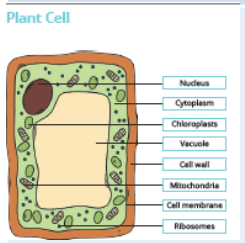
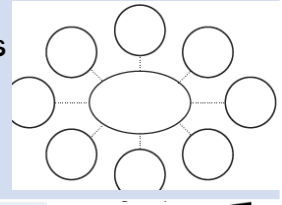
Summer 2 - Year 7 Name:

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.

The knowledge is evolutionary not revolutionary. Approximately half the knowledge is new and half helps you revise. Many of the activities are changing. We hope you enjoy them.

Subject	Page Number	Subject	Page Number
Multidisciplinary Lessons	3	Geography	32
Art	6	German	34
DT	10	History	36
Food	11	English	39
Textiles	17	Maths	42
PE	20	RE	44
Science	24	Music	46
Computer Science	31	A range of bonus ideas to prevent boredom	49

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.
 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.

Sharing the Love of Reading: 11-16-year olds

The Open University

1. Can I read aloud to a friend or relative?

2. Can I hide a story or poem to be found?

3. Can I deliver a speech from a character or public figure?

4. Can I share my reading journey over the last week?

5. Can I learn about a book from someone's past?

6. Can I…

7. Can I discover what books mean to someone else?

8. Can I…

9. Can I create a paper chain of poetry?

10. Can I gain a '7-day streak' of reading?

11. Can I design my own reading den?

12. Can I recreate a scene/poem using various materials?

13. Can I read in an unusual & unexpected place?

14. Can I set up a news desk & give a report?

18. Can I make my own mini book?

15. Can I recreate a favourite book or comic cover?

16. Can I find an online video of an illustrator drawing and draw along?

17. Can I make an A-Z of authors, book titles or favourite characters?

MAYFLOWER COMMUNITY ACADEMY & NURSERY

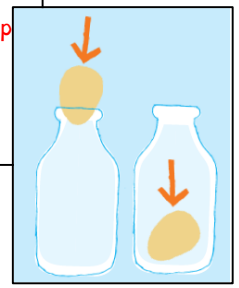
Practical Science at Home

CHANGES OF STATE
The brief: Make an egg fit into a bottle without breaking it.

The method

1. Submerge the egg in a glass of vinegar for two days: the shell will become rubbery.
2. Heat the bottle in hot water – remember to use gloves or a tea towel when handling it.
3. Rest the egg on the neck of the bottle.
4. As the air inside the bottle cools down, it will contract and suck the egg down. Top tip Try lubricating the egg with cooking oil or washing up liquid.

Now find out why this happens using your knowledge of solids, liquids and gases

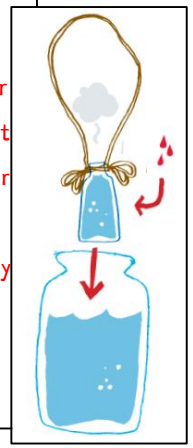


HEAT TRANSFER
The brief: Create a colourful underwater volcano.

The method

1. Cut a two foot length of string with a pair of scissors. Tie a knot around the neck of a salt shaker with one end of the string. Double-knot it to ensure the knot is secure. Repeat this process with the other end of the string, resulting in a handle to lower your shaker.
2. Empty and clean a large jar. Fill the clean jar about three quarters full with cold water.
3. Fill the salt shaker with hot water (with adult supervision) – as hot as you can get from your tap – to just below the neck. Add three to four drops of red food colouring.
4. Hold your salt shaker over the mouth of the jar by the string handle. Slowly lower the salt shaker into the jar until the shaker is completely submerged and resting upright on the bottom of the jar. Observe how the coloured water erupts from the shaker into the cold water.

Explain this using the idea of convection currents

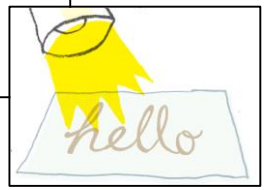


INVISIBLE INK
The brief: Write your own secret message in an invisible ink solution.

The method

1. Squeeze lemon juice into the bowl and add a few drops of water. Stir with the spoon.
2. Dip the paint brush into the juice mixture and write a message on the paper.
3. Allow the paper to dry completely. Your message should become invisible.
4. Hold the paper very close to the light bulb to heat up the message area (adult supervision required). Watch your message appear.

Why does heat uncover the message? What is a reversible reaction?

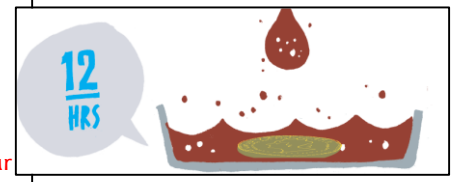


ACIDS & ALKALIS
The brief: Clean a penny using cola.

The method

1. Place the penny in the container.
2. Add enough cola so the penny is covered.
3. Leave overnight.
4. In the morning, you should find that your penny is clean.

What makes something acidic? What chemical reaction is happening to the penny?

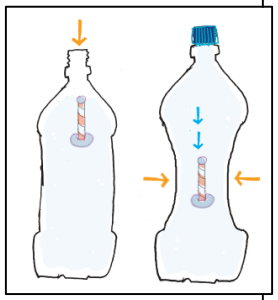


THE DENSITY DIVER
The brief: Build a Cartesian diver.

The method

1. Put a small ball of plasticine on the top of the straw to seal it.
2. Roll a sausage of plasticine and wrap it around the bottom of the straw, leaving the bottom open. This is your diver.
3. Now attempt to balance the diver so that it stays upright.
4. Place the diver vertically in the drinking glass. Add or remove weight from the base or top so that when you push it down, it just about bobs back up to the surface (and stays upright).
5. Once you are happy, place the completed diver in the two litre bottle filled to the top with water. Screw on the lid. Squeeze the bottle, and the diver will drop down to the bottom of the bottle. Release it and it floats back to the surface.

What is density? What makes something high or low density? Why might this be useful?

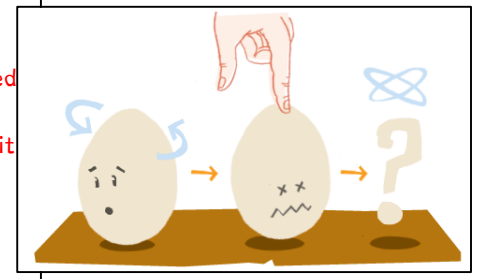


MOMENTUM
The brief: Use eggs to find out about momentum and changing direction.

The method

1. Spin each egg, one hard boiled and one fresh, on a table.
2. Leave it to spin for a few seconds then momentarily stop it by placing your finger on top.
3. Release the egg and observe what happens next.

What is happening to the inside of the egg? How do you calculate momentum?

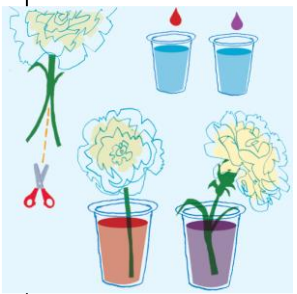


COLOURED CARNATIONS
The brief: Create multi-coloured flowers.

The method

1. Use the scissors to cut the stem of the carnation in half lengthways.
2. Take two cups and fill them with water. Add a different coloured food dye to each cup.
3. Put the split stems of the carnation into the cups and leave overnight.
4. The next morning you should find that your flower has changed colour.
5. What do you notice about the petals?

How does the food dye het to the petals? What is xylem and phloem?

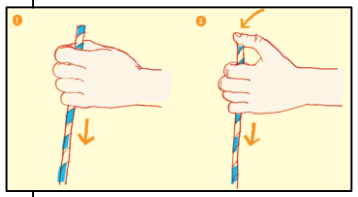


STRONG AS A DRINKING STRAW
The brief: Use a drinking straw to pierce through a raw potato.

The method

1. Hold the straw by its sides, without covering the hole at the top and try quickly stabbing the potato.
2. Repeat the experiment with a new straw but this time place your thumb over the top, covering the hole.

What forces are increasing or decreasing to allow this to happen?



Multi-disciplinary learning. Key Stage 3.

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.

Bigfoot lives in the Northwest Pacific area of North America

There is a Plesiosaur (The Loch Ness Monster) living Loch Ness in Scotland

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 Lock 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

Angie Lewin

Born: 1964. Cheshire

Angie Lewin is a British printmaker working in linocut. wood engraving. lithography and screen printing.

Angie Lewin has a unique vision of the natural world.

Her hugely popular prints show the intricate detail of the native flora of a variety of environments. from salt marsh and Highland loch to flower-strewn meadow and wild garden.

Her style is modern but it has a retro feel .

During the summer term the year 7 students will be introduced to Angie Lewin. Students will explore how colour and patterns can be used together. Students will also develop their drawing skills through observation of organic objects and will be encouraged to further explore colour theory. Students will make studies of Lewin's work with the year culminating in the creation of their own Lewin style piece of work.

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

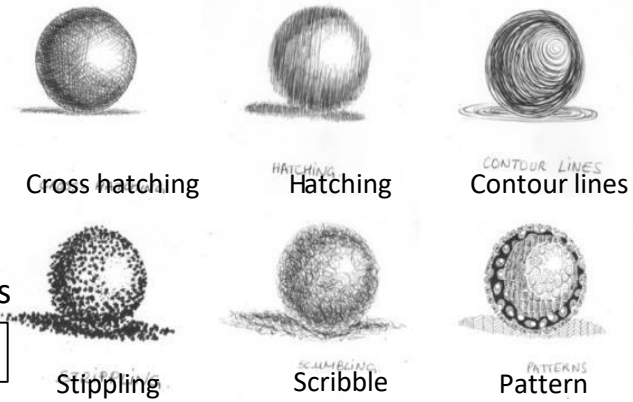
Stages of Drawing

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



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?

Art Key Stage 3

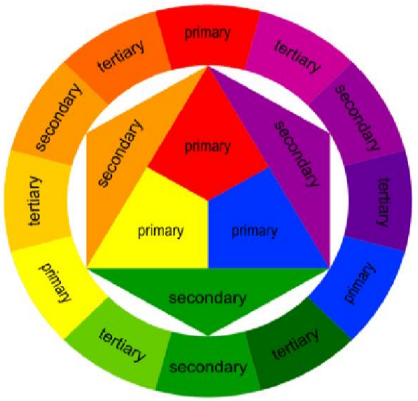
1- Formal elements are taught e.g. how to sketch and use tone to create a 3D effect. You will explore the colour wheel and how to use the basic materials in Art.
2-"The Greenman" – This project introduces you to facial proportions and how to blend oil pastels effectively. We also learn about clay and 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

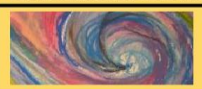
Media	The substance that an artist use to make art
Materials	The same as media but can also refer to the basis of the art work eg, canvas, paper, clay
Techniques	The method used to complete the art work, can be generic such as painting or more focus such as blending
Processes	The method used to create 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

Art Key Stage 3

1

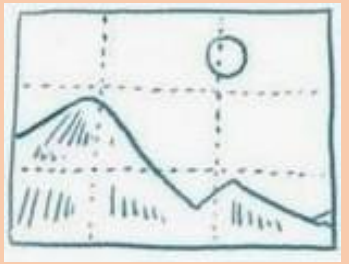
Formal Elements of Art

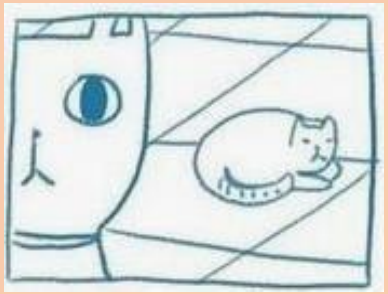
LINE	the path left by a moving point, e.g. a pencil or a brush dipped in paint. It can take many forms. e.g. horizontal, diagonal or curved.
TONE	means the lightness or darkness of something. This could be a shade or how dark or light a colour appears
TEXTURE	the surface quality of something, the way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

2

Composition Layouts

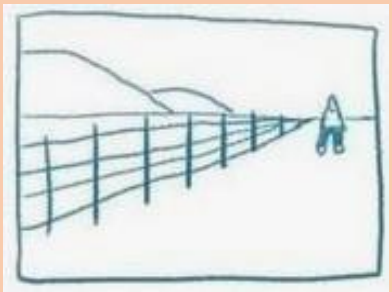
Rule of thirds – Place focal objects at 1/3 or 2/3 of the image horizontally or vertically. Not in the middle





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

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

Art Key Stage 3

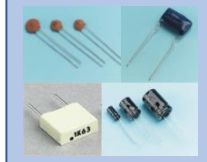
Year 7 Electronics and Graphic design, making a speaker and packaging

Activity: What are the different electronic items in your house. Draw them, explain their purpose. Evaluate how effectively they do their jobs. Try to explain an improvement (even if it is not possible). 1 item each few days would be a suitable work rate.

