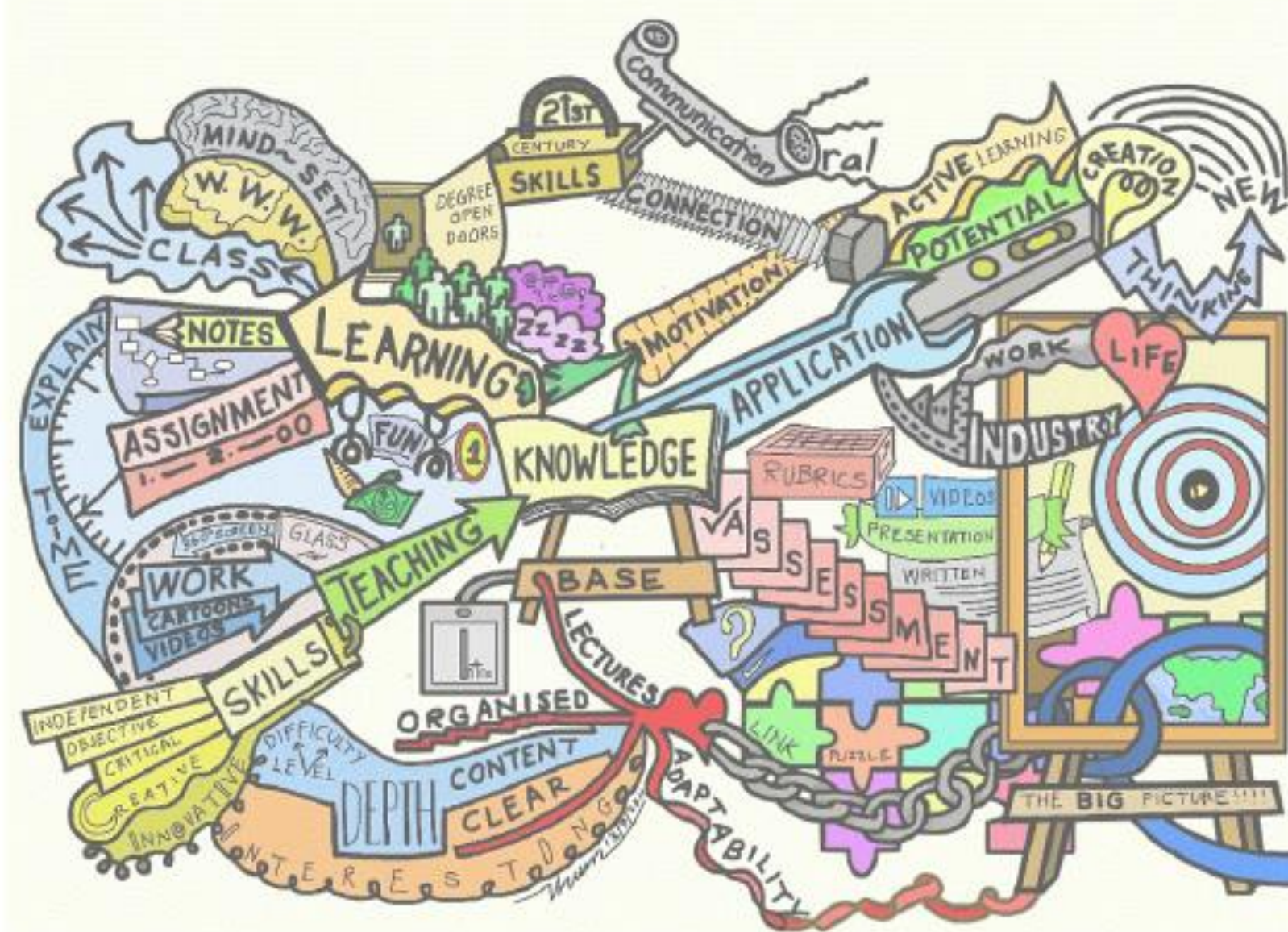
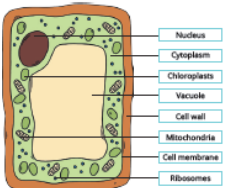
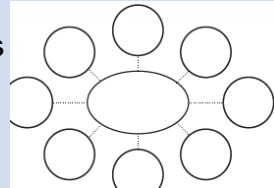




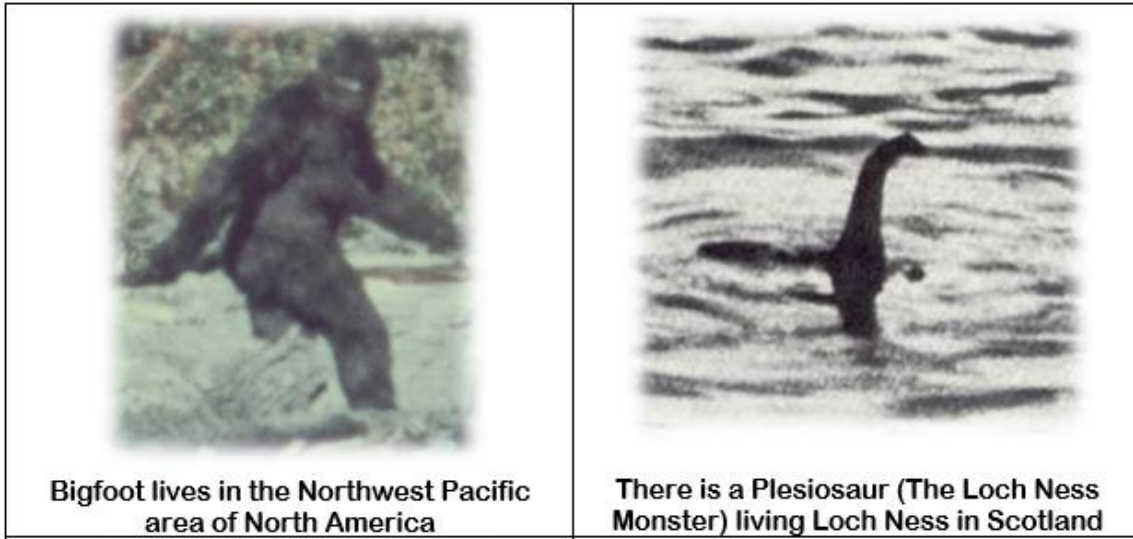
Just reading through your books or a knowledge organiser is not always an effective way to revise. Instead, you should do something with the information. Choose an example of the revision methods on the pages or see if you can come up with another method.

Subject	Page Number	Subject	Page Number
Multidisciplinary Lesson	3	Geography	23
Art	4	German	25
STEM	9	History	28
Food	11	English	30
PE	17	Maths	35
Science	20	RE	39
Computer Science	22	Music	41
		Some DARES	54

Idea	Explanation
Make some flash cards or PowerPoint slides. Make top trumps. 	Write down key words, quotation, questions or equations on one side of a card. On the other side, write the definition or answer. Use them to test yourself.
Plant Cell  Make a poster.	Turn your notes into posters with lots of colour and illustrations. Summarising the key information in a different way is an effective way of learning and your brain will remember the colours more easily. Do the title last!
Draw spider diagrams, or for the adventurous mind maps. 	Write the topic/keyword in the centre of your page. Add everything you know in subtopics. Then explore each subtopic in turn adding more ideas. Colour/pictures help you recall.
Write a song or a rap. 	Are there songs that stick your head. Change the lyrics to the information you want to learn. If you record and listen back it will be a more fun way of revising.
Plan a lesson 	If you teach something to someone else the chance of recalling it is really high. This has been found to be the most effective way of learning something for the long term.
Write a story or comic strip. 	Take the keywords or facts that you need to learn and turn them into a story or a cartoon. The sillier the story the more likely you are to remember it.
Write a quiz. Design a game. 	Playing is how we learn as young children and it is a very powerful way of learning throughout life. If we enjoy the game it helps us remember.

What is a conspiracy theory?

Some people believe in things that other people do not. Here are a couple of examples for which there is little evidence.



However, some people then believe that other people are covering it all up. This can lead to some surprising places.

Activity 1: If there was Bigfoot or a Plesiosaur as shown above then how difficult would it be to keep it a secret? Look up how big Loch Ness is and how many people visit it every year.

Activity 2: Think about these questions / discuss them in a video chat with friends: What happens to you when you believe that the entire sections of society are keeping secrets? How could all scientists or the entire government keep a secret? How difficult would it be for 1000s of people to keep a secret? Why do film makers like conspiracy theories for their movies?

Activity 3: Listen to this radio programme. It is available on BBC Sounds. <https://www.bbc.co.uk/sounds/play/m000dfqn>

How many conspiracy theories are mentioned? Which ones have you heard about?

Activity 4: Mr Ford once, for a joke spread the rumour that the canteen at his college was serving Weetabix that were so cheap, the box they came in had more nutritional value as at least it contained roughage in the cardboard box. he got into a lot of trouble and had to write an apology to be displayed at the college canteen till. Write a letter for Mr Ford, to try to explain that he now understands how serious disinformation can be, highlighting what might have gone wrong.

Activity 5: Craft a conspiracy theory about Mr Ford. Email him with it. How would you get people to believe it? How far could you stretch it? How could you stop it once people started believing it – even if it was you who made it up?

For those of you with access to Disney watch Lion Guard “Beware of the Zimwi” episode. How can belief cause panic?

Activity 6: Find out how anti-vaccination conspiracy theory has killed people.

<https://www.iflscience.com/health-and-medicine/one-map-sums-damage-caused-anti-vaccination-movement/>

Activity 7: Challenge activity. Research one of the more popular myths and present a clear and referenced case to debunk it.

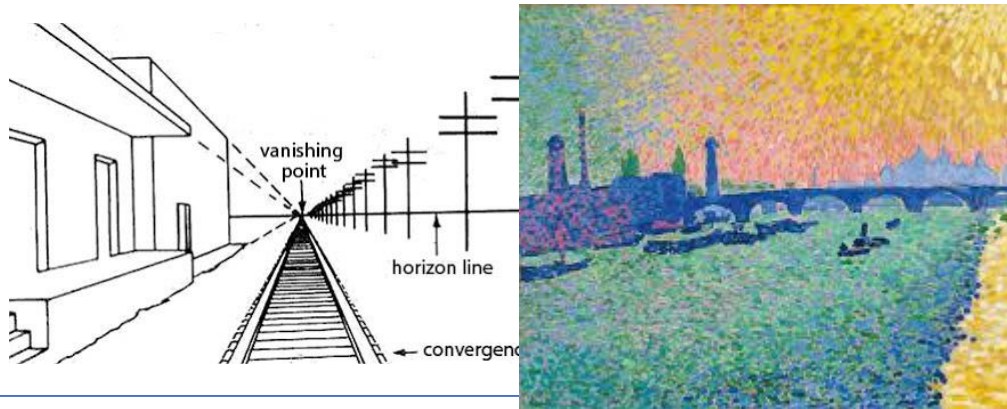
<https://www.osce.org/odihr/441101?download=true>

Year 7- perspective landscape

Overview:

Students learn about one and two point-perspective and how it can create the illusion of distance in Art work.

You will draw a chequered table cloth surface using one point perspective and behind this will paint a Impressionist style landscape in the background using paint and oil pastel.



Artists' studied:

Andre Derain- He does bold colourful landscapes in the style of “Fauvism” which is a French word for wild beasts.

Key words:

Linear Perspective: A technique that uses a vanishing point to create the illusion of distance in pictures.

Tone: Using a pencil to clearly show the direction of light so items appear 3D.

Blending: Smoothing out pencil lines to create a gradual tone

Colour Wheel: Showing the relationship between colours

Complimentary: Colour opposite one another on the colour wheel

Primary: Red, Yellow, Blue – from which all other colours are made

Secondary: Green, Purple, Orange- Colours made from mixing two primary colours

Materials / Techniques to be explored:

Perspective drawing, mixed media painting, Dot painting,

One and Two-point Perspective

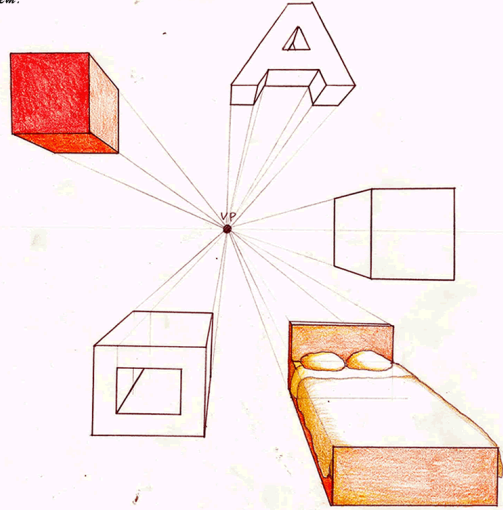
Year 7 Art

Perspective

- * Perspective is a drawing method that shows how objects appear to get smaller as they get further away:
- * Objects are drawn disappearing towards 'Vanishing Points':
- * Vanishing Points are located on a 'Horizon Line' (or 'Eye Level Line'). This is an imaginary line, level with the viewer's eyes:
- * Objects drawn above the eye level line appear as if you are looking up at them; those below the eye level line appear as though you are looking down upon them.

