <u>hope</u> in his <u>eyes</u> as he looked through the <u>window</u> .
Pronoun	Words used instead of a noun i.e. 'he', 'she', 'they', 'it'.	<u>She</u> was surprised <u>it</u> was happening.
Adjective	An adjective is a describing word or phrase that adds qualities to a noun. It normally comes before a noun, or after verbs like 'am', 'is', 'was', 'appears' or 'seems'.	The <u>ebullient</u> crowd stood together in solidarity.
Preposition	Prepositions are short words and phrases that give information about place, time and manner	The money was hidden <u>under</u> the bed, <u>beside</u> the old duvet, <u>on top</u> of the shoe box.
Intensifier	A word, especially an adverb or adjective, that has little meaning itself but is used to add emphasis to another adjective, verb, or adverb.	He was <u>too</u> dispirited to continue. The contract was <u>very</u> confusing. The card was <u>extremely</u> sentimental.
Minimiser	A word that is used to make another adjective, verb or adverb sound lesser.	She was <u>slightly</u> traumatised. They were <u>just</u> considering it. We were <u>a little</u> rancorous in their response.



# Half Term 6 Shakespeare's Villains – Knowledge Organiser



Villain		
<b>Tamora</b> <i>'Titus Andronicus'</i>	Tamora. Queen of the Goths, mother of Chiron and Demetrius. After Titus ritually sacrifices her eldest son, Tamora makes it her mission in life to make Titus and his family suffer. She accomplishes this through her good looks, sensuality, and ability to manipulate those around her.	
<b>Tybalt</b> <i>'Romeo and Juliet'</i>	He is strong-willed, argumentative, passionate and loyal. Tybalt seeks his revenge by fighting with Romeo, but when Romeo refuses to fight he kills Romeo's best friend, Mercutio, instead. This causes Romeo to avenge his best friend's death. Tybalt is argumentative when he speaks to any of the Montague family.	
<b>Shylock</b> <i>'The Merchant of Venice'</i>	Shylock is a Jewish moneylender in Venice. He is unpopular with other characters who accuse him of practicing usury. This means lending money with outrageously high rates of interest. The merchants, such as Antonio, curse and spit at Shylock because they believe this way of making money is immoral.	
<b>Iago</b> <i>'Othello'</i>	Iago is a cunning schemer and manipulator, as he is often referred to as "honest Iago", displaying his skill at deceiving other characters so that not only do they not suspect him, but they count on him as the person most likely to be truthful.	
<b>Goneril, Regan and Cordelia</b> <i>'King Lear'</i>	King Lear's three daughters Goneril, Regan and Cordelia are the personifications of evil. They are extremely ambitious and in the play plot and scheme against their father the King. Due to this evil, by the end of the play all three sisters turn against one another, destroying each other.	
<b>The Queen</b> <i>'Cymbeline'</i>	The Queen is Cymbeline's second wife, a beautiful widow, and a rather classic evil stepmother. She marries Cymbeline for the sake of having him adopt her son Cloten as heir, after which she intends to poison him.	

Key Themes	
<b>Jealousy</b>	
Many of Shakespeare's villains experience jealousy which lead them to acts of revenge. Characters could be jealous of relationships, power or positions of others in society.	
<b>Guilt</b>	
Shakespeare explores the theme of guilt through his villainous characters. Some villains may show guilt regarding their actions. Other villains may show no guilt and try to suppress or hide this feeling resulting in anger.	
<b>Representations of gender</b>	
Gender is explored by Shakespeare in many ways. When looking at villains in particular the female ones, Shakespeare presents them as strong and ruthless however ultimately, they are punished.	
<b>Love and loss</b>	
Some of the villains Shakespeare present have suffered either a broken heart, loss of a loved one or isolation from society. The intense feelings of love and loss may cause some villainous characters to become vengeful.	
<b>Good vs. Evil</b>	
Ideas of 'Good vs. Evil' are presented by Shakespeare as his villains may be both good and evil or fully evil. Either way the contrast is presented by Shakespeare to make wider comments on society and people.	



# Half Term 6 Shakespeare's Villains – Knowledge Organiser



Key Terminology	
Personification	Personification is giving an inanimate object human feelings or actions.
Metaphor	A metaphor is a word, or a phrase used to describe something as if it were something else.
Simile	A simile compares two things using the words 'like' or 'as'.
Soliloquy	A soliloquy is a passage in a drama in which a character directly addresses an audience or speaks his thoughts aloud while alone or while the other actors keep silent.
Imagery	Imagery is language that creates pictures in our minds and appeals to the senses.
Alliteration	Alliteration is when words start with the same sound.
Exclamatory sentence	The exclamation sentences are those sentences which are used to show strong feelings, these sentences normally end with an exclamation mark.

## CONTEXT – Elizabethan England

### Queen Elizabeth 1<sup>st</sup> (1533-1603)

- Known as the 'Virgin Queen' Elizabeth spent her life unmarried as she believed her duty and life should be devoted to her kingdom. Elizabeth was a strong, intelligent and loyal leader. During her reign however, much of England did expect her to marry as in this time marriage was expected of all women. Many of Shakespeare's plays feature strong female characters which could have been influenced by the Queen herself.



### Gender roles in Elizabethan England

- Elizabethan society was patriarchal, meaning that men were considered to be the leaders and women their inferiors. Women were regarded as "the weaker sex", not just in terms of physical strength, but emotionally too. It was believed that women always needed someone to look after them. Women were owned by their fathers or brothers. Many of the villains in Shakespeare's work are women who are either too strong and powerful or are in some way a victim of a man's wrongdoings.



## CONTEXT – Jacobean England

### King James 1<sup>st</sup> (1566-1625)

- After the death of Elizabeth King James 1st took the throne. During his reign, many people did not support his claim to the throne due to his religion and him originally being the King of Scotland. King James was targeted by Catholics who attempted to end his life by blowing up the Houses of Parliament (The Gunpowder Plot). He was Shakespeare 'patron' meaning he paid Shakespeare to write some of his plays. James may have influenced some of Shakespeare's creative choices.

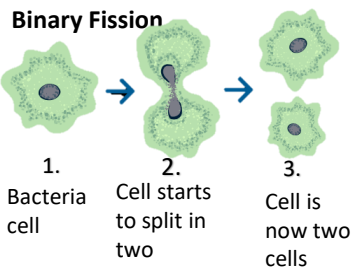


### King James and the Supernatural

- King James 1<sup>st</sup> and Jacobean society were fascinated by the supernatural and many in the society believed in witches and witchcraft. This resulted in King James writing his own book on the supernatural named 'Demonology'. Shakespeare used aspects of the supernatural in his plays and this is also shown through the evil and wicked intentions of his villains.



## 1. Food Hygiene



### Before Cooking:

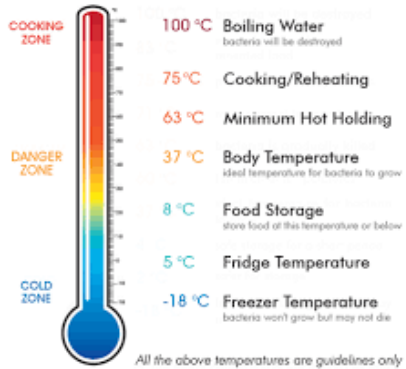
1. Put your apron on
2. Roll your sleeves up
3. If you have long hair tie it back with a bobble
4. Wash your hands with warm and soapy water
5. Dry your hands – moisture harbours bacteria

### When Cooking:

1. Keep your cooking station neat and tidy

### The Tidy Tick List:

- ✓ Clean and dry dishes
- ✓ No streaks and residue left on the glass bowls
- ✓ Clean dry work surfaces
- ✓ Clean sparkling hobs
- ✓ Clean cupboard doors and drawers
- ✓ Clean and dry sinks with no suds or residue food



## 2. Kitchen Safety

Kitchens can be dangerous places. To keep safe:

- Be aware of sharp equipment such as knives, peelers and graters- store them carefully and use the bridge hold and claw grip when chopping.
- Take care with hot equipment and food/ liquids- turn pan handles in, always use oven gloves and avoid splashes when stirring or draining foods.
- Wipe up spills quickly so you do not slip over
- Be aware of others in the kitchen
- Report any accident

### Claw Grip

Used to hold long and narrow ingredients. Knuckles are used to guide the blade while pressure is pushed downwards to hold the ingredient in place.



### Bridge Grip

Used to hold spherical and rounded ingredients. The knife can be placed safely between the arch of the hand.



Scan to view a quick clip about cleaning work surfaces.



Scan to view a quick clip on how to use an electronic scale.



Scan to view a quick clip about "Use By" and "Best Before".

## CLEANING The 4C's

- Keep yourself and your hands clean
- Wash your hands before handling food, every 30 minutes and always after going to the toilet
- Keep work surfaces, equipment & utensils clean and disinfected
- Don't forget to clean dishcloths & cleaning equipment



### Cross-contamination

Transferring bacteria from raw to ready to eat foods. Often through not washing hands or equipment after handling raw foods.

## COOKING

- Cook thoroughly
- Cook raw foods to 75°C at the core, check it with a probe thermometer
- Reheat foods to 75°C
- Never reheat food more than once



### Hygiene

Conditions and practices that prevent disease and illness through the act of cleanliness.

## CHILLING

- Cool cooked food products as quickly as possible to 5°C
- Core temperature of cooked food must reach <10°C within 150 mins of end of cooking
- Food must be protected from contamination while cooling



### Use By

The term used on products that must be eaten before or by the date stated. This term is used on high risk foods,

### Best Before

The term used on products that degrade slowly and can be eaten past the date stated but may not taste or look as good.

where consumption past the stated date would cause illness.

## CROSS-CONTAMINATION

- Prevent cross-contamination
- Always separate raw-food from ready-to-eat food
- Use separate equipment, chopping boards and utensils
- Wash hands thoroughly after handling raw food before ready-to-eat food



## 3. Weighing and Measuring

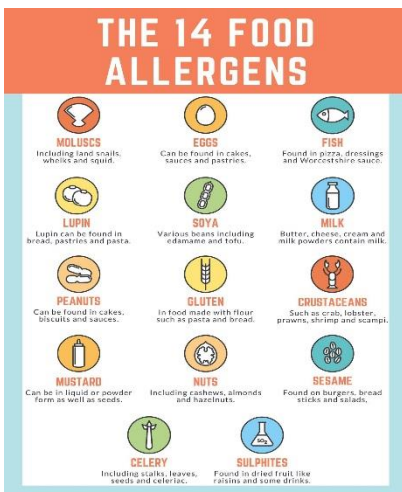
Weighing and Measuring For good results in most recipes, accurate weighing and measuring is essential. When you are baking with flour, sugar and liquids, you must measure accurately or your cooking will be spoiled. If you weigh out too much sugar or too little raising agent, your cakes would not rise or you could spoil the taste and/or texture. Food can be weighed in Grams (g) and there are 1000g in a Kilogram (kg). Liquid is measured in Millilitres (ml) or litres





## 4. Allergies Vs Intolerance

A true food allergy causes an immune system reaction that affects numerous organs in the body. It can cause a range of symptoms. In some cases, an allergic food reaction can be severe or life-threatening. In contrast, food intolerance symptoms are generally less serious and often limited to digestive problems.



### Fruit and Vegetables

**Nutrients-** Vitamins and minerals

**Examples-** Strawberries, apples, carrots and cauliflower

**Potatoes, bread, rice, pasta and other starchy carbohydrates** **Nutrients-** Carbohydrates

**Examples-** Cereals, wholemeal pasta, brown rice

**Dairy and dairy alternatives** **Nutrients-** Calcium, Protein **Examples-** Milk, cheese, yoghurt, almond milk

**Beans, pulses, fish, eggs, meat and other proteins** **Nutrients-** Protein **Examples-** Oily fish, chick peas, soya, eggs

**Oils and spreads**

**Nutrients-** Fats **Examples-** Olive oil, sunflower spread

## 5. Healthy Eating

What are the 8 government guidelines for healthy eating?

- 8 TIPS FOR EATING WELL.
- Base your meals on starchy foods.
- Eat lots of fruit and vegetables.
- Eat more fish.
- Cut down on saturated fat and sugar.
- Try to eat less salt- no more than 6g a day.
- Get active and try to be a healthy weight.
- Drink plenty of water.



Scan to view a quick clip about how carbohydrates help athletes when training.



Scan to view a quick clip about how protein helps athletes when training.