Electronics

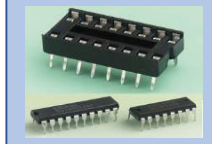
Basic electronics comprises the minimal "electronics components" that make up a part of everyday electronics equipment. These electronic components include resistors, transistors, capacitors, diodes, inductors and transformers. Powered by a battery, they are designed to work under certain physics laws and principles

Basic components and their function



A capacitor is a component that can store electrical charge (electricity). In many ways it is like a rechargeable battery. A good way to imagine a capacitor is as a bucket, where the size of base of the bucket is equivalent to the capacitance (C) of the capacitor and the height of the bucket is equal to its voltage rating (V). The amount the bucket can hold is equal to the size of its base multiplied by its height, as shown by the shaded area.

A resistor is a device that opposes (or limits) the flow of electrical current in a circuit. The bigger the value of a resistor the more it opposes (or resists) the current flow.

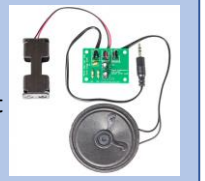


Integrated Circuit The top picture is an IC holder placed into the PCB, below are ICs. The notch on the holder should line up with the notch on the PCB

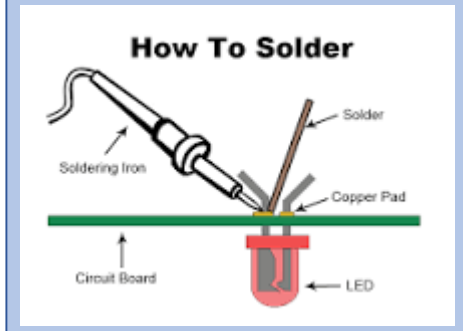
Printed circuit board (PCB). Components are soldered onto this and joined by a copper strip

Batteries provide power to the circuit

Finished soldered circuit



Soldering



Soldering is a process in which two or more metal items are joined together by melting and then flowing a filler metal into the joint—the filler metal having a relatively low melting point. Soldering is used to form a permanent connection between electronic components

Tools to solder successfully

Soldering iron: Heats solder to attach components to PCB

Wire strippers: Strips the plastic coating from electrical wire to make soldering easier

Solder: lead substitute, when melted acts like glue to join components to the PCB

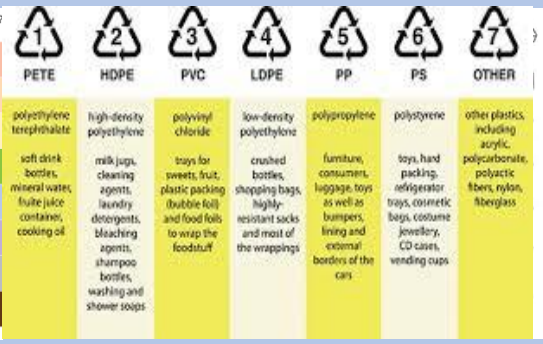
Graphic design

Could you imagine a world without pictures to help you visualise products you are purchasing? A good company utilises pictures and text to help capture the attention of its audience. Graphic design is a combination of visual images and text to communicate to an audience.

Design and make new packaging for a specified target audience.

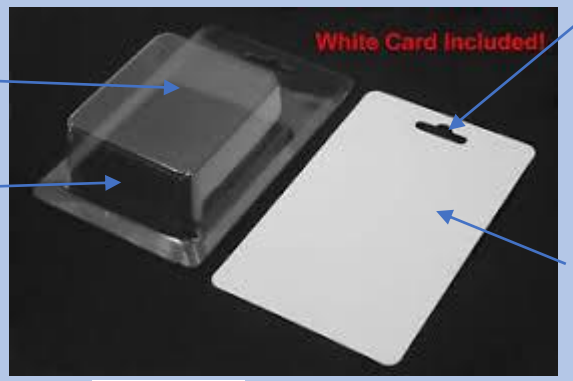
Colour theory

Plastic classification



Graphical Symbols

Blister style packaging



Vacuum formed plastic
A vacuum is applied sucking the sheet into the mould. The sheet is then ejected from the mould.

HIPS plastic
High Impact Polystyrene, it is a tough, rigid plastic material with high impact strength which can be guillotined, punched, routered or sawn easily, and is readily available in a wide variety of colours

Euroslot
A Euro slot is a flap for a product so it can be hung up

Cardboard
Cardboard is thick , stiff paper that is used, for example , to make boxes and models. It is made from paper pulp.

CE stands for Conformité Européenne, which is French for "Conformity." A product in one of the controlled product categories cannot legally be sold in the EU unless it has passed the tests to receive the CE marking.

CAD

2D Design and Solid Edge (3D) are used in the Academy. CAD (computer-aided design) software is used by architects, engineers, drafters, artists, and others to create precision drawings or technical illustrations. CAD software can be used to create two-dimensional (2-D) drawings or three-dimensional (3-D) models.

Health and Safety

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

Nutrition

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)

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.

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:

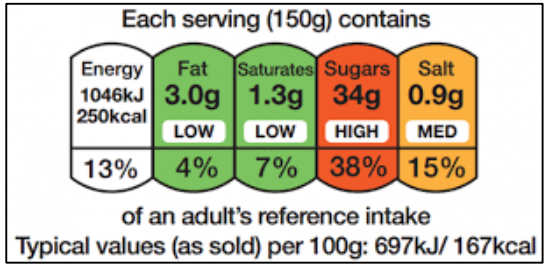
What five conditions to bacteria need to grow and multiply? (5 marks)

What is a high risk food? (5 marks)

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 that 6g



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.

Quesadillas

Ingredients

120g cheese

1 chicken breast

optional vegetables:

- pepper
- Spring onion
- Sweetcorn
- Spinach

These must be cut very small.

2 tortilla wraps

Equipment

Chopping board

Knife

Grater

Pan

Skills

Grating

Chopping

Frying

Adapting a recipe

1. Chop the chicken into small bite-sized pieces and grate the cheese.

2. Lightly fry the chicken and vegetables until cooked through.

3. Sprinkle 1/4 the cheese over half of the wrap followed by $\frac{1}{2}$ the chicken.

4. Cover the chicken with another $\frac{1}{4}$ of the grated cheese.

5. Fold in half and place in the frying pan.

6. Fry in a lightly oiled pan until golden on each side.

Repeat with the remining wrap, cheese and chicken.

Puff pastry pesto tarts

Ingredients

1 x ready rolled puff pastry

½ jar of pesto OR tomato puree

½ pepper

½ red onion

50g cheese

Equipment

Chopping board

Knife

Skills

Slicing

Dicing

Baking

1. Pre-heat the oven to 180°C. Finely slice your onion, pepper and tomato.

2. Cube your cheese

4. Cut your puff pastry into even squares. Place the squares onto a baking tray with baking paper.

5. Spread the pesto on to the tarts

6. Next add your vegetables and the cheese. Bake in the oven for 20 minutes on 180C.

Next lesson you will be making your own puff pastry recipe.

Chocolate chip cookies

Ingredients

125g butter, softened

100g light brown soft sugar

125g caster sugar

1 egg, lightly beaten

225g self-raising flour

200g chocolate chips

Equipment

Weighing scales

Bowl

Spoon

Baking tray

jug

Skills

Weighing

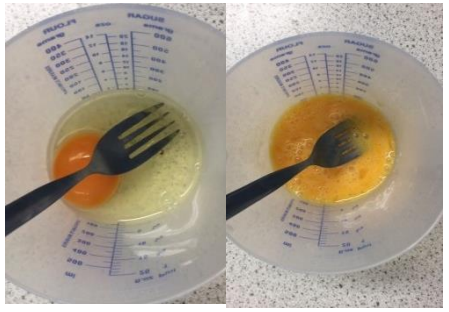
Whisking

Shaping

Baking

1. Pre-heat the oven to 190C. Weigh out the butter and the sugar.

2. Cream the butter and sugar together.



3. Mix the egg in a jug and add a little at a time to the butter mixture.

3. Add the flour and chocolate chips. Mix well.

4. Split the mixture into 12 even balls, 6 per tray. Bake for 10 minutes until golden on the edges and soft in the middle.

You can change this recipe to make:

- Chocolate orange cookies
- Cranberry and white chocolate
- Peanut butter cookies

Textiles – Equipment and Fabric

Activity: If you have some spare fabric make sock puppets for a puppet theatre. In drama create a script. Make a video you record on your phone to share with friends and family.

What is Textiles and what is a Textile Designer?

- A textile is a type of woven cloth.
- A textile designer comes up with innovative ideas, **designs** and prints for a variety of fabrics, clothing and non-clothing materials, furnishing materials, industrial fabrics and other related materials, using both natural and manmade fibres.

Tools and equipment

Embroidery Scissors
Used to cut off loose threads when sewing

Embroidery thread
Thick, colourful thread using for decoration in hand embroidery

Embroidery needle
Needle with a large eye so the thread ca fit through. Used to sew decoration onto fabric.

Embroidery hoop
Used to keep fabric taught (tight) so that it doesn't crease or bunch when sewing

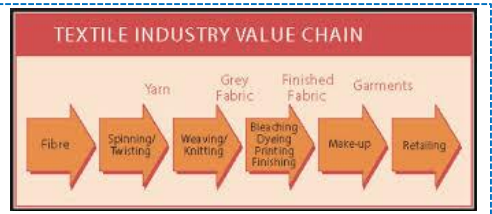
Un-picker
Used to cut through stitches and thread. Usually used to amend mistakes.

Sewing machine
Used to join fabric together, construct garments and textiles and also for decoration.

Example exam questions:

Give an example of a synthetic material. (1 mark)
Explain the term 'textile design'. (2 marks)
What is an un-picker used for?. (1 mark)
Name one different between a sewing needle and an embroidery needle. (1 mark)

Fabrics



Natural Fabrics

Cotton – produced from a cotton ball. Cotton is a soft breathable fabric used to make many fabrics for many uses. Can hold strong, bright colours when dyed.

Linen – produced from the flax plant. Linen is a strong, absorbent fabric and dries quickly.

Wool – produced commonly from sheep but also other animals such as goats and rabbits. Wool is insulating and water resistant.

Silk – the silk work produces a silk cocoon which is processed into silk. Silk is light and comfortable, has good insulating properties (warm in winter, cool in summer) and is strong.

Synthetic fabrics

Polyester – manmade from coal, water and petroleum. Polyester resilient fabric and can with stand a lot of wear an tear, holds dye well.

Nylon – manmade from petroleum, gas, coal and other materials. Nylon is a silky, strong and elasticated fabric.

Regenerated Fibre - Viscose is known as a regenerated fibre as it is made from cellulose found in wood pulp. It is often regarded as only partially man-made. It's a light, airy, breathable and biodegradable.