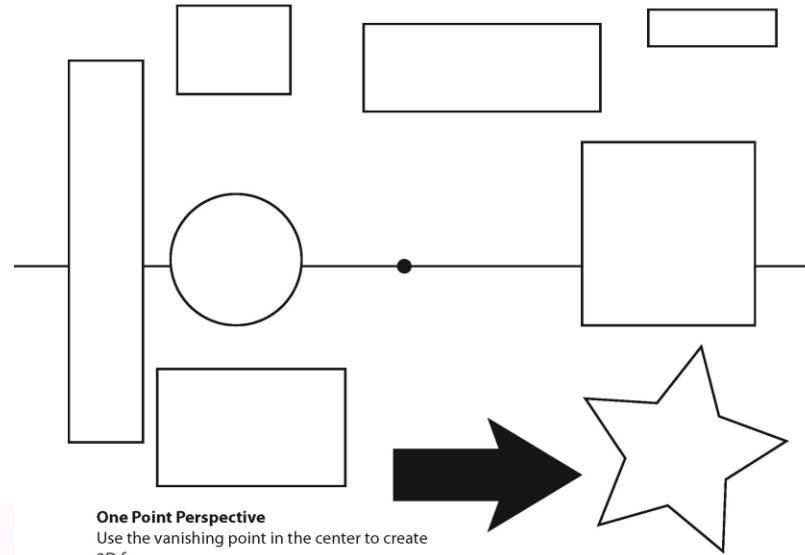
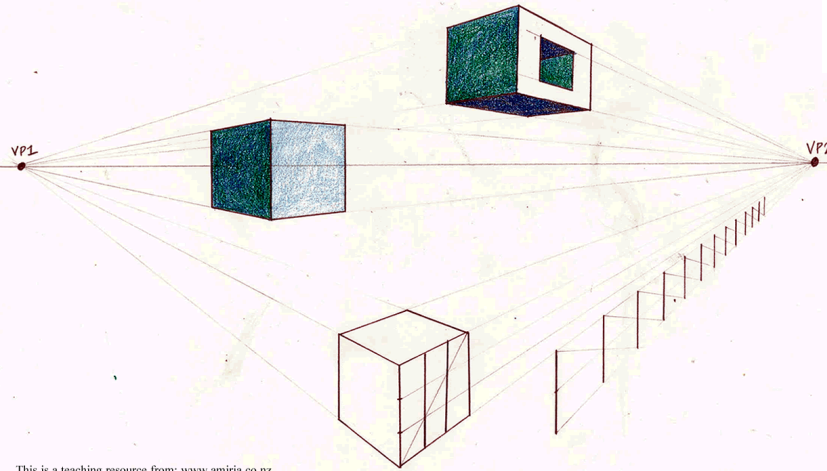
ONE POINT PERSPECTIVE

- * Lines converge towards one vanishing point:
- * Generally used when looking down something long, like a road or corridor:
- * Front and back face of the object appear 'flat' or 'front on':
- * Sides, top and bottom of objects converge towards vanishing points.

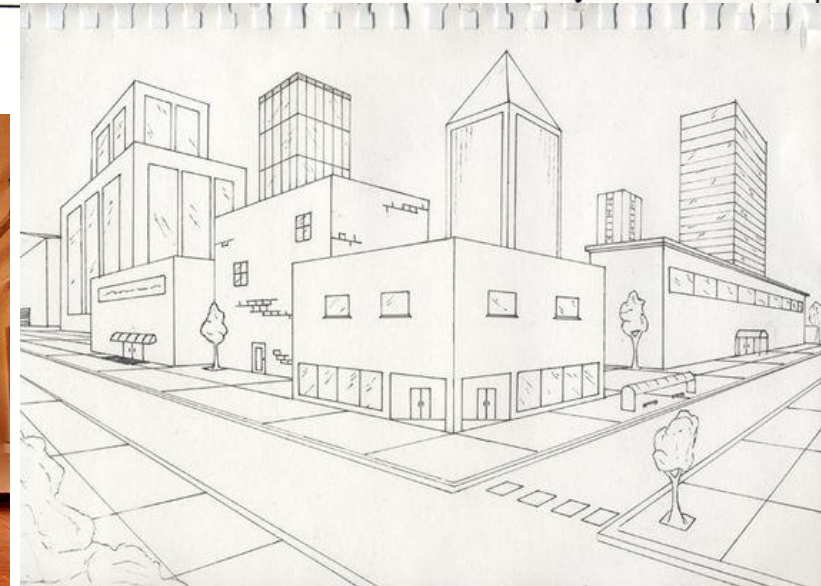
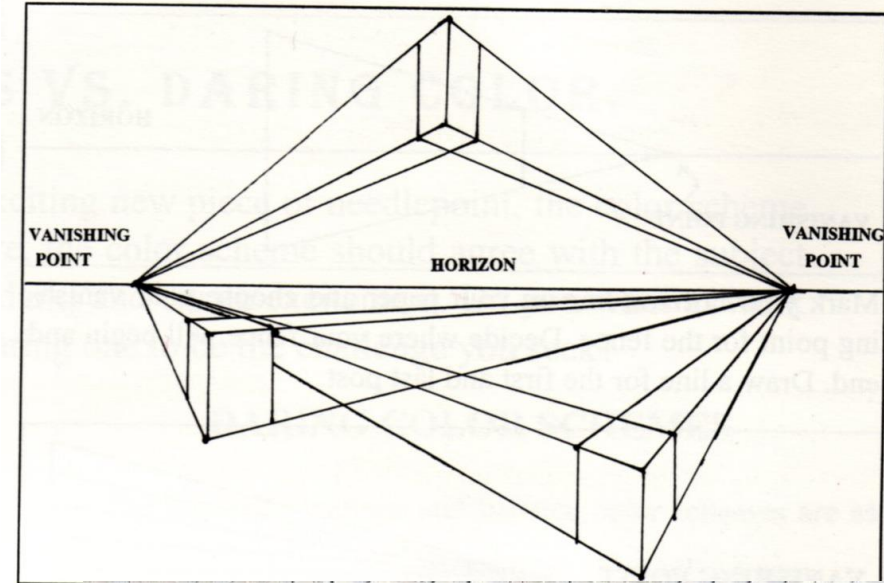


TWO POINT PERSPECTIVE

- * Two vanishing points are used, both located on the Horizon Line:
- * All lines (except curving or irregular lines) are drawn as either vertical, or going towards the vanishing points:
- * This is a very realistic drawing method.



One Point Perspective
Use the vanishing point in the center to create 3D forms



1

Methods of Recording

Observational drawing	Drawing from looking at images or objects
First hand observation	Drawing directly from looking at objects in front of you
Second hand observation	Drawing from looking at images of objects
Photographs	Using a camera or smartphone to record images will class as first hand observation
Sketches	Basic sketches and doodles can act as a starting point for development

Stages of Drawing

Basic shapes → Accurate shapes → Detail → Shade

2



Tonal shade
Produce a range of tones by varying the pressure and layering consider using softer pencils for darker shades

Alternative shade techniques



Cross hatching



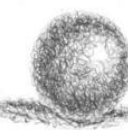
Hatching



Contour lines



Stippling



Scribble



Pattern

3

Annotation

Describes writing notes, using images and explaining your thoughts to show the development of your work.

Step 1 Describe
What is this an image of?
What have you done here?
What was this stage of the project for?

Step 2 Explain
How was this work made?
How did you produce particular effects? How did you decide on the composition?

Step 3 Reflect
Why did you use these specific methods? Why do particular parts work better than others? Why might you do things differently next time?

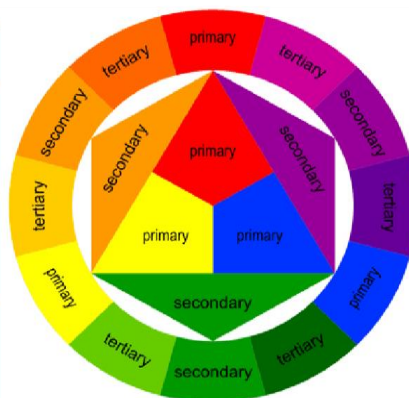
- 1- Formal elements are taught e.g. how to sketch and use tone to create a 3D effect. You will explore the colour wheel and how to use the basic materials in Art.
- 2-“The Greenman” – This project introduces you to facial proportions and how to blend oil pastels effectively. We also learn about clay and create small 3D Greenman faces. Examples of world renowned pieces of art are discussed.
- 3-“Perspective Landscapes”- This project introduces students to the concept of perspective and distance in Art. You learn about the technique of one-point perspective to create a feeling of depth in a landscape.

1

Media	The substance that an artist use to make art
Materials	The same as media but can also refer to the basis of the art work eg, canvas, paper, clay
Techniques	The method used to complete the art work, can be generic such as painting or more focus such as blending
Processes	The method used to create artwork that usually follows a range of steps rather than just one skill

3

Colour Theory	
Primary= RED, YELLOW, BLUE	Complimentary; Colours opposite on the colour wheel
Secondary= Primary+Primary	Harmonious; Colours next to each other on the wheel
Tertiary= Secondary+Primary	Monochromatic; shades, tones & tints of one colour
Shades – add black	Hue – the pigment
Tint – add white	Warm; RED, ORANGE YELLOW. Cold; BLUE, GREEN, PURPLE



2

Pencil		The basic tool for drawing, can be used for linear work or for shading
Biro		Drawings can be completed in biro and shaded using hatching or cross hatching
Pastel (chalk/oil)		Oil and chalk pastels can be used to blend colours smoothly, chalk pastels give a lighter effect
Coloured pencil		Coloured pencil can be layered to blend colours, some are water soluble
Acrylic paint		A thick heavy paint that can be used smoothly or to create texture
Watercolour		A solid or liquid paint that is to be used watered down and layered
Gouache		A pure pigment paint that can be used like watercolours or more thickly for an opaque effect
Pressprint		A polystyrene sheet that can be drawn into to print white lines – can be used as more than 1 layer
Monoprint		Where ink is transferred onto paper by drawing over a prepared surface
Collograph		A printing plate constructed of collaged materials
Card construction		Sculptures created by building up layers of card or fitting together
Wire		Thick or thin wire manipulated to create 2d or 3d forms
Clay		A soft substance used for sculpting, when fired can be glazed to create shiny colourful surfaces
Batik		A fabric technique using hot wax to resist coloured inks
Silk painting		Fabric inks painted onto silk, Gutta can be used as an outliner to prevent colours mixing

1 Formal Elements of Art

LINE	the path left by a moving point, e.g. a pencil or a brush dipped in paint. It can take many forms. e.g. horizontal, diagonal or curved.
TONE	means the lightness or darkness of something. This could be a <u>shade</u> or how <u>dark</u> or <u>light</u> a <u>colour</u> appears
TEXTURE	the surface quality of something, the way something feels or looks like it feels. There are two types : <u>Actual</u> and <u>Visual</u>
SHAPE	an area enclosed by a <u>line</u> . It could be just an outline or it could be <u>shaded</u> in.
PATTERN	a design that is created by repeating <u>lines</u> , <u>shapes</u> , <u>tones</u> or <u>colours</u> . can be <u>manmade</u> , like a <u>design</u> on fabric, or <u>natural</u> , such as the markings on animal fur.
COLOUR	There are 2 types including Primary and Secondary . By mixing any two <u>Primary</u> together we get a <u>Secondary</u>

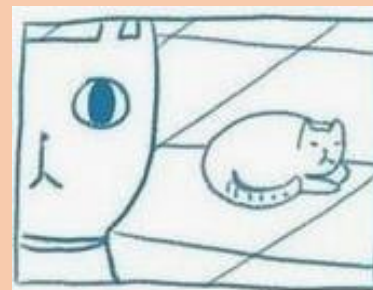
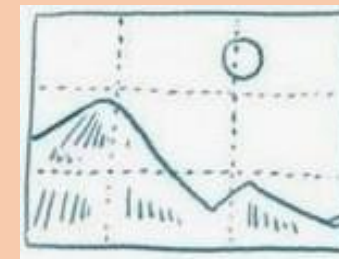
3

