

Home Learning Booklet



Knowledge Goals Year 7 Half Term 6

How to self-test

Mind mapping

- Mind mapping is simply a diagram to visually represent or outline information.
- Use information gathered from your knowledge goals booklet to create mind maps, make sure to use colour and images, keep writing to the bare minimum.

How to mind map:



Information for parents on knowledge retrieval



Flash cards

Use your knowledge goals booklet to make flash cards. Write the questions on one side and on the other record the answer. Test yourself or work with a friend to make sure you know all the key information for each topic.

How to mind map:



How should students use the Knowledge Goals booklets?

Your Knowledge Goals booklet provide the essential knowledge that you need to learn in each subject this half term. You are **expected to spend 30 minutes per subject per week 'learning' the content**. You will be assessed during lessons using 'low stake' quizzing. **Your teacher may choose to set you additional homework.**

How can parents support?

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

Subject Index

Suggested Homework Schedule (1 hour of independent study per night if you have not been set homework by your class teacher).

To help you get organized, we have planned out your weekly home learning to cover all subjects. You may choose to create your own version:

Week A

Day	Subject 1 (20mins)	Subject 2 (20mins)	Subject 3 (20mins)
Monday	Art	English Language	Physics
Tuesday	Biology	Technology	Maths
Wednesday	Chemistry	Spanish	Music
Thursday	Computer Science	Geography	RS
Friday	Design Technology	History	PE

Week B

Day	Subject 1 (20mins)	Subject 2 (20mins)	Subject 3 (20mins)
Monday	Drama	Personal Development	Teir 2 Vocab
Tuesday	Maths	English	Physics
Wednesday	Chemistry	English	Music
Thursday	Teir 2 Vocab	Maths	Biology
Friday			

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Literacy Tier 2 Vocabulary

These words are all 'tier 2' words; in other words, they are seen as 'academic vocabulary' and if you know them, can understand them and use them, you will do better in your exams and be able to communicate more precisely and effectively in life.

#	Key word	Definition
1	emphasis	
2	illustrate	
3	register	
4	cite	
5	dimension	
6	perspective	
7	revenue	
8	sufficient	
9	notion	
10	confer	

Knowledge Goals: ART

Year 7 term 3

Using imagination as your stimulus, you will develop a letter design using pen. You will develop skills of layout and spatial awareness. Working only in black pen to develop the understanding of the importance of the quality of line and of pattern. You will research modern graffiti artist AJ Purdy to inform your work.

Success Criteria—what will my work be marked on?

- ⇒ Layout and scale of your letter
- ⇒ Clear and identifiable drawings
- ⇒ Smooth pen work including outlines and shading
- ⇒ Creatively linking drawings together
- ⇒ Variety of line thicknesses
- ⇒ Visually links to AJ Purdy's art work
- ⇒ Use of pattern to fill spaces
- ⇒ 3D appearance of drawings

Information on Purdy

A J Purdy is a visual **communicator/illustrator**, type enthusiast and exhibiting artist. Currently he lives in the USA. In march 2006 he was awarded a year scholarship to the Fabrica Research Center in visual communication in Italy. He **graduated from the university of the arts in Philadelphia**, earning his BFA graphic design in 2003. Continual collaboration with artists and designers on various uselessly fun, and unpretentious projects is a great joy for him.

Purdy uses varied thicknesses of line to create focal points. His backgrounds are often plain to draw attention to the fine detail in his drawings.

Purdy uses pattern to create detail and texture within his letters.

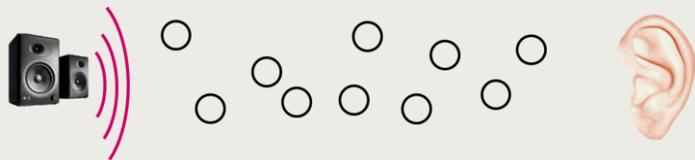


Key words

Tone, value, contrast, monochromatic, guidelines, shade, solid, mark making, pattern, illustrative, imaginative

Shape / Form	Tone	Pattern / Texture	Colour	Line
Closed	Bright	Repeated	Bright	Fluent
Open	Dull	Uniform	Bold	Free
Distorted	Light	Geometric	Primary	Controlled
Flat	Dark	Organic	Secondary	Expressionistic
Organic	Faded	Random	Cold	Strong
Deep	Smooth	Symmetrical	Warm	Angular
Positive	Harsh	Irregular	Radiant	Delicate
Negative	Contrasting	Bold	Dull	Flowing
Foreground	Intense	Bumpy	Vivid	Simple
Background	Sombre	Rough	Contrasting	Thick
Composition	Strong	Smooth	Complementary	Thin
Elongated	Powerful	Broken	Monochrome	Horizontal
Compressed	Dramatic	Fine	Harmonious	Vertical
Large		Bold	Natural	Broken
Small		Flat	Saturated	Overlapping
2D / 3D		Grid	Luminous	Faint
Blurred			Opaque	
Movement			Translucent	
Perspective			Transparent	

Knowledge Goals: Biology – Waves (Sound)

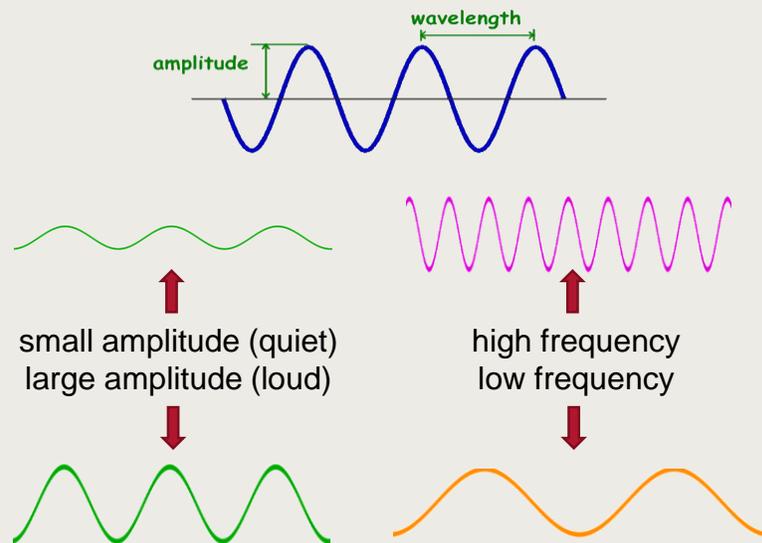


Sound needs a medium (particles) to travel through. Particles in the medium vibrate and collide to pass on the vibrations.



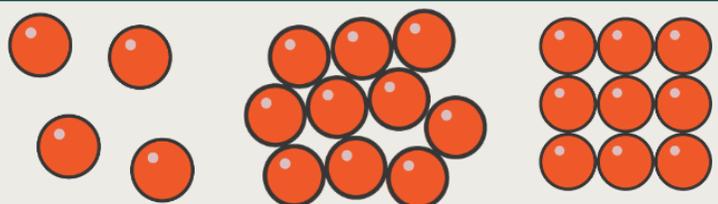
Sound cannot travel through the vacuum of space because there are no particles to carry vibrations.

Wave forms show the amplitude, frequency, and wavelength of different waves.