Bonded fabrics - Blended fabrics are created when two or more different kinds of fibres are mixed together to create a new fabric with unique properties e.g. polycotton.

Textiles – Decorative techniques

Activity: Can you make a camping blanket? What is a blanket stitch? Research and perhaps try it.

Applique

Applique is attaching shapes and patterns of fabric onto a larger piece of fabric to form a picture or pattern. Is it commonly used as decoration. The fabric can be attached by bondaweb or sewed using a machine or by hand.

Materials Required

Bondaweb, a variety of fabrics, tracing paper (if required and an iron.

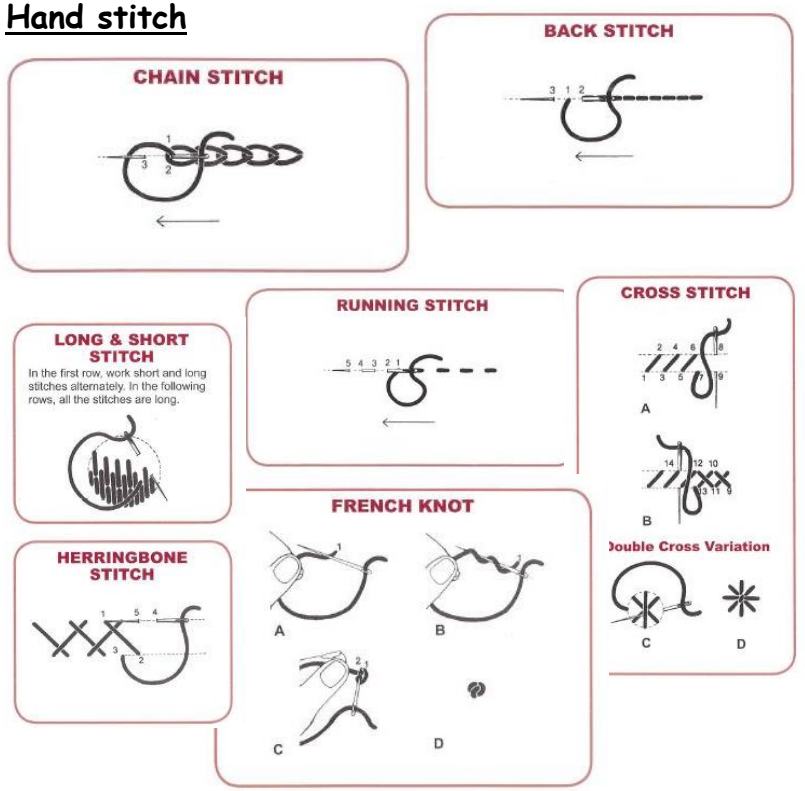
How to do Applique

- Draw a simple design
- Trace the design onto the Bondaweb - on the smooth side
- When using letters or words, you must do a mirror image using tracing paper
- Label each colour that you want to use on your design
- Select each colour fabric from the scrap fabric draws
- Cut roughly each section of the Bondaweb – this will be ironed onto each colour
- Iron onto the coloured fabric that you have selected – place the Bondaweb and the fabric in between two pieces of paper in case the design signs to the iron or the ironing board
- Cut out each shape
- Collect a larger swatch to put your applique onto
- Return to the iron, with your swatch and sections of your design
- Peel back the paper from your cut out design and lay onto the larger swatch
- Make sure that the applique is the correct way – place the design between two pieces of paper in case the design sticks to the iron or the ironing board
- Iron onto the larger swatch

Example exam questions:

Explain how to complete an applique sample when using Bondaweb (8 marks)
List 3 piece of equipment needed when completing hand embroidery. (3 marks)
Name one disadvantage of hand embroidery. (1 mark)
Explain what the term 'applique' means. (2 marks)

Hand stitch



Materials required

Embroidery needle, thread, fabric, embroidery hoop.

Advantages of hand embroidery:

- Control over length of stitches
- Range of stitches to choose from

Disadvantages of hand embroidery:

- Time consuming
- Must be tied off correctly or will unravel
- Thread can get caught and tangled.

Patterns and the sewing machine

Patterns

Patterns are used as a template when making textiles and fashion garments. They instruct you where to cut, sew, add zips and any other details you may need to know.

Pattern symbols

Notch – Pattern notches are small marks made on the pattern to ensure that one pattern piece will match up to the pattern next to it.

Grain line – this is the direction on the fabric that the pattern should be cut. Some things are cut on the grain line, other are cut on the bias which is diagonal to the grain line.

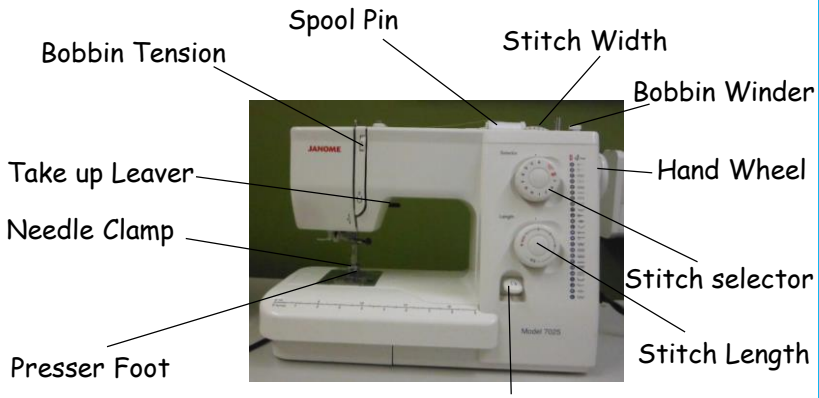
Seam Allowance – This is the space between the edge of the fabric and the sew line. Cut along this line when cutting out fabric from a pattern, this allows room for sewing it together. The seam allowance is usually 1cm.

Sewing line – Sew along this line when constructing your textile/garment.

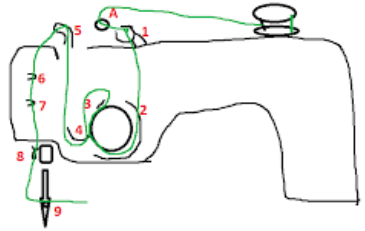
Example exam questions:

Why are notches used on pattern pieces. (2 marks)
Explain the advantages of using a sewing machine to construct textiles over hand sewing. (3 marks)
Why would the reverse stitch button be used when constructing a textile? (2 marks)
What is a bobbin used for? (2 marks)
Why is a seam allowance important? (3 marks)
What does this symbol mean on a pattern? (2 marks)
Name two disadvantages of using a sewing machine for embroidery. (2 marks)

Sewing Machine



How to thread a sewing machine



Materials required

Sewing machine, fabric, thread, scissors

Advantages of sewing machines

- Quick embroidery
- Secure stitching and construction
- Quick to use a range of stitches are available

Disadvantages sewing machines:

- Must understand how to use a sewing machine
- Can take some time to unpick incorrect stitches
- Less control over stitch lengths
- Cannot use wide a variety of different threads

Components of Physical Fitness

Aerobic Endurance

The ability of the heart and lungs to work hard to supply nutrients and oxygen to the muscles during exercise.

Muscular Endurance

The ability of the muscles to work efficiently for long periods of time

Speed

The ability to cover a distance quickly. There are 3 types of speed (Accelerative speed, Pure speed and Speed Endurance.

Muscular Strength

The maximum force, measured in kilograms (Kg) or newtons (N) that can be generated by a muscle or group of muscles.

Flexibility

The range of motion in all joints of the body and the ability to move a joint fluidly through its complete range of movement.

Body Composition

The amount of fat to fat-free muscle mass.

Watch this!

Can you now link each of the physical components to a sporting example? E.g. what sport would you usually see flexibility being used?

Why should we exercise?

Sport England posted an infographic on Twitter to give reasons why walking for 30 minutes each day was important. Scan this QR code to see the benefits.

Components of Skill-related Fitness

Agility – The ability of a sports performer to quickly change direction without losing balance or time

Balance – The ability to maintain your centre of mass over a base of support. There are two forms of balance (static which is maintaining balance in a stationary position and Dynamic which is maintaining balance while in motion)

Co-ordination – The ability of the body to work together to move smoothly and accurately

Power – The ability to use strength and speed. It is the work done in a unit of time and is calculated in the following way Power-= Force (Kg) x Distance (m) / time (mins or seconds)

Reaction time – The time taken for a sports performer to respond to a stimulus, for example, the time taken for a sprinter to react to the starter gun.

Athletics

Athletics events consist of three main areas. Running, Jumping and Throwing.

Skill	Description
Running	An action to move quickly with the correct technique using arms and legs as efficiently as possible. Activities include 100m, 200m, 400m, 800m and relay.
Jumping	The technique to propel the body into the air to either cover distance, height or both. The events are long jump, triple jump and high jump.
Throwing	The ability to propel an object through the air as far as possible. The events are Javelin, Discus and Shot Putt.

British athletes and achieving their goals

1. How would both Mo Farrah and Sophie McKinna (from Norfolk) use the F.I.T.T principle in their sports?

2. Why is rest and recovery important for an athlete?

3. What components of fitness would Mo Farrah need which is different to Sophie McKinna and why would these be important?

Diet and Nutrition for Sport	
Nutrient	**Function and Examples**
Protein	 Important for growth and development of muscle and tissue as well as making and repairing cells inside the body. Poultry, Fish, Nuts, Dairy and Soy are examples.
Carbohydrates	 Provide energy for the body over a longer period of time and helps fight disease. Potatoes, Pasta, Pulses and Fruit are sources.
Fibre	 Important for preventing constipation and also helps decrease the risk of Type 2 diabetes, heart disease and high cholesterol in later life. Fresh fruits (skin on) Dried fruit, Vegetables, Wholegrains such as brown rice and wheat bread are sources.
Calcium	 Important for strong bones and teeth. It also helps with muscle function, blood clotting and nerve transmission. Dairy products, leafy green vegetables, orange juice are sources.
Vitamin A, C and D	Vitamin A is important for eyesight, growth and the functioning of the immune system as well as healthy skin. Dark green vegetables e.g. spinach. Sweet potatoes, papayas, milk and eggs. Vitamin C is important for decreasing the amounts of colds you get, fights infections, wound healing, healthy gums and skin and also acts as an antioxidant. Citrus fruits, broccoli, strawberries, tomatoes, peppers and kale are the sources Vitamin D is important for strong bones and teeth as it absorbs calcium. It is also good for immune function. Milk, oily fish, egg yolk and even the sunlight are sources.

Diet and Nutrition activities

https://www.nhs.uk/live-well/eat-well/food-and-drinks-for-sport/

Click the link above or scan the code to see how diet and nutrition can affect sports performance

Y F E X S E N E R G Y T B T R T B Y I X
O H B R Y E B A H G N O K N E M S H X F
J O B P B S L Y S A N O H E T A J T J W
S E H A S I I C D E V Z L M A K S L Z Q
S O Q Q T F F I S W P B R P W I Q A T Q
Y E S V D W X Z L U Q O Y O Y H I E N Q
F C T Y I O L T S K M J I L D W C H E T
I A Z A I T N V R H Y Q E E O F D E I W
M P S T R H A D O D I P U V L L U O T W
M T N E T D R M X R R R O E N H M G G Z
U A C W T B Y P I O N H Y D R A T I O N
N F O F A T S H T N U J L M V E T I K N
E R J U D H O E O A S I I I U I P P D V
G I S T K L I Y O B N Q Y N D O N A L H
A N T R E N L A E J R G W E Y C A Q I N
W I H H T O B W R X Z A J R P G B T F R
D K G T M U B S K Y H H C A M U E T B W
U S P Z J H Z R X C T M O L D I X G O F
N A V G F W Q Y D O R U Y S D X G J N R
M U I C L A C X Q F Q E Q H T E E T A X

ANTIOXIDANT
BONES
CALCIUM
CARBOHYDRATES
DEVELOPMENT
DIET
ENERGY
FATS
FIBRE
GROWTH
HEALTHY
HYDRATION
IMMUNE
MINERALS
MUSCLES
PROTEIN
REPAIR
TEETH
VITAMINS
WATER

Create a one week diet plan for an athlete of your choice. Your athlete will be competing in the Olympic Games next week and needs some help with their nutrition. Create a 7-day diet plan for breakfast, lunch and dinner. For example:

	Breakfast	Lunch	Dinner
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

FORCES

A force can be a **push or a pull**, for example when you open a door you can either push it or pull it. You can not see forces, you can only see what they do.