Scan to view a clip about how fats work.



Scan to view a clip about how fats help athletes.

## 6. Electrical Equipment

### Oven/Grill



**Hob** The hob is used for heating sauce pans, frying pans, griddle pans etc.

**Dials** The dials allow the user to change the settings of the hob, oven and grill.

**Grill** The grill uses the radiation method of cooking with food placed on a wire rack below. Heat can be increased or decreased using the dials.

**Oven** The oven uses the convection method of cooking. Food can be placed on different racks within the oven. The dials control the temperature.

### Using the Oven Safely

- Preheat the oven to the correct temperature. Use oven gloves to put food in and take food out.
- Set the timer to ensure food does not burn or under cook.
- Remove food using oven gloves.



### Salamander

A salamander is a type of grill. Electric or gas heating elements that look like pipes produce a very high heat which cooks the food placed below it. It is used in catering due to how quick it can cook food. Specific cooking techniques include; grilling, toasting, browning of gratin dishes, melting and caramelising.

### Shelf

Food is placed on a baking sheet on this shelf. Handles on the shelf make it safer and easier to place food under the grill.

### Hand Mixer

This equipment is used to mix dry and wet ingredients together. The mixer can be set to higher or lower speeds.



### Beaters

### Using the Electric Whisk Safely

- When inserting the beaters or removing them, make sure the mixer is not plugged into the mains.
- Only switch the mixer on and off when the beaters are submerged in the mixture.
- Keep hands and utensils and the electrical wire way from the beaters when in use.
- When cleaning the device, remove and wash the beaters in hot water. Wipe the body of the mixer with a damp cloth only.

### Microwave



### Latch

Ensures the door is securely closed so that no radio waves escape.

### Turn table

Turns the food around to ensure radiation waves are evenly distributed.

### Dials

Microwaves use radiation method of cooking. Particle's in the food are made to vibrate very fast which causes heat. Metal must never be placed in a microwave.





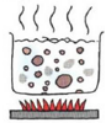
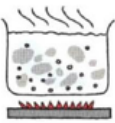

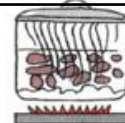



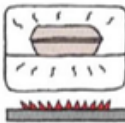
### Food Processor



A kitchen appliance that can cut, blend, grate and mince ingredients. A food processor is different to a blender because you can change the blades to complete different tasks. You can also fit more food into a food processor. Little or no water is required to ensure the food particles move around the blade.



## 7. Cooking Methods

Braising		Deep Frying		Saut�eing		Flamb�eing		Boiling		Simmering	
											
Wet	Slow	Dry	Fast	Dry	Fast	Dry	Fast	Wet	Fast	Wet	Fast
Pieces of food are first browned in a little fat, then cooked with some liquid in a closed pan.		Frying pieces of food in a deep pot or fryer with plenty of hot oil or fat.		Cooking small or thin pieces of food in very hot oil or fat. The frying pan is shaken constantly to stop the food from burning.		After frying, alcohol is added to the food in the frying pan and set on fire. This adds another flavour to the food.		Food is cooked in deep boiling liquid (water, stock, wine etc) in an open or covered saucepan.		Like boiling, but the liquid is kept just below boiling point in an uncovered pot.	
Steaming		Stewing		Pan-frying		Broiling/Grilling		Roasting		Baking	
											
Wet	Fast	Wet	Slow	Dry	Fast	Dry	Fast	Dry	Slow	Dry	Slow
Food is placed in a container and cooked in the steam from boiling water in a covered pan or steamer.		Cooking food in its own juices with a little additional liquid, in a covered pan at simmering point.		Frying food in a little oil or butter using a frying pan over a moderate heat.		Cooking food like steak or fish, over or under open heat, e.g. under the oven grill or on a barbeque or hot plate.		Cooking food like meat or poultry with some fat in a hot oven (between 200-240 degrees centigrade)		Cooking food like cakes, pies, bread etc. in a closed oven at a temperature of between 120-240 degrees centigrade.	

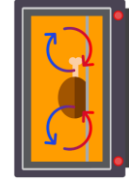
### Wet or Dry Cooking Methods

Wet or dry refers to the texture of the cooked food so baking and frying are dry cooking methods and boiling and stewing are wet methods.

### Fast or Slow Cooking Methods

Fast and slow methods refer to how long it takes. Generally less than an hour is a fast cooking method and over an hour is a slow cooking method.

### Conduction



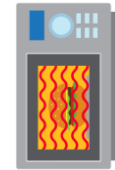
- This only happens in liquids and gases.
- The molecules of liquid or gas nearest the hot base of the pan gain heat energy, and start to rise in the pan.
- As the liquid rises to the top of the pan, it will begin to cool again, so starts to drop back to the bottom, where it will be heated up again.
- There is a convection current moving in the pan. Convection currents also happen in ovens.
- Hot air rises and cooler air falls.
- A convection oven uses a fan to move the heat around, so every part of the oven is approximately the same temperature.

### Convection



- This happens when heat is directly touching a piece of equipment, or a piece of food.
- If you put a metal pan on an electric or gas hob, the heat from the hob will heat up the base of the pan.
- There are good conductors of heat, and bad conductors of heat. Metal conducts heat very well, which is why saucepans and frying pans, along with baking trays and cake tins, are made of metal.
- Water is also a good conductor of heat, which is why boiling foods works well and cooks foods quickly. Wood, plastic, cloth and glass are poor conductors of heat.

### Radiation



- This occurs through space or air. Radiation transfers energy through space by invisible electro-magnetic waves. The waves are either infra-red or microwaves. Infra-red heat waves are absorbed by the food when they reach it, and they create heat inside the food which cooks it.
- This happens when you put food under a grill. Cooking foods in microwaves also uses radiation. The microwaves are created by a magnetron inside the oven. The microwaves are absorbed by the food, making the molecules vibrate and heat up, which then cooks the food. Microwaves pass straight through glass, china and plastic, and do not heat them up. Metal will reflect the microwaves and damage the magnetron so do not put metal object into a microwave oven.

# Year 7 French Knowledge Organiser (HT5)

## Dynamo 1 - Module 5: En ville

### Point de départ – places in a town/village

Qu'est-ce qu'il y a dans ... ?  
ta ville/ton village

il y a

un centre de loisirs

un centre commercial

un château

un marché

une mosquée

une patinoire

une piscine

des magasins

Il n'y a pas de café / magasins.

Il n'y a pas d'église.

le prix

un euro

trois euros cinquante

un adulte / un enfant

moins de 12 ans

What is there in ... ?  
your town/your village  
there is

a leisure center

a shopping center

a castle

a market

a mosque

a skating rink

a swimming pool

some shops

There is/are no café/shops.

There is no church.

the price

a euro

three euros fifty

an adult/a child

less than 12 years



### Unit 1 – where you go at the weekend

Où vas-tu le weekend?

Je vais ...

au bowling

au cinéma/parc

au stade

à la piscine

à la plage

à l'église

aux magasins

le samedi matin

après-midi / soir

Where do you go at the  
weekend?

I go ...

bowling

to the cinema/park

to the stadium

to the pool

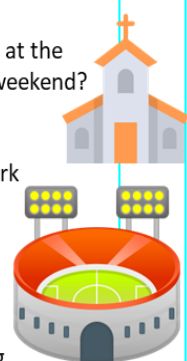
to the beach

to the church

to the shops

Saturday morning

afternoon/evening



### Unit 2 – Inviting someone to a café

Tu veux aller au café?

Tu veux venir?

aujourd'hui

ce matin

cet après-midi

ce soir / weekend

Rendez-vous à quelle heure?

Rendez-vous à ...

Merci, Bonne idée!

Oui, je veux bien.

D'accord

Pourquoi pas?

Non, merci.

Désolé(e)!

Je ne veux pas.

Tu rigoles!

Do you want to go to a café?

Do you want to come?

today

this morning

this afternoon

this evening/weekend

What time are we meeting?

Meet at ...

Thanks, good idea

Yes, I'd love to

agreed

Why not?

No, thanks.

Sorry!

I don't want to.

You're joking!



### Unit 3 – Saying what you want at the café

Vous désirez?

Pardon, madame/monsieur

Je voudrais ..

Pour moi ...

un Orangina

un diabolito menthe

une grenadine à l'eau

un café expresso

un café crème

un chocolat chaud

un thé au lait/au citron

un jus d'orange

un coca (light)

une eau minérale

un croquemonsieur

un sandwich au fromage

un sandwich au jambon

une crêpe au sucre

What do you want?

Excuse me, madam/sir

I would like ...

... for me

an orangina

lemonade and mint cordial

pomegranate squash

an espresso

a white coffee

a hot chocolate

a tea with milk/lemon

an orange juice

a (diet) coke

a mineral water

a cheese and ham toastie

a cheese sandwich

a ham sandwich

a pancake with sugar



### Unit 4 – Saying what you are going to do in Paris

Qu'est-ce que tu vas faire à Paris?

What are you going to do in Paris

Je vais...

I will

visiter la cathédrale Notre Dame

visiter la tour Eiffel

aller au musée du Louvre

aller aux Catacombes

faire une balade en bateau-mouche

prendre des photos

acheter des souvenirs

admirer la *Jaconde*

faire un pique-nique

visit Notre Dame cathedral

visit the Eiffel tower

go to the Louvre museum

go to the catacombes

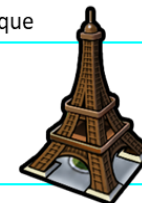
go on a river cruise

take photos

buy souvenirs

admire the *jaconde* cake

have a picnic



### Unit 5 – Planning a visit to Paris

normalement/d'habitude

le weekend

le weekend prochain

Samedi prochain

je vais ...

jouer au basket

jouer au foot

jouer au laser-tag

manger un gâteau

manger une pizza

manger une glace

aller au zoo

aller au centre de loisirs

faire un tour en Segway

faire les magasins

usually

at the weekend

next weekend

next saturday

I'm going ...

to play basketball

to play football

to play laser-tag

to eat a cake

to eat a pizza

to eat an ice-cream

to go to the zoo

to go to the leisure centre

to do a tour on a Segway

to go shopping

# Year 7 French Knowledge Organiser (HT6)

## Revision and culture

### 13 Important Verbs

aller	to go
aimer	to like
avoir	to have
boire	to drink
adorer	to love
détester	to hate
être	to be
faire	to do
habiter	to live
jouer	to play
manger	to eat
regarder	to watch
vouloir	to want

### The POWER of the INFINITIVE

You can add an infinitive to these phrases to:

- 1) give an **opinion** *or*
- 2) say something in the near **future** tense

#### Opinion phrases:

J'aime – I like	J'aime <b>jouer</b> . – I like to play.
J'adore – I love	J'adore <b>chatter</b> . – I love to chat.
Je déteste – I hate	Je déteste <b>regarder</b> la télé. – I hate to watch the TV.
Je veux – I want	Je veux <b>boire</b> un coca. – I want to drink a cola.

#### Near future:

Je vais – I am going	Je vais <b>aller</b> . – I am going to go.
	Je vais <b>manger</b> . – I am going to eat.