A Rough	A Visual/ Maquette	Final Piece
A basic sketch of a final idea	A small image or model created in selected materials	An image or sculpture pulling all preparatory work together

2

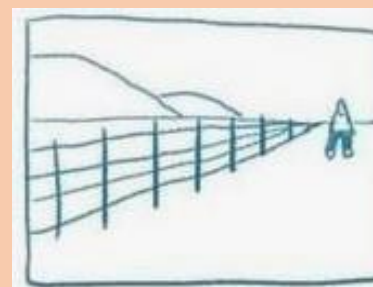
Composition Layouts

Rule of thirds – Place focal objects at 1/3 or 2/3 of the image horizontally or vertically. Not in the middle



Balance elements. If there is an emphasis on one side balance it out with smaller objects on the other

Simplify and fill. Enlarge or crop the image to fill the space

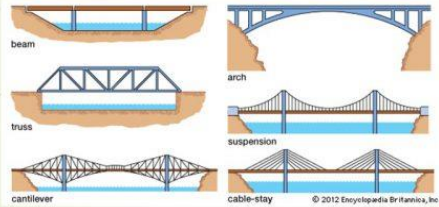


Use lines. Lines will draw the viewer in, they don't have to be straight, consider S or C

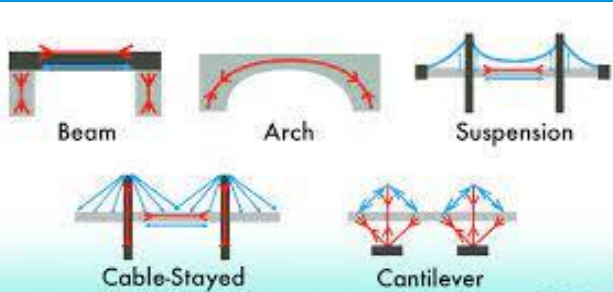
Year 7 STEM – Summer Term Part 1

Engineering

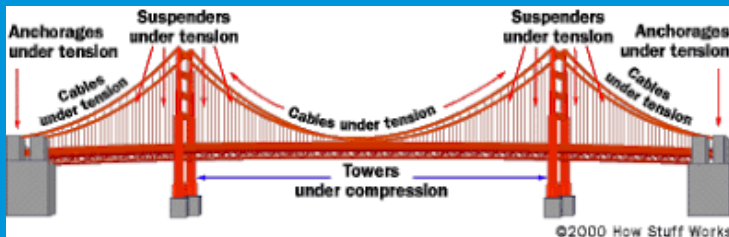
What is a bridge?



- A **bridge** is a structure that allows people and vehicles to cross over an open space.
- **Bridges** span, or stretch across, deep pits in the earth, bodies of water, and roads.



Nature Bridges



What did we do before bridgeS were built?
What type of bridges have you seen?
What shapes are common in bridges?

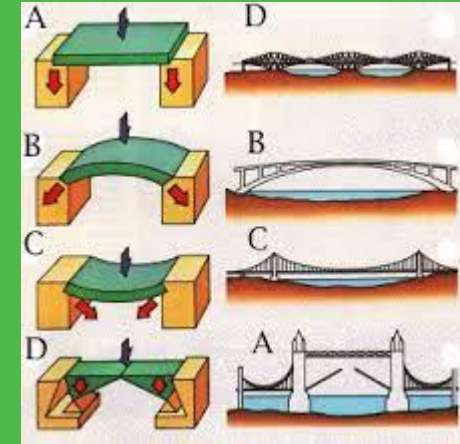
Stem will encourage you to use your knowledge of Science, technology, engineering and maths to explore ideas, materials and themes.



In addition to subject-specific learning, STEM aims to foster inquiring minds, logical reasoning, and team building skills.

Look at these links to help you understand how bridges work and how they are built:
<https://youtu.be/Pp9U6lYoIqg>

Maths



SPAGHETTI BRIDGES

ENGINEERING CHALLENGE 03
Designed by Kristian,
Design engineer at Dyson

The brief

Construct a free standing bridge out of spaghetti, strong enough to support a 1/2lb bag of sugar.

The method

Think about bracing strands together for strength. Some shapes are better at absorbing loads – triangles are particularly strong. Rubber bands make for good junctions.

Top tip

Be patient. Through trial and error, you'll become proficient at working with spaghetti.

Materials

Spaghetti
Small rubber bands or bag ties
Tape
1/2lb bag of sugar

How does it work?

Bridges manage two important forces: compression and tension – pushing and pulling. Too much of either and they buckle or snap.

Design icons



Why not take inspiration from these iconic bridge designs?

Geometry and Trigonometry	
areas of	
Triangle	base x ½ height
Rectangle	length x width
Circle	πr^2
Volume	
cubes	$A \times A \times A$ or A^3
Cone	$\frac{\pi r^2 h}{3}$
Sphere	$\frac{4}{3} \pi r^3$
cylinder	$\pi r^2 h$ or $\pi \times \text{radius}^2 \times \text{height}$
Circle Circumference	$2\pi r$ or πd



How can you build a strong bridge?
What shapes make a strong structure?

Self-Study Tasks

Define continuous production?	
What is tessellation?	
What is a vanishing point?	
What is a prototype?	
What is the unit for power?	
What is the correct name for a third angle projection?	
What is the 'mean'?	
If the ratio is 1:3 what is the missing number 400:?	
Write down the steps for the process of making a jam sandwich, then use the written steps to create a flowchart.	
What could you use a computer to control inside your home? Invent a new automated device for your home. Create a flowchart using the correct symbols to represent how it works.	
Find out the flowchart symbols for: -A delay -A subroutine -Storing data	

Micro-organisms

Micro-organisms are tiny forms of life. They can only be seen under a microscope and are sometimes called microbes.

They spoil food and make it unsafe to eat because they contaminate it with their waste products, their physical presence and the toxins they produce.

What micro-organisms can spoil food and make it unsafe to eat?

There are three groups of micro-organisms that you need to know about that spoil food and cause food poisoning. These are..

- Bacteria
- Moulds
- Yeasts

Micro organisms need 5 conditions to grow and multiply:

1. A warm temperature
2. Plenty of moisture (water)
3. Plenty of food
4. The right PH level (not too acidic or alkaline)
5. Enough time (bacteria split every 10-20 minutes)

High risk foods

- High risk food have ideal conditions for bacteria
- High risk foods are ready to eat foods that could grow harmful bacteria
- They are moist and high in protein which is food for bacteria.
- High risk foods have a short shelf life - you can't keep them for long or the bacteria might multiply to dangerous levels.

Examples of high risk foods:

Cooked meat, fish and poultry, dairy products (eggs, cheese etc.), gravies, stocks and sauces, shellfish, cooked rice.

Example exam questions:

What five conditions to bacteria need to grow and multiply? (5 marks)

What is a high risk food? (5 marks)

Storing food safely

Cooking (75°C)	The danger zone (5°C-63°C)
• Cooking food above 75°C kills bacteria • Re-heat food properly, only once. Reheat food so 75°C for at least 3 minutes • Check the food is 75°C with a temperature probe	• Bacteria can grow and multiply quickly between 5°C to 63°C. • This is called the danger zone • The optimum temperature for bacterial growth is 37°C
Chilling (0°C - 5°C)	Freezing (-18°C)
• Keeping food between 0°C and 5°C slows down the growth of bacteria • This extends the shelf life of food • Chilling food doesn't change the properties much - food looks and tastes the same	• Freezing food below -18°C stops bacteria growing - they become dormant • Freezing generally extends shelf life and the nutrients aren't lost • It doesn't kill the bacteria though. They become active again once the food defrosts.

Preparing self for cooking

- Tie hair back to prevent hair and dandruff falling in food
- Take off coats and blazers
- Wear an apron to prevent bacteria transferring from our clothes to our food
- Wash hands with hot soapy water to kill bacteria

Preparing the room for cooking

- Sanitise all work surfaces
- Check equipment is clean and dry
- Tuck all stools in as they can be a trip hazard
- Put all high risk foods in the fridge to slow bacteria growth

Wash your hands after:

- Coughing
- Sneezing
- Tying shoe laces
- Going to the toilet
- Touching hair or face

Nutrients

Macro nutrients - Needed in large quantities in the diet

1. Protein
2. Fats
3. Carbohydrates

Micro nutrients - needed in small quantities in the diet

1. Vitamins
2. Minerals

Dietary related health problems

Too much sugar can cause:

1. Weight gain (which can lead to obesity)
2. Tooth decay
3. Diabetes (your body cannot produce enough/any insulin to regulate your blood sugar levels)

Too much salt can cause:

1. High blood pressure (this can increase your risk of heart disease and a stroke).

Too much saturated fat can cause:

1. Weight gain (which can lead to obesity)
2. High cholesterol (this narrows arteries making it harder for the blood to travel around, putting you at risk of heart disease).

Example exam questions:

Explain three causes of obesity (3 marks)

What is the function of sugary and starchy carbohydrates (2 marks)

Why is protein especially important for children? (2 marks)

What are the functions of fat? (3 marks)

List 5 food sources of plant based protein (5 marks)

Nutrition

Protein

Food sources

Animal -beef, pork, lamb, poultry (chicken, turkey, duck), fish, cheese, butter milk

Plant - beans, chickpeas, lentils, peas, nuts, seeds, found in smaller amounts in some vegetables such as spinach and broccoli.

Function

Grown and repair of muscles and cells

Carbohydrates

There are two types of carbohydrates, complex and simple. They are also known as starchy (complex) and sugary (simple).

Food sources

Starchy - bread, rice, pasta, potatoes, bagels, oats, flour, cereal and some vegetables.

Simple - fruit, some vegetables, chocolate, sweets, biscuits, cakes

Function

Starchy/complex carbohydrates are digested slowly and provide long term energy.

Sugary/simple carbohydrates are digested slowly and provide short term energy

Fat

There are two types of fat, saturated and non saturated.

Saturated fats are classed as 'unhealthy fats', they are solid at room temperature and are generally animal based.

Unsaturated fats are classed as 'healthier fats' and are liquid or soft at room temperature and come from plant based sources.

Food sources

Animal -beef, chicken skin, processed meat (sausages, salami, pepperoni), bacon, butter, cheese, full fat milk

Plant - vegetable oils (sunflower, olive, rapeseed), avocado, nuts, seeds

Function

Keeps us warm (provides insulation), secondary source of energy, protects vital organs and bones.

The Eatwell guide



The Eatwell guide

The Eatwell guide is a government guide designed to show you the proportions of different foods groups you should eat over a day or more.

Tips on making healthy choices from the eatwell guide:

Fruit and vegetables: eat 5 portions of fruit and vegetables a day, this should make up 1/3 of your plate a day, fresh, canned dried and fruit juice/smoothies all count, don't exceed 150ml of fruit juice/smoothie a day as it can cause tooth decay, try snacking on fruit over high sugar and fat foods,

Potatoes, bread, rice, pasta and other starchy carbohydrates: choose non-sugary cereals, leave the skin on potatoes, choose wholemeal options of foods such as bread, rice and pasta.

Oils and spreads: choose unsaturated fats such as vegetable oils and margarine over butter, use in small amounts.

Dairy and alternatives: choose lower fat options such as skimmed milk and low fat and salt cheese, choose low sugar yogurts and add fruit as a natural sweetener.

Beans, pulses, fish, eggs, meat and other proteins: eat more beans and pulses as they are high in fibre and fill you up for longer, cut the visible fat off meat, choose lower fat meat options, eat 2 portions of fish a week.

Water: drink 2-3 litres of water a day, choose lower sugar option drinks.

Reference intake

You'll see reference intakes referred to on food labels. They show you the maximum amount of calories and nutrients you should eat in a day. Most packaging has a colour coded label on the front to help you make healthy choices.

Reference in take amounts:

Kcal (calories) - 2000

Total Fat - 70g

Saturated fat - 20g

Sugar - 90g

Salt - less than 6g

Each serving (150g) contains				
Energy 1046kJ 250kcal	Fat 3.0g LOW	Saturates 1.3g LOW	Sugars 34g HIGH	Salt 0.9g MED
13%	4%	7%	38%	15%
of an adult's reference intake				
Typical values (as sold) per 100g: 697kJ/ 167kcal				

Red means HIGH in that nutrient
Amber means MEDIUM in that nutrient
Green means LOW in that nutrient

Reference intakes are not meant to be targets. They just give you a rough idea of how much energy you should be eating each day, and how much fat, sugar, salt and so on.

The percentages represent how much of your reference intake is in the product, e.g. the product has 3.0g of FAT in it, that is 4% of 70g of fat.