When a force is applied to an object it can lead to a change in the objects
Speed

Direction of movement

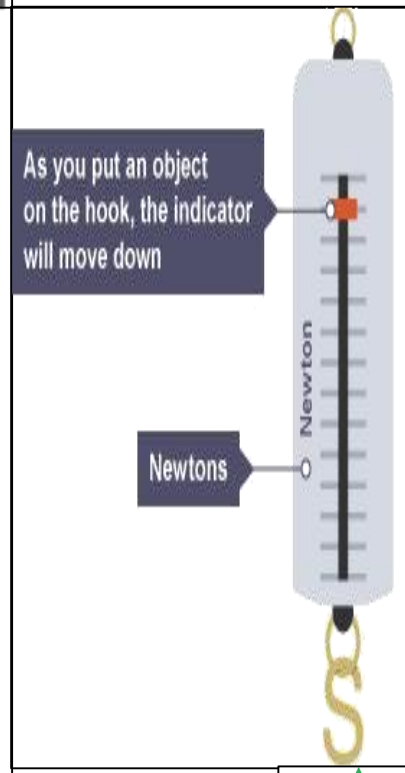
Shape (think about a rubber band)

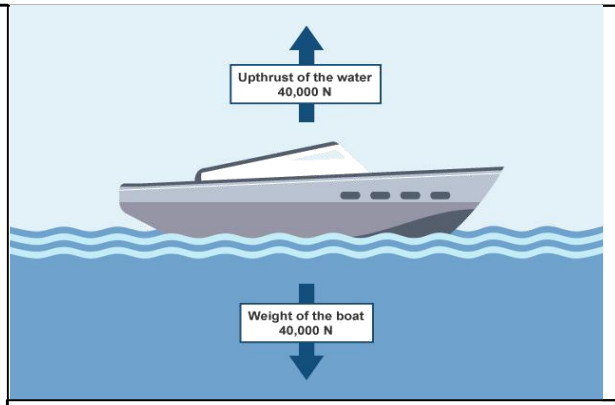
Forces can also be divided into 2 types, contact forces and non contact forces.

Contact forces for example friction, are caused when two objects are in contact.

Other forces for example gravity, are **non contact forces.** The two objects do not need to be in contact for the force to occur.

The unit of force is the **Newton (N)**, this is named after Sir Isaac Newton, who came up with many theories including those to do with gravity and the three laws of motion. We measure force using a piece of equipment called a Newton metre.





Force Diagrams

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

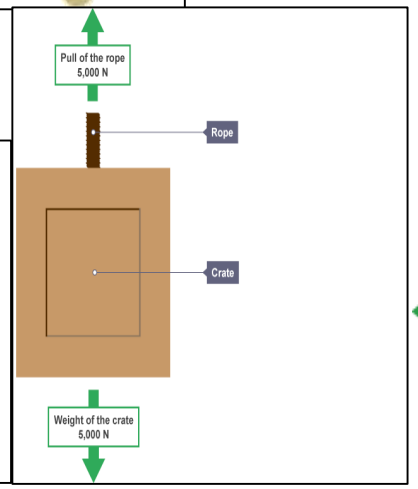
Unbalanced forces

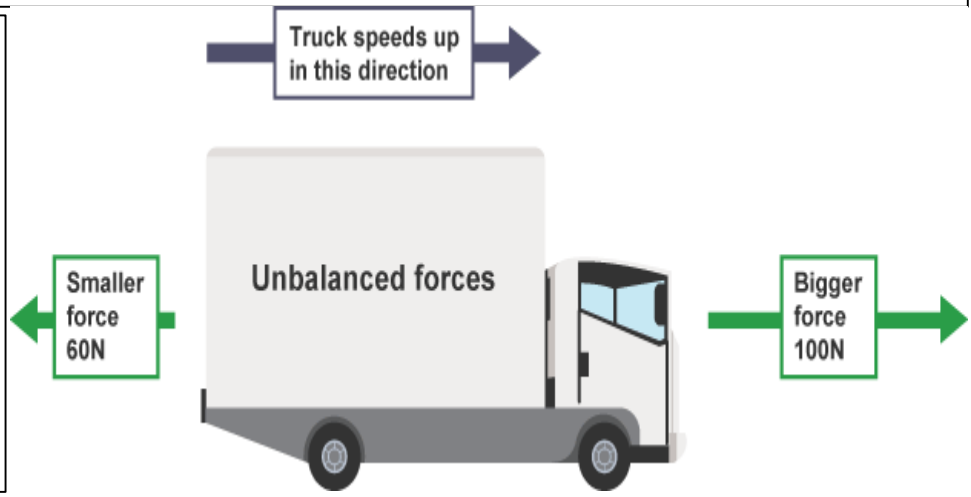
When two forces acting on an object are not equal in size, we say that they are unbalanced forces. The overall force acting on the object is called the **resultant force**. If the forces are balanced, the resultant force is zero.

If the forces on an object are unbalanced, this is what happens:
•a stationary object starts to move in the direction of the resultant force
•a moving object changes speed and/or direction in the direction of the resultant force
In the example below, the resultant force is the difference between the two forces:
100 – 60 = 40 N (to the right)

Balanced forces

When two forces acting on an object are equal in size but act in opposite directions, we say that they are **balanced forces**.
If the forces on an object are balanced (or if there are no forces acting on it), this is what happens:
•a stationary object stays still
•a moving object continues to move at the same speed and in the same direction
Remember that an object can be moving, even if there are no forces acting on it.





KS3 Forces

Types of Forces

Contact Forces

Contact forces act between objects that are physically touching each other.

friction – The force between two surfaces that are sliding, or trying to slide, past each other.

air resistance – The force that acts in the opposite direction to an object's movement as it moves through the air.

reaction – The force that supports an object on a solid surface.

tension – The force transmitted through a rope, string or wire when pulled by forces acting on each end.

upthrust – The upward force exerted by a fluid on an object floating in it.

Non-Contact Forces

Non-contact forces act between objects without them physically touching each other.

gravitational force – The force acting on an object due to gravity.

magnetic force – The force exerted by a magnetic field on a magnetic material.

electrostatic force – The force that acts between two charged objects.

Measuring Forces

Forces are measured in newtons (N).

Forces can be measured using a newton meter.

Interaction Pairs

Forces always act in pairs.

The person's weight pushes down on the chair.

The reaction force from the chair pushes the person up.

Force Fields

Non-contact forces act in fields. The field is the area around the object where the force is exerted.

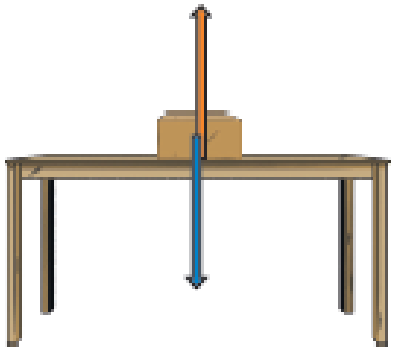
As an object gets farther away from the object exerting a force, the field gets weaker. For example, if a magnetic object is farther from a magnet, it will experience a smaller force of attraction towards the magnet.

Force Diagrams

You can't see forces but you can see their effects.

We add force arrows to a diagram to show which forces are acting. The arrows show the direction and the size of the force (the longer the arrow, the bigger the force).

The force arrows should touch the object in the diagram.



Mass and Weight

The moon has a smaller gravitational field strength than the Earth. This means that an object or person would weigh less on the moon. Their mass would remain the same.

mass: 65kg

weight 650N

mass: 65kg

weight 104N

Mass

Mass is the amount of matter an object is made up of. Mass is measured in kilograms (kg).

The value of mass will stay the same when the location of the object changes.

Weight

Weight is the total amount of force acting on an object due to gravity. Weight is measured in newtons (N).

The value of weight will change depending on the gravitational field strength acting on the object.

To calculate weight we use the equation:

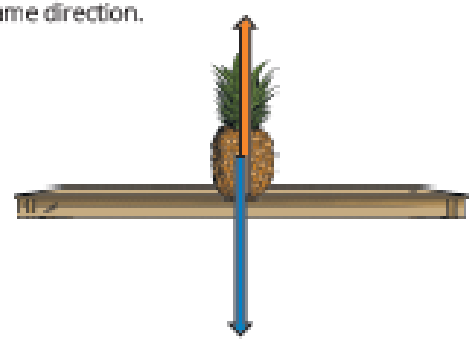
weight = mass × gravitational field strength

The gravitational field strength on Earth is 10N/kg.

Activity: Make a new knowledge organiser that combines the information in the three pages on forces. Add diagrams etc and explain it all to your parent.

Balanced Forces

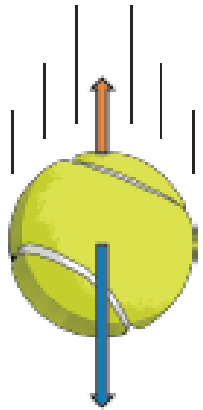
When the forces acting on an object are the same size but in opposite directions, we say that the forces are **balanced**. When this happens, the object is in a state of **equilibrium**. There will be no change to the motion of the object: a stationary object will remain stationary and a moving object will continue to move at a constant speed in the same direction.



Unbalanced Forces

Unbalanced forces act in opposite directions but are not the same size. One force is greater than the other.

If forces are unbalanced there will be a change in the motion of the object. It may speed up, slow down or change direction.



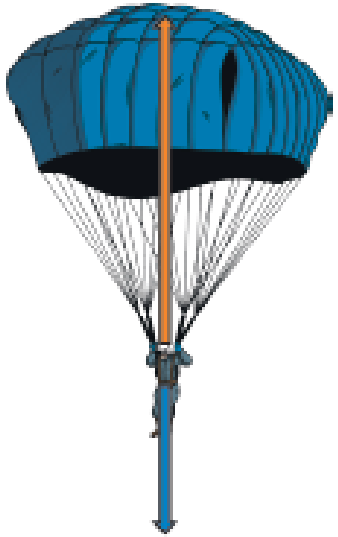
Changing Speed

If the driving force is bigger than the resistive forces acting on an object, the object will speed up (**accelerate**).

When the driver presses the accelerator in a car, the driving force increases so the car speeds up.

If the resistive forces on an object are larger than the driving force, the object will slow down.

When the person releases their parachute, the force of air resistance is larger than their weight so they will slow down.



Reducing Resistive Forces

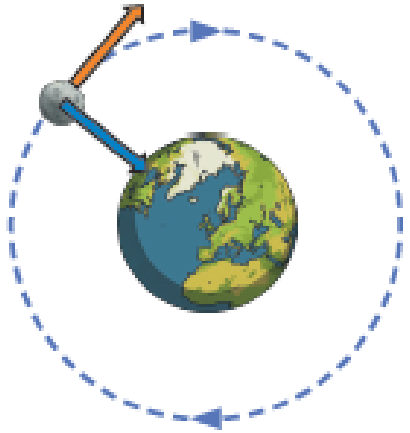
Friction can be reduced by using **lubrication**. Lubrication is grease or oil that helps two surfaces move past each other more easily.