### Recurring vocabulary

il y a	there is
il n'a pas	there is not
c'est	it is
ce n'est pas	it is not
et	and
mais	but
parce que	because
car	because
aussi	also
très	very
assez	quite
trop	too
ma/mon/mes	my
ta/ton/tes	your
sa/son/ses	his/her

### Questions

qu'est-ce que	what
quoi	what
quel	which
quand	when
comment	how



### Module 4 Unit 4 – Learning about Bastille Day

On fait la fête !	We are having a party.
le 14 juillet	14 July
la fête nationale	national holiday
un jour de congé	a day off
un défilé (militaire)	a (military) parade
un bal	a ball
je vais / on va	I'm going / we're going
regarder un feu d'artifice	to watch the firework
faire un pique-nique	have a picnic
faire la fête	have a party



adorer	to love
j'adore	I love
t'adores	you love
il/elle adore	he/she loves
on adore	we love



avoir	to have	être	to be
j'ai	I have	je suis	I am
tu as	you have	tu es	you are
il/elle a	he/she has	il/elle est	he/she is
on a	we have	on est	we are

jouer	to play
je joue	I play
tu joues	you play
il/elle joue	he/she plays
on joue	we play



regarder	to watch
je regarde	I watch
tu regardes	you watch
il/elle regarde	he/she watches

aller	to go
je vais	I go / I'm going
tu vas	you go
on va	we go



boire	to drink
je bois	I drink
tu bois	you drink
il/elle boit	he/she drinks



faire	to make/do
je fais	I do
tu fais	you do
il/elle fait	he/she does
on fait	we do

aimer	to like
j'aime	I like
t'aimes	you like
il/elle aime	he/she likes
on aime	we like



detester	to hate
je déteste	I hate
tu détestes	you hate
il/elle déteste	he/she hates
on déteste	we hate



habiter	to live/reside
j'habite	I live
t'habites	you live
il/elle habite	he/she lives



manger	to eat
je mange	I eat
tu manges	you eat
il/elle mange	he/she eats
on mange	we eat

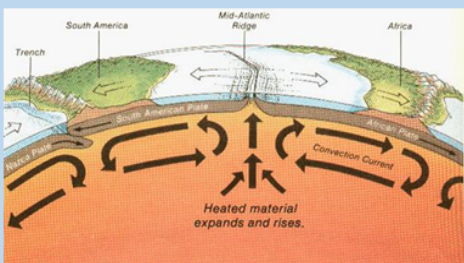


vouloir	to want
je veux	I want
tu veux	you want
il/elle veut	he/she wants
on veut	we want



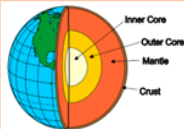
## Plate tectonic theory

Tectonic plates move due to **convection currents** in the mantle. Heat from the core causes **magma** in the mantle to rise, then it cools again as it reaches the crust, then sinks.



## Structure of the Earth

The earth has **4 layers**:  
**Inner core** – Solid  
**Outer core** – Liquid  
**Mantle** – Semi-liquid  
**Crust** – Solid



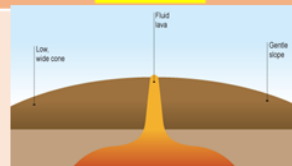
The crust is split into major sections called **tectonic plates**. There are 2 types of Crust:

Oceanic Crust	Continental Crust
Thinner	Thicker
Younger	Older
More dense	Less dense
Made of Basalt	Made of Granite

## Volcanoes

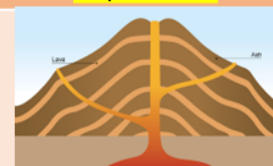
A volcano is an opening or vent in the earth's surface through which molten material erupts and solidifies as lava.

### Shield Volcano



Form at **Constructive plate margins**  
 Made up of layers of **lava**  
 Shield shape – Wide & gentle slope  
**Non-violent** but frequent eruptions

### Composite Volcano



Form at **destructive plate margins**.  
 Made up of layers of **lava and ash**.  
 Steep sided, **cone shape**.  
**Very violent** eruptions.

Active volcano = likely to erupt  
 Dormant volcano = hasn't erupted for many years  
 Extinct volcano = hasn't erupted for thousands or millions of years.

## Montserrat Volcanic Eruption

**Before the eruption:**  
 11,000 people lived on the island of Montserrat in the Caribbean. In 1995 the volcano became active after 400 years of being dormant. Most people left the southern part of the island, moving to the north or abroad. On the 25<sup>th</sup> June 1997 the volcano erupted **killing 19 people** who had stayed behind. The capital city (Plymouth) and **airport was destroyed**

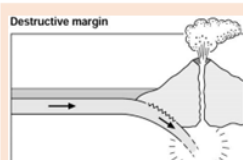
**After the eruption:**  
 Only 4,500 people are left on Montserrat, based in the north of the island. The south of the island is completely restricted (exclusion zone) – fines are given if people go there. They are now promoting tourism again as there is little land left to farm. New capital city (Little Bay) and airport built.

# Restless Earth

Plates move in different directions causing different processes and landforms to occur:

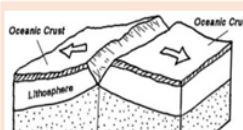
### 1. Destructive-subduction

The heavier oceanic crust gets pushed underneath the lighter continental crust. The rock jolts and grinds as it's pushed down, causing **earthquakes**. Some of the rock gets so hot it melts and forces its way through cracks to form a **volcano**.



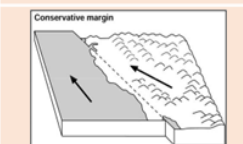
### 2. Collision

When two continental plates move towards each other the crust gets pushed and folded upwards to form **mountain ranges**. **Huge earthquakes** occur at these plate margins.



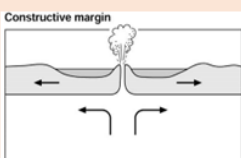
### 3. Conservative

Two plates move past each other either in the same or opposite direction. Parts of the plates get stuck, then lurch free causing **earthquakes**.



### 4. Constructive

Two oceanic plates move **apart**, magma rises between the plates to form new ocean floor. **Volcanoes** form here.



## Distribution of tectonic activity

Along plate boundaries. On the edge of continents. Around the edge of the Pacific.



## Earthquakes

<b>Earthquake</b>	The <b>shaking of the Earth's crust</b> caused by the release of pressure which builds up as tectonic plates move.
<b>Shockwaves</b>	<b>Pulses of energy</b> that make the ground shake
<b>Focus</b>	The point where the <b>Earthquake happens underground</b>
<b>Epicentre</b>	The point on the surface above the <b>focus</b>
<b>Richter Scale</b>	A scale for measuring the <b>energy given out in an Earthquake - Scientific</b>

## Reducing the impact of tectonic hazards

Monitoring	Protection
Seismometers and Tilt meters measure earth movements. Volcanoes give off gases. Animals may act strangely.	Reinforced buildings and making building foundations that absorb movement. Building regulations. Automatic shut offs for gas and electricity. Items screwed to walls.
Prediction	Prepare
By observing monitoring data, this can allow evacuation before event.	Avoid building in at risk areas. Training for emergency services and planned evacuation routes and drills.

## Haiti Earthquake

**Epicentre:** 25km from capital of Port-au-Prince  
**Focus:** 13km below ground **When:** 12<sup>th</sup> January 2010 **Magnitude:** 7.0

### Primary Effects

Over 220,000 deaths and 300,000 injured. Several hospitals collapsed. Airport and port badly damaged. Roads blocked.

### Immediate Responses

Emergency teams arrived from many countries E.g. Iceland. Temporary field hospitals were built to treat injured people. (Red Cross). GIS was used to provide satellite images and maps.

### Secondary Effects

1.3 million people made homeless. Aid supplies delayed due to airport & port closures. 2 million left without food or water.

### Long term Responses

Money was given to assist with rebuilding - After 1 year there were still 1,300 temporary camps. 'Cash for work' programmes set up to pay locals to clear rubble. Small farmers were supported - so crops could be grown to feed the population.

## Chile Earthquake

**Epicentre:** 3km off the coast  
**Focus:** 30km below ground  
**Magnitude:** 8.8

### Effects:

500 deaths and 12,000 injured. Tsunami destroyed many coastal towns

### Responses:

Repairs made to main highway within 24 hours  
 Power and water restored to most within 10 days  
 Little financial help needed due to own strong economy.

# Fantastic and Forbidden Places

## What do we mean?

There are many different definitions but fantastic and forbidden places are areas of the world that can trigger inspiration, intrigue, danger and excitement. Many have been shaped by nature, some created by humans. Everyone has places they consider to be fantastic; what are yours?

## Death Valley

Death Valley is located in western USA in the state of California. It got its name from those people who crossed it during the Gold Rush as it is the **lowest, driest and hottest valley in the United States**. For many years scientists were baffled by strange rocks that appeared to have moved across the floor leaving trails behind the. The mysterious moving rocks are also known as sailing stones. They move because \_\_\_\_\_



## Las Vegas

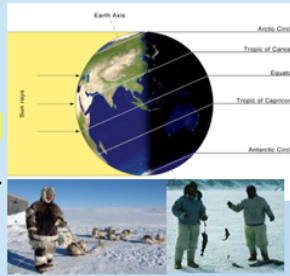
Las Vegas is located in the south east of the Nevada State in the Nevada desert. It has a dry desert climate which makes it particularly difficult for humans. The fast population growth has put enormous strain on water and food resources. In 1960 the population was 65k but by 2022 it was 650k. Also, approx. 40 million tourists visit each year. Engineering of huge dams, diversion of surrounding rivers and irrigation systems have enabled Las Vegas to grow and develop. As population and tourism continues to grow alongside the impact of climate change, Las Vegas is facing water shortages, so water conservation is needed.



## Arctic - Svalbard

Svalbard is a remote Norwegian Island located in the Arctic Ocean, within the Arctic circle. The population of Svalbard is only 2600, there are more polar bears than humans. Due to its location and the Earth's axis, Svalbard experiences polar night in winter when there is no sunlight for 84 days.

The sun stays below the horizon and creates a cold, dry arctic desert. It is so cold because it has very little solar radiation. The area is a breeding ground to many birds, polar bears, reindeers and marine mammals which have adapted to living in these harsh conditions. People have also adapted to living in the arctic. E.g. Inuit. Indigenous people eat meat they can hunt, keep warm by wearing animal skins and live a nomadic lifestyle (move around), using reindeer or dogs as transport.



## Totem pole and the tooth fish

The Totem Pole is a sea stack at popular amongst rock climbers in the Tasman National Park, Tasmania off the south coast of Australia. It is part of the many miles of rugged coastline and diverse forest ecosystems, which contain several species of rare flora and fauna. The National Park is a very popular area for tourism as it is within a few hours drive of the main city on the island, Hobart. The overfishing and conservation of the endangered Tooth fish are also linked to the totem pole as activists from Greenpeace have used the pole to try and raise public awareness about the fishing industry in this area.



## Chernobyl

Chernobyl is a nuclear power plant located near to the city of Pripyat in northern Ukraine. The disaster was a catastrophic nuclear accident that occurred on 26 April 1986, which at the time the power plant was under the jurisdiction of the Soviet Union. An explosion and fire released large quantities of radioactive particles into the atmosphere, which spread over much of the western USSR and Europe. Since the disaster it has become a no go zone. Populations of people were forced to move away due to the contamination. Nature has since reclaimed the land affected and some species of animals such as Eurasian lynx, wild boar, grey wolf, elk, red deer, moose, brown bear, turtle, have thrived in the absence of humans. In recent years, people are now able to enter the area for short periods of time and tourism has become popular, with over 73,000 visitors in 2021. People can go on a day trip to one of the most radioactive places on earth. Whilst there they need to have a personal dosimeter which records the levels of radiation their body is being exposed to.



## Coral Reefs

A coral reef is a community of living organisms. It is made up of plants, fish, and many other creatures. Coral reefs are some of the most diverse ecosystems in the world. They are home to about 25% of all marine life. The Great Barrier Reef is located off the North East coast of Australia and is the world's largest coral reef system. It has 2,900 individual coral reefs. Thousands of marine animal and plants live on the reef including vulnerable and endangered species. The Great Barrier Reef is one of the seven natural wonders of the world.

However, coral reefs are in danger due to various threats:

- Over fishing** – Unsustainable fishing can affect the rest of the food chain.
- Cyanide fishing** – The use of cyanide in this illegal fishing practice can kill the coral polyps.
- Use of dynamite** – Dynamite is used to kill or stun fish so they can be easily caught, but it also destroys the surrounding coral.
- Coral bleaching** – High sea temperatures and rising sea levels put the coral under stress leading to coral bleaching
- Muddy water** – Sediment deposits from rivers can smother the coral, preventing it from growing, reproducing and feeding.

**Protecting coral reefs** - More awareness is needed to help protect coral reefs. Climate change mitigation and adaptation is key, but coral reef restoration is also being implemented into reefs around the world.





**Was 1348 the end of the world? – KEY IDEAS & EVENTS**

**The Arrival of the Black Death:** The black death arrived in England in 1348 on a ship in Dorset. The first recorded outbreak was in central Asia in 1338-39. From there, the black death appears to have travelled long the silk road, reaching the Black Sea in 1343. The disease then seems to have spread by ship into central Europe, arriving in Italy in 1347 before spreading overland to France and Germany. It spread quickly through England by the movement of rats and by ships visiting the coastline.

**Medieval Explanations of Disease:** The church was very powerful and controlled who was educated and what people taught. It enforced its teachings by punishing people harshly for criticising the church. Medieval people believed they would be punished for not confessing their sins on earth. Medical knowledge was very limited and taught that the four humours caused disease. This meant that many people turned to religion to explain the black death. Some of the causes included beliefs that God was punishing people for sins, it was judgement day in which the world was ending and people were being judged for their sins, the disease was caused by bad air and the smell of the streets was causing people to die, that the planets were in an unusual position and that earthquakes have released bad air which has now spread to England.