Example exam questions:

How can I make healthy choices when choosing foods from the 'beans, pulses, fish, eggs meat and other proteins' section of the guide? (3 marks)

How much of my plate should be made up of fruit and vegetables per day? (1 mark)

How many grams of saturated fat is it recommended not to exceed per day? (1 mark)

Why is recommended not to exceed 6g of salt per day? (2 marks)

How can someone use the traffic light system to help them make healthy choices? (6 marks)

Health and Safety Example exam questions:

What five conditions to bacteria need to grow and multiply? (5 marks)

What is a high risk food? (5 marks)

Red pepper and Tomato pasta sauce

Ingredients

1 small onion
1 clove garlic
1 red/yellow pepper
1 can chopped tomatoes
Splash of oil
Fresh basil/dried herbs
Salt and pepper
Optional: $\frac{1}{2}$ chilli

Equipment

Chopping board
Knife
Saucepan
wooden spoon
can opener

Skills

Slicing
Dicing
Using the hob
Seasoning



1. Chop the onion and pepper into cubes. Mince the garlic.



2. Fry the onions and garlic in the oil for a few minutes until softened.



3. Add the pepper and continue to cook for a few minutes.



4. Add the can of tomatoes gently as they may spit.



5. Add black pepper, salt and mixed herbs and simmer gently for 10 minutes.

How many things can you make with your sauce?

Here are some ideas:

- Pasta topped with grated cheese
- Fry mince for a bolognaise
- Meatballs and pasta
- Add sausages, serve with mash
- Use as part of a lasagne

Marble Cake

Ingredients

100g caster sugar
100g soft margarine
2 eggs
100g self raising flour
1 x 15ml spoon coco powder

Equipment

Mixing bowl
Measuring bowl
Measuring scales
Wooden spoon
Jug
Fork

Skills

Creaming
Weighing
Baking



1. Cream the butter and sugar together until light and fluffy.



2. Crack the eggs in a jug and beat with a fork.



3. Add the egg to the mixture a little bit at a time until all the egg is mixed in.



4. Fold in the flour.



5. Place half the mixture into the tin, leaving space for the chocolate mixture.



Mix chocolate powder into the remaining cake mixture. Fill the gaps in the cake tin with the chocolate mix and swirl lightly together.

Ingredients

250g-500g of minced beef OR Quorn mince

1 onion

1 pepper

1 carrot

2 cloves of garlic

Can chopped tomatoes

Can of kidney beans

1 stock cube

2tbsp tomato puree

1 tsp of hot chilli powder OR 2tsp of mild chilli powder

1tsp paprika

1tsp ground cumin

1tsp mixed herbs

pepper

Equipment

frying pan

Spatula

White chopping board

Knife

Teaspoon

tablespoon

Skills

Chopping

Frying

seasoning

Chilli Con Carne

Method

1. Prepare all vegetables, dice the onion and pepper, grate the carrot and mince the garlic.
2. Meanwhile heat a small amount of oil in your frying pan, and start frying the onions. Once they have softened add your garlic, peppers, grated carrot and seasoning.
3. Leave to cook for about 5 minutes then add your mince and cook until all the mince is browned (NO PINK)
4. Once the mince has browned, add your tin of tomatoes, 200ml of water (use your empty tin, half full) your (drained) tin of kidney beans, stock cube, 2 tablespoons of tomato puree.
5. Stir well, turn down the heat and leave to simmer for 15 - 20 minutes DON'T FORGET TO STIR OCCASIONALLY, so that it doesn't stick or burn.

Athletics

Athletics consists of three main skills. Running, jumping and throwing.

Skill	Description
Running	An action to move quickly with the correct technique using the major muscle groups in the arms and legs as effectively as possible.
Throwing	The ability to propel an object through the air as far as possible.
Jumping	The technique to propel your body into the air to either cover distance, height or both.



Task 1: Complete the sentences using the missing words.

The 2020 and Games, due to be held in However, these were postponed until 2021. The Olympic flag consists of which represent a colour from every nations flag and the five major

The first modern Olympics were held in 1896 in

Paralympic, 5 rings, Olympics, Tokyo, Continents, Athens



Task 2: This is Adam Gemili, a British sprinter. He is the 2014 European champion at 200 metres and 4 x 100 metres relay, as well as being part of the Great Britain team that won gold in the 2017 World Championships in the same event.

Using your understanding of the physical and skill related components of fitness, write a short paragraph on which components of fitness Adam will use when competing in the sprinting events? In addition, explain why you feel he would need these components to be successful.

GIRLS	100m	200m	800m	1500m	High Jump	Long Jump	Triple Jump	Shot	Javelin	Discus
GOLD	14.7s	31.0s	2m 55s	6m 10s	1.25m	3.90m		6.80m	17.00m	17.00m
SILVER	16.0s	35.0s	3m 20s	7m 26s	1.12m	3.50m		5.70m	14.00m	13.00m
BRONZE	18.0s	38.0s	4m 10s	9m 00s	0.90m	2.80m		4.60m	9.00m	9.00m
BOYS	100m	200m	800m	1500m	High Jump	Long Jump	Triple Jump	Shot	Javelin	Discus
GOLD	13.4s	28.0s	2m 38s	5m 25s	1.40m	4.40m	9.70m	8.60m	26.00m	22.00m
SILVER	15.0s	31.6s	3m 05s	6m 15s	1.24m	3.80m	8.50m	6.80m	19.00m	17.00m
BRONZE	17.5s	37.0s	3m 40s	7m 10s	1.00m	3.00m	6.40m	4.80m	12.00m	12.00m

Task 3: When competing in **PE** lessons, you will be aiming to achieve the **Gold**, **Silver** or **Bronze** standards for each event. Use the grid to record your time, height and distance, then compare these with the standards for each medal.

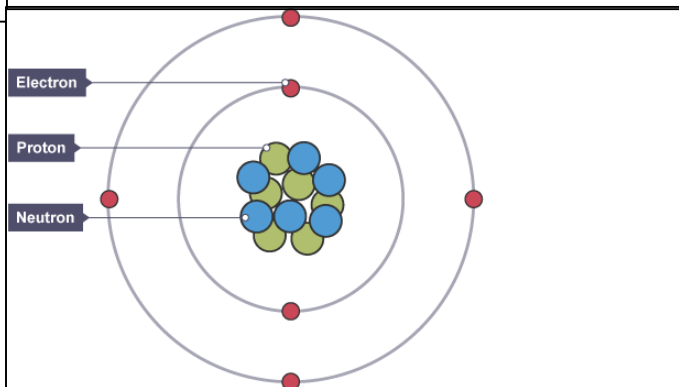
[illegible]

Chemical reactions

All the different elements are arranged in a chart called the periodic table. A Russian scientist called Dmitri Mendeleev produced one of the first practical periodic tables in the 19th century. The modern periodic table is based closely on the ideas he used:

Structure of the Atom

An atom is made up of three subatomic particles: protons, electrons and neutrons. Protons and neutrons are found in the nucleus of the atom (in the centre). Electrons are found orbiting the nucleus in shells (also known as *energy levels*). Protons have a positive charge. Electrons have a negative charge. Neutrons have a no charge.

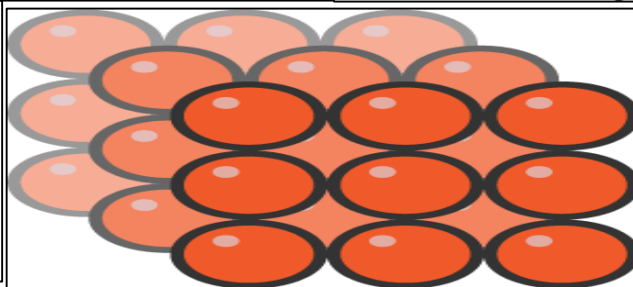


1	2		3	4	5	6	7	0
								He
Li	Be							
Na	Mg							
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir
Fr	Ra	Ac						

Metals Non-metals

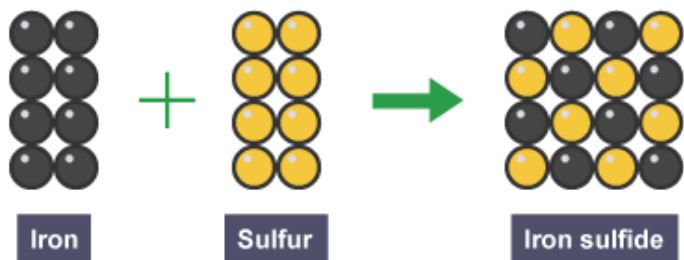
Atoms

Everything is made from atoms, including you. Atoms are tiny particles that are far too small to see, even with a microscope. If people were the same size as atoms, the entire population of the world would fit into a box about a thousandth of a millimetre across.



Chemical reactions

Atoms are rearranged in a chemical reaction. The substances that react together are called the reactants are formed in the reaction are called the products. No atoms are created or destroyed in a chemical reaction. This means that the total mass of the reactants is the same as the total mass of the products. We say that **mass is conserved** in a chemical reaction.



Chemical equations

The changes in chemical reactions can be modelled using equations. In general, you write:

reactants → products

The reactants are shown on the left of the arrow, and the products are shown on the right of the arrow. Do not write an equals sign instead of an arrow. If there is more than one reactant or product, they are separated by a plus sign.

Word equations

A word equation shows the names of each substance involved in a reaction, and must not include any chemical symbols or formulae. For example:

iron + sulphur → iron sulphide

In this reaction, iron and sulphur are the reactants, and iron sulphide is the product.

Iron sulfide, the compound formed in the reaction, has different properties to the elements from what it is made.

Compounds

A compound is a substance that contains atoms of two or more different elements, and these atoms are chemically joined together. For example, water is a compound of hydrogen and oxygen. Each of its molecules contains two hydrogen atoms and one oxygen atom. There are very many different compounds.

Chemical reactions

2

Chemical Reactions

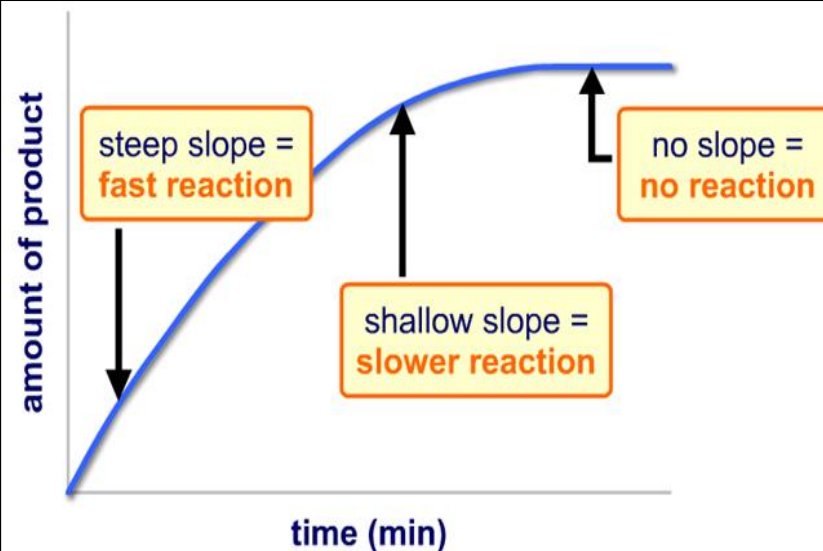
Chemical reactions occur when particles collide with enough **ENERGY**. The minimum amount of energy particles need to react when colliding is called the **ACTIVATION ENERGY**.

Increasing temperature increases the **speed** of the particles (because they gain kinetic energy) so they **collide successfully more often** and with more energy. This increases the rate of reaction.

Increasing the pressure of gases brings the particles closer together so they **collide successfully more often**. This increases the rate of reaction.

Increasing the concentration of reactants increases the number of particles, so they **collide successfully more often**. This increases the rate of reaction.

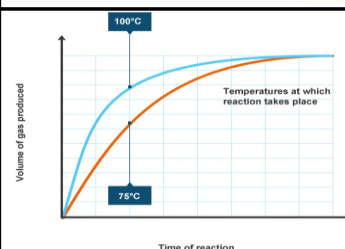
Increasing the surface area of a **SOLID** (you cannot change the surface area of a liquid or gas) **increases the number of successful collisions**. This increases the rate of reaction.



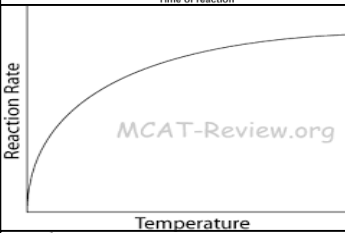
Collision Theory: chemical reactions occur when reactant particles **collide** with a certain amount of **energy**.