Having a smaller **surface area** in contact with a surface will also reduce the amount of friction.

Drag forces, like water resistance and air resistance, can be reduced by making objects more **streamlined**.

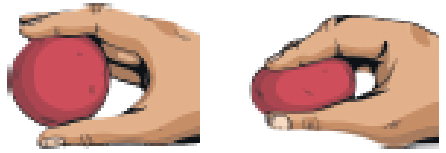
Changing Direction

The gravitational field around the Earth keeps the Moon in orbit. The Moon is moving at a constant speed but the Earth's gravity pulls it towards the Earth, so the Moon moves in a circular path around the Earth.



Changing Shape

Elastic objects can be compressed or stretched by forces. When an object is changed in these ways, we say it is **deformed**.



The amount that an object is stretched is called the **extension**.

Hooke's Law

The extension of some elastic objects can be described by Hooke's law.

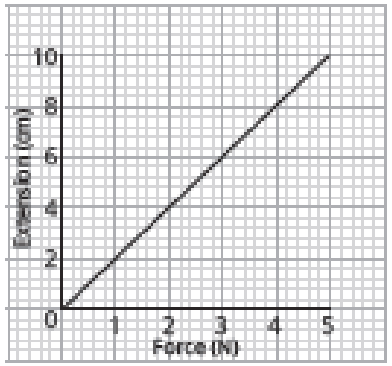
force (N) = spring constant (N/m) × extension (m)

Spring constant is a measure of the stiffness of a material. It indicates the force needed to change the length of a material by 1m. The greater the spring constant, the greater the force needed to stretch the material.

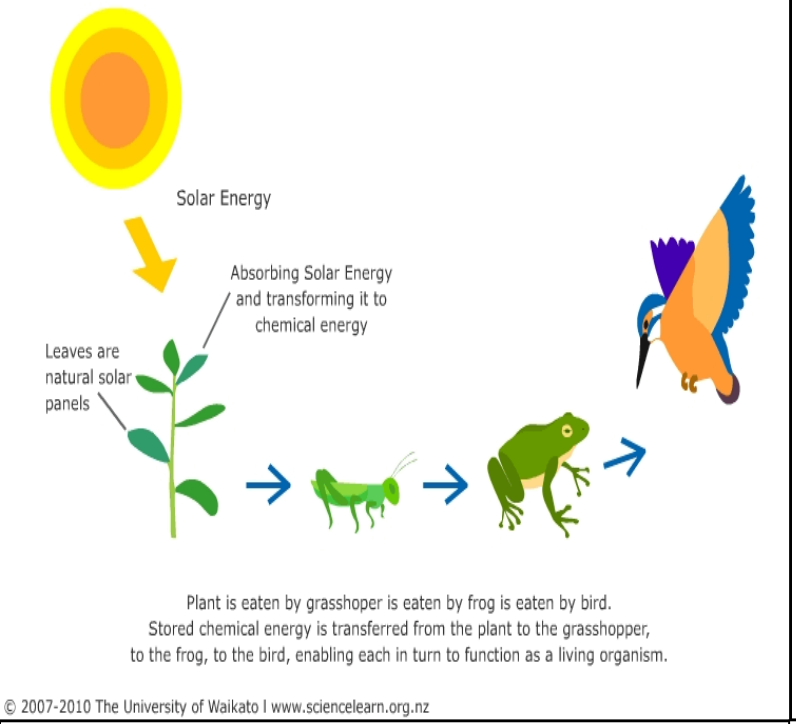
If you plot the extension of a spring against the force applied to the spring the results give a straight line through the origin.

The graph shows that if you double the force, the extension also doubles.

Hooke's law states that extension is **directly proportional** to the force applied.



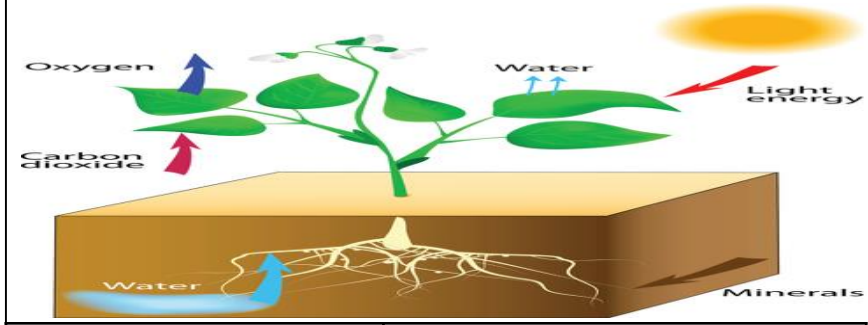
BIO-ENERGETICS (ENERGY IN BIOLOGICAL SYSTEMS)



Plant is eaten by grasshoper is eaten by frog is eaten by bird.
Stored chemical energy is transferred from the plant to the grasshopper, to the frog, to the bird, enabling each in turn to function as a living organism.

The feeding relationships are one way in which organisms depend on each other. To begin with, almost all organisms rely on the Sun as the original source of energy for their ecosystem. **Plants** and **algae** can make use of the Sun's energy to produce food molecules, in the process of photosynthesis. This is why they are called **producers**. Other types of organism can't do this, so they rely on the plants and algae.

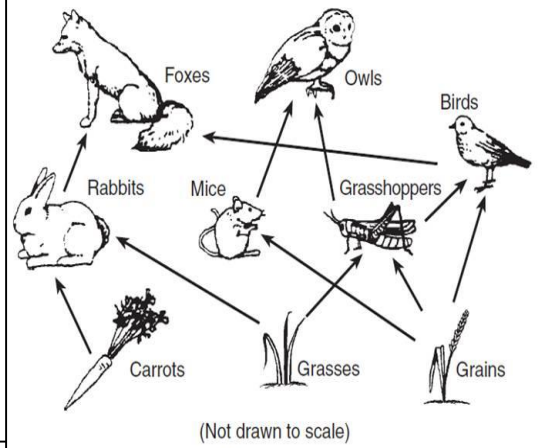
- **Consumers** eat the producers, so the energy from the sun flows through the ecosystem. Molecules (which contain the energy) also flow through, and get recycled when organisms produce waste (poo and wee!) and after they die and decay. The diagram helps to show this.
- You can see that all the organisms in the ecosystem depend on each other. This is called **interdependence.** The consumers wouldn't surviv without the producers capturing energy from the sun, the producers wouldn't survive without the decomposers recycling molecules for them to use (e.g. nutrients from the soil),



Plants make use of light energy from the environment (ENDOTHERMIC) to make food (glucose)

Carbon dioxide + Water
→
Oxygen + Glucose

A **food web** shows many **feeding relationships.** It connects many food **chains**, since many organisms eat more than one other organism, and are eaten by more than one other.



(Not drawn to scale)

Aerobic respiration

Respiration with oxygen. Occurs inside the mitochondria continuously

Glucose is oxidised by oxygen to transfer the energy the organism needs to perform it's functions.

Aerobic respiration releases a large amount of energy from each glucose molecule

glucose + oxygen → carbon dioxide + water

1. Name **three** non-contact forces.

Name **two** resistive forces.

Name **two** other forces.

2. Give the unit that is used for measuring forces.

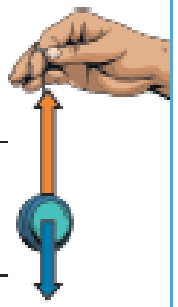
Name the piece of equipment used to measure force.

3. An object has a mass of 600g.
What is its mass in kilograms (kg)?

4. Give three things that might happen to an object if the forces on it are unbalanced.

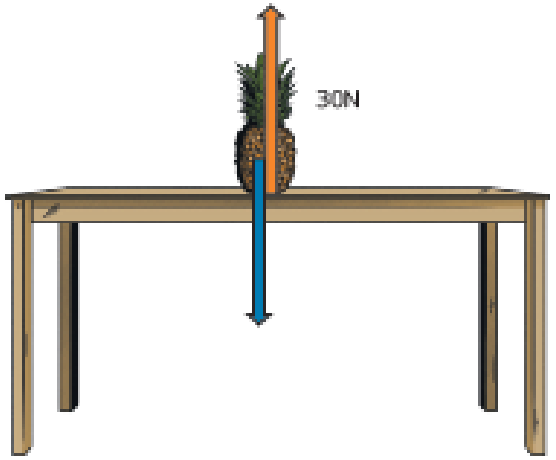
5. The diagram shows a yo-yo being used.

Label each arrow with the name of the force



A resistive force will also affect the movement of the yo-yo. What is the name of that force?

6. The diagram shows an object on a table.



The reaction force of the table acting on the object is 30N.
What is the weight of the object?

7. Write down the equation that links gravitational field strength, mass and weight.

8. The diagram shows a paper aeroplane that has been thrown across the room and is travelling forwards.

Draw an arrow on the diagram to show the direction of the gravitational force on the aeroplane. Label it A.

Draw an arrow on the diagram to show the direction that air resistance acts on the aeroplane. Label it B.

9. The mass of an object is 15kg.
The gravitational field strength on Earth is 10N/kg.

What is the object's weight on Earth?

The object is taken to Mars. Its mass does not change. Its weight on Mars is 55.5N.

What is the gravitational field strength on Mars?

10. A car has a mass of 2000kg.
Calculate its weight on Earth.

The car is used to drive to a holiday destination, using a full tank of petrol. The weight of the car after the journey is 19 200N. Calculate the mass of the car after the journey.

11.

A paperclip is placed into the magnetic field around a magnet.

What happens to the strength of the force experienced by the paperclip as it is moved further away from the magnet?

_____

_____

12.

The diagram shows a bike chain.

Before starting a race the cyclist oils the chain. Explain why.

_____

_____

_____

13.

The diagram shows two lorries.

lorry A

lorry B

The lorries have the same mass and produce the same thrust force from the engine.

Which lorry will travel the fastest?

_____

Explain why.

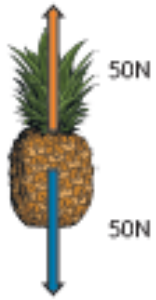
_____

_____

_____

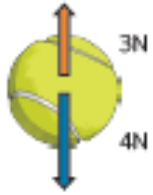
14.

For each of the examples below, tick one box to show whether the forces acting on the object are balanced or unbalanced.



balanced ☐

unbalanced ☐

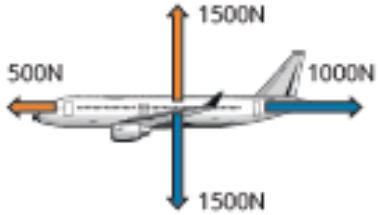


balanced ☐

unbalanced ☐

balanced ☐

unbalanced ☐



balanced ☐

unbalanced ☐

balanced ☐

unbalanced ☐

15.

The diagrams show the forces acting on three cars moving forwards.

Describe what happens to the motion of each car.