**How did people respond to the Black Death?** Physicians tried to drain the pus from the buboes and then applying a poultice – sometimes these contained human or animal excrement. As people were very religious, a common reaction was to pray, go on a pilgrimage or whip themselves to show God they were sorry. Many people ran away from areas where the disease had taken hold, sat in front of a fire, used herbs to drive away bad smells, or draining excess blood.

**Causes of the Peasants Revolt:** (1) in 1351, the government passed a new law called the Statute of Labourers – to control wages. Peasants were not allowed to move away to find better work, it was forbidden to leave a job in search of another one, wages had to be the same as they were in 1346 and anyone who refused to pay the wages was sent to jail. (2) Poll Tax was introduced in 1377 and then again in 1380 and 1381 to pay for war with France. In 1381, the tax stated that everyone had to pay the same amount – people thought this was unfair. (3) In May 1381, tax collectors in Fobbing in Essex were attacked. Two groups of rebels emerged and the rebels selected Wat Tyler as their leader. They sought to plead their case in front of the King and destroyed records of the Poll Tax.

**KEY TERMS**

<b>Peasant</b>	A poor smallholder or agricultural laborer of low social status (chiefly in historical use or with reference to subsistence farming in poorer countries).
<b>Four Humors</b>	A theory about the cause of disease developed by the Greek doctor Hippocrates. He suggested the body was made up of 4 humours: phlegm, yellow bile, black bile and blood. Ill health was when they were out of balance.
<b>Revolt</b>	To take violent action against a government or ruler.
<b>Feudal System</b>	All of the land belonged to the King but lent land to his followers in exchange for loyalty. This meant the King had a constant supply of money and loyalty.
<b>Rent</b>	Medieval peasants had to pay rent to their lord to work and live on the land. As they had no money, this was usually paid in labour or goods.
<b>Tax</b>	A compulsory contribution to the money a country has.
<b>Physicians</b>	Another term for a doctor.
<b>Poultice</b>	A mixture designed to heal a wound – for example, butter, onions and garlic pressed onto a wound with a bandage.
<b>Bondage/Servitude</b>	To be an unfree peasant.
<b>Hanged, drawn and quartered</b>	This was a punishment for treason. Victims were hanged until they were almost dead, then they were cut down and cut open whilst still alive. Finally, the head was chopped off and cut into pieces.

**EFFECTS OF THE BLACK DEATH**

- Some people caught it and recovered.
- Whole towns were left deserted.
- The population didn't recover for hundreds of years.
- Two thirds of the population survived, one third died.
- Some measures the government took such as cleaning streets may have helped,
- Landowners could no longer expect free work from peasants.
- Peasants could now demand wages as there were fewer people to work the land.
- The feudal system began to break down.
- There were many farms left empty, so the peasants could negotiate cheaper rent.
- There were higher prices for some goods, for example wheat, as crops rotted in fields due to a lack of labour.
- Workers now worked for the landowner who paid the best wages.

# Year 7 History, Unit 5: Challenges to the Catholic Church

## KEY IDEAS & EVENTS

**What was the king's great matter?:** King Henry VIII was unhappy because his wife Catherine of Aragon, had **not borne a son**, someone to be Henry's heir and successor. Henry became concerned that Catherine was not able to have a baby boy because they were **being punished by God**. Catherine was married to Henry's older brother, Arthur, before he died, Henry concluded it was a sin to marry his brother's widow. **Henry needed to convince the Pope to grant him an annulment of his marriage**, this would have been very arduous as **divorce was forbidden in the Catholic Church**. Thomas Cranmer and Thomas Cromwell, Henry's advisors, persuaded the king to embrace the Protestant faith and make himself the **head of an independent church, the Church of England**. This was appealing as he was in love with Anne Boleyn, who may be able have a son. In 1534 the **Act of Supremacy** was passed, declaring Henry the head of the Church of England. Henry **married Anne and ignored the protests of the pope**.

**What impact did Henry's decision have on England?:** With the help of Thomas Cromwell and Cranmer, Henry pressed on with **changes to the Catholic Church**, taking the **Reformation** further than expected. The clergy were forced to swear an **oath of loyalty to Henry**, supporting his changes. Those who refused were executed. **Monasteries became a focus, they were loyal to the pope and had riches and land**. Henry wanted an excuse to destroy them so sent Cromwell and a team of inspectors to report on their activities. The report was then used to destroy the monasteries **and 800 monasteries were closed between 1536 and 1540**. Many of the most holy pilgrimage sites were destroyed, including Thomas Becket's shrine. **Henry changed church services, translated the Bible into English so everyone could read it**, kneeling before saints was forbidden and a new English litany was published in 1545. Edward VI, **Henry's son, Edward, continued the changes and was even more strict than his father**.

**The Catholics strike back – Did Mary deserve her name?:** By the summer of 1553, 15 year old King Edward VI knew that he was dying. He and his advisors wanted to protect Protestant England so named Edward's Protestant cousin Lady Jane Grey his successor instead of his Catholic half-sister, Mary. **Lady Jane Grey only had the throne for nine days, as Mary was so popular**. She was arrested and executed for treason, and Mary became queen instead. **Mary's primary aim was to return England to Catholicism**. She undid the Act of Supremacy and overturned all the changes made during the reign of Edward, **banning Protestant preachers and appointed a Catholic as Archbishop of Canterbury**. Mary began to root out 'heretics', **Protestants were burned to death for refusing to accept the Catholic faith**. Cranmer and other high-profile figures were put on trial and burned alive. This earned her the nickname **'Bloody Mary'**.

## KEY TERMS

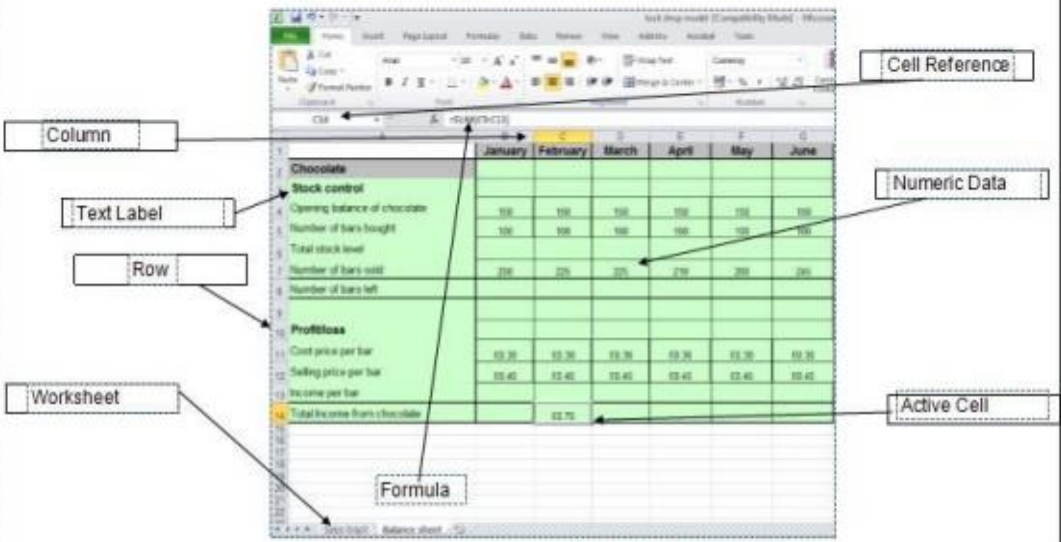
Reformation	A movement in the 16 <sup>th</sup> century which led to the <b>founding of Protestantism</b> .
Catholic	Christians part of the <b>Catholic Church</b> - under the authority of the <b>Pope</b> .
Protestant	A type of Christian - Usually part of the <b>Church of England</b> – different beliefs to Catholics.
Church of England	The Protestant church governed (ruled) by bishops, with the <b>king or queen as its official head</b> . One of the primary results of the Reformation King Henry VIII declared that he, <b>not the pope</b> , was the head of the Christian Church in England.
Act of Supremacy	An act passed by parliament which made <b>Henry</b> and his successors <b>Supreme Head of the Church of England</b> . It was abolished by Queen Mary and a new Act of Supremacy was passed under <b>Elizabeth</b> , making her <b>Supreme Governor of the Church of England</b> .
Annulment	Declaration that something is <b>invalid</b> .
Counter-Reformation	Go against the Protestant reformation to <b>enforce Catholic practices and convert Protestants back to Catholicism</b> .
Armada	A fleet of <b>warships</b> .
Empire	A <b>group of nations/countries</b> or peoples ruled over by an emperor or other powerful sovereign or government.
Regent	A person <b>appointed to rule</b> , normally while a monarch is abroad, ill or too young to rule.
Heretic	A person with religious views that <b>disagree with official church teaching</b> .
Excommunicated	Being cut off or <b>banished from a religious group</b> , in this case, the Catholic Church.
Litany	A <b>long prayer</b> , usually led by a priest but also involving responses from worshippers.
Conspiracy	A <b>secret plan</b> or plot to do something harmful or unlawful.
Popery	<b>Catholic</b> religious practices.
Clergy	People who work for The Church
Monastery	A <b>group of buildings that belong to The Church</b> , where monks and nuns work and live. They would offer food, medicine and education.



**Spreadsheets** are used to store information and data. Once we have our data in a spreadsheet we can perform powerful calculations, make graphs and charts and analyse pattern/trends in the data. Once the data is formatted it becomes information.

Other uses for spreadsheets –

- Modelling and Planning
- Finance and Budgeting
- Predictions / Simulations
- Calculations
- Creating charts and graphs



**Golden rule: every formula always starts with an =**

Cell references begin with a letter, and finish with a number. EG: **A1**

	A	B	C	D	E	F	G
1							
2							
3							
4							
5							

A range is a selection of cells. EG: **A2:F4**

	A	B	C	D	E	F	G
1							
2							
3							
4							
5							

Operators	
+	Adds two numbers / cells
-	Subtracts one cell or number from another
*	Multiplies two numbers/cells
/	Divides one number / cell from another one
<	Less than
>	Greater than
<=	Less than or equal to
>=	Greater than or equal to

**At Home Imagine that you are creating a spreadsheet to keep track of your spending – include pocket money, money received as gifts etc.**

- Could you use a function to calculate how long it would take you to save up for something that you want? Could you create a test for someone else who has completed this unit to check their knowledge of the key terms learnt? Could you create your own 'house style'? What font would you use? What colour scheme?

**Knowledge Organiser - Spreadsheets**

<b>What is a Function?</b>	A <b>function</b> is a standard routine used to perform common tasks. It represents a complex formula that uses reserved words e.g. VLOOKUP, IF. A <b>function</b> performs a specific set of operations on its input values to produce a single output value.
<b>What is a Formula?</b>	Using <b>formulas</b> in <b>spreadsheets</b> can allow you to quickly make <b>calculations</b> and get totals of multiple cells, rows, or columns in a <b>spreadsheet</b> .
<b>Conditional Formatting</b>	is a tool that allows you to apply <b>formats</b> to a cell or range of cells, and have that <b>formatting</b> change depending on the value of the cell or the value of a formula. For example, you can have a cell appear bold only when the value of the cell is greater than 100.

Common Formulas/Functions	= SUM	Adds a range of cells together
	= AVERAGE	Finds an average for a range of cells
	= MIN	Returns the smallest value in range
	= MAX	Returns the highest value in a range
	= COUNT	Counts cells if they meet a condition

<b>IF</b>	one of the logical <b>functions</b> , to return one value if a condition is true and another value <b>if</b> it's false. For example: <b>=IF(A2&gt;B2,"Over Budget","OK") =IF(A2=B2,B4-A4,"")</b>
<b>Count IF</b>	<b>=COUNTIF</b> (Where do you want to look?, What do you want to look for?)
<b>Auto SUM</b>	<b>Excel automatically</b> enters a formula (that uses the <b>SUM</b> function) to <b>sum</b> the numbers
<b>= COUNT</b>	Counts cells if they meet a condition

# Knowledge Organiser Computer Science Programming

**Selection** is used to allow the program to make a choice and take a different path.

The keywords used in Python are:

**if** - checks if the **condition** is true, if so the program runs the indented code below it.

**elif** - if the first **if** fails then this **elif** condition is checked, there can be multiple of these.

**else** - if all **if** and **elif** statements are not true the the code indented below **else** will run.

**Example:**

```
colour = input("Enter your favourite colour");
if colour == "Red":
    print("Reminds me of tomatoes");
elif colour == "Blue":
    print("Reminds me of the sea!");
else:
    print("If it ain't Red or Blue then I ain't interested");
```

**Variables** are simply a place on the computer's memory that is given a name in order for it to remember it.

In Python you create a variable by writing the name of the variable followed by an =.