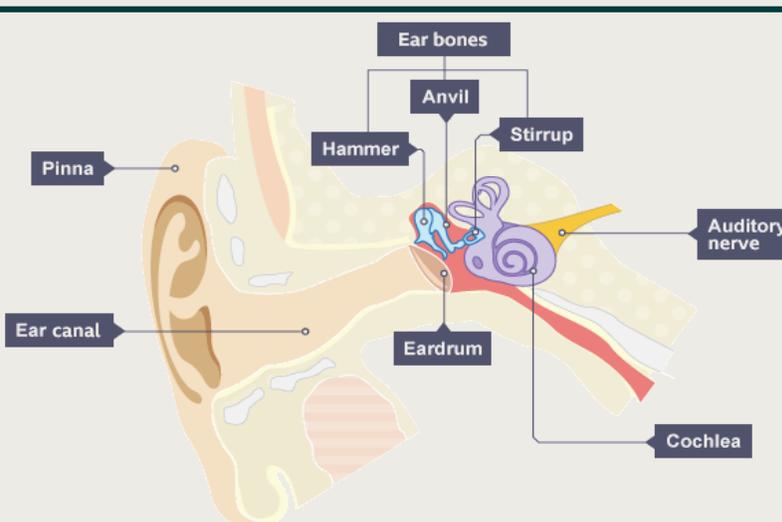
When sound waves reflect off a surface you might hear an **echo**. Large, flat surfaces such as **walls** are good at reflecting sound to make echoes. **Acoustic foam** not good at reflecting sound; it absorbs the energy of the sound waves.

Architects have to design buildings carefully to minimise echoes in large rooms or halls.



higher density

Sound travels more quickly through a solid because the particles are closer together. In other words; the denser the medium, the faster sound travels. The speed of sound in air is 330 metres per second, a million times slower than light.



How the ear works

1. The sound waves are funnelled into the ear by the pinna.
2. The sound waves travel along the ear canal.
3. The ear drum vibrates.
4. The small bones (hammer, anvil and stirrup) pass the vibrations to the cochlea.
5. The cochlea is a spiral tube containing liquid and sense cells.
6. The auditory nerve carries electrical signals to the brain.

Knowledge Goals: Biology – Waves (Sound)

Half Term 6: Tier 3 Vocabulary

#	Key word	Definition
1	vibration	A back and forth motion that repeats.
2	longitudinal wave	Where the direction of vibration is the same as that of the wave.
3	volume	How loud or quiet a sound is in decibels (dB).
4	amplitude	The maximum amount of vibration, measured from the middle position of the wave, in metres.
5	wavelength	Distance between two corresponding points on a wave, in metres.
6	frequency	The number of waves produced in one second, in hertz.
7	vacuum	A space with no particles of matter in it.
8	oscilloscope	A device that can show patterns of sound waves that have been turned into electrical signals.
9	absorption	When energy is transferred from sound to a material.
10	auditory range	The lowest and highest frequencies that a type of animal can hear.
11	echo	Reflection of sound waves from a surface back to the listener.

Knowledge Goals: Chemistry – Working scientifically - solve

Estimate risks



Use the key words list on the next page to help you.

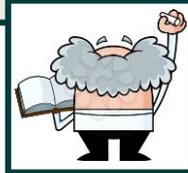
- Identify the parts of an investigation that are a **hazard**.
- Describe what the **risks** of these hazards are, to you and to others.
- Describe how you could **reduce** the risks.
- Be able to balance the risks against the need for doing the experiment, and make a decision.

Examine consequences



- Describe how **people** might be affected by a scientific development e.g. How might local people affected by a company opening a limestone quarry next to their town?
- Describe how the **habitat** of animals and plants might be affected by this quarry.
- Describe how different group of people might benefit or lose out **financially** by a development like this.

Review theories



- State some scientific theories you have learned about - e.g. the Earth is made of tectonic plates, periodic table arrangement, natural selection, planets orbit the Sun etc.
- Understand that scientific **evidence** is an important part of accepting a theory and that new evidence will change theories over time.
- Understand that disagreement and argument play an important part in developing and accepting theories.

Interrogate sources



Questions we must ask...

Use the key words list on the next page to help you.

- Is the author of the source material **qualified**?
- Is the research **peer reviewed**?
- Is the research **biased**? (could the funder, author or researcher benefit from the findings?)
- Did the experimenter collect enough **data**?
- Was the research backed up by current scientific thinking and by other research?

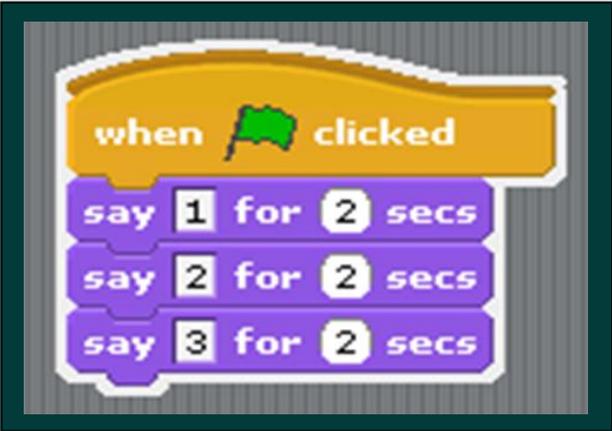
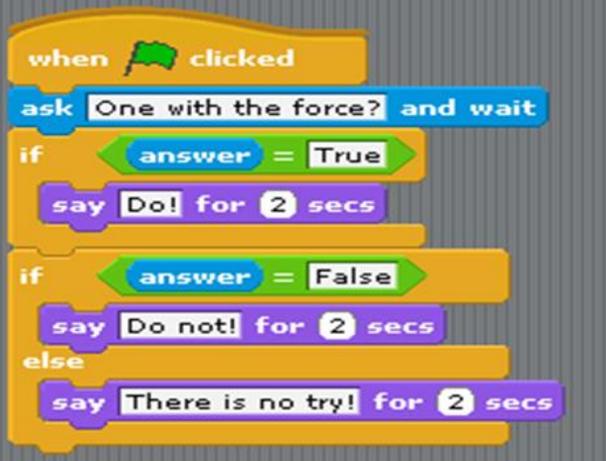


Knowledge Goals: Computer Science



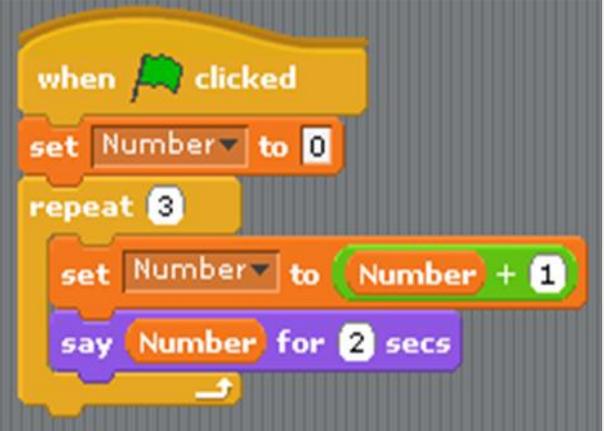
BYOB is a programming language similar to Scratch, in which you can use blocks to create your own programs.

Selection: Computers can make decisions on which piece of code to run by evaluating a condition. If the condition is true, then they will run the code. If it is false, then they will skip it. This is known as Selection



Sequence: Computers require correct code given in sequence in order to carry out instructions. The code on the left will say "1, 2, 3". If the blocks were out of sequence, then the program would not function correctly and would give a different output.

Iteration: Computers can repeat blocks of code over and over. This is known as Iteration

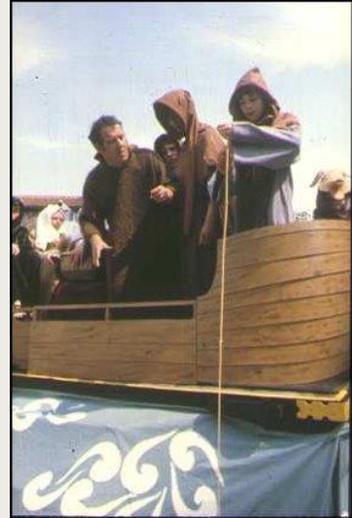


Knowledge Goals: Drama (Medieval Theatre)

THE CHURCH STREET THEATRE ENTERTAINING GUILDS

Three types of Medieval Plays:

- Mystery plays are simply plays that act out the stories from the Bible
- Miracle plays are about the Saints and account for the great miracles that were achieved by them
- Morality plays invented stories using imaginary characters to show the struggle between Good and Evil



- **Medieval Folk Drama:**
- Dominance of the church in Medieval society. There were people that rebelled religion.
- In England Robin Hood was a popular fictional character, the tales of Robin Hood have been told for over 700 years.
- What do you already know about Robin Hood?