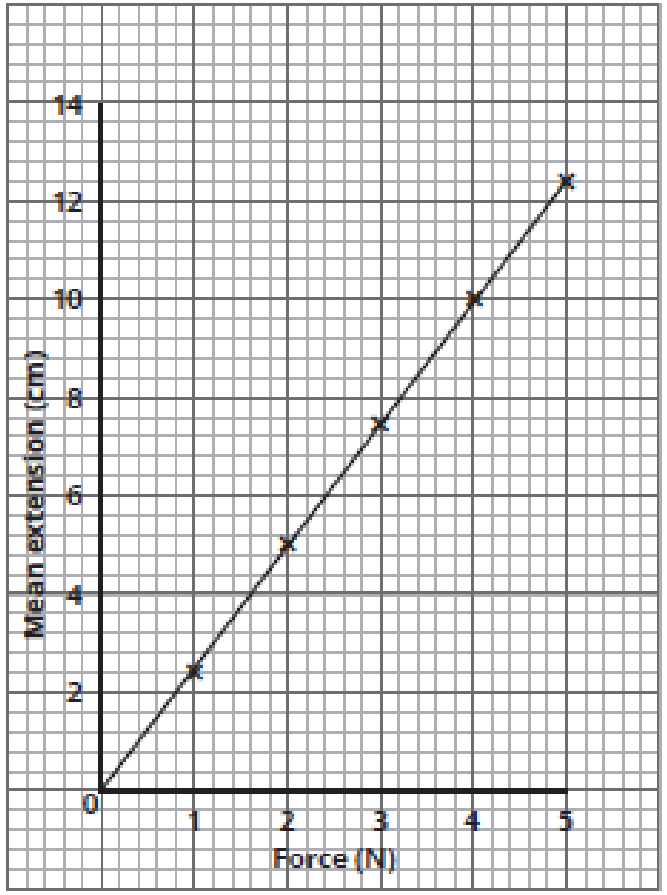
The car _____

The car _____

The car _____

_____

18. Some students investigate how the extension of a spring is affected by the force applied to the spring. They plot their results on the graph below.



Describe the relationship between the force applied to a spring and the extension of a spring.

Give the name of the law that describes this relationship.

19. Write down the equation that links extension, force and spring constant.

A spring has a spring constant of 20N/m and is extended by 0.2m.

Calculate the force applied to the spring.

20. A force of 6N is applied to a spring with a spring constant of 16N/m.

Calculate the extension of the spring in cm.

A further 4N is applied to the spring. After 2N the spring reaches its elastic limit.

Describe what happens to the relationship between the extension and the force applied after this point.

Knowledge Organiser: Year 7 Summer Term Part 2 Understanding computers *and binary*

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.

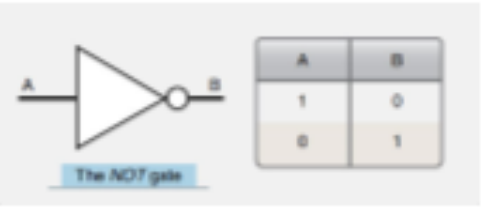
An **input device** is any piece of computer hardware used to **provide data** to a computer system.

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

Key Vocabulary

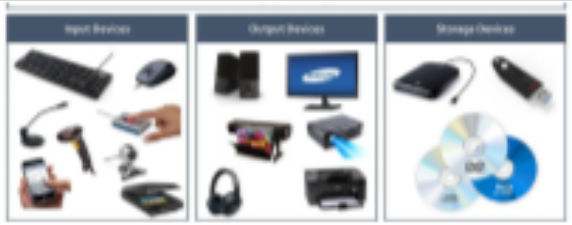
Binary	1 or 0.Also known as base 2.
Computer	A hardware device made up of switches. A switch can have a state of 1 or 0.
Computational thinking	Methods that involve expressing problems and their solutions in ways that a computer could solve.
Switch	a device for making and breaking the connection in an 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
Software	Software is the programs that run on a computer., referenced as apps.
Transistor	Another name for a switch.

A Switch



Input / Ouput and storge devices

Binary and Decimal



http://bit.ly/2CTk1IV

KEEP CALM AND GO PRACTICE

BBC Bitesize

Activity: Try to play a game online with a family member unsure of technology e.g. do a quiz with Grandma.

Year 7 Knowledge Organiser: Go Green

Topics covered

- ✓ Types of resources
- ✓ Finite and Infinite resources
- ✓ Non-renewable energies
- ✓ Nuclear power
- ✓ Renewable energies
- ✓ Wind energy
- ✓ Waste and pollution
- ✓ The 3 R's
- ✓ Saving energy in the home

Key Ideas:

1. I can describe how fossil fuels form and can explain why people want to end their use
2. I can describe advantages and disadvantages of renewable energy types
3. I can explain different opinions on some controversial (not all people agree upon) energy sources
4. I can design an eco-home

Skills

- ❑ To read source information on energy types
- ❑ To use digital mapping (GIS) to investigate site factors
- ❑ To research energy types using ICT
- ❑ To use numeracy skills to cost an eco-home design

Places and Environments

- ❖ Scroby Sands, Norfolk Coast
- ❖ Sizewell power station, Suffolk

Key Terms Used in this Unit

- ❑ Fossil Fuels
- ❑ Finite
- ❑ Non-renewable
- ❑ Sedimentary Rocks
- ❑ Geological
- ❑ Carbon Dioxide
- ❑ Methane
- ❑ Greenhouse effect
- ❑ Global Warming
- ❑ Radioactive
- ❑ Landfill sites
- ❑ Recyclable
- ❑ Bio-degradeable
- ❑ Insulation
- ❑ Grey water
- ❑ Conservation
- ❑ Sustainable
- ❑ Passive home

Year 7 Knowledge Organiser: Explore China

Activity: Complete a project on China. Describe the different biomes in the country.

Key Ideas:

1. I can describe the location of China and its neighbouring countries
2. I can describe the variety of physical landscapes in China
3. I can describe how cities of China have grown and their impacts
4. I can explain how and why population has changed over time
5. I can assess how China is changing for the future

Topics covered

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

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
- ❖ Shenzhen
- ❖ Hong Kong
- ❖ Plateau of Tibet
- ❖ Provinces
- ❖ Himalayas
- ❖ Yangtze River

Key Terms Used in this Unit

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

Year 7 Summer Term German Knowledge Organiser

Freizeit; Mein Zuhaus

Sport	Sport
Ich spiele …	I play …
Ich spiele gern …	I like playing …
Ich spiele nicht gern …	I don't like playing …
Er / Sie spielt gern …	He / She likes playing …
Basketball.	basketball.
Federball.	badminton.
Fußball.	football.
Rugby.	rugby.
Tennis.	tennis.
Tischtennis.	table tennis.
Volleyball.	volleyball.
Spielst du gern … ?	Do you like playing …?
Ich gehe …	I go …
Ich gehe gern …	I like going …
Ich gehe nicht gern …	I don't like going …
Er / Sie geht gern …	He / She likes going …
angeln.	fishing.
klettern.	climbing.
reiten.	riding.
schwimmen.	swimming.
segeln.	sailing.
wandern.	hiking.
windsurfen.	windsurfing.
Snowboard fahren	snowboarding
Wildwasser fahren	whitewater rafting
Kanu fahren	canoeing
Mountainbike fahren	mountain biking

Freizeit	Free time
Was machst du in deiner Freizeit?	What do you do in your free time?
Ich spiele Computerspiele.	I play computer games.
Ich spiele Gitarre.	I play the guitar.
Ich gehe in die Stadt.	I go into town.
Ich gehe in den Jugendklub.	I go to the youth club.
Ich gehe ins Kino.	I go to the cinema.
Ich besuche meine Freunde.	I visit my friends.
Ich fahre Rad.	I go cycling.
Ich faulenze.	I laze around.
Ich höre Musik.	I listen to music.
Ich lese.	I read.
Ich sehe fern.	I watch TV.
Ich tanze.	I dance.
Hörst du gern Musik?	Do you like listening to music?
Fährst du gern Rad?	Do you like cycling?
Liest du gern?	Do you like reading?
Siehst du gern fern?	Do you like watching TV?
Gehst du gern ins Kino?	Do you like going to the cinema?
Spielst du gern Tennis?	Do you like playing tennis?

Lieblingssachen	Favourite things
Was ist dein …	What is your …
Lieblingsauto?	favourite car?
Lieblingshaustier?	favourite pet?
Lieblingssport?	favourite sport?
Was ist deine …	What is your …
Lieblingsmannschaft?	favourite team?
Lieblingssendung?	favourite programme?
Lieblingsfarbe?	favourite colour?

Year 7 Summer Term German Knowledge Organiser

Freizeit; Mein Zuhaus

Lieblingsmusik?	favourite music?
Lieblingszahl?	favourite number?
Mein / Meine… ist …	My … is …

Wie oft?	**How often?**
Wie oft spielst du Fußball?	How often do you play football?
Wie oft gehst du schwimmen?	How often do you go swimming?
Wie oft spielst du am Computer?	How often do you play on the computer?
Wie oft siehst du fern?	How often do you watch TV?
Wie oft liest du ein Buch?	How often do you read a book?
Wie oft fährst du Rad?	How often do you go cycling?
Jeden Tag.	Every day.
Einmal pro Woche.	Once a week.
Am Wochenende.	At the weekend.
Nie.	Never.

Pläne	**Plans**
Hast du am Samstag Zeit?	Have you got time on Saturday?
Möchtest du …	Would you like to …
Fußball spielen?	play football?
Tennis spielen?	play tennis?
Basketball spielen?	play basketball?
ins Kino gehen?	go to the cinema?
in die Stadt gehen?	go into town?
in die Disko gehen?	go to the disco?
in den Jugendklub gehen?	go to the youth club?
Ja, gern.	Yes, I would.
Ja, das mag ich.	Yes, I like that.

Nein, das mag ich nicht.	No, I don't like that.
Nein, das ist langweilig.	No, that's boring.
Wann treffen wir uns?	When shall we meet?
Um … Uhr.	At … o'clock.
Bis dann.	See you then.
Bis Samstag.	See you Saturday.

Year 7 History – Native Americans, Tudor England and the Reformation

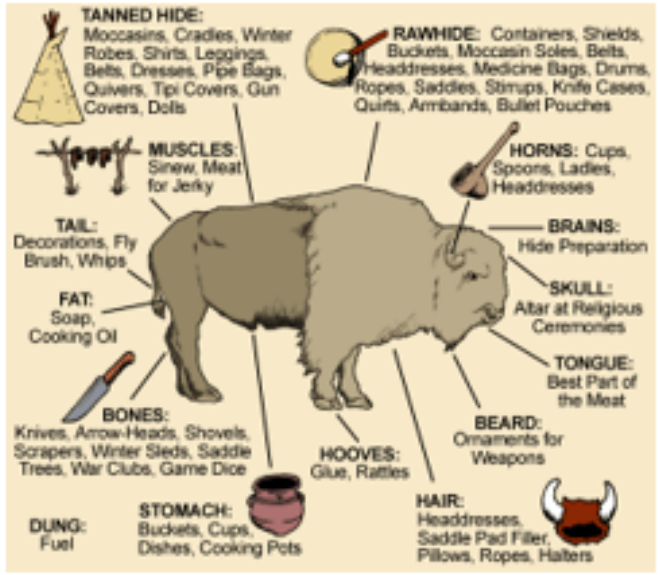
Key words	
Native Americans	General term used to describe the hundreds of different tribes who have lived in North America for thousands of years, long before it was settled by white Europeans
Buffalo	A large mammal living in North America. Many tribes relied on the Buffalo as a source of food, shelter, 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 dead 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.

The aim of a knowledge organiser is to do what it says on the tin – to help you organise and consolidate your knowledge! Of course, there are an infinite number of ways in which this can be done, and will depend very much on the choices of the individual. Below you will find some suggestions of possible tasks that could be completed with the use of your knowledge organiser.

Re-write this information for a primary school child. This is harder than it sounds! What key words will you need to define for them?
Re-write a page using 10 key facts or illustrations.
Produce a timeline of all the main events – either on one particular topic or, for a challenge, everything you have studied so far!
Design a museum; what artefacts would you include to represent the facts in the knowledge organiser?
Design a time capsule; what would you put in it to represent History learned so far in each knowledge organiser?
Write a 20 question quiz (with answers). You could send this to a friend in your year, a member of your family or test yourself in 2 weeks' time.
Write a creative story – pick one of the historical figures and do it from their point of view.
Write a role play from a moment in History using the knowledge organiser. Involve other people from your family!
Make a poster titled "Keep Calm and learn about History". Use the knowledge organiser to illustrate.
Write a monologue from one of the historical figures. How would they feel about the events going on around them?
Teach a History lesson to someone else in your house using the knowledge organiser.
Pick an event in History and produce a cartoon strip or storyboard from it.
Pick an event in History and draw the scene.
Pick an event or person from the knowledge organiser and explain why they are the most important event or theme to learn about in History.
Pick an event and write a creative news article about it.
Imagine you can have a tea party with someone from History from the KO. Who would you invite and why? What would you talk about and what would you eat/drink?