**Examples:**

```
name = "Spongebob"; age = 14
```

To **print** out a statement or a **variable** we use the code below:

**Printing a new message:**

```
print("Hello World");
```

**Printing the value of a variable:**

```
print(x);
```

**Printing a message with variables included:**

```
print("Hello",name,"your are",age,"years old today");
```

**Key Words:**

**Algorithm:** A set of instructions or code used to solve a problem.

**Syntax:** The rules of the programming language that need to be followed in order for it to work.

**Variables:** Data that is stored in memory that is likely to change.

**Program:** Code compiled together to perform a specific function.

**String:** A Variable data type that can store a combination of letters, characters and numbers.

**Integer:** A Variable data type that can store whole numbers.

**Float:** A Variable data type that can store decimal numbers.

**Boolean:** A Variable data type that stores either TRUE or FALSE.

To allow your Python program to get information from the user you will need to use the **input** command. Make sure you use the correct command for what you are asking for.

**String inputs (such as a name):**

```
input("Enter your name");
```

**Integer Inputs (for whole number responses):**

```
int(input("What is your age?"));
```

**Float Inputs (for decimal number responses):**

```
float(input("What is your shoe size?"));
```



### Plotting Linear Graphs:

$$y = 3x - 5$$

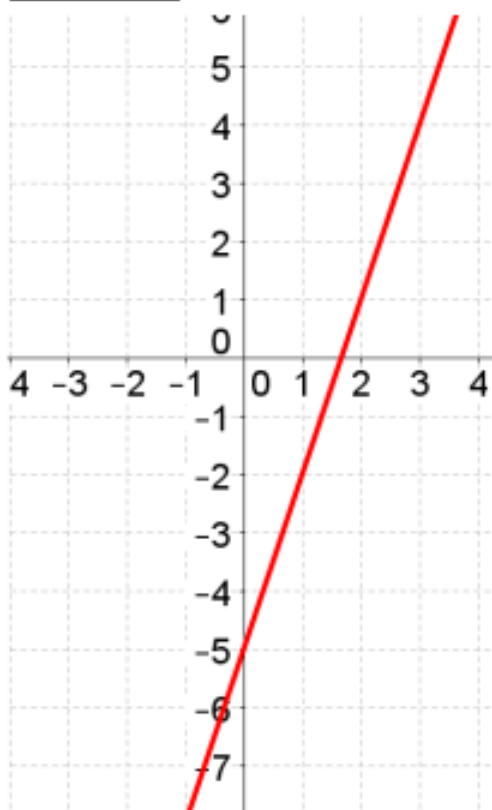
When  $x = 2, y = (3 \times 2) - 5 = 1$

<b>x</b>	-3	-2	-1	0	1	2	3
<b>y</b>	-14	-11	-8	-5	-2	1	4

Coordinates are (-3, -14), (-2, -11) etc.

Plot these coordinates on a coordinate grid and join them together to form a

### STRAIGHT LINE



### Ratio

Billy and James have some sweets in the ratio **9:2**. Billy has **35 more** sweets than James. How many sweets are there altogether?

Billy has 7 more parts than James.

$$1 \text{ Part} = 35 \div 7 = 5.$$

$$2 \text{ Parts} = 2 \times 5 = 10$$

$$9 \text{ Parts} = 9 \times 5 = 45$$

$$\begin{aligned} \text{Total Number of sweets} \\ = 5 + 10 = 45 \end{aligned}$$

### Recipes and Proportion:

#### 8 People:

400g Pasta

2 Tins Chopped Tomatoes

1 Onion

4tbsp Tomato Puree

To find the recipe for 6 people, divide each amount by 8 and then multiply by 6:

#### 6 People:

$$(400 \div 8) \times 6 = 300g \text{ Pasta}$$

$$(2 \div 8) \times 6 = 1.5 \text{ Tins Tomato}$$

$$(1 \div 8) \times 6 = \frac{3}{4} \text{ Onion}$$

$$(4 \div 8) \times 6 = 3 \text{tbsp Puree}$$

### Combining Ratios

In a field, the ratio is Cows to Pigs is 3:4 and the ratio of Pigs to Sheep is 6:1. The ratio of Cows to Pigs to Sheep is given by:

$$\begin{array}{l} \text{C:P} \qquad \qquad \text{P:S} \\ 3:4 \qquad \qquad \quad 6:1 \end{array}$$

We need to make the number of Pigs the same as they are common to both ratios

$$\begin{array}{l} \text{C:P} \qquad \qquad \text{P:S} \\ 9:12 \qquad \qquad 12:2 \end{array}$$

$$\text{C:P:S}$$

$$9:12:2$$

### Dividing into a Ratio:

Share £480 in the ratio 3:5:4

$$3 + 5 + 4 = 12$$

$$1 \text{ Part} = £480 \div 12 = £40$$

$$3 \text{ Parts} = £40 \times 3 = £120$$

$$5 \text{ Parts} = £40 \times 5 = £200$$

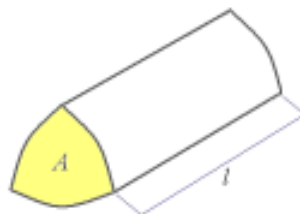
$$4 \text{ Parts} = £40 \times 4 = £160$$

$$£120: £200: £160$$

# 7A

## Half-term 5

### Volume of Prisms:



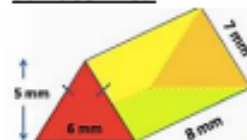
$$\text{Volume} = \text{Cross Sectional Area} \times \text{Length}$$

### Volume of Cylinder

$$\text{Volume of a Cylinder} = \pi r^2 h$$

$$\text{Area of a Circle} = \pi r^2$$

### Surface Area

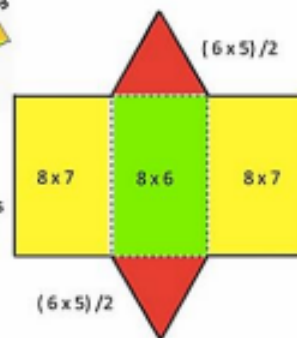


The "Total Surface Area" =

$$\begin{aligned} & 2 \times (6 \times 5) / 2 \quad : \text{Two Reds} \\ & + 2 \times (8 \times 7) \quad : \text{Two Yellows} \\ & + 1 \times (8 \times 6) \quad : \text{One Green} \end{aligned}$$

$$= 2 \times 15 + 2 \times 56 + 1 \times 48$$

$$= 190 \text{ mm}^2 \checkmark$$



### Surface Area of Cylinder

$$\text{Surface Area} = 2\pi r^2 + 2\pi rh$$

### Area Formulae

$$\text{Area of Triangle} = \frac{b \times h}{2}$$

$$\text{Area of Trapezium} = \frac{(a + b) \times h}{2}$$

### Metric Units for Area and Volume

$$1 \text{ cm}^2 = 100 \text{ mm}^2 \quad 1 \text{ m}^2 = 10,000 \text{ cm}^2$$

$$1 \text{ cm}^3 = 1000 \text{ mm}^3 \quad 1 \text{ m}^3 = 1,000,000 \text{ cm}^3$$



### Pie Charts:

Subject	Frequency	Angle = Magic Number $\times$ Freq.
Maths	12	$18 \times 12 = 216^\circ$
English	3	$18 \times 3 = 54^\circ$
Science	2	$18 \times 2 = 36^\circ$
PE	1	$18 \times 1 = 18^\circ$
Total = 20		

Degrees Per Person =  $360 \div \text{Total Frequency} = 360 \div 20 = 18$



### Nth term

Find the  $n$ th term of:

5, 11, 17, 23, ...

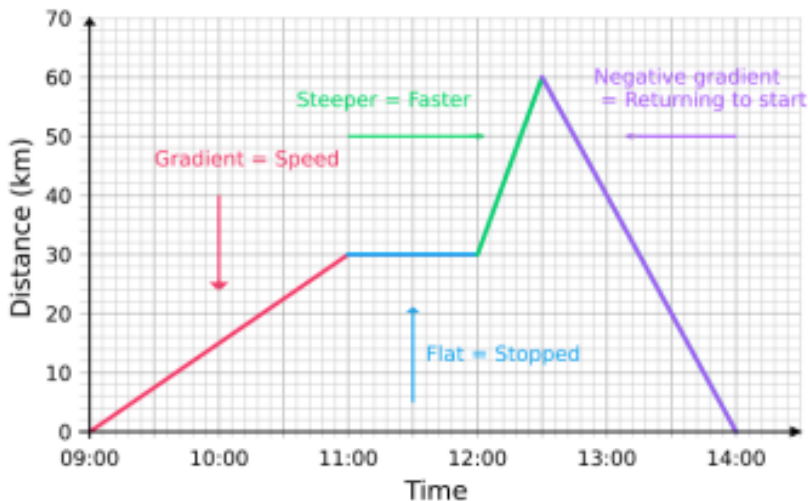
Our sequence is 1 less than the 6 times table. Therefore, the  $n$ th term is

$$6n - 1$$

The 50<sup>th</sup> term of the sequence is:

$$(6 \times 50) - 1 = 299$$

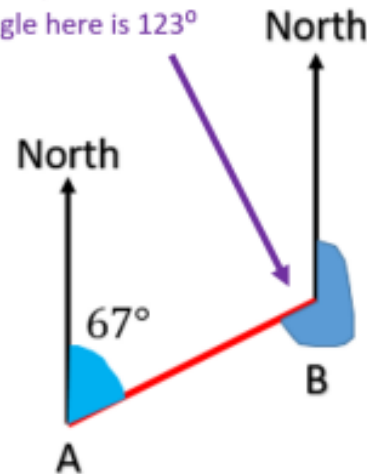
### Distance-Time Graphs



### Bearings:

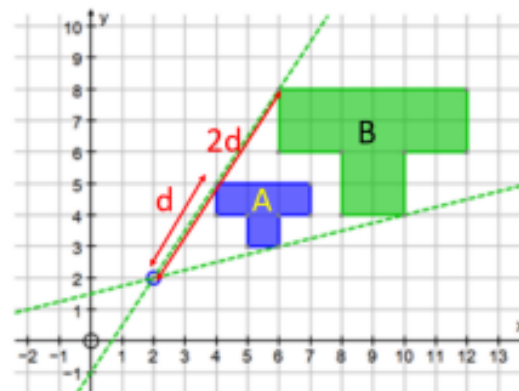
- 3 Figures
- Measure from North ( $000^\circ$ )
- Measure Clockwise

Co-Interior Angles add up to  $180^\circ$ . The angle here is  $123^\circ$



The bearing of B from A is  $067^\circ$ . The bearing of A from B is  $247^\circ$

### Enlargements



Shape A has been enlarged by a scale factor 2 about the point (2,2) to obtain shape B

Shape B is also twice the distance from (2,2) compared to Shape A

### Compound Measures

Speed ( $S$ ), Distance ( $D$ ) and Time ( $T$ )

$$S = \frac{D}{T}, \quad D = S \times T, \quad T = \frac{D}{S}$$

Pressure ( $P$ ), Force ( $F$ ), and Area ( $A$ )

$$P = \frac{F}{A}, \quad F = P \times A, \quad A = \frac{F}{P}$$

Density ( $D$ ), Mass ( $M$ ) and Volume ( $V$ )

$$D = \frac{M}{V}, \quad M = D \times V, \quad V = \frac{M}{D}$$

Units:

Speed: m/s, km/h, mph

Pressure: N/m<sup>2</sup>, N/cm<sup>2</sup>

Density: kg/m<sup>3</sup>, g/cm<sup>3</sup>

### Sequences

Find the first 3 terms of the sequence with  $n$ th term:  $4n + 9$

$$n = 1, \Rightarrow (4 \times 1) + 9 = 13$$

$$n = 2, \Rightarrow (4 \times 2) + 9 = 17$$

$$n = 3, \Rightarrow (4 \times 3) + 9 = 21$$

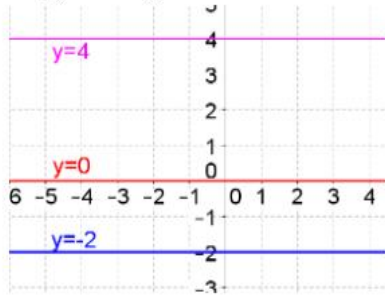
# 7A

# Half-term 6

# 7B Half-term 5

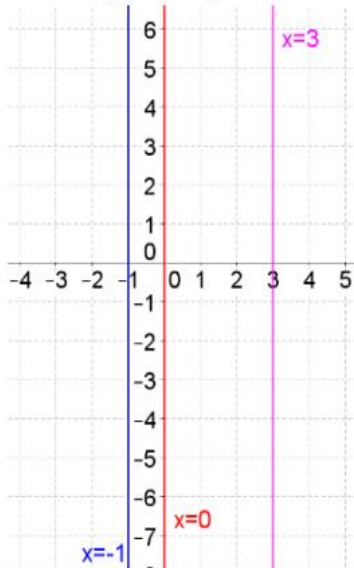
## Horizontal Line Graphs

$y = 4, y = -2, y = 0$  etc.