The rate of a reaction depends on two things:
the **frequency** of collisions between particles. The more often particles collide, the more likely they are to react.

the **energy** with which particles collide. If particles collide with less energy than the activation energy, they will not react.



You may be presented with graphs like these ones. You need to be able to describe what they show. 'Describe' means say what you see. If numbers are given in the graph—quote them where appropriate.



As temperature increases so does rate of reaction. This means that reactions finish faster at higher temperatures, as the graph shows—the reactant is used up faster at 100°C, so it levels off sooner.

As temperature increases, rate of reaction increases very quickly. As temperature continues to increase the rate of reaction increases more slowly. Eventually the rate of reaction **levels-off**.



Rate of reaction and concentration are **directly proportional**—as one doubles, the other doubles

Factors affecting the rate of reaction

Temperature	The higher the temperature, the quicker the rate of reaction.
Concentration	The higher the concentration, the quicker the rate of reaction.
Surface area	The larger the surface area of a reactant solid, the quicker the rate of reaction.
Pressure (of gases)	When gases react, the higher the pressure upon them, the quicker the rate of reaction.

Summary

Binary, is a number system that is made of two numbers. 1 and 0. Also known as base two. Computers are made up of **switches**. If you turn on a light switch at home, a computer scientist would say that the light is 1. If you turned it off, a computer scientist would say that the light is 0. A typical computer has billions of switches. That's a million million switches. Another name for a switch is **transistor**. Computer scientists love **binary**. Why? In simple terms, a computer is just switches. If we understand Yes/No questions we can **code** a computer to do what we want it to do. This is a form of

'Computational thinking'.

Imagine a billion people standing by their own light switch and working as a team to make a mobile phone respond to text message. To get close to modern computer/smart phone speeds each person would have to turn the switch at the same time and have to do this 4,000,000,000 in one second. All of actions in life are based on a number of binary decisions.

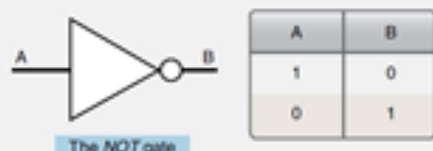
What is a **computer**? A computer can be instructed to accept, process, store and output data. That could be a phone, a washing machine, a tablet, a TV or even the humble PC (personal computer).

Storage- stores programs and files long term, even when they are not in use. Devices such as hard drives, USB memory sticks or SD cards are used to store files such as photos, music and software applications long term.

An **input device** is any piece of computer hardware used to provide data to a computer system.

An **output device** is any piece of computer hardware used to communicate the results of data to a audience.

A Switch



Input / Output and storage devices



Binary and Decimal



Key Vocabulary

Binary	1 or 0. Also known as base 2.
Computer	A hardware device made up of switches. A switch can have a state of 1 or 0.
Computational thinking	Methods that involve expressing problems and their solutions in ways that a computer could solve.
Switch	a device for making and breaking the connection in an electric circuit
Decimal	Base 10 also known as denary. Symbols include up of 0 1 2 3 4 5 6 7 8 and 9.
Hardware	The physical parts of a computer. Eg the touchscreen,
Input Device	Hardware that sends data to a computer, allowing you to interact with and control it.
Output Device	Hardware which converts information into human-readable form. It can be text, graphics, tactile, audio, and video.
Storage Device	Hardware on which information can be stored
Bit	A binary digit 1 or 0.
Bytes	A collection of 8 bits



<http://bit.ly/2CTk1IV>





Year 7 Knowledge Organiser: Settlements



Topics covered

- ✓ What is a settlement?
- ✓ Settlement sites
- ✓ Site factors
- ✓ Settlement hierarchy
- ✓ Settlement functions
- ✓ Mega-cities
- ✓ Impossible cities
- ✓ Threatened cities
- ✓ Cities in conflict

Designed by KMU for Open Academy 2019

Key Ideas:

1. I can describe settlement characteristics (area size, population, services)
2. I can describe settlement site factors (where people choose to live)
3. I can describe settlements that can grow (due to migration/birth rates) into mega-cities
4. I can describe some settlement locations in the Middle East
5. I can explain why some settlement locations are more dangerous than others

Skills

- ❑ Recognising geographical features from maps
- ❑ Describing geographical features from images
- ❑ Describing a distribution on a global scale
- ❑ Research using ICT
- ❑ Creating an informative leaflet
- ❑ Designing using MSOffice

Places and Environments

- ❖ Norwich
- ❖ London
- ❖ Rio de Janeiro
- ❖ Maldives
- ❖ Las Vegas
- ❖ Damascus
- ❖ Dubai

Key Terms Used in this Unit

- ❑ Site factors
- ❑ Aspect
- ❑ Raw materials
- ❑ Population
- ❑ Terrain
- ❑ Springs
- ❑ Bridging point
- ❑ Route centre
- ❑ Services
- ❑ Administration
- ❑ Residential
- ❑ Industrial
- ❑ Migration
- ❑ Employment
- ❑ Oasis
- ❑ Arid
- ❑ Xeriscaping
- ❑ Sustainable
- ❑ Democracy
- ❑ Civil War

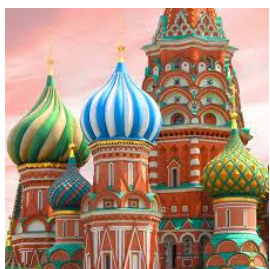


Year 7 Knowledge Organiser: Asia's Superpowers – China vs Russia



Topics covered

- ✓ China vs Russia facts
- ✓ China vs Russia physical geography
- ✓ China vs Russia human geography
- ✓ Traditional China vs Russia
- ✓ Changing China vs Russia
- ✓ Future China vs Russia



Key Ideas:

1. I can describe the locations of China and Russia and their neighbouring countries
2. I can describe and contrast the physical landscapes of China and Russia
3. I can describe the locations of major cities in China and Russia
4. I can explain how and why population has changed over time in two countries of the world
5. I can assess how China and Russia are changing in similar and differing ways for the future

Skills

- ❑ To research amazing facts using ICT
- ❑ To use mapping to investigate features
- ❑ To understand different opinions and viewpoints
- ❑ To write a detailed piece of extended writing
- ❑ To draw/label line graphs
- ❑ To use ICT/MS Office to present to my class

Places and Environments

- ❖ Beijing
- ❖ Shanghai
- ❖ Hong Kong
- ❖ Plateau of Tibet
- ❖ Himalayas
- ❖ Yangtze River
- ❖ Tiber river
- ❖ Moscow
- ❖ Lake Baykal
- ❖ Kamchatka
- ❖ Siberia
- ❖ Baltic States
- ❖ Caspian Sea
- ❖ Aral Sea
- ❖ Black Sea

Key Terms Used in this Unit

- ❑ Province
- ❑ Beijing
- ❑ Shanghai
- ❑ Shenzhen
- ❑ Hong Kong
- ❑ Plateau of Tibet
- ❑ Himalayas
- ❑ Yangtze River
- ❑ Climate
- ❑ Population
- ❑ Provinces
- ❑ Communism
- ❑ One Child Policy
- ❑ Communism
- ❑ Investment
- ❑ Economic growth
- ❑ Standard of Living
- ❑ Exports
- ❑ Technology

Module 3: Freizeit – juhu! (Free time – yippy!)

Here is the vocabulary you will need for Module 3.

Remember, you can hear the German pronunciation by clicking on the 'Listen' links next to the loudspeakers.

Bist du sportlich? • Are you sporty?

Ich bin (sehr/ziemlich/nicht sehr) sportlich.	I am (very/quite/not very) sporty.
Was spielst du?	What do you play?
Ich spiele ...	I play ...
Ich spiele gern ...	I like playing ...
Ich spiele ziemlich gern ...	I quite like playing ...
Ich spiele nicht gern ...	I don't like playing ...
Badminton	badminton
Basketball	basketball
Eishockey	ice hockey
Fußball	football
Handball	handball
Tennis	tennis
Tischtennis	table tennis
Volleyball	volleyball
Wasserball	water polo




[Listen](#)

In this Module you will learn how to:

- talk about which sports you play
- talk about leisure activities
- talk about how often you do activities
- talk about mobiles and computers
- develop prediction strategies.

www.textivate.com

Username: openacademy

Password: surname700

Go to 'my resources' to find your work.

Keep practising your German vocabulary on www.quizlet.com

• *Either:*

click on this link: https://quizlet.com/_8ievl8?x=1qqt&i=25q2il

• *Or:*

use your class link to go directly to your Quizlet class.

Was machst du gern?

• What do you like doing?

Was machst du gern?	What do you like doing?
Ich fahre Rad.	I ride my bike.
Ich fahre Skateboard.	I go skateboarding.
Ich fahre Ski.	I ski.
Ich fahre Snowboard.	I snowboard.
Ich lese.	I read.
Ich mache Judo.	I do judo.
Ich mache Karate.	I do karate.
Ich reite.	I go horse riding.
Ich schwimme.	I swim.
Ich sehe fern.	I watch TV.
Ich spiele Gitarre.	I play the guitar.
Ich tanze.	I dance.



[Listen](#)

Read the Strategy Box for ideas on learning German vocabulary.

Strategie 3

Oft benutzte Wörter

High-frequency words are words that come up again and again, no matter what you are talking about. All of the Wörter pages have a list of these words, but there are many more. Look back through Chapter 3 and see how many you can find. Here are a few to get you started:

der, die, das, ein, eine, einen, und, aber, in, ich, es gibt, gern, ... You will find that some of these words appear in every chapter in *Stimmt! 1*. Can you predict which they are? Look through the book. Were you right?

Wie findest du das?

• What do you think of it?

Ich finde es ...	I think it's ...
Es ist ...	It's ...
irre	amazing
super	super
toll	great
cool	cool
gut	good
nicht schlecht	not bad
okay	okay
langweilig	boring
nervig	annoying
stinklangweilig	deadly boring
furchtbar	awful



[Listen](#)

Was machst du in deiner Freizeit?

• What do you do in your free time?

Ich chill.	I chill out.
Ich esse Pizza oder Hamburger.	I eat pizza or hamburgers.
Ich gehe einkaufen.	I go shopping.
Ich gehe ins Kino.	I go to the cinema.
Ich gehe in den Park.	I go to the park.
Ich gehe in die Stadt.	I go into town.
Ich höre Musik.	I listen to music.
Ich mache Sport.	I do sport.
Ich spiele Xbox oder Wii.	I play Xbox or on the Wii.



[Listen](#)

Ich bin online • I'm online

Was machst du am Computer?	<i>What do you do on the computer?</i>
Was machst du auf deinem Handy?	<i>What do you do on your mobile?</i>
Ich chatte mit Freunden auf Facebook.	<i>I chat with friends on Facebook.</i>
Ich lade Musik herunter.	<i>I download music.</i>
Ich mache Fotos oder Filme.	<i>I take photos or make films.</i>
Ich sehe Videos.	<i>I watch videos.</i>
Ich simse.	<i>I text.</i>
Ich spiele Computerspiele.	<i>I play computer games.</i>
Ich suche und lese Infos für die Hausaufgaben.	<i>I look for and read information for my homework.</i>
Ich surfe im Internet.	<i>I surf the internet.</i>
Ich telefoniere mit Freunden.	<i>I call my friends.</i>
Ich mache ziemlich viel auf meinem Handy.	<i>I do quite a lot of things on my mobile.</i>



[Listen](#)

Oft benutzte Wörter • High-frequency words

Wie oft?	<i>How often?</i>
(sehr/ziemlich/nicht so) oft	<i>(very/quite/not so) often</i>
einmal/zweimal/dreimal pro Woche/pro Monat	<i>once/twice/three times a week/a month</i>
jeden Tag	<i>every day</i>
jeden Morgen	<i>every morning</i>
manchmal	<i>sometimes</i>
immer	<i>always</i>
nie	<i>never</i>
Wann?	<i>When?</i>
am Wochenende	<i>at the weekend</i>
am Abend	<i>in the evening</i>
heute	<i>today</i>
morgen	<i>tomorrow</i>
am Montag	<i>on Monday</i>
nächste Woche	<i>next week</i>
in zwei Wochen	<i>in two weeks</i>



[Listen](#)

Key words

Native Americans	General term used to describe the hundreds of different tribes who have lived in North America for thousands of years, long before it was settled by white Europeans
Buffalo	A large mammal living in North America. Many tribes relied on the Buffalo as a source of food, shelter, clothing, medicine and many other uses
Nomadic	A way of life in which a tribe or group travels and settles temporarily rather than setting up towns, villages or cities
The Great Plains	An area of the USA covered mostly with grassland – once home to Buffalo and tribes such as the Sioux and Apache.
The Reformation	A process of religious change in early modern Europe, where much of Europe converted from Catholicism to Protestantism
Catholicism	A type of Christianity that believes that the Pope is the head of the Church and that the Bible and church services should be in Latin
Protestantism	A type of Christianity that does not believe that the Pope is the head of the Church and that the Bible and church services should be read by people in the own language
Henry VIII	King of England between 1509 and 1547. Most famous for his six wives, Henry was also important in making England a more Protestant country with himself as head of the English Church
Martin Luther	A German Protestant who wrote several important books/articles about religion that helped spread the Protestant religion around Europe

Some tribes lived on the Great Plains (see key words above). These tribes mostly lived nomadically and hunted the Buffalo, of which they used the entire body. For example, they lived in Tipis, a type of tent build from Buffalo hide. Plains tribes also frequently raided each other, and the white settlers once they arrived. It was the Plains tribes who were some of the last to be defeated by the US military around the year 1900. On the right is a diagram showing the many different uses of the Buffalo.