Robin Hood is an example of a medieval folk drama



An example of a scenery wagon



A contemporary image of a medieval theatre guild

Knowledge Goals: English

ABOUT THE TOPIC/GENRE	CONVENTIONS	HOW TO IMPROVE AT HOME
<p>This topic gives an insight into the lives of others through their own voices and perspectives. We will read a number of different texts, including extracts from longer stories, non-fiction and also poetry, exploring diverse experiences. We will develop our empathy by gaining an understanding of what these experiences are like for other people and how they make people feel, as well as thinking of ways we can help and support others. By reading these texts, we will also improve critical reading skills</p>	<p>Poetry Poetry is a way of expressing ideas and feelings in a wide variety of forms and styles. They can follow traditional rhyming patterns or be written in free verse without a rhyme scheme – it depends on the poet and what they are trying to express.</p> <p>Non-fiction Non-fiction texts such as letters, articles, speeches, diaries and blogs are (largely) true stories and/or opinions that help us to understand different perspectives and real events.</p> <p>Fiction Fiction means that it ‘isn’t true/is made up’. Stories can transport us to imagined worlds, but they can also be based on very real issues. We can learn a lot about the real world through exploring fiction.</p>	<p>Read news articles to get a sense of issues happening in the world – you could write your own news report based on one of the issues we’ve discussed.</p> <p>Read books from lots of different people. Ask the librarian to show you our range of texts from diverse authors – the more voices we read, the better we’ll understand the world.</p> <p>Do punctuation quizzes online to make sure that you know how to use wider range of punctuation types (with accuracy). Search BBC Bitesize ‘KS3 GRAMMAR’ or click the link below: Grammar - KS3 English - BBC Bitesize for tips.</p>
KEY TERMINOLOGY/TECHNIQUES	CORE ASSESSMENT SKILLS	STUDENTS ARE AIMING TO BE ABLE TO WRITE:
<p><i>Empathy, perspective, viewpoint, insight, tone, formality, colloquial, humour, sarcasm, emotive language, alliteration, facts, opinions, rhetorical questions, repetition, hyperbole, irony, figurative language, bias, connotations, rhetoric, simile, metaphor, imagery, personification, repetition, pathetic fallacy</i></p>	<p>P Point: Answer questions with relevant ideas. Make valid statements showing understanding of how a character or theme is presented.</p> <p>E Evidence: Select a number of quotations to support statements. Quotations are relevant and link to original points. Quotations selected allow opportunities for further exploration.</p> <p>WTL Analyse Writers’ Techniques: Language: You are able to accurately identify the language techniques that writers and the intended effects of the techniques.</p> <p>ERA Effect on Reader/Audience: Explain what a reader may think/feel/believe as a result of the evidence chosen.</p>	<p>In ‘Stanstead’, Kasienska’s character shows her fear of her new home and how unwelcome she feels. The poet uses pathetic fallacy and personification in the line ‘rain threatens to drench us’. The verb ‘threatens’ makes it seem like even the weather is aggressive towards Kasienska from the moment that she arrives. This suggests to the reader that Kasienska felt unwanted and unsafe and creates empathy towards her and other immigrants.</p>

Knowledge Goals: Food Technology

Personal Hygiene

Good personal hygiene is vital when cooking to avoid the risk of food poisoning.

- Short Fingernails
- Hair Tied back
- Cuts covered with a BLUE plaster
- Wear clean apron
- Jewellery removed
- Wash hands before cooking, after blowing nose, visiting toilet or touching face or hair

Health and Safety

These are essential for everyone's safety

- Wash in hot soapy water
- Don't put hot food in fridge
- Turn saucepan handles when using
- Don't touch electrical appliances with wet hands
- Store high risk food in fridges
- Use oven gloves

Food Senses

taste, smell, touch, sight, hear

Macronutrients

Needed in large amounts to help the body to function properly

Fat



Function:
Energy
Warmth
Protection of organs

Sources

Saturated Fat (Bad Fats)	Unsaturated Fat (Good Fats)
Meat	Avocado
Processed Foods	Nuts
Lard	Olive oil

Saturated Fats - solid at room temperature and are from animal sources. Unsaturated fats are liquid at room temperature and are vegetable sources.

Too much	Too little
<ul style="list-style-type: none"> • Obesity • Type 2 diabetes • Heart Disease 	<ul style="list-style-type: none"> • Fat soluble vitamin deficiencies

Carbohydrates



Function:
Energy

Sources:
Bread
Pasta
Rice
Wheat
Potatoes
Cereals

Sugars:
Cakes
Sweets
Fizzy drinks

We should consume no more than 30g of sugar per day

Too much	Too Much
<ul style="list-style-type: none"> • Obesity • Type 2 diabetes • Heart Disease 	<ul style="list-style-type: none"> • Tooth decay • Type two diabetes • Obesity

Protein



Function:
Growth and Repair
Energy

Sources:

Plant	Animal
Nuts	Eggs
Quorn	Fish
Beans	Meat
Lentils	

Too much	Too little
<ul style="list-style-type: none"> • Turns to fat if not turned into energy 	<ul style="list-style-type: none"> • Anaemia • Slow growth in children

Water
Keeps us hydrated.

Source
Drinks, fruit and vegetables, soup.

<p>Function</p> <ul style="list-style-type: none"> • Controls body temperature. • Gets rid of waste in the body. 	<p>Too little</p> <ul style="list-style-type: none"> • Dehydration leads to headaches, irritability and loss of concentration.
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Fibre

Function:
It helps with digestion
It helps to get rid of waste

<p>Source: Wholegrain, Whole wheat, Wholemeal cereals, Peas and beans</p>	<p>Too Little</p> <ul style="list-style-type: none"> • Constipation • Bowel Cancer
--	---

Colour Coded Chopping Boards

- Blue – fish
- White – bread and dairy
- Brown – root vegetables
- Red – raw meat
- Yellow – cooked meat
- Green – vegetables and salad



Knife Skills

- Bridge Hold
- Claw Hold
- Knife pointing down



Knowledge Goals: Geography Geography ROCKS!



Click on the link above to find out about the rock cycle.



Click the QR code above to find out more about the 3 different rock types.



THE ROCK CYCLE

www.geolsoc.org/factsheets

The Geological Society
serving science & profession

SEDIMENTARY

Rocks on the Earth's surface are gradually broken down into smaller pieces by water, ice, wind, plants and animals (known as **weathering**). These broken up pieces are called **sediment** and are transported away, or **eroded**, by rivers, glaciers and wind. Sediments often collect at the bottom of lakes and oceans. Over time they are squashed and compacted together to become a **sedimentary rock** such as **sandstone**, **limestone** or **mudstone**.

Sedimentary rocks are laid down in layers. They can contain **fossils** from animals and plants that become trapped in the sediment before it becomes a rock.

Beds of sandstone, mudstone and limestone in the Grand Canyon

Sedimentary rocks are made up of **grains** which can be **rounded** or **angular**. Under the microscope we can sometimes see gaps between the different grains - these gaps are called **pores**.

If the pores connect together, water, air or oil can flow through the rock, and the rock is called **permeable**. If a permeable rock is put in water you will see bubbles coming out as water pushes the air out.

Porous & permeable Non-porous & impermeable

IGNEOUS

When rocks are pushed deep enough down into the Earth, they can melt to form **molten rock**. Below the surface of the Earth, molten rock is called **magma** but when erupted above the ground, usually through **volcanoes**, it is called **lava**.

Igneous rocks form when either magma or lava cools down and turns from liquid to solid. When this happens, igneous rocks form **crystals** and are said to **crystallise**.