## Vertical Line Graphs

$x = 3, x = -1, x = 0$  etc.



## Metric Units:

### Length

$10\text{mm} = 1\text{cm}$   
 $1\text{m} = 100\text{cm} = 1000\text{mm}$   
 $1\text{km} = 1000\text{m}$

### Capacity

$1\text{litre} = 100\text{cl} = 1000\text{ml}$

### Mass

$1000\text{g} = 1\text{kg}$   
 $1\text{tonne} = 1000\text{kg}$

## Area of 2D Shapes

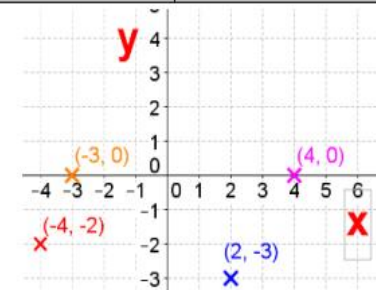
Area of a Square =  $\text{base} \times \text{base} = b^2$   
 Area of a Rectangle =  $\text{base} \times \text{height} = b \times h$

## Coordinates

$(x, y)$

x value: Along the Corridor

y value: Up the stairs

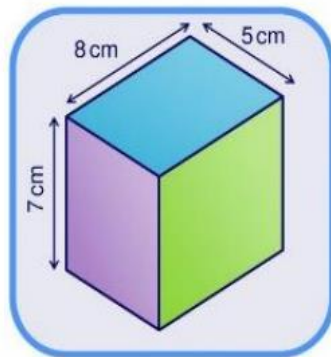


## Volume of 3D Shapes

Volume of a Cube =  $b^3$   
 Volume of a Cuboid =  $b \times h \times l$

## Surface Area:

The surface area of a 3D shape is the **TOTAL AREA OF ALL FACES.**



So the total surface area =

$2 \times 40\text{cm}^2$  Top and bottom

$+ 2 \times 35\text{cm}^2$  Front and back

$+ 2 \times 56\text{cm}^2$  Left and right side

$= 80 + 70 + 112 = 262\text{cm}^2$

## Proportion

10 cakes cost £3.40. 1 cake will cost £0.34 so 21 cakes will cost £7.14

## Ratio:

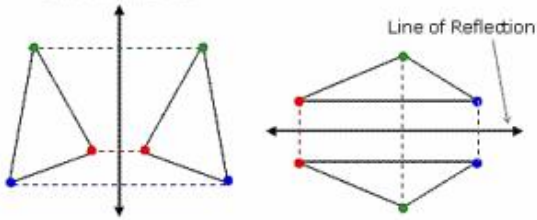
Tom has 24 Xbox games and 38 PS4 games. The ratio of PS4 games to Xbox games is:

$$\begin{array}{c} \text{PS4: Xbox} \\ 38:24 \\ \div 2 \quad \curvearrowright \quad \curvearrowleft \quad \div 2 \\ \mathbf{19:12} \end{array}$$

There are 62 games altogether so,  $\frac{38}{62}$  of the games are PS4 games.

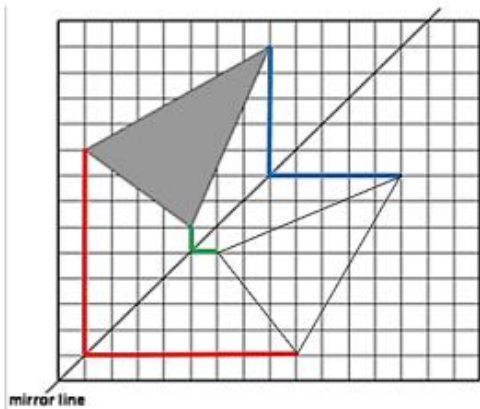
## Reflections

Line of Reflection



Horizontal Reflection  
(flips across)

Vertical Reflection  
(flips up/down)

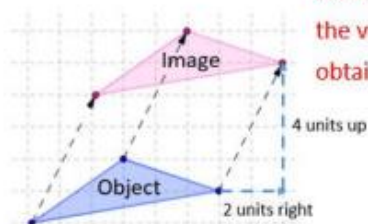


mirror line

## Translations:

Translation Vectors:  $\begin{pmatrix} x \\ y \end{pmatrix}$

The object has been translated by the vector  $\begin{pmatrix} 2 \\ 4 \end{pmatrix}$  to obtain the image

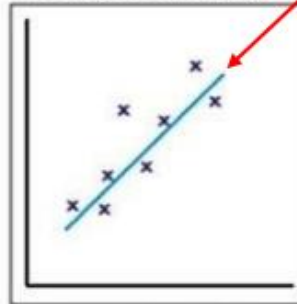


4 units up

2 units right

## Scatter Graphs and Correlation

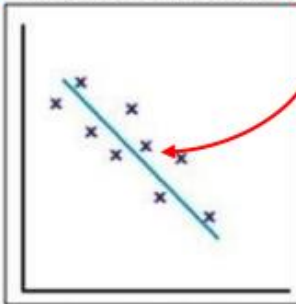
Positive correlation



The points lie close to a straight line, which has a positive gradient.

This shows that as one variable **increases** the other **increases**.

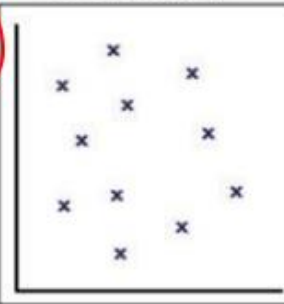
Negative correlation



The points lie close to a straight line, which has a negative gradient.

This shows that as one variable **increases**, the other **decreases**.

No correlation



There is no pattern to the points.

This shows that there is **no connection** between the two variables.

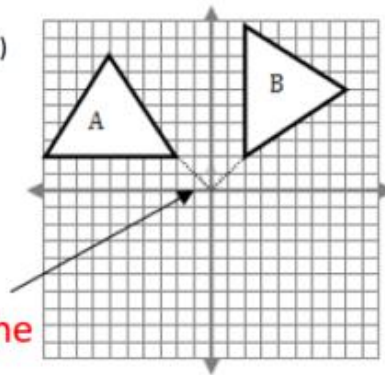
## Rotations

Angle ( $90^\circ$ ,  $180^\circ$  or  $270^\circ$ )

Direction (Clockwise or Anti-Clockwise)

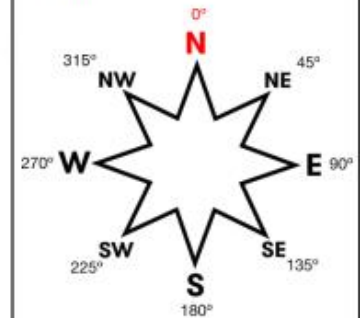
Centre of Enlargement

Shape A has been rotated  $90^\circ$  Clockwise about the Origin (0,0)



## Bearings and Compass

### Points

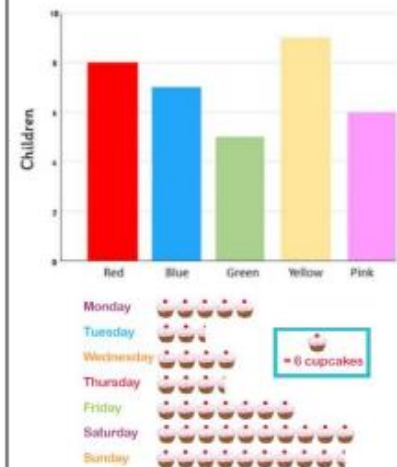


# 7B

# Half-term 6

## Bar Charts and Pictograms

Favourite Colour





## Y7 Music HT5 & 6 Pitch and Melody

Pitch – Pitch is high and low sound



Melody - When **Pitch** is added to **Rhythm** it creates **Melody**: The Main Tune



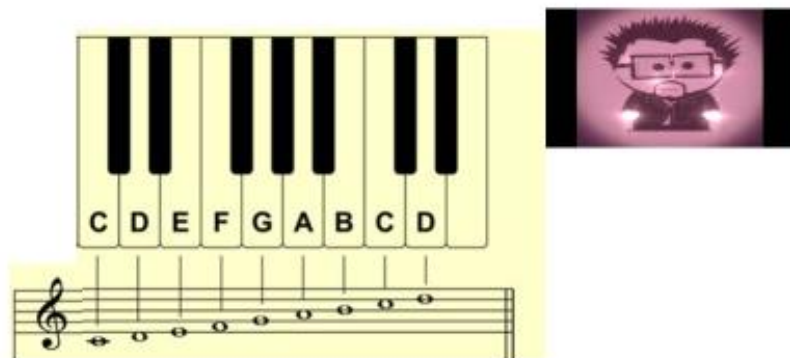
Treble Clef – the icon at the start of the music to indicate high pitch range

### The Stave



The stave is a set of 5 lines and 4 spaces. Each line and space is a different pitch, and has a letter name.

‘C is to the left of the two black keys’



## Y7 Music HT5&6 Pitch, Melody

### Ledger Lines

A **ledger line** is used in written music to notate pitches above or below the lines and spaces of the regular musical stave.



### Describing melody

Description	Definition
Ascending	Going up in pitch
Descending	Going down in pitch
Step	Moving to a neighbour note
Leap	Jumping to a note that is a distance (interval) away

### INSTRUMENTS OF THE ORCHESTRA

Brass	Trumpet, French Horn, Trombone, Tuba
Strings	Violin, Viola, Cello, Bass
Woodwind	Flute, Oboe, Clarinet, Bassoon
Percussion	Anything that is hit to make sound

## What are Muslim beliefs and teachings?

### Religion, Philosophy & Ethics

Key Terms	Definition
Islam	The religion of Muslims
Muslims	The follows of the teachings of Islam
Allah	The Arabic word for God
Prophet Muhammed	The final prophet of Islam, he received the Quran from Allah and is the ultimate role model for Muslims
Qur'an	The sacred text of Islam
Monotheism	Belief in one God. Muslims believe in one God.
Prophets	Someone who communicates with God
Five Pillars	The five duties that Muslims of all branches of Islam must follow.

"There is no God by Allah , and Muhammed is his messenger"  
Shahadah

"Allah knows what is in every heart" Qur'an

"Show forgiveness, enjoy kindness, avoid ignorance" Qur'an

### Origins of Islam & the Quran

- Muhammed was born in 570AD in Makkah (Saudi Arabia) where the temple known as Ka'bah is. The land was ruled by men who believed in many Gods and persecuted (treated terribly) those who disagreed with their beliefs.
- Muhammed was an orphan who grew up to be a business man. Around the age of 40, Muhammed went to the mountains and in a cave, whilst meditating and praying to Allah for guidance, he was visited by **the angel Jibril who told him "you are the messenger of God"**. Angel Jibil gave him a scroll with the words of the Allah on and instructed him to read it. Since Muhammed couldn't read it was a miracle when he understood them. Muslims remember and celebrate this night as The Night of Power; they believe if they act as good Muslims Allah may grant them their desires just as he gave Muhammed the guidance he wanted.
- At various times, Allah sent direct messages to Muhammed. 23 years of messages were recorded by Muhammed to form the Qur'an.
- Three years later Muhammed preached monotheism (belief in only one God) in Mekkah, he also preached that people should be generous.
- Polytheists (people who believe in many Gods) were offended by Muhammed's teachings and war began between the follows of Islam and the polytheists in Mekkah. Muhammed and his followers won.
- **After Muhammed died his followers couldn't agree on who should lead the religion which lead to different groups of Muslims. Sunni Muslims are the largest denomination (group) of Muslims.**

### Muslim Beliefs

- Islam means "submission to God" or "peace"
- **Muslims believe in one God (they are monotheists)**
- There are approximately 1.8 billion Muslims in the world (about 26% of the global population)
- The Prophet Muhammed was Allah's (God's) messenger who founded the religion in the 6<sup>th</sup> century. He was the last messenger of God known as the *Seal of the Prophets*.
- **Muslims believe Allah revealed his messages to Muhammed and these teachings now make up the Qur'an.**
- **Muhammed is so respected that it is usual for Muslims to say 'peace be upon him' when they mention his name**

### Interesting Facts

- **Muslims do not believe it is right to draw Allah as the Qur'an forbids the worship of false idols (Gods) and throughout history people have falsely worshiped images and statues.**
- Muslims believe the Qur'an should not be put on the floor as it isn't respectful.
- Some women chose to wear head or body coverings such as a Hijab or Burka, in front of any male that isn't family. They do so to express their faith and remain modest. Some countries have banned the use of full coverings (burkas) e.g. France, Belgium and Austria.