Native Americans

Before white settlers arrived in North America it was known as 'Turtle Island' and was inhabited by millions of people organised into hundreds of different tribes. Each tribe had their own way of life, including different diets, spiritual beliefs, languages and customs.

Some of the largest tribes were the Sioux, Navajo, Cherokee, Apache and Iroquois.

Although up to 90% of the population were killed by white settlers, most tribes still remain today. However most of their original territory was taken from them and some now live in different regions to their ancestors.



The Tudors

The Tudors were a family who ruled England between 1485 and 1603. They are remembered for the amount that they changed England. One of the biggest changes they introduced under Henry VIII, Edward VI and Elizabeth I was the English Reformation. This was when England changed from a Catholic country to being a Protestant country.

Causes of the Reformation	Consequences
The Reformation in Europe	Protestants throughout Europe like Martin Luther helped spread Protestant ideas. These books reached England and many people began to change their religion.
Anne Boleyn	Henry VIII's second wife and a Protestant, Anne encouraged Henry to end his first marriage and convert to Protestantism. Henry eventually did this and fell out with the Pope.
Corruption in the Catholic Church	Probably exaggerated by Henry VIII, monks and other Catholics were accused of drinking, gambling and being too wealthy. As a result, Henry closed down their monasteries.
Actions of Protestant monarchs	Although Henry VIII was the one to bring in the Protestant Reformation, it was actually under Edward VI and Elizabeth I that Protestant changes occurred much more rapidly. Both introduced a 'book of common prayer' that was in English and preached Protestant ideas.



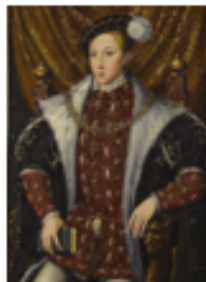
Henry VII, reigned 1485–1509

Henry VII took the throne by defeating the previous King, Richard III. Henry made efforts to control the barons in England. He taxed them heavily and punished them harshly for disobeying him.



Henry VIII, reigned 1509–1547

Determined to have a son of his own, Henry married six different women and had three surviving children. In the 1530s Henry claimed to have become a Protestant and changed the religion of England to Protestant with himself as head of the Church.



Edward VI, reigned 1547–1553

Henry VIII's only son and just nine years old when he was crowned King and died by the age of 15, Edward never really had the chance to rule England. Edward was raised as a Protestant so England became more Protestant during his reign.



Mary I, reigned 1553–1558

Mary was Henry VIII's eldest daughter and a strong Catholic. Nicknamed 'bloody Mary' she is often remembered for executing many Protestants but was also a strong queen in a difficult time.



Elizabeth I, reigned 1558–1603

Elizabeth was Henry VIII's youngest child and a Protestant like her brother. Often remembered as one of England's greatest queens, she continued to make England more Protestant, with increasingly harsh punishments of Catholics who resisted.

Vocabulary /terms to learn:

Syllable
Alliteration
Simile
Metaphor
Personification
Onomatopoeia
Stanza
Rhyme
Rhythm
Pace
Speaker
Tone
Inference
Explicit
Implicit
Technique
Method
feature

Structure

- Zoom in/out
- Repetition of an image/idea
- Links and connections between paragraphs
- Shifts:
 - inside to outside (and vice versa)
 - focus
 - time
 - topic
 - setting/place
 - mood/atmosphere
 - description to dialogue (and vice versa)

Language analysis Checklist:

- Link to task
- Relevant quote
- Meaning of quote
- Method named
- Effects explained
- Word zoomed in on
- Meaning of word
- Implied meanings

Literary devices and word class

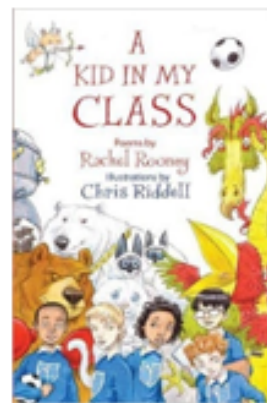
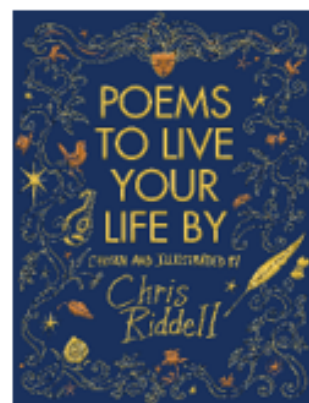
- Metaphor – a literal comparison – *she was a monster*
- Personification – human qualities – *the grass danced in the wind*
- Simile – as/like/as if – *he was like a man possessed*
- Onomatopoeia – the sound words – *bang, pop, sizzle*
- Alliteration – same starting sounds – *really rather raucous*
- Verbs – doing words
- Adjectives – describing words
- Nouns – objects or abstract things e.g. love
- Adverbs – describe doing words e.g. wrote neatly
- connotations of words – associations – night-time = mystery

Recommended Reading

Useful link

<https://www.bbc.co.uk/bitesize/topics/zmbj382>

This link will take you to 4 learner guides that will help you to understand rhythm and form.



Tasks

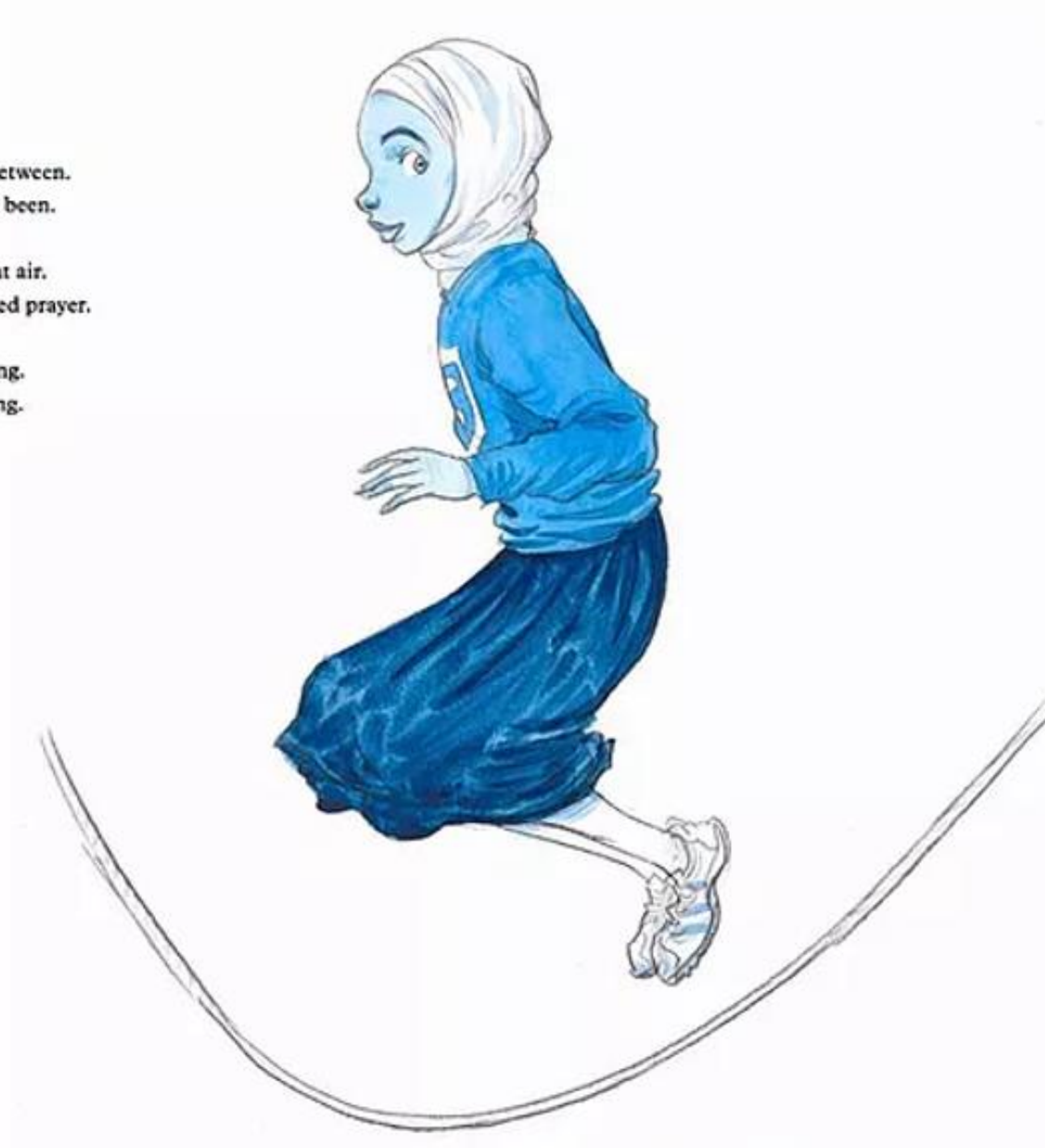
1. How do you feel about poetry? Write your thoughts as they come into your head, without worrying about paragraphs or punctuation. Now look at the words you have used and the feelings you have expressed. Poetry is all about expression. So, you might say, you just wrote a poem!
2. Read the poem on the next page. What do you think the feelings of the person being described might be? What makes you think this? Jot down key words and phrases.
3. Read the poem on the subsequent (next) page. How does the poet feel about nature? What words and phrases tell you this? Aim higher – how does the poet use literary devices (check the literary devices box on the first page to help you identify these) to create meaning and effect?
4. Read the poem entitled 'Russian Doll'. Do you think this poem is only about a Russian doll? Do you think the Russian doll could be being used as a metaphor to describe a real person? Explain your thoughts and ideas, using quotes from the poem to support them.
5. Using your knowledge of literary devices and structure gained from reading the 3 poems and completing the first 4 tasks, write your own poem. You could write a poem about identity like the poet does in 'Seeker', or a poem about nature, like Byron's 'There is a Pleasure in the Pathless Woods', or you could write an extended metaphor like 'The Russian Doll' to convey your emotions or the emotions of a made-up person that will be the 'speaker' of your poem.

Seeker

Eyes as wide as continents brim with the water between.
Seeks a different future. Looks back on what has been.

Mouth seeks another language. Shapes a different air.
Unfamiliar classroom words. The other, whispered prayer.

Heart seeks home. One it left and one it took along.
Echoes in the distance. Skips to a playground song.



Russian Doll

All you see is outside me: my painted smile,
the rosy-posy shell, the fluttery eyes.
A butter-won't-melt-in-my-mouth-type me

But inside there's another me, bored till playtime.
The wasting paper, daytime dreamer.
A can't-be-bothered-sort-of me.

And inside there's another me, full of cheek.
The quick, slick joker with a poking tongue.
A class-clown-funny-one-of me

And inside there's another me who's smaller, scared.
The scurrying, worrying, yes miss whisperer.
A wouldn't-say-boo-to-a-goosey me

And inside there's another me, all cross and bothered.
The scowling hot-head, stamping feet.
A didn't-do-it-blameless me.

And inside there's another me, forever jealous
who never gets enough, compared.
A grass-is-always-greener me.

And deepest down, kept secretly
a tiny, solid skittle doll.
The girl that hides inside of me.