Lava cools down very quickly because the surface of the Earth is cold. This means that igneous rocks formed from cooling lava, such as **basalt**, only have time to grow tiny crystals. Often gas bubbles can get trapped in these rocks too. **Obsidian**, or volcanic glass, cools so quickly that you cannot see any crystals at all!

Magma deep within the Earth takes thousands of years to crystallise because it is much hotter below the surface. Crystals have more time to grow, so they grow larger. If you look closely at an igneous rock that has formed deep within the Earth, for example **granite** or **gabbro**, you will be able to see the different coloured mineral crystals.

Fast cooling Small crystals
Lava
Slow cooling Large crystals

Basalt Granite
Obsidian

Rock & thin section images: © 2013 Imperial College London

Rocks identification key

```

    graph TD
      Root[ ] --> Fizzes[Rock fizzes with acid]
      Root --> NoFizzes[Rock does not fizz with acid]
      Fizzes --> Limestone[LIMESTONE or MARBLE]
      NoFizzes --> GrainsTight[Grains are crystals tightly held together in a close fitting pattern]
      NoFizzes --> Rounded[ Rounded grains ]
      NoFizzes --> GrainsSmall[Grains too small to see  
Rock is soft and crumbly]
      GrainsTight --> Granite[GRANITE]
      GrainsTight --> Basalt[BASALT]
      Rounded --> Sandstone[SANDSTONE]
      Rounded --> Conglomerate[CONGLOMERATE]
      GrainsSmall --> Shale[SHALE or MUDSTONE]
      Granite --> White[White rock  
Very hard]
      Granite --> Quartzite[QUARTZITE]
      Basalt --> Grey[Grey or purple rock  
Very hard and brittle  
Spills into thin sheets]
      Basalt --> Slate[SLATE]
      Shale --> Silvery[Silvery coloured  
flaky grains]
      Shale --> Schist[SCHIST]
      Conglomerate --> Dark[Rock shows dark and light bands]
      Conglomerate --> Gneiss[GNEISS]
  
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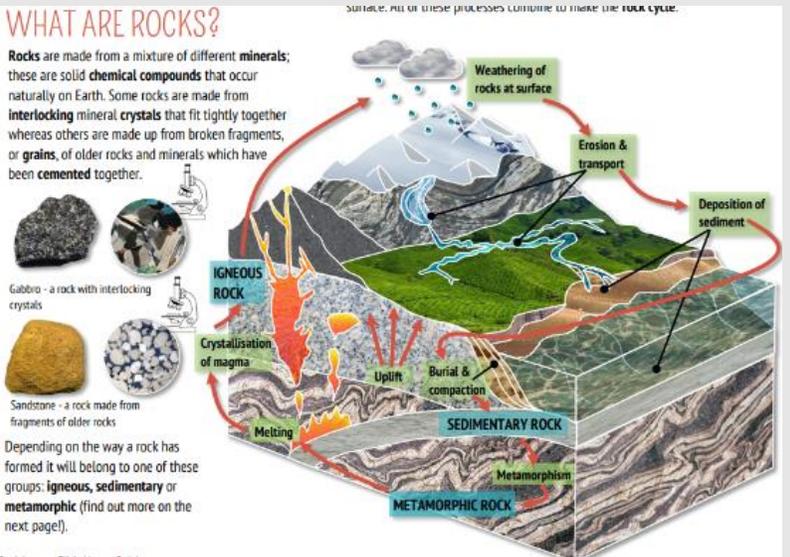
Keys:
Keys are used to identify living things or objects.

1. A key involves a **series of questions** which all have **two possible answers**.
2. The two answers **divide** a group into **two parts**.
3. Further questions continue to **divide the group up** until you are just **left with one**.

* Is the rocks identification key above a true key? Explain your answer.
* Can you draw a key to separate the three different rock types?



Click the QR code to find out about upland limestone landscapes.



METAMORPHIC

The metamorphic rock you end up with depends on 1: the **type of rock** you start with, and 2: the **amount of heat and pressure** the rock is put under. Here are a few examples of metamorphism that can occur:

granite → gneiss
limestone → marble
mudstone → schist
sandstone → quartzite
shale → slate
basalt → eclogite

Keys:
Metamorphic rocks are rocks that have been **changed** over time. When rocks are pushed deep down into the Earth, grains and minerals can become stretched, squashed and slightly melted from the extreme **pressure** and **heat**. This is called **metamorphism** and it causes new metamorphic rocks with different textures and/or minerals to form. Metamorphic rocks are **crystalline** like igneous rocks however the minerals in metamorphic rocks tend to line up to form layers like in this gneiss from NW Scotland.

Image © Robert Stalham / CC-BY-SA 2.0
Rock images: © 2013 Imperial College London

Year 7 Knowledge Goals – The Stuarts



1603
James I becomes King

1625
Charles I becomes King

1629
Charles I closes Parliament for 11 years

August 1642
English Civil Wars begin

January 1649
Charles I is executed

1653
Protectorate is created

1660
The Restoration

1688-89
Glorious Revolution

James I and Charles I, 1625-49

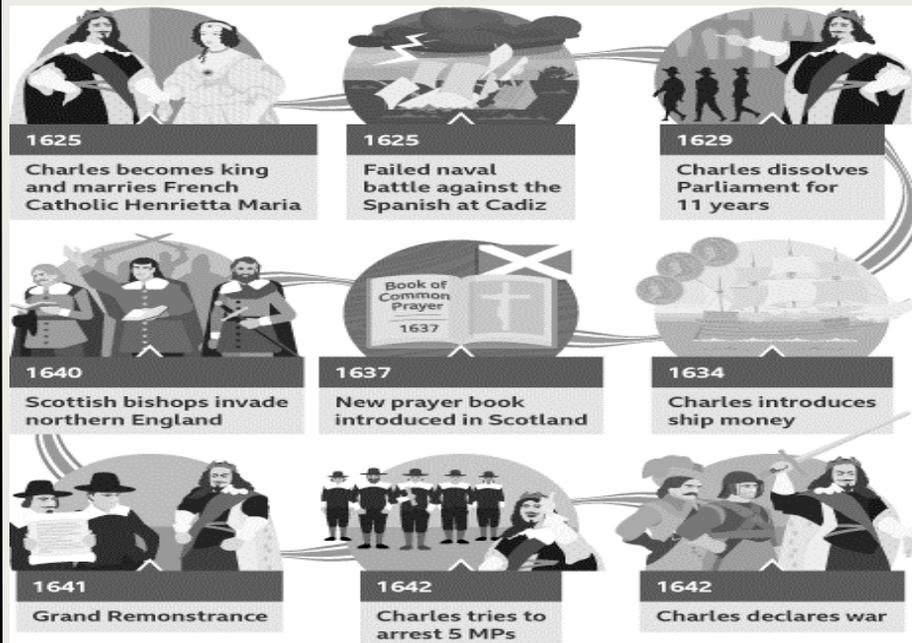
James I, 1603-1625

Was James VI of Scotland before he became James I of England in 1603. Being the son of Mary Queen of Scots (a Catholic), there was an expectation he would be kinder to Catholics. However, this did not happen and in 1605 a group of Catholics tried to blow up the King in the Gunpowder Plot. James was also a keen believer in witches, and wrote a book called 'Demonologie' in 1597.

Charles I, 1625-1649

Charles I was married to the Catholic princess, Henrietta Maria. Some in Parliament thought that Charles had plans to make England Catholic again. Charles also believed in the Divine Right of Kings. In the first four years of his rule, Parliament and the King disagreed a lot, so Charles closed Parliament and began Personal Rule from 1629. When he had to call Parliament again in 1640, the argument continued until the English Civil Wars broke out in 1642. After seven years of war, Charles was defeated and executed in 1649.

What led to the outbreak of war in 1642?



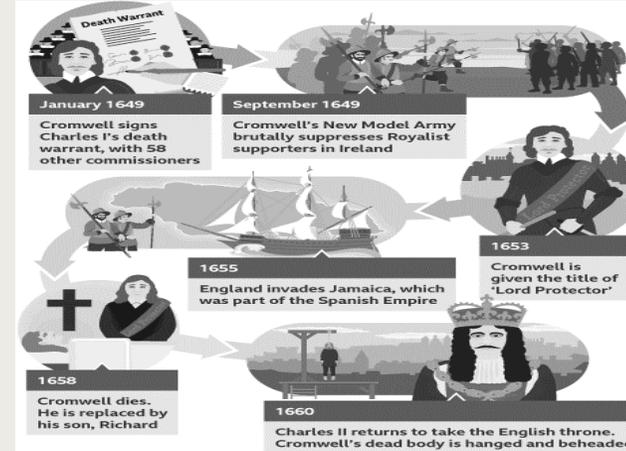
The Republic, 1649-1660

Why did Parliament win the English Civil Wars?

- Parliament had support of London so had lots of money.
- The New Model Army was introduced in 1644, was very organised.
- Had the support of Scotland.
- Skilled military personnel were in charge, like Oliver Cromwell.



The role of Oliver Cromwell



The Restoration and the Glorious Revolution, 1660-89

What changes happened during the Restoration?

- Charles II was invited to retake the throne in 1660, on his 30th birthday.
- Charles II became known as the 'Merry Monarch'. He was a big fan of theatre, music, art, architecture, animals and fashion. Theatres were reopened and for the first time women were allowed to take the stage.