## The Five Pillars

The Five Pillars of Islam are the five acts that every Muslim must do to live a good and responsible life, and in order to be close to God. They are written in the Hadith (a book containing the sayings of Muhammed).

### The Five Pillars are...

1. **Shahadah** - This is the **declaration of faith** that is spoken times a day; "there is no God but Allah, and Muhammad is his messenger".
2. **Salat** - This is to perform set **prayers five times a day** at specific times in order to be reminded of the importance of Allah.
3. **Zakat** - This is to **give a compulsory amount of wealth to charity** as a type of worship and self-purification. Often Zakat is 2.5% of one's wealth each year goes to the poor.
4. **Sawm** - This is the **duty to fast** (from food, drinking, smoking and sexual activity) during Ramadan for Muslims that have reached maturity and are healthy. It helps Muslims become closer to Allah and remember those less fortunate.
5. **Hajj** - This is a **pilgrimage to Makkah** that all Muslims, who can afford and are physically able, must make at least once in their life.



## Hajj

- Hajj is a pilgrimage to Mekkah that Muslims have a **duty to do once in their life (if they are able)**.
- Once a year, Muslims from around the world **stand before the Kaaba praising Allah – a symbol for how everyone is equal, this is a practice designed to promote bonds between Muslims.**
- The Hajjis or pilgrims wear simple white clothes called Ihram.
- **The pilgrimage can help Muslims feel closer to Allah (God), spending time focusing only on him.**
- During the Hajj the Pilgrims perform acts of worship and they renew their sense of purpose in the world.
- Mekkah is so holy only Muslims may enter.



## Ramadan

- Ramadan is the **holy month of fasting – when Muslims do not eat or drink during daylight hours** – they eat before the sun comes up and after it has gone down.
- Ramadan brings Muslims closer to Allah. It also a time to focus on being a better person and spending time with friends and family.
- **Muslims believe good actions will be rewards greater during Ramadan because the month is blessed by Allah.**
- During Ramadan, Muslims will spend their day trying to become better people, attending mosque, helping others and giving to charity. **This brings them closer to God.**
- The end of Ramadan is called **Eid al-Fitr, Muslims celebrate their devotion and renewed faith** by having a big family party, sharing a meal and dressing in their best clothes.

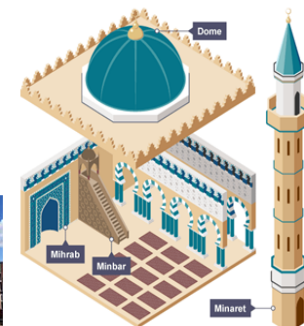


## Mosques

A mosque is an Islamic places of worship. Muslims attend mosque to pray, study and celebrate their faith. **Often mosques are used as a school and community center too.** Mosques are led by Imams (religious leader like a priest).

### Features...

- **Qibla** – prayer wall, it faces Mekkah
- **Imam** – a person chosen as leader due to knowledge of the Quran
- **Minbar** – a platform doe Immam's to deliver a sermon
- **Dome** – over the prayer hall, it represents Allah's power over creation
- **Minaret** – a tower from where the call to prayer (adhan) is performed.



Commonly Imams are men but there is a long history of women leading as Imams and teaching men the knowledge of the Quran.

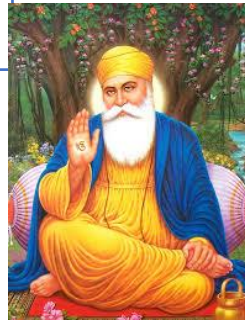


# World Religions - Sikhism

## Religion, Philosophy & Ethics

### Overview

- Sikhism is one of the world's major religions. It is the world's 5<sup>th</sup> largest religion, with about 28 million followers. It began over 500 years ago.
- Sikhs are the people who follow Sikhism. **Sikhs believe in one God who guides and protects them.** Sikhs see everybody as being equal in God's eyes.
- Leading a good life and making the right choices are important in Sikhism.
- Granth Sahib is the holy book of Sikhism. Sikhs worship at home and in Sikh temples called Gurdwaras.**







### Guru Nanak

**Guru Nanak was the founder of Sikhism** and one of the first of the ten Sikh Gurus. Sikhs believe that Guru Nanak was born in a small village called Punjab in India. He was born into a Hindu family, but grew up around Hindus and Muslims. Sikhs believe that **Guru Nanak was spoken to by God**, who told him to follow a simple faith, in which everybody was equal. In other religions, some people were thought of as better than others. **His message was simple: pray to God, be honest, work hard, care for your family and your community.** These ideas formed the basis of Sikhism.

### Vaisakhi Festival

**Vaisakhi marks the Sikh New Year.** At this time, Sikhs remember when Khalsa was created. **Khalsa was a purified Sikh community created by Guru Gobind Singh, in which all were equal.** This festival takes place in April, also marking the start of Harvest.

### Answers to Important Questions and Key Vocabulary

		Key Vocabulary
<b>Where and how do Sikhs worship? Why?</b>	 	Sikh Guru Nanak India Punjab Granth Sahib El Onkar Gurdwara Gobind Singh Nishan Sahib Golden Temple Vaisakhi The Five Ks
<b>What is the Sikh holy book?</b>		
<b>Where do most Sikhs live in the world?</b>	 	
<b>What are some other Sikh traditions?</b>		

### Top 10 Facts!

- Sikhs take their name from 'sikha', meaning disciples.
- El Onkar ('God is one') is the most powerful teaching in the Sikh religion.
- Sikhs often sit on the floor together whilst eating, to show that everyone is equal.
- Most of the hymns sung in gurdwaras today were written by the Sikh Gurus.
- To keep their long hair tidy, many men wrap their hair in a turban - a piece of material.
- Not all Sikh men and women join the Khalsa. It is a choice and involves an initiation ceremony.
- The most holy place for Sikhs is the Golden Temple of Amritsar, in Punjab, India.
- The last Guru, Gobind Singh, decided that there should be no more Gurus.
- The symbol of Sikhism is known as the Khanda.
- Sikhs have their own flag. It is known as the Nishan Sahib and is found outside gurdwaras.

### Sikhism Timeline

- 1469 CE: Birth of Guru Nanak.
- 1481 CE: Guru Nanak refuses to wear the 'golden thread.'
- 1500 CE: Nanak travels, spreading the message of equality.
- 1539 CE: Guru Nanak dies.
- 1606 CE: Guru Arjan, the 5<sup>th</sup> Guru, is tortured to death for being a Sikh.
- 1699 CE: The tenth Guru, Gobind Singh, founds the community of the Khalsa.
- 1708 CE: Gobind Singh dies. He is the last of the human Sikh Gurus.
- 1716 CE: The first of the Sikh military leaders - Banda Singh Bahadur. He leads many military campaigns.

## World Religions - Hinduism Religion, Philosophy & Ethics

### Overview

- Hinduism is the world's 3<sup>rd</sup> largest religion, with about 1.1 billion followers. It is around 5,000 years old.
- Hindus are the people who follow Hinduism.** It is a very complex religion that is followed by different people in different ways.
- Many gods are worshipped in Hinduism although all of these different Gods are believed to be a part of the supreme God named 'Brahman.'**
- Hindus believe in karma and reincarnation – that when you die you are reborn as something else.**
- Hinduism doesn't have one holy book, but several sacred texts. **Mandirs** are Hindu worship buildings.
- Diwali, festival of light, marks the Hindu New Year –** oil lamps are lit on rivers to welcome the Goddess of Wealth and fireworks set off to ward off evil spirits.
- Holi is the festival celebrating the start of spring** when people smear each other with colour

**Karma & Reincarnation**

- Hindus believe that when people die they are born again as another living thing. In each life, the person is rewarded or punished for the things they have done in their last life (karma).
- If someone lives a perfect life, they will be freed from the cycle of reincarnation and join the Gods (Moksha)



### Brahman & the Gods

- Hindus believe in one supreme God called Brahman – he can be found in everyone and everything, including the other Gods.
- Some of the important other Gods include; Brahma (the creator), Shiva (the destroyer) and Vishnu (the protector) - these three form the 'Trimurti' (trinity).
- Other gods include Ganesh (remover of obstacles), Lakshmi (the Goddess of wealth & fortune) and Vishnu (the God who preserves life and stands up to evil).



Answers to Important Questions and Key Vocabulary		
<b>Where and how do Hindus worship? Why?</b>	 	<ul style="list-style-type: none"> <li>Many Hindus worship at home in their own shrine – this could be anything from a room, an altar, or simply pictures or statues.</li> <li>The Hindu building for communal worship is called a Mandir (Hindu temple). The temples are dedicated to different gods and are the focus of religious life.</li> <li>At Mandirs, Hindu people often recite the names of Gods and Goddesses. They also offer water, fruit and flowers to the Gods.</li> </ul>
<b>What are the Hindu holy books?</b>		<ul style="list-style-type: none"> <li>There are many different types of holy texts in Hinduism. Perhaps the most sacred are called the Vedas. The Vedas guide people in their daily lives. They are written into the Sanskrit language.</li> </ul>
<b>Where do most Hindus live in the world?</b>		<ul style="list-style-type: none"> <li>About 15% of the world's population are Hindus.</li> <li>India has the most Hindus by far – about 1 billion Indians are Hindus – this is around 80% of all Indians.</li> <li>However, Nepal has the highest proportion of Hindus – about 83% of its population are Hindus.</li> <li>There are also lots of Hindus in Bangladesh, Indonesia, Malaysia, Pakistan and Sri Lanka.</li> <li>Most of the populous countries in the world contain a population of Hindu people.</li> </ul>
<b>How many different types of Hindus are there?</b>		<ul style="list-style-type: none"> <li>There are many, many different forms of Hinduism, as different types have developed over the thousands of years since it was founded.</li> <li>There are four main forms – Vaishnavism, Shaivism, Shaktism and Smartism. These four types can be broken down many more times!</li> <li>Although they have small differences, each of the different forms follows the same rough principles.</li> </ul>

### Key Vocabulary

- Hindu
- Brahman
- Karma
- Reincarnation
- Brahma
- Shiva
- Vishnu
- Holi
- Dewali
- Dhoti
- Sari
- River Ganges

### Top 10 Facts!

- Hindus believe that all living things have souls.
- Because of this, very committed Hindus are vegetarians.
- Cows are considered to be particularly sacred, as they give milk to the people.
- People clean their houses, and then decorate them, to celebrate Diwali.
- Traditional Hindi clothes include a robe (dhoti) and shawl (chaddar) for men.
- Hindu women wear a long piece of clothing called a sari.
- Singing and dancing is an important part of Hindu worship, as is chanting.
- Big Hindu ceremonies include marriage (vivaha) and cremation (antyeshti)
- Hindu wedding celebrations last for many days. The bride and groom wear red and gold.
- After death, Hindus are cremated, and their remains are scattered in a nearby river.