Vocabulary to learn

- Zooms
- Shifts
- Repeated images and ideas
- Links and connections
- Foreshadowing
- Identifying
- Descriptive
- Discursive
- Linguistic
- Extract
- Figurative language
- Extent
- Evaluate
- Statement
- Consider
- Incorporate
- Conflict
- Exposition
- Climax
- Resolution

Structure analysis - methods:

- 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

TIPTOP

PARAGRAPHS

Time – change in TIME

Place – change in PLACE

Topic – change in TOPIC

Person – change in SPEAKER

Suggested Reading

https://stories.audible.com/start-listen

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

Activities:

- Look up and define any of the key words in the purple box that you don't feel confident with.
- Look, cover and copy the key words in the purple box. Do this each day until you get the spelling of them correct. You could complete your learning of these words by getting a parent or sibling to test you on all of them.
- Read the extract from The Witches by Roald Dahl on the next page. Write down all of the adjectives you can see. Next to them, using a thesaurus if you have one, write synonyms that are more ambitious. For example, 'nice' – 'pleasant', 'gracious', 'congenial'.
- Draw a picture of a witch or wizard. Surround it with words you would use to describe them (adjectives).
- Using the blue box to help you, try to create 10 metaphors. Use the theme of witchcraft and wizardry to inspire them. Example – the witch's nose was a crooked crow's beak, waiting to peck anyone to death who came too close.
- Using the blue box to help you, create 10 similes. Use the theme of witchcraft and wizardry to inspire them. Example – my father's famous liver and kidney stew bubbled and frothed like the threatening contents of a witch's cauldron.
- Write a short story (200–300 words) that involves a wizard or witch. Use first or third person and past or present tense, but make sure that this is consistent throughout. Use as many of the literary devices in the blue box as you can and make sure you include nouns, adjectives, verbs and adverbs that are ambitious and effective. Plan your story before you begin, using the narrative arc model on the next page.
- Read a book that explores elements of magic, witchcraft or wizardry (see the page above for inspiration). Then, write a review of it (100–200 words), detailing what you found most enjoyable and perhaps, what you didn't like so much. Imagine you are writing it for a website that young readers will look at to decide what to read next. The link under 'Suggested Reading' will take you to free audio books... including Harry Potter! 😊
- Using your poetry writing skills that you learnt last half-term, write a poem about witchcraft and wizardry or magic. For example, you might write a witch's spell in the form of a poem using rhyme, alliteration and onomatopoeia to make it sound strange and hypnotic.

The Witches by Roald Dahl

As far as children are concerned, a REAL witch is easily the most dangerous of all the living creatures on earth. What makes her doubly dangerous is the fact that she doesn't look dangerous. Even when you know all the secrets (you will hear about those in a minute), you can still never be quite sure whether it is a witch you are standing at or just a kind lady. If a tiger were able to make himself look like a large dog with a waggy tail, you would probably go up and pat him on the head. And that would be the end of you. It is the same with witches. They all look like nice ladies.

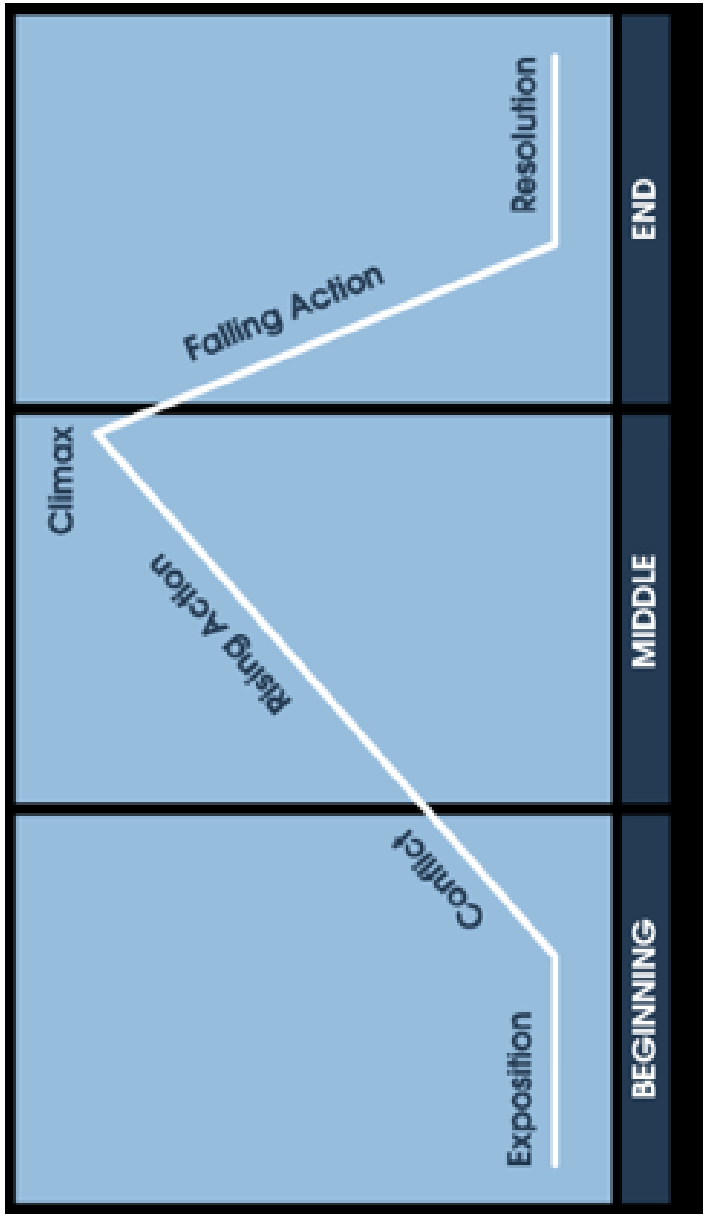
For all you know, a witch might be living next door to you right now.

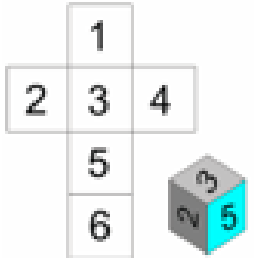
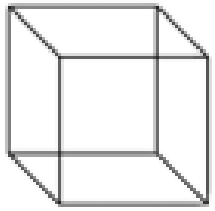
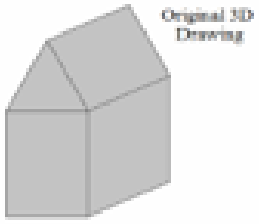
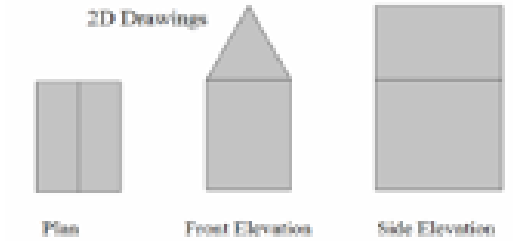
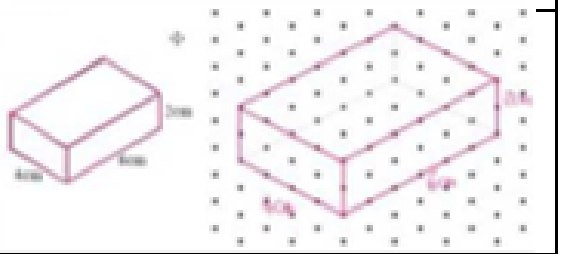
Or she might be the woman with the bright eyes who sat opposite you on the bus this morning.

She might be the lady with the dazzling smile who offered you a sweet from a white paper bag in the street before lunch.

She might even – and this will make you jump – she might even be your lovely school-teacher who is reading these words to you at this very moment. Look carefully at that teacher. Perhaps she is smiling at the absurdity of such a suggestion. Don't let that put you off. It could be part of her cleverness.

I am not, of course, telling you for one second that your teacher actually is a witch. All I am saying is that she *might* be one. It is most unlikely. But – and here comes the big 'but' – *it is not impossible*.



Topic/Skill	Definition/Tips	Example
1. Net	A pattern that you can **cut and fold** to make a **model of a 3D shape**.	
2. Properties of Solids	**Faces = flat surfaces** **Edges = sides/lengths** **Vertices = corners**	A cube has 6 faces, 12 edges and 8 vertices. 
3. Plans and Elevations	This takes 3D drawings and produces 2D drawings. **Plan View**: from **above** **Side Elevation**: from the **side** **Front Elevation**: from the **front**	 
4. Isometric Drawing	A method for visually **representing 3D objects in 2D**.	

Topic: 2D Representations of 3D Shapes

Try these codes to support your understanding.

goo.gl/6psDB3

goo.gl/rMfxS7

Topic: Ratio

Topic/Skill	Definition/Tips	Example
1. Ratio	Ratio compares the size of **one part** to **another part**. Written using the ':' symbol.	3 : 1 
2. Proportion	Proportion compares the size of **one part** to the size of the **whole**. Usually written as a fraction.	In a class with 13 boys and 9 girls, the proportion of boys is $\frac{13}{22}$ and the proportion of girls is $\frac{9}{22}$
3. Simplifying Ratios	**Divide** all parts of the ratio by a **common factor**.	5 : 10 = 1 : 2 (divide both by 5) 14 : 21 = 2 : 3 (divide both by 7)
4. Ratios in the form 1 : n or n : 1	**Divide** both parts of the ratio by one of the numbers to make **one part equal 1**.	5 : 7 = 1 : $\frac{7}{5}$ in the form 1 : n 5 : 7 = $\frac{5}{7}$: 1 in the form n : 1
5. Sharing in a Ratio	**1. Add** the total parts of the ratio. **2. Divide** the amount to be shared by this value to find the value of one part. **3. Multiply** this value by each part of the ratio. Use only if you **know the total**.	Share £60 in the ratio 3 : 2 : 1. 3 + 2 + 1 = 6 60 ÷ 6 = 10 3 x 10 = 30, 2 x 10 = 20, 1 x 10 = 10 £30 : £20 : £10

Watch this video and try the questions.

VIDEO	PRACTISE
http://goo.gl/nnYzBZ	http://goo.gl/W4YxCC

Year 7 RS: How do Sikhs interact with culture and society ?

Key words	
Sikh	A follower of a religion called Sikhism.
Guru Nanak	The founder of Sikhism
Waheguru	The Sikh God
Punjab	An area in the Northern part of India were Sikhism was started by Guru Nanak.
Guru Granth Sahib	The holy book for Sikhs.
Gurdwara	The Sikh Temple-place of worship.
The Golden Temple	The Pilgrimage or spiritual place of worship for Sikhs.
Sewa	Serving others, showing love and kindness to all.
Langar	A community kitchen in a Gurdwara, food is cooked and served daily to everyone.

People of all religions are welcomed in and even allowed to say their own religion's prayers.
They must not take meat, alcohol or cigarettes into the Golden Temple and their head must be covered. They take off their shoes when they enter.
The central point of the Golden Temple is the known as the Divine Temple. Here one can see some of the earliest copies of the Guru Granth Sahib as during the day it is placed on the takht in this diwan hall. However, a newer copy is used in daily worship to protect the oldest one.
The walls inside the Harmandir Sahib are carved with verses from the Guru Granth Sahib. People swim in the lake – it is known as a Sarovar (sacred pool) and is said to heal illnesses.

An Overview of Sikhism.