- There were big changes in science and culture, with famous figures such as Christopher Wren and Isaac Newton rising in popularity.

The Glorious Revolution, 1688-89

- After King James II took the throne in 1685, he gave Catholics more freedom.
- In 1688, James II's wife had a son. There were worries he would be Catholic.
- Seven MP's invited William of Orange over to take the throne.
- A number of acts were passed, including the Bill of Rights, Toleration Act and Triennial Act that reduced the power of the monarch and increased the role of parliament.

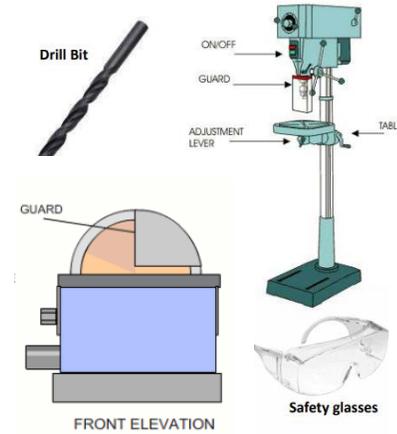
Knowledge Goals: Materials

Health and Safety

It is really important we **ASSESS** the **RISK** and **REDUCE** the **RISK** of Injury by **LISTENING** To the **TRAINING** and following the correct **PPE** usage

- Hair must be tied up in the workshop
- Blazers and ties must be removed
- Jewellery must be removed
- Only use machines you have been told to use and have been demonstrated to you
- Ensure you know where the emergency stop button is
- Do not eat or drink in the workshop
- No running

Pillar drill and disc sander



2D DESIGN

CAD: Computer Aided Design

Icon	Meaning
	Used to draw straight lines
	Used to draw freeform curves
	Used to draw circles
	Used to add text
	Click and hold for Shapes tools

CAM: Computer Aided Manufacture

Laser cutter

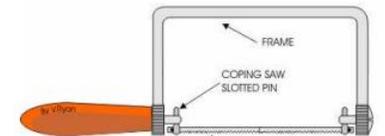
Laser cutting works by directing the output of a high-power laser. The focused laser beam is directed at the material, which then cuts the material leaving an edge with a high-quality surface finish. In school we mainly cut and engrave on Plywood and Acrylic



Saws

Tenon Saw
For straight lines

Coping Saw
For cutting curves



Softwoods	Hardwoods	Manufactured boards															
<p>Coniferous trees - Trees stay evergreen all year round. - Coniferous trees will grow at a faster rate. - Tend to have needles rather than leaves</p> <p><i>evergreen all year round</i></p> <p>Examples of softwoods</p> <p>PINE - used in household furniture</p> <p>CEDAR - used for outdoor furniture</p>	<p>Deciduous trees - Trees will lose their leaves in the winter. - Hardwood trees tend to be slow growing broad leaved trees.</p> <p>Summer Winter</p> <p>Examples of Hardwoods</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Properties</th> <th>Uses</th> </tr> </thead> <tbody> <tr> <td>Beech</td> <td>Hard wearing and strong</td> <td>Fruit Bowl</td> </tr> <tr> <td>Oak</td> <td>Tough and durable</td> <td>Garden furniture</td> </tr> <tr> <td>Mahogany</td> <td>Durable and easy to work with</td> <td>Tables and furniture</td> </tr> <tr> <td>Teak</td> <td>Strong, durable, resistant to moisture</td> <td>Boats</td> </tr> </tbody> </table>	Name	Properties	Uses	Beech	Hard wearing and strong	Fruit Bowl	Oak	Tough and durable	Garden furniture	Mahogany	Durable and easy to work with	Tables and furniture	Teak	Strong, durable, resistant to moisture	Boats	<p>Manufacture - It means the making of goods by manual labour or by machinery.</p> <p>MDF - stands for Medium Density Fibreboard. - a high quality board made by pulping wood fibres and then compressing them greatly. It is very smooth and stable, it cuts well and is used in high quality furniture. - Easy to work with - Stable and uniform strength</p> <p>Plywood - Plywood is made by gluing together thin layers of wood called veneers. Each layer has the grain going across the one below. This makes it very flat and strong. It is used for sops, interior doors and bottoms of drawers. - Veneers glued at 90 degrees - Very flat and strong - Used in toys and exterior doors</p> <p>Examples of Manufactured Boards</p> <p>Normally household items</p>
Name	Properties	Uses															
Beech	Hard wearing and strong	Fruit Bowl															
Oak	Tough and durable	Garden furniture															
Mahogany	Durable and easy to work with	Tables and furniture															
Teak	Strong, durable, resistant to moisture	Boats															

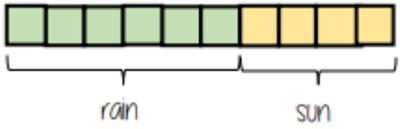
Knowledge Goals: Maths

Unit 11 – Ratio and Proportion

Topic	Video	Resource
to identify the relationship between ratios and fractions and convert between them.	Watch this	Complete Q1,2&4 (check answers by clicking at bottom of page)
Simplifying ratios and writing a ratio in the form 1:n and n:1	Watch this	Complete Q2,3,5&6
to divide into a 2-part ratio when given a total.	Watch this	Complete Q1
divide into a ratio when given one share.	Watch this	Complete Q1,2,3
divide into a ratio when given the difference.	Watch this	Complete Q1,2,3
solving problems using ratio		Complete Q1,3,5

Simplifying a ratio Cancel down the ratio to its lowest form

"For every 6 days of rain there are 4 days of sun"

$6:4$ 

+ by 2 ↓ rain sun

$3:2$ 

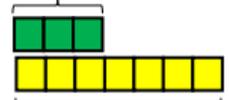
"For every 3 days of rain there are 2 days of sun" – when this happens twice the ratio becomes 6:4

Find the biggest common factor that goes into all parts of the ratio

For 6 and 4 the biggest factor (number that multiplies into them is 2)

Ratio as a fraction

Trees: Flowers

$3:7$ 

Ratio

There are 3 parts for trees

Flowers

Fraction of trees

Number of parts of in group 3

Total number of parts 10

Fraction

Tree parts 3 + Flower parts 7 = 10

Ratio In (or n:1)

This is asking you to cancel down until the part indicated represents 1

Show the ratio 4:20 in the ratio of In

$4:20$

$1:5$

The question states that this part has to be 1 unit. Therefore Divide by 4