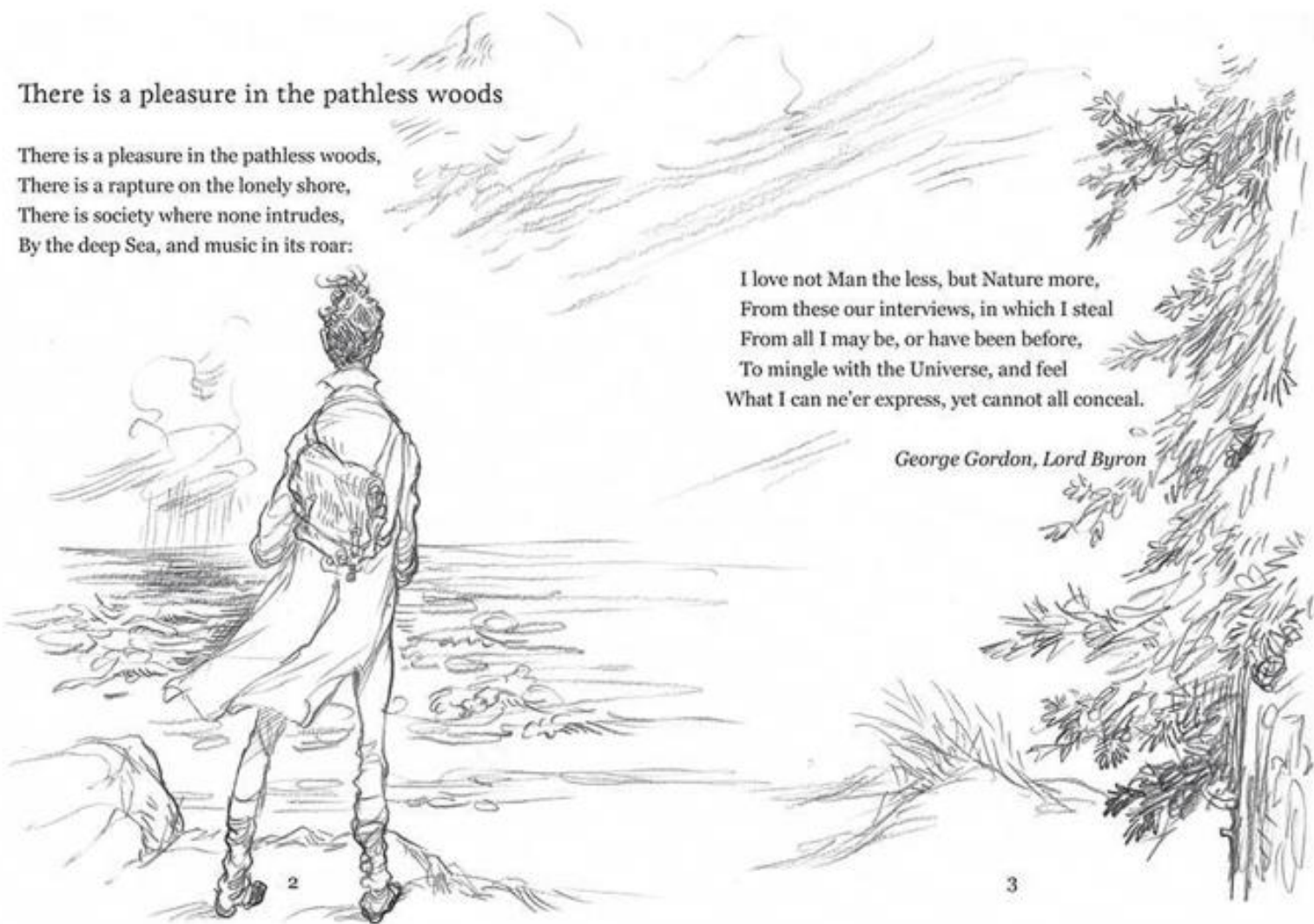


There is a pleasure in the pathless woods

There is a pleasure in the pathless woods,
There is a rapture on the lonely shore,
There is society where none intrudes,
By the deep Sea, and music in its roar:

I love not Man the less, but Nature more,
From these our interviews, in which I steal
From all I may be, or have been before,
To mingle with the Universe, and feel
What I can ne'er express, yet cannot all conceal.

George Gordon, Lord Byron



YEAR 7 — LINES AND ANGLES

Constructing, measuring and using geometric notation

What do I need to be able to do?

By the end of this unit you should be able to:

- Use letter and labelling conventions
- Draw and measure line segments and angles
- Identify parallel and perpendicular lines
- Recognise types of triangle
- Recognise types of quadrilateral
- Identify polygons
- Construct triangles (SAS, SSS, ASA)
- Draw Pie charts

Keywords

- Polygon** — A 2D shape made with straight lines
Scalene triangle — a triangle with all different sides and angles
Isosceles triangle — a triangle with two angles the same size and two angles the same size
Right-angled triangle — a triangle with a right angle
Frequency — the number of times a data value occurs
Sector — part of a circle made by two radii touching the centre
Rotation — turn in a given direction
Protractor — equipment used to measure angles
Compass — equipment used to draw arcs and circles



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Letter and labelling convention

The letter in the middle is the angle
The arc represents the angle

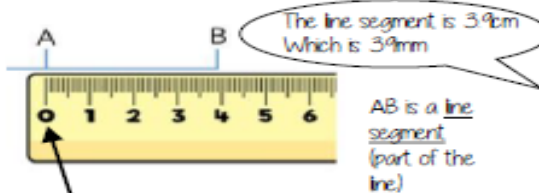


Angle Notation: three letters ABC
This is the angle at B = 113°

Line Notation: two letters EC
The line that joins E to C.

Draw and measure line segments

Conversions: $1\text{cm} = 10\text{mm}$, $1\text{m} = 100\text{cm}$



Make sure the start of the line is at 0.

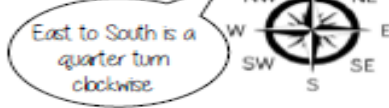
Angles as measures of turn



Clockwise



Anti-Clockwise



East to South is a quarter turn clockwise



Quarter Turn
 90°
Clockwise



Half Turn
 180°



Three-quarter Turn
 270°
Anti-Clockwise



Full Turn
 360°



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Classify angles



Acute Angles
 $0^\circ < \text{angle} < 90^\circ$



Obtuse
 $90^\circ < \text{angle} < 180^\circ$



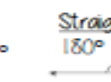
Reflex
 $180^\circ < \text{angle} < 360^\circ$



Right Angles
 90°



Right angle notation



Straight Line
 180°

Measure angles to 180°



The base line follows the line segment

Make sure the cross is at the point the two lines meet

Read from 0° on the base line.
Remember to use estimation.
This is an obtuse angle so between 90° and 180°

Draw angles up to 180°

Draw a 35° angle

Make a mark at 35° with a pencil
And join to the angle point (use a ruler)



Make sure the cross is at the end of the line (where you want the angle)

The angle

Parallel and Perpendicular lines

Parallel lines

Straight lines that never meet
(Have the same gradient)



Perpendicular lines

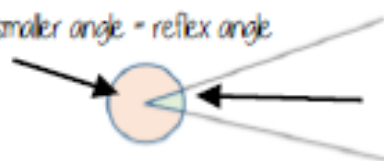
Straight lines that meet at 90°



Angles over 180°

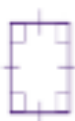
Use your knowledge of straight lines
 180° and angles around a point
 360°

360° - smaller angle = reflex angle



Measure the smaller
angle first (less than
 180°)

Properties of Quadrilaterals



Square

All sides equal size
All angles 90°
Opposite sides are parallel



Parallelogram

Opposite sides are parallel
Opposite angles are equal
Co-interior angles



Rectangle

All angles 90°
Opposite sides are parallel



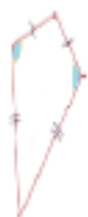
Trapezium

One pair of parallel lines



Rhombus

All sides equal size
Opposite angles are equal



Kite

No parallel lines
Equal lengths on top sides
Equal lengths on bottom sides
One pair of equal angles

Draw Pie Charts

Type of pet	Dog	Cat	Hamster
Frequency	32	25	3

$$\frac{32}{60}$$

"32 out of 60 people had a dog"



This fraction of the 360 degrees
represents dogs

$$\frac{32}{60}$$

$$\times 360 = 192^\circ$$

Use a protractor to draw
This is 192°

SAS, SSS, ASA constructions

Side, Angle, Angle



Side, Angle, Side



Side, Side, Side



If all the sides and angles
are the same, it is a regular
polygon

Polygons

3	- Triangle	5	- Pentagon	8	- Octagon
4	- Quadrilateral	6	- Hexagon	9	- Nonagon
		7	- Heptagon	10	- Decagon



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YEAR 7 — LINES AND ANGLES

Geometric reasoning

What do I need to be able to do?

By the end of this unit you should be able to:

- Understand/use the sum of angles at a point
- Understand/use the sum of angles on a straight line
- Understand/use equality of vertically opposite angles
- Know and apply the sum of angles in a triangle
- Know and apply the sum of angles in a quadrilateral

Keywords

Vertically Opposite: angles formed when two or more straight lines cross at a point

Interior Angles: angles inside the shape

Sum: total, add all the interior angles together

Convex Quadrilateral: a four-sided polygon where every interior angle is less than 180°

Concave Quadrilateral: a four-sided polygon where one interior angle exceeds 180°

Polygon: A 2D shape made with straight lines

Scalene triangle: a triangle with all different sides and angles

Isosceles triangle: a triangle with two angles the same size and two angles the same size

Right-angled triangle: a triangle with a right angle



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Sum of angles at a point

The sum of angles around a point is 360°

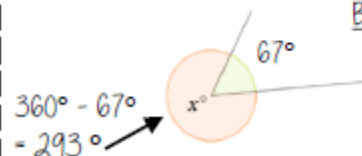


Find angle BOE

$$90^\circ + 33^\circ + 92^\circ = 205^\circ$$

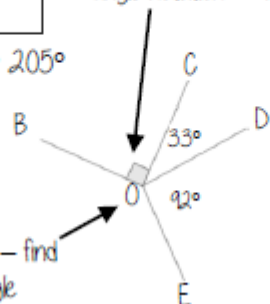
$$360^\circ - 205^\circ$$

$$\text{BOE} = 155^\circ$$



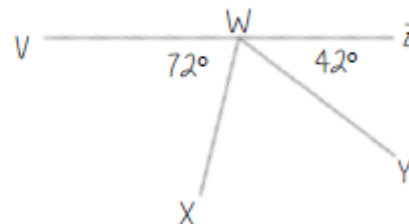
Angle notation — find this missing angle

Angle notation — 90°



Sum of angles on a straight line

Adjacent angles that share a common point on a line add up to 180°

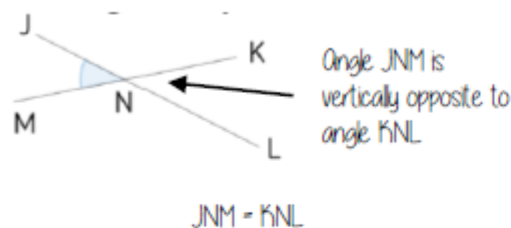


Find angle XWY

$$72^\circ + 42^\circ = 114^\circ$$

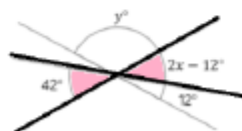
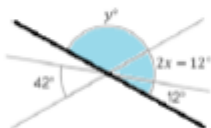
$$180^\circ - 114^\circ = 66^\circ$$

Vertically opposite angles



Vertically opposite angles are the same

Other angle rules still apply
Look for straight line sums and angles around a point.



Form equations with information from diagrams:

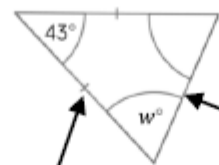
$$2x - 12 = 42$$

$$2x = 54$$

$$x = 27^\circ$$

Sum of angles in triangles

Sum of interior angles in a triangle = 180°



The two base angles will be the same size

Look at triangle notation
This indicates an isosceles triangle

$$\therefore 180 - 43 = 137$$

$$137 \div 2 = 68.5^\circ$$

A triangle can only have ONE right angle



Have a go!

Tearing the corners from triangles forms a straight line which is therefore 180°

Sum of angles in quadrilaterals

Sum of interior angles in a quadrilateral = 360°



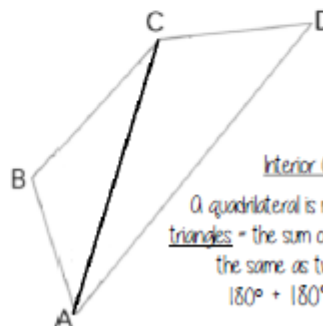
Convex Quadrilateral



Concave Quadrilateral



Interior angles are those that make up the perimeter (outline) of the shape



Interior Angles

A quadrilateral is made up of two triangles = the sum of interior angles is the same as two triangles
 $180^\circ + 180^\circ = 360^\circ$



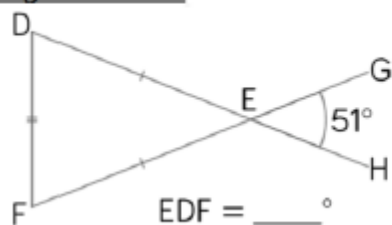
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Angle Problems

Split up the problem into chunks and explain your reasoning at each point using angle notation



1. Angle DEF = 51° because it is a vertically opposite angle DEF = GEH

2. Triangle DEF is isosceles (triangle notation) $\therefore$ EDF = EFD and the sum of interior angles is 180°
 $180^\circ - 51^\circ = 129^\circ$
 $129^\circ \div 2 = 64.5^\circ$

3. Angle EDF = 64.5°

Keep working out clear and notes together

Year 7 RS: Why is Christianity the way it is?