Sikhism is one of the world's major religions. It is the world's 5th major religion, with about 28 million followers. It began over 500 years ago.

Sikhs are people who follow Sikhism. Sikhs believe in One God, who guides and protects them. Sikhs see everybody as being equal in Gods eyes.

Leading a good life and making important choices are important in Sikhism.

The Guru Granth Sahib is the holy book in Sikhism. Sikhs worship at home and also in a Gurdwara, their Sikh Temple.

Pilgrimage in Sikhism.

The Golden Temple's real name is Harmandir Sahib. This means 'temple of God.' (Har means God, mandir means temple – you should remember this from Hinduism and Sahib is a way of showing respect to something. It's very similar to sa'lah'lah'hu'alla'him/'peace be upon him' in Islam.)
It is built on a platform in the middle of a man-made lake, on a site chosen by Guru Nanak. This is in the centre of Amritsar, a Sikh city. It was first built in 1574. However it was destroyed in 1740 by a Mogul emperor and then was recaptured by a Sikh army and rebuilt. It was later built again in the 19th century out of marble and then the top half covered in gold leaf. There are 4 doors, one on every side to show that people of all races, religions and nations are welcome. Continued on the left

The 5 K's

Sikhs display their commitment to their religion by adhering to the 5 K's, which are the Sikh Articles of faith.

The 5 Ks are symbols of Sikh faith. Many non-baptised Sikhs will wear them, but all members, both male and female, of the khalsa (Sikh community) are obliged to wear them.

They will also change their name as a sign. Men who have joined the khalsa add Singh (meaning 'lion' to their name), showing they are strong & fearless, but also caring & kind.

Women add Kaur (meaning 'princess'), showing all women should behave & be treated like princesses. The commitment to the 5 Ks first came into place in 1699 when Guru Gobind Singh (the 10th guru) made the announcement that they should be worn as a display of faith and devotion to God. They are also a symbol of belonging to the Sikh Community. The 5 K's are Kesh- uncut hair, Kangha-comb, Kara-Steel bracelet, Kirpan- small sword and Kachera- shorts worn under their

Where and how do Sikhs worship?

Sikh temples are called Gurdwaras. They are built with a large central dome. Gurdwaras have 4 doors, one on each side of the temple. This shows that they are open to all people of any faith as Sikhs believe that everyone is equal and we all can and should worship together.

3 Principles all Sikhs live by:

Nam Simran: Remember God's name always.

Kirat Karna: Earn an honest living.

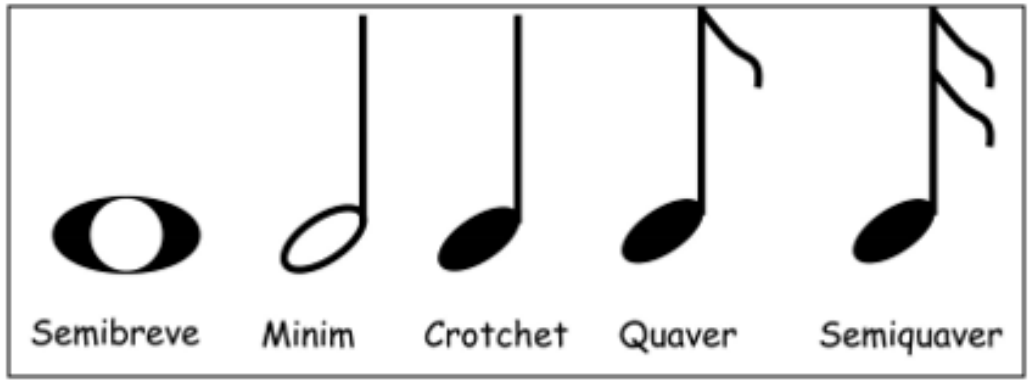
Everyone is obligated to work hard to earn a living if they are able
They cannot have a job which hurts others (running a gambling business, making pornography, dealing illegal drugs, etc.)
Shouldn't be about getting rich but just to help them live life.

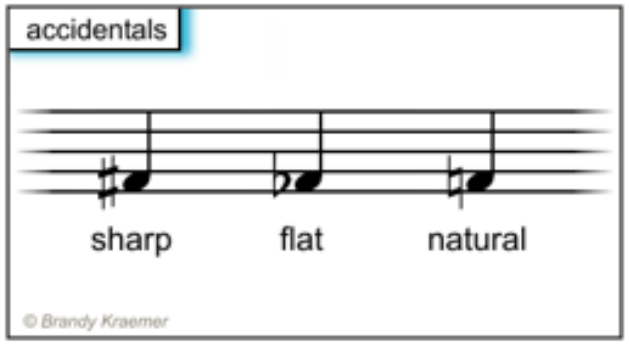
Vand Chhakna: Share in charity with those who are less fortunate. This shows generosity and self-sacrifice. Sikhs believe that the best way to worship God is by caring for other people. We cannot love God if don't take care of his creations. All beings and creatures are His; He belongs to all.' This means respect for all living things because God is in everything- including animals. As a result, many Sikhs are vegetarian. They think they are stewards of the Earth so they also have to care for it as God created it.

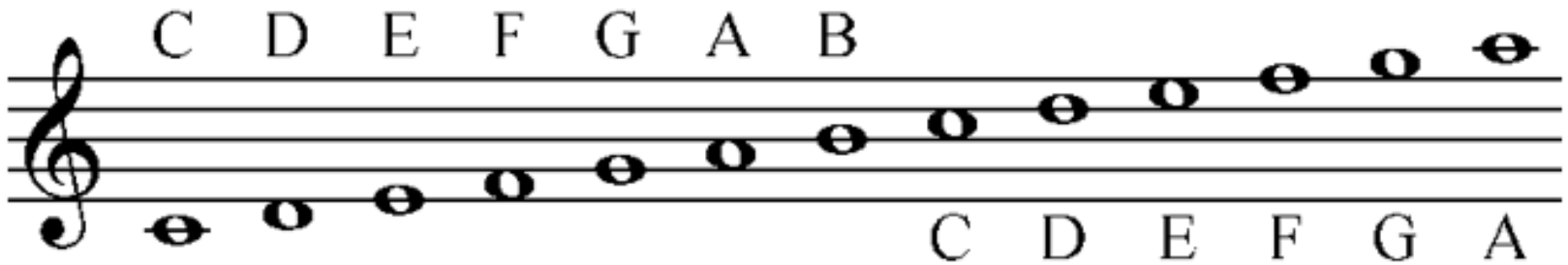
Activity:
How different are the Christian and Sikh religions? Where are they similar and where are they different? Can you write a table of the points you have thought about?

Year 7 Knowledge Organiser Music

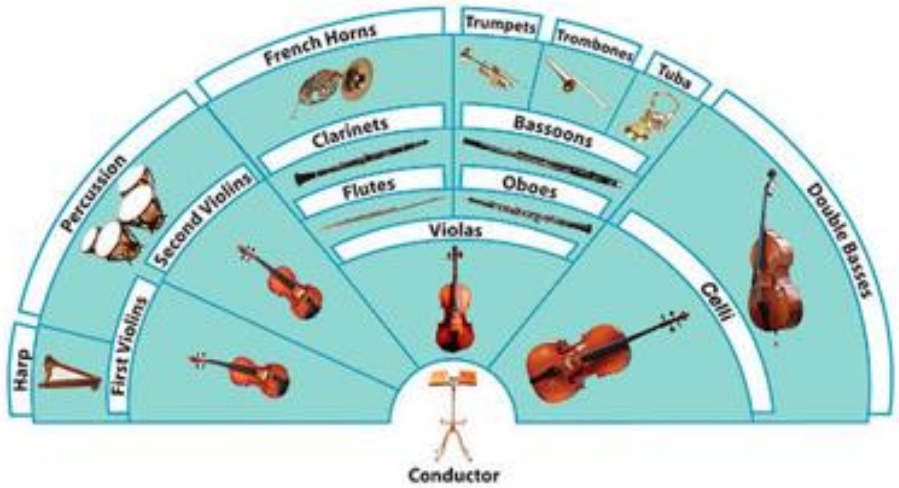
Duration	How long a note lasts for
Pitch	How high or low a note is
Tempo	How fast or slow a note is
Dynamics	How loud or quiet the music is
Timbre	The quality of sound
Texture	How thick or thin the music is
Structure	How the sections of music are laid out e.g. chorus, verse etc.
Silence	When the instruments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



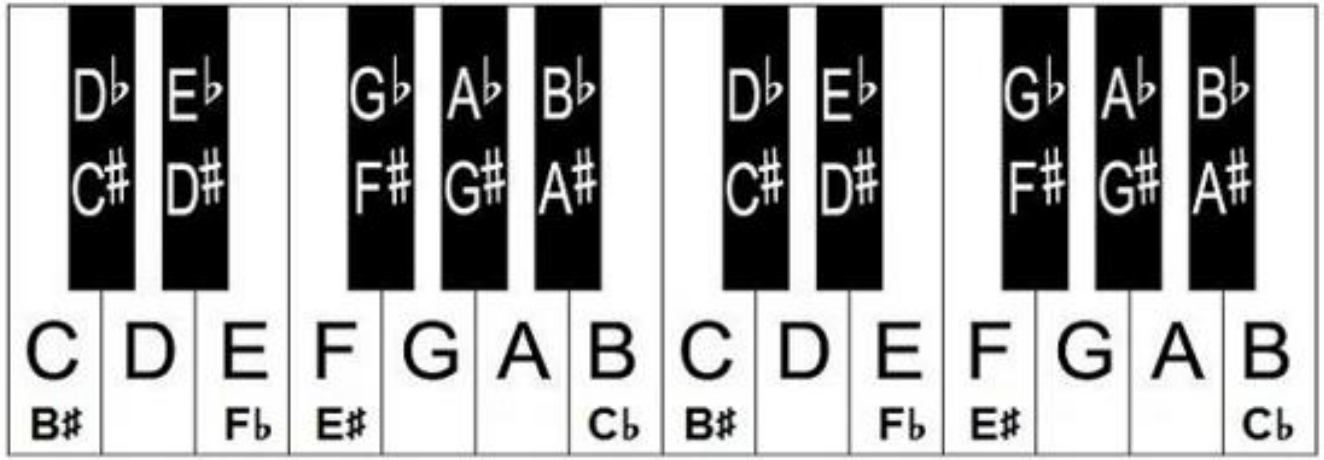




Year 7 Knowledge Organiser Music



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



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	DT	English and Drama	Humanities	PE	Maths	Science
What different birds can you see? Can you make a diary with observational drawings.	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.	Create a new lockdown Olympic Sport. With the cancellation of Tokyo, your sport needs a name, at least 3 rules and a list of equipment needed.	Explain what a square root is to someone really not mathematical.	Try the home experiments.
Take one part of the knowledge organiser and make a piece of performance poetry about it.	How can you save money shopping for food (under normal circumstances)? Create a handy guide for a novice shopper.	Story Board a film that hinges on one of the key facts that you have just learned.	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.	Get family members to play even by TEAMs or Zoom! Send it to the organisers of the Quarantine Olympics to include it in the next games!	Where can we find the Fibonacci sequence in nature? Do some research!	https://www.youtube.com/watch?v=adwvwrTnF48
Podcast your feelings on a good day and a bad day.	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.	Create a diary of your physical activity each week. This could be a simple grid or list of activities.	Make some mathematical art using materials at home like packets and boxes.	Can you find some epic science failures yourself? Science is the process of trial and error. It leads to mistakes that we learn from.
Create a playlist that takes you through a particular mood.	Invent a new recipe and test it. Send in photos of it to Ms Luter.	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.	Think about what exercise or activity you completed, how long did you exercise for and how you felt during and after the activity.	Play out a Roast Battle between Pascal's Triangle and The Bermuda triangle.	Find out how smoking effects young people.