This side has to be divided by 4 too – to keep in proportion

*If the n part does not have to be an integer for this type of question

Representing a ratio "For every 5 boys there are 3 girls"

This is the "whole" – boys and girls together

$5:3$

This represents the 5 boys This represents the 3 girls

Double Number Line

This represents the 5 boys

This is the "whole" – boys and girls together

This represents the 3 girls

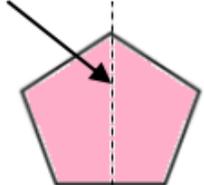
Knowledge Goals: Maths

Unit 12 – Transformations

Topic	Video	Resource
to identify the line of symmetry and calculate the order of rotation .	Watch this	Complete Q1&4
	Watch this	Complete Q1&4
reflecting 2D shapes in, vertical, horizontal and diagonal mirror lines	Watch this	Complete Q1&2(a-d)
correctly describe a reflection.	Watch this	Complete Q7
transform 2D shapes by translating using column vector notation on a grid	Watch this	Complete Q1
construct similar shapes by enlargement of a positive integer and fractional scale factor	Watch this	Complete Q1
	Watch this	Complete Q1&2
Describing enlargements	Watch this	Complete Q4
construct similar shapes by enlargement of a positive integer and fractional scale factor from a given point	Watch this	Complete Q1
transform 2D shapes by rotating them	Watch this	Complete 1(a-f)

Lines of symmetry

Mirror line (line of reflection)



Rhombus
two lines of symmetry

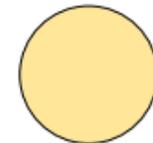


Parallelogram
No lines of symmetry



Shapes can have more than one line of symmetry... This regular polygon (a regular pentagon has 5 lines of symmetry)

A circle has an infinite amount of lines of symmetry

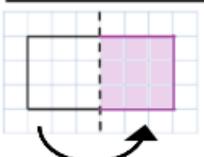


Reflect horizontally/vertically (1)

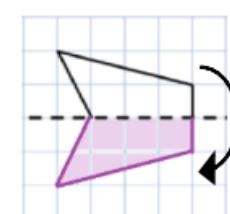
Reflection on an axis grid

Note: a reflection doubles the area of the original shape

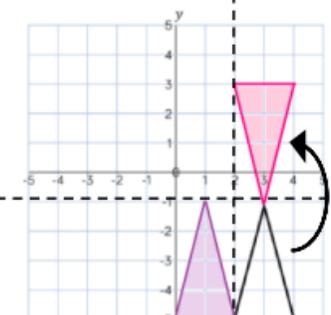
Reflection in a vertical line



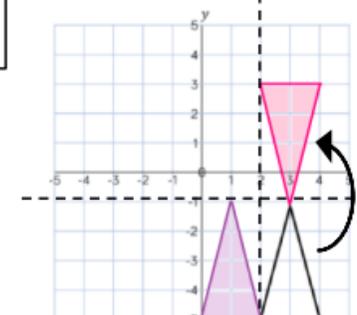
Reflection in a horizontal line



Reflection in the line $x=2$



Reflection in the line $y=-2$



Knowledge goals: PDev

HEALTHY EATING PLATE

HEALTHY OILS
Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.

WATER
Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.

VEGETABLES
The more veggies – and the greater the variety – the better. Potatoes and French fries don't count.

WHOLE GRAINS
Eat a variety of whole grains (like whole-wheat bread, whole-grain pasta, and brown rice). Limit refined grains (like white rice and white bread).

FRUITS
Eat plenty of fruits of all colors.

HEALTHY PROTEIN
Choose fish, poultry, beans, and nuts; limit red meat and cheese; avoid bacon, cold cuts, and other processed meats.

STAY ACTIVE!
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The Nutrition Source
www.hsph.harvard.edu/nutritionsource

Harvard Medical School
Harvard Health Publications
www.health.harvard.edu

Saturated Fat	Unsaturated Fat
meats, butter, dairy products	vegetable oils
solid at room temperature	liquid at room temperature
increase levels of “bad” cholesterol (low-density lipoprotein)	increase levels of “good” cholesterol (high-density lipoprotein)
low-density lipoprotein clogs arteries	high-density lipoprotein, or HDL, “grabs” LDL and escorts it to the liver where LDL is broken down and eventually removed from the body

Symptoms of Too Much Caffeine

- Headache
- Anxiety
- Chest pain
- Irritability
- Trouble sleeping
- Increased heartbeat and thirst

The Bad Effects of Eating Junk Food

- High cholesterol
- Obesity
- Pimples
- Tooth decay
- Acidity
- High blood pressure
- Skin problem
- Heart disease

Food Research Lab
Your Innovation Starts Here!

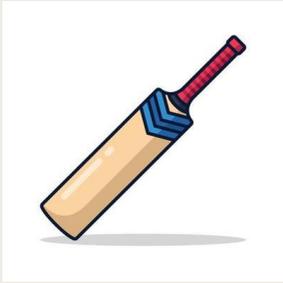
Risk of Poor Nutrition

Nutrient deficiencies.	Weakened immune system.
Increased risk of chronic diseases.	Poor growth and development.
Mental health issues.	Reduced energy levels and fatigue.

Prevention for Type 2 Diabetes

- Maintain a healthy weight
- 150 minutes of moderate-intensity exercise weekly
- Eat fiber-rich vegetables and fruits
- Consume complex carbs and avoid refined carbs
- Choose lean proteins
- Opt for healthy fats

Knowledge Goals: PE



Cricket

- Fielding** - I can demonstrate the correct techniques in catching, stopping and returning the ball. I can close catch and high catch with two hands.
- Bowling** - I can bowl with basic overarm bowling action towards the stumps.
- Batting** - I can demonstrate a good grip and stance when batting. I can strike the ball effectively from an overarm ball
- Game Situations** - I can play as a member of a team following the lead of others and apply basic rules of the game consistently



*International
Cricket Council*



Rounders

- Throwing/Catching** - I can catch a soft rounders ball when someone throws it to me from a variety of distances. I can usually throw a tennis ball accurately to others in a game situation, but find it difficult using a rounders ball.
- Fielding** – I can perform the long barrier under pressure but sometimes use wrong technique.
- Bowling** – I know the rules of a legal bowl. I can bowl over a modified distance.
- Batting** – I am able to hit the ball when it is bowled to me at constant speeds, but it does not travel very far.
- Game Situation** – I have some idea of the basic playing positions.



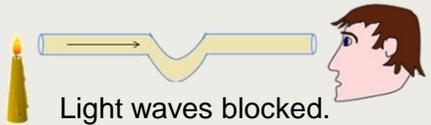
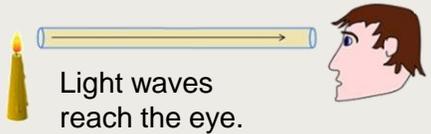
Knowledge Goals: Physics – Waves (light)

Properties of light