### Hindu Timeline

2500BCE: Evidence of Indus Valley Hindus.	1500 BCE: The oldest Hindu scriptures were created.	1300 BCE: The oldest Hindu hymns were composed.	800 BCE: The sacred text of the Mahabharata begins to be composed.	100 BCE: The Ramayana is written.	600CE: Hinduism begins to grow and flourish – prayers and songs written.	950-1050CE: A 'City of Temples' is built in India at Khajuraho – 80 still stand.	c. 1600 CE: The Hindu Renaissance begins. Many modern versions of sacred texts are found, translated and used.
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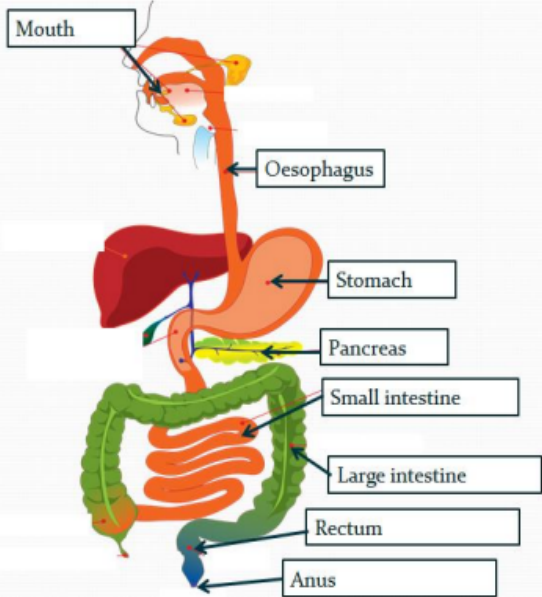
## Y7 Bio T3 - Diet & Health

### Digestive system

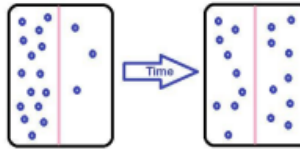
**Large** molecules are broken down into **small** molecules which can be absorbed into the blood.

There are two types of digestion:

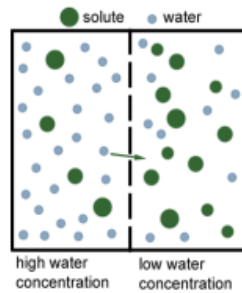
- Physical breakdown- Structures like teeth and muscular walls physically break up molecules
- Chemical breakdown- Enzymes break up molecules



Diffusion is the movement of particles from a high concentration to a low concentration.



Osmosis is a special kind of diffusion. Osmosis is the movement of water particles from a high water potential (concentration) to a low water potential (concentration)



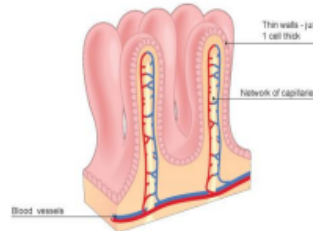
Food Group	Effect on the body	Example
Carbohydrates	Provides the body with the most energy	Bread, rice, pasta
Fats	Second best provider of energy, insulation.	Butter, oils
Protein	Growth and repair of cells	Meat, fish, eggs
Vitamins	Stay Healthy. <u>Vit A</u> = Eyes, <u>Vit C</u> = Immunity, <u>Vit D</u> = Bones	Fruit & Vegetables
Minerals	Stay Healthy. Iron= blood, Calcium= Teeth & bones	Milk, meat
Fibre	Prevents constipation	Cereal
Water	Hydrates cells, chemical reactions	Water

Lack of ...	Problems caused
Energy	- Weight loss, lack of growth - Starvation - E.g. Marasmus
Protein	- Lack of growth - Less repair of body tissues - E.g. Kwashiorkor
Fats	- Dry skin & fatigue - Less insulation - Loss of menstrual cycle
Vitamins & minerals	- Lack of formation of bones - Bleeding gums & loss of teeth - E.g. Rickets, Scurvy
<u>Overnutrition</u>	- Overweight & obesity - <u>Cardiovascular disease</u> - E.g. Type 2 diabetes

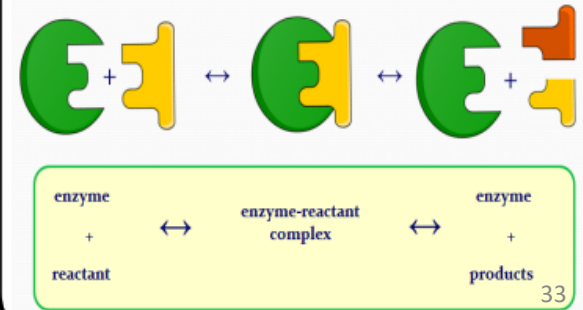
Organ	Function
Mouth	Chew food into smaller pieces
Oesophagus	Muscular tube which moves food to the stomach
Stomach	Produces acid (HCl) to kill any bacteria. Muscular walls to churn food.
Pancreas	Produces enzymes
Small intestine	Digested food absorbed into the blood
Large intestine	Water reabsorbed
Rectum	Faeces is stored
Anus	Faeces leave the body

Inside the small intestine there are small hair like structures called villi. Villi are adapted for absorption:

- Provide a large surface area
- Thin covering for a short diffusion distance
- Good blood supply



Enzymes are chemicals that speed up reactions. They help us break down food molecules





## Chemical reactions

Elements and compounds can react chemically by mixing them with other chemicals, or by using heat or electricity. You can tell that a **chemical reaction** has occurred if a new substance has been formed. This might be observed through a colour change, a gas being given off (bubbles), a solid being formed (eg a precipitate) or an energy change.

Most chemical reactions involve an energy change. This is usually in the form of heat, but can also involve light being given off, for example, in burning (**combustion**).

In a chemical reaction a new substance is always formed. Most chemical reactions are not easily reversed (they are **irreversible**). Some chemical reactions take place just by mixing. When you make a solid by mixing two liquids, the solid is called a **precipitate**.

Other chemical reactions need energy to start them off. This energy can be in the form of heat, light or electricity. When you use energy to split up compounds they are **decomposed**.

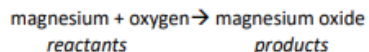
## Combustion reactions

Combustion is the chemical name for burning. A fire needs three things to keep burning: fuel, oxygen and heat. We show these three things on the **Fire Triangle**.

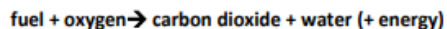


If any one of these three things runs out, the fire will go out.

When a metal burns, the metal combines with oxygen from the air to form a chemical called an **oxide**.



Fossil fuels contain a lot of carbon and hydrogen. When they burn they use up oxygen from the air and produce water and carbon dioxide. We can show the reaction using a word equation. Energy is in brackets in this equation because it is not a chemical substance.

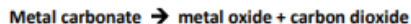


## Y7 Chem T3- Chemical reactions

### Thermal decomposition

In a thermal decomposition reaction, a substance splits in to less complex substances when heated.

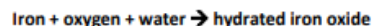
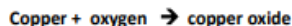
Metal carbonates undergo thermal decomposition.



You can test for carbon dioxide being given off by bubbling it through limewater. If the limewater goes cloudy carbon dioxide is present.

### Oxidation

Combustion is an example of a type of reaction called oxidation. In an oxidation reaction, a substance gains oxygen. Most oxidation reactions give out heat energy. Rusting is an oxidation reaction.



### Exothermic and Endothermic reactions

An **exothermic** reaction is a reaction that gives out heat energy. The temperature of the surroundings increases.

Combustion is an example of a type of exothermic reaction.

Exothermic reactions are useful as fuels, they can also be used in hand warmers and self-heating cans.

An **Endothermic** reaction is a reaction that absorbs heat energy.

Thermal decomposition is an example of an endothermic reaction. The temperature of the surroundings decreases.

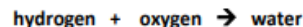
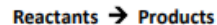
Endothermic reactions can be used in cold packs to treat sports injuries.

To find out if a reaction is exothermic or endothermic you need to find the initial temperature of the reactants, then mix the chemicals and record the new temperature. If the temperature has gone up the reaction is exothermic, if the temperature has gone down the reaction is endothermic.

### Word equations

We can write **word equations** to show a chemical reaction. The chemicals that you start with are called the **reactants**. The chemicals at the end are called the **products**.

When writing word equations, the reactants are on the left and the products are on the right, separated by and arrow.



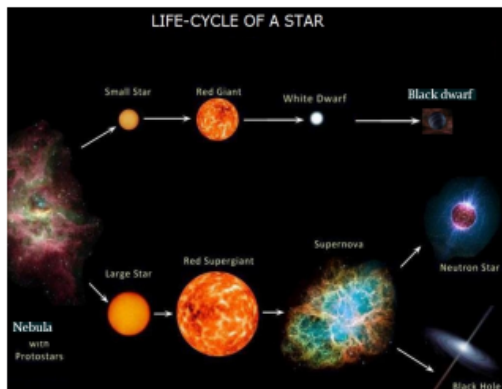
Word equations should only contain the names of the elements and compounds, not a mixture of names and formula.

### Conservation of mass

In a chemical reaction, no atoms are created or destroyed, they are just re-arranged to form the products. This means the mass of the reactants is the same as the mass of the products.

When metals react with oxygen their mass appears to go up, because oxygen is added to them. Sometimes the mass in a chemical reaction appears to go down, this is because a gas is given off and the gas escapes.

## Y7 Phys T3- Space



Stars are born and die in space. Stars can be categorised as either normal stars or massive stars. Normal stars like ours follow the life cycle shown at the top (Nebula - average star - red giant - white dwarf - Black dwarf)

Massive stars (stars that are at least 1.4 times more massive than our sun) will go from being a massive star to a red supergiant, followed by a supernova. Then, it will either become a black hole or a neutron star.

Alien life is something that many astronomers are interested in. To date, scientists have discovered around 3,900 exoplanets. Exoplanets are planets which have been discovered orbiting around other stars.



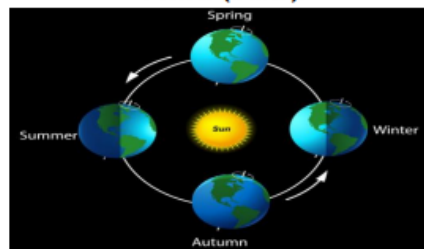
Some of these planets are too close to their parent star and so would be too hot for life. Some are too far away from their parent star and so would be too cold. Planets that are at just the right distance are in what we call the "habitable zone." Scientists are very interested to find out if these planets could contain life.

The geocentric model of the solar system was the model of the solar system which placed the earth at the centre. According to this model, everything orbits around the earth.

The heliocentric model is the model that places the sun at the centre of the solar system instead.



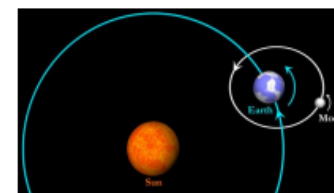
The seasons come about because the earth is slightly tilted. It is summer in the northern hemisphere when the northern hemisphere is tilted towards the sun. This results in greater intensity of solar radiation and longer days. When it is summer in the northern hemisphere, the southern hemisphere is tilted away from the sun, therefore the sun's rays are less intense and this makes it colder (winter).



To view distant planets we use space-based telescopes. We can also gather information about planets in our own solar system using rovers and probes.



The orbits of planets and moons is because of **gravity**.



The earth orbits around the sun, which takes 365.25 days to complete.

The moon orbits around the earth which takes about 29.5 days.

Since a calendar year is based on 365 days and not 365.25, every 4 years we have a leap year. This is where we have an extra day in February.

The earth also spins on its axis. It takes 24 hours for it to spin once, hence the length of a day is 24 hours.

Our solar system is made up from planets, satellites (both natural and man-made) and dwarf planets.

Dwarf planets are planets that are too small to become spherical under the force of gravity.

The sun is actually a star, and is one of billions of stars that make up our galaxy (The Milky Way).

The universe is made up of billions of galaxies of different sizes.

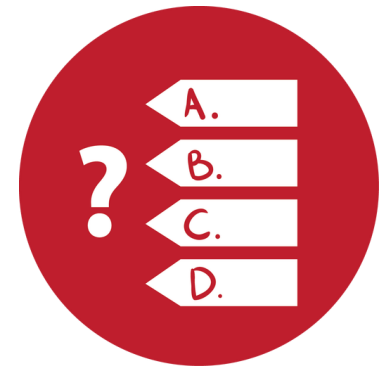
Space is very big and so metres and kilometres tend to be too small to be practical in astronomy. Instead, we use units such as light years and astronomical units:

1 light year is the distance that light travels in 1 year.

1 Astronomical Unit (1AU) is the distance from the sun to the earth.

The universe is about 13.75 billion years old and began with an event called the "big bang".

The universe has been expanding ever since and it appears to be speeding up in its expansion. Whilst there are theories about what will happen to our universe, no one knows for certain what the ultimate fate of the universe will be!







B