Key words	
Prayer	Communicating with God.
Meditation	To think quietly, connecting the mind and soul with the divine.
Hymns	A religious song that gives praise and worship to God.
Psalms	A book in the Old Testament that contains songs of praise and worship.
Bible	The holy book for Christians. It has 66 books split into 2 sections. The Old Testament has 39 books and the New Testament has 27 books.
Mary	The mother of Jesus.
Resurrection	The belief that Jesus rose from the dead after he was crucified.
Sin	Going against the laws of God.
Mercy	Showing compassion or kindness.

There are many different kinds of prayer, including:

- Adoration – praising God for his greatness and admitting dependence on him
- Confession – owning up to sin and asking for God's mercy and forgiveness
- Thanksgiving – thanking God for his many blessings, e.g. health or children
- Petition – asking God for something, e.g. healing, courage or wisdom
- Intercession – asking God to help others who need it, e.g. the sick, poor, those suffering in war

What do Christians believe?

Christianity is focused on the life and teachings of Jesus Christ, who Christians believe to be the Son of God. Jesus was born in Bethlehem in the Middle East over 2,000 years ago.

Christians believe there is only one God, but that he is revealed in three different forms:

- God the Father
- God the Son
- The Holy Spirit

Christians model themselves on the life and teachings of Jesus Christ. Jesus taught people to love God and love their neighbour. Christians believe that God sent Jesus to live as a human being in order to save humanity from the consequences of its sins – the bad things humanity had chosen to do which had separated them from God. Christians believe that through the death and resurrection of Jesus this broken relationship with God is restored.

The Christian holy book is the Bible. It is divided into the Old and New Testaments.

The New Testament explains how God sent his only son, Jesus Christ, to restore the broken relationship between people and God which had been caused by human wrong-doing.

Different Christian denominations worship in different ways:

- Anglicans, Roman Catholics and Orthodox Christians have a set form of worship. It is a formal ritual based around the sacraments, particularly Holy Communion. This type of worship is called liturgical worship.
- Other Christian churches practise non-liturgical worship, e.g. Baptists and Quakers. This kind of worship has no set form and often does not involve Holy Communion. It is usually centred on Bible readings, a sermon, music and prayers. It can be structured or unstructured and spontaneous.

Whatever style of worship is used, most Christians believe it is important to come together to share acts of devotion and honour to God.

Public worship helps Christians to achieve a deeper understanding of the Bible, the life of Jesus and Christian teachings. It also enables those who receive Holy Communion to welcome Jesus into their hearts.

Where do Christians worship?

Many Christians worship in churches. Some groups meet in homes and other buildings. 'Church' means the gathering of Christians as well as the building in which Christians worship. Their leaders are called priests or ministers.

Many churches hold a service called **Communion**, **Eucharist** or **Mass**, in which bread and wine are shared together, just as Jesus did with his followers before his death.

Worship is about giving worth to something. Christians worship God in order to thank him for his love, ask for forgiveness for their sins and to try to understand what God wants from them

Worship is an essential part of a Christian's faith. Christians worship God to thank him for his love, ask for forgiveness for their sins and try to understand his 'will' for them.

Public worship with other Christians usually takes place in a church, chapel or cathedral. The word 'church' can mean different things:

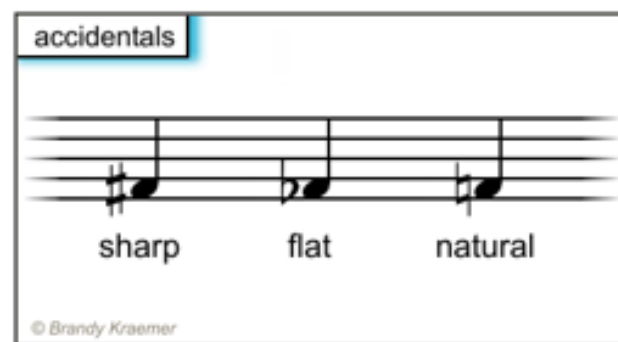
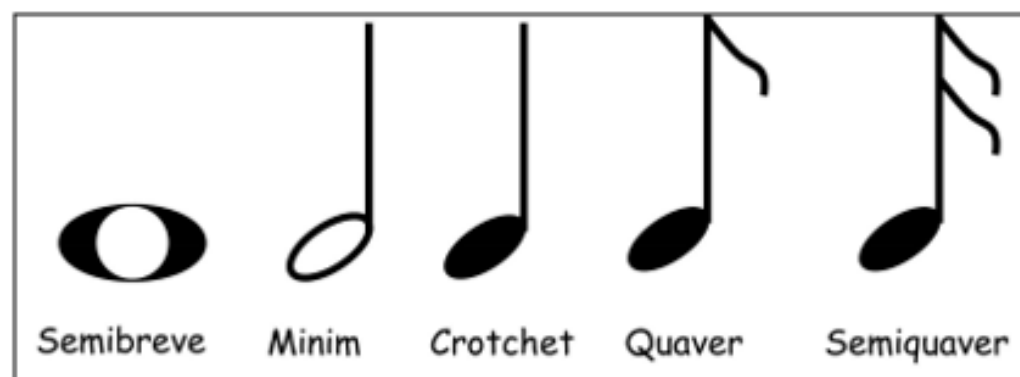
- 'The' church is the whole community of Christians, the people of God, also called the 'body of Christ'.
- 'A' church is a building in which worship takes place.

Private worship gives Christians a chance to spend time alone with God. Prayer, meditation, Bible study and singing hymns may all be done at home. Christians can unite themselves with the Church of God as they pray while not actually going to a physical church. Some Christians belong to the 'house church' movement and meet for worship in each other's homes.

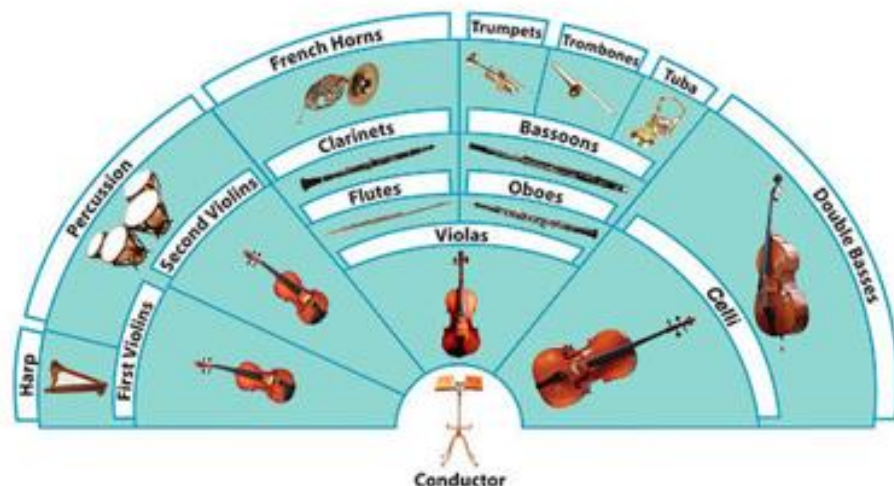


Year 7 Knowledge Organiser Music

Duration	How long a note lasts for
Pitch	How high or low a note is
Tempo	How fast or slow a note is
Dynamics	How loud or quiet the music is
Timbre	The quality of sound
Texture	How thick or thin the music is
Structure	How the sections of music are laid out e.g. chorus, verse etc.
Silence	When the instruments stop playing



Year 7 Knowledge Organiser Music



Strings	Violin, Viola, Cello, Double Bass, Guitar, Harp, Ukulele, Banjo
Brass	Trumpet, Trombone, Tuba, Cornet, French Horn, Euphonium, Sousaphone
Woodwind	Flute, Piccolo, Clarinet, Oboe, Bassoon, Recorder, Saxophone
Percussion	Drums, Timpani, Cymbals, Djembes, Cajons, Xylophone, Glockenspiel, Maracas, Claves, Snare Drum, Bass Drum

D $\flat$	E $\flat$		G $\flat$	A $\flat$	B $\flat$		D $\flat$	E $\flat$		G $\flat$	A $\flat$	B $\flat$	
C $\sharp$	D $\sharp$		F $\sharp$	G $\sharp$	A $\sharp$		C $\sharp$	D $\sharp$		F $\sharp$	G $\sharp$	A $\sharp$	
C	D	E	F	G	A	B	C	D	E	F	G	A	B
B $\sharp$		F $\flat$	E $\sharp$			C $\flat$	B $\sharp$		F $\flat$	E $\sharp$			C $\flat$

African Drumming

Djembe



Talking Drum



- ✓ Polyrhythms – multiple simultaneous rhythms
- ✓ Tone and Bass – different timbres on a drum
- ✓ Improvisation – making music without preparation
- ✓ Ostinato – a musical pattern that repeats



Marimba

Shaker



Fanfares

- ✓ Fanfares are usually played by brass (trumpet, trombone, tuba, cornet, French horn) and percussion (bass drum, snare drum) instruments because they are the loudest
- ✓ Fanfares are musical introductions to important events like a royal entrance, a sports game or even the beginning of a film!
 - ✓ Fanfares use the notes of a major triad (3 or 4 in total) and use a variety of different rhythms
 - ✓ The time signature is always in 4/4

British Folk Music

- ✓ British folk music began in medieval times but is still played today having been passed through generations
- ✓ The music is usually inspired by nature and is played at social events like weddings and parties
- ✓ Songs are played at a fast tempo and use instruments like violin, accordion, drums and flutes
- ✓ Songs use melody and accompaniment i.e. there is a main tune but there are chords underneath to support the tune
- ✓ They can also use key signature changes which involve sharps, flats and natural notes



Going the extra mile activities.
Here are some great ideas to do with family to avoid boredom that go above and beyond during the next half term.

The Arts	IT	DT	English and Drama	Humanities	PE	Maths	Science
Create a realistic drawing of an apple. Create a tonal grid, show correct shape and proportion. Include a cast shadow.	Create an online resource that helps an elderly person get on line and use social applications for the first time.	Research what the difference between hard and soft woods is. What trees grow them and what do carpenters use them for?	Watch one of the briefings by the government. What makes a good information giving speech?	How is living in Norfolk special? Compare your lifestyle with others in Lima, Kazakhstan and Calcutta.	Invent a new sport.	What are the first 10 Fibonacci numbers?	What is potable water?
Build a puppet theatre using cardboard and sock puppets/characters stuck on to pencils. Record a play to share with family.	Now give them advice on social media conventions, use of gifs and emojis. Make it amusing and try it out!	How can you save money shopping for food (under normal circumstances)? Create a handy guide for a novice shopper.	Create a hero. What are the characteristics? Are they real? What stories would we find your hero in? It might be great to find a real one in your family!	England was divided up into 7 Saxon kingdoms. Create a podcast describing what life would have been like at this time if you had lived then.	Create a set of rules.	What is the golden ratio? This calls for a song. Can you create a song about the golden ratio?	How can we use ultrasound to monitor pregnancies?
Research the legend of St George and the Dragon. Look at the art work. Create a piece of performance art.	Coding: Send a message using the following; sign language, ASCII, semaphore, and programme Python Turtle to draw it	Can you make a model of a Norwich landmark? Use any material to hand.	Write a newspaper article about a spy e.g. James Bond. Try to write their obituary.	What happened to the Colony of Roanoke? Create a presentation to explain as an archaeologist what would you expect to find and where.	Get family members to play.	Make some mathematical art using materials at home like packets and boxes.	If you have the materials to spare try to do an experiment. Write it up explaining what you found out.
Choose 3 songs. Learn to sing them. What do the words mean to you?	Get a family member learning a language using Memrise or Quizlet.	Invent a new recipe and test it.	Watch a film. Be a film critic. You are being interviewed to review the film on radio 1. What would you say?	Imagine how Europe's history would have been different if there had been no monarchy. Write a new constitution.	Send it to the organisers of the Quarantine Olympics to include it in the next games!	What is Pascal's triangle?	Find out how alcohol affects young people.