1. Light can travel through a vacuum. This is why we can see light from distant stars and galaxies.



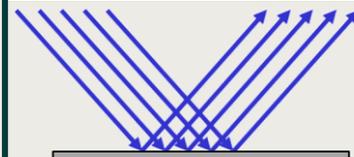
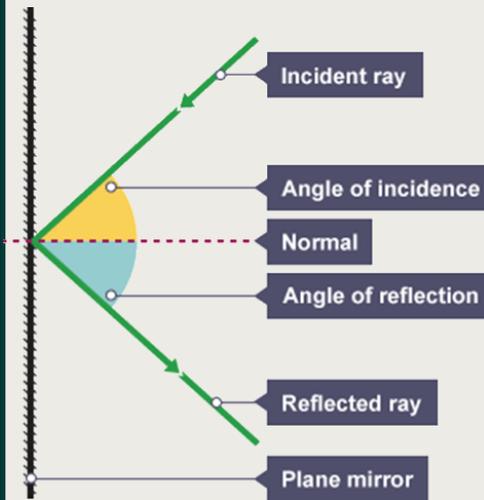
2. Light travels in straight lines.



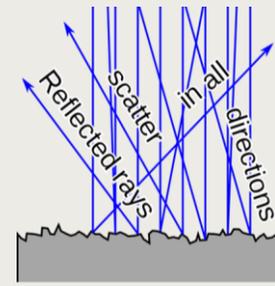
3. Light travels at 300 000 km/s. The speed of sound in air is 330 m/s. This is why we see the light from a firework before we hear it.



Law of reflection states that the angle of incidence is equal to the angle of reflection.



Specular reflection
Smooth or polished surfaces scatter light in a single direction.

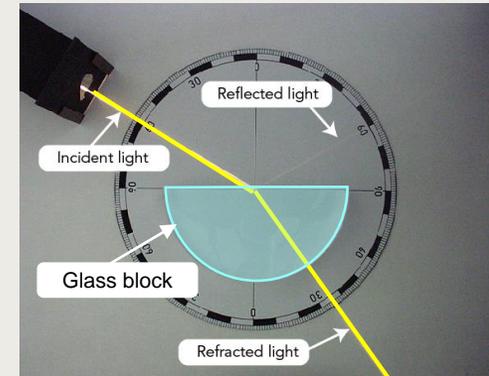


Diffuse reflection
Rough surfaces scatter light in lots of directions.



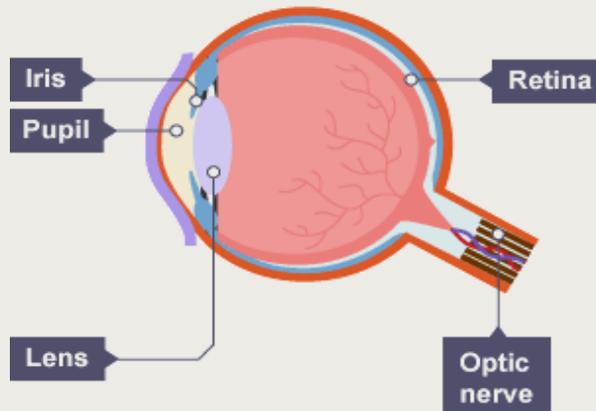
Refraction

When light enters a more dense material at an angle it slows down and changes direction.



The eye

Light enters the eye through a hole (the **pupil**). The **cornea** and **lens** help to focus the light onto the **retina**. The **iris** is the coloured part of the eye; it contains muscles that adjust the pupil to control the amount of light entering the eye. The **sclera** is the tough opaque outer coating (the "white of the eye"). Signals from the **retina** are sent to the brain via the **optic nerve**.

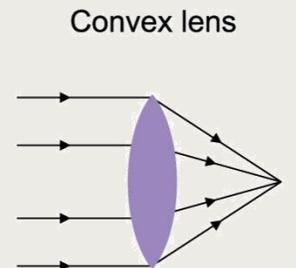


Lenses

A lens is a specially shaped piece of glass or transparent plastic, that is used to focus light.

A convex lens is made from a transparent material that bulges outwards in the middle on both sides. Light is refracted as it passes into, then out of, the lens.

Focusing light is important for getting clear images in our eye or in photographs, because images that are not focused appear blurred.



Knowledge Goals: Physics – Waves (light)

Half Term 6: Tier 3 Vocabulary

#	Key word	Definition
1	incident ray	The incoming ray.
2	reflected ray	The outgoing ray.
3	normal line	From which angles are measured, at right angles to the surface.
4	angle of reflection	Angle between the normal and reflected ray.
5	angle of incidence	Angle between the normal and incident ray.
6	refraction	Change in the direction of light going from one material into another.
7	absorption	When energy is transferred from light to a material.
8	scattering	When light bounces off an object in all directions.
9	transparent	A material that allows all light to pass through it.
10	translucent	A material that allows some light to pass through it.
11	opaque	A material that allows no light to pass through it.
12	convex lens	A lens that is thicker in the middle which bends light rays towards each other.
13	concave lens	A lens that is thinner in the middle which spreads out light rays.

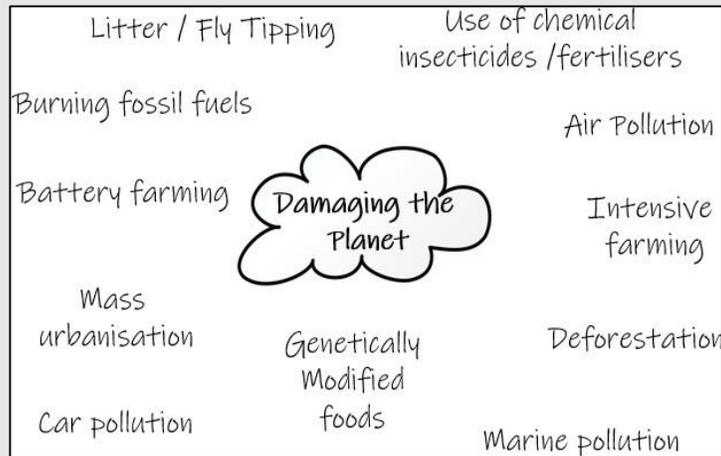


Knowledge Goals: PRE Are we stewards of the earth?



All religions believe that we have a responsibility to care for the world and the environment (including the animals, plants and resources on the Earth). These beliefs are often at the very centre of religious teachings – for example one of the reasons Muslims follow a halal diet is to help to maintain the natural balance or ‘fitrah’ in the world.

However, believing that we should care for the world is not only a religious belief. Many people who do not follow a particular religion – for example Humanists – believe strongly that we should protect the earth and its’ environment.



Beliefs about the Earth

Christianity

God made the Earth and gave Christians the special responsibility as **Stewards** to look after it. They can use the Earth but cannot abuse it. **J**

Judaism

Jews believe that God created the world and gave human beings a special responsibility within creation to **cultivate** it, **guard** it and use it wisely. This is known as **stewardship**.

Buddhism

Buddhists believe in the **interconnectedness** of all things. Humans depend on nature and nature depends on humans. Harming one part of this whole is the same as harming all of it. Therefore, if people learn to live simply and in **harmony** with the world, the whole of the environment will benefit.

Humanists

Because there is no God or supernatural force, human beings must take sole responsibility for solving the **world's** environmental problems. Only humans are capable of finding the solutions that can lead to a **sustainable** existence.

Sikhism

The Guru Granth Sahib teaches that Sikhs show **respect and responsibility** towards creation and bear in mind the needs of future generations, as well as their own current needs.

Islam

Allah made the Earth and humans have the duty as **Khalifahs** to care for it and maintain **fitrah** (natural balance) in the world.

Hinduism

Everything around us is part of the Earth and nature. We should practice **Ahimsa** – the principle of **non-violence** – with the Earth. Also, all living things in the natural world are sacred because they are part of **God**.



Because of dominion, believers can use what is on the planet – from plants to animals. Dominion does not, however, give humans the right to exploit or abuse these resources.

Knowledge Goals: Spanish

Palabras

En mi tiempo libre

¿Qué haces en tu tiempo libre?
Voy al cine.
Voy a la piscina.

Voy de compras.
Salgo con mis amigos.

Hago mis deberes.
Monto en bicicleta.
Escucho música.
Veo la televisión.
Navego por internet.
Juego con mi ordenador.

¿Con qué frecuencia?
todos los días
los lunes
una vez por semana
dos veces a la semana
los fines de semana
nunca

Los deportes

¿Qué deportes haces?

Hago atletismo.
Hago ciclismo.
Hago equitación.
Hago esquí.
Hago natación.
Hago patinaje.
Juego al baloncesto.
Juego al fútbol.
Juego al hockey.
Juego al tenis.
Juego al voleibol.
No hago deporte.

In my free time

What do you do in your free time?
I go to the cinema.
I go to the swimming pool.
I go shopping.
I go out with my friends.
I do my homework.
I ride my bike.
I listen to music.
I watch television.
I surf the net.
I play with my computer.

How often?

every day
on Mondays
once a week
twice a week
at weekends
never

Sports

What sports do you do?
I do athletics.
I do/go cycling.
I do/go riding.
I do/go skiing.
I do/go swimming.
I do/go skating.
I play basketball.
I play football.
I play hockey.
I play tennis.
I play volleyball.
I don't do any sports.

¿A qué hora ... ?

¿Qué hora es?
Es la una.
Son las dos.
Es la una y cinco.
Son las dos y diez.
Son las tres y cuarto.
Son las cuatro y veinte.
Son las cinco y veinticinco.
Son las seis y media.
Son las siete menos veinticinco.
Son las ocho menos veinte.
Son las nueve menos cuarto.
Son las diez menos diez.
Son las once menos cinco.
Son las doce de la mañana de la tarde de la noche

¿A qué hora comes?

¿A qué hora vas al cine?

¿A qué hora escuchas música?

¿A qué hora sales con tus amigos?

¿A qué hora vas de compras?

¿A qué hora navegas por internet?

¿A qué hora ves la televisión?

A las dos.

At what time ... ?

What time is it?
It's one o'clock.
It's two o'clock.
It's five past one.
It's ten past two.
It's quarter past three.
It's twenty past four.
It's twenty-five past five.
It's half past six.
It's twenty-five to seven.
It's twenty to eight.
It's quarter to nine.
It's ten to ten.
It's five to eleven.
It's midday/midnight in the morning in the afternoon in the evening

At what time do you eat?

At what time do you go to the cinema?

At what time do you listen to music?

At what time do you go out with your friends?

At what time do you go shopping?

At what time do you surf the net?

At what time do you watch TV?

At two o'clock.

¿Qué te gusta hacer?

¿Qué te gusta hacer en tu tiempo libre?

¿Qué no te gusta hacer?

Me gusta ...
Me gusta mucho ...
No me gusta ...
No me gusta nada ...

Me encanta ...
Prefiero ...
jugar al fútbol
hacer atletismo
navegar por internet
ir al cine
salir con mis amigos

ver la televisión
hacer mis deberes
escuchar música
ir de compras
hacer natación

¿Por qué?

Porque es ...
aburrido
barato
bueno
caro
divertido
fácil
interesante
sano

What do you like doing?

What do you like doing in your free time?

What don't you like doing?

I like ...
I really like ...
I don't like ...
I don't like ... at all.

I love ...
I prefer ...
playing football
doing athletics
surfing the internet
going to the cinema
going out with my friends
watching television
doing my homework
listening to music
going shopping
going swimming

Why?

Because it's ...
boring
cheap
good
expensive
amusing
easy
interesting
healthy

¿Qué vas a hacer mañana?

¿Qué vas a hacer?

Voy a jugar al tenis.

Va a escuchar música.

Vamos a ir de compras.

Vais a hacer natación.

Van a ver la televisión.

mañana
la semana que viene
este fin de semana
en las vacaciones

Palabras muy útiles sobre todo

What are you going to do tomorrow?

What are you going to do?

I'm going to play tennis.

He/She's going to listen to music.

We're going to go shopping.

You're going to go swimming. (pl)

They're going to watch television.

tomorrow
next week
this weekend
in the holidays

Very useful words above all

Estrategia

Verbs that you see everywhere!

You can use the verb **tener** in lots of situations:

Tengo una serpiente.
Tengo dos hermanas.
Tengo doce años.

Tener is what we call a **high-frequency** verb. Learning verbs like this will help you to say a lot more in Spanish!

There are some other very useful verbs in Chapter 5. Try to find four different ways of finishing these sentences:

- Voy ...
- Hago ...
- Juego ...
- Es ...

Knowledge Goals: Spanish

Half Term 4: Tier 3 Vocabulary

#	Key word	Example
1	Connective	y, pero, también, porque, sin embargo, además
2	Opinion Verb	Me gusta, no me gusta, me encanta, odio, me gusta mucho, no me gusta nada
3	Justification	porque es.... / yaque es... / dado que es...
4	Qualifier	poco, un poco, bastante, muy, realmente, extramadamente
5	Adjective	divertido/a, aburrido/a, grande, pequeño/a
6	Time Phrase	normalmente, a veces, siempre, mañana

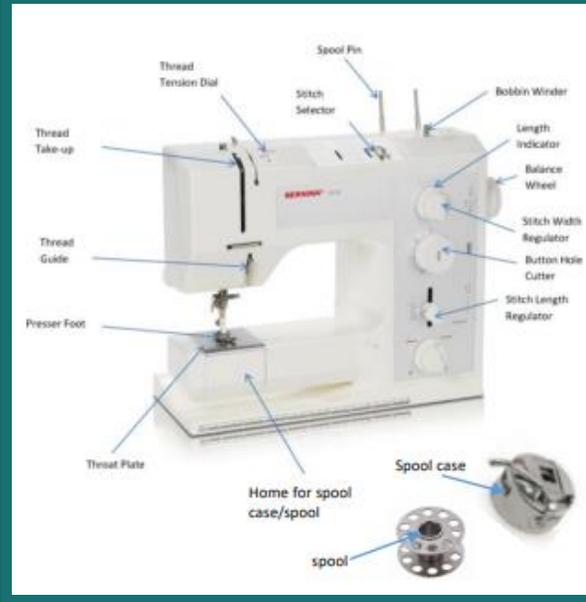
Knowledge Goals: Textiles

Health and Safety

It is really important we **ASSESS** the **RISK** and **REDUCE** the **RISK** of Injury by **LISTENING** To the **TRAINING** and following the correct PPE usage

- You must walk with scissors facing downwards next to your side
- Watch where you are sewing on the machine
- Do not press the foot pedal to the floor when using the sewing machine
- Make sure you had in Bodkin needles at the end of the lessons
- If the sewing machine makes an unusual noise, please stop using it and inform teacher

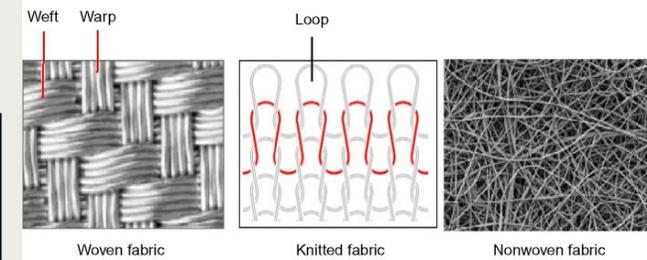
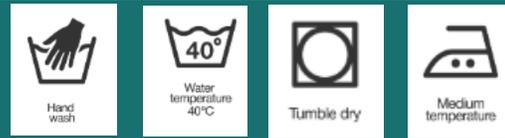
Parts of a Sewing Machine



Smart and modern materials

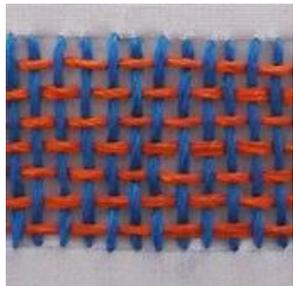
 Biodegradable Ink	 Aroma Pigments	 Sign in Daylight
 Hydrochromic Ink	 Thermochromic pigment	 Sign in Darkness
 dry wet		 Photochromic pigment

Care Labels Instructions for laundering



Technique

Weaving



Embroidery



Applique

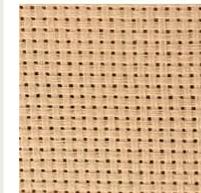


Hand stitches



Textile equipment

Binca



Bodkin



Wool



Thread



