Harrow Way Community School
Learning for life, success for all

Year 8 Knowledge Organiser

Autumn Term

How do I complete Knowledge Organiser Homework?

Link to self-quiz video: https://youtu.be/cFUuhtPIMPU

Step 1

Check on:
ShowMyHomework for what words / definitions / facts you have been asked to learn.

Step 2

Write today's date and the title from your Knowledge Organiser in your self-quizzing book.

Step 3

Read the section of the Knowledge Organiser that you are studying. Read it slowly, you can read it aloud and with a ruler if this helps.

Step 4

Cover up the section and try to write out the information exactly as it is written on the Knowledge Organiser in your self-quizzing book.

DO NOT PEEK!

Step 5

Uncover the section and compare it to what you have written. If you have made mistakes or missed parts out, add them in using a pencil or a different colour.

Step 6

Repeat steps 3-5 again until you are confident.
You will need to bring your self-quizzing book in every day and your teacher will check your work.
You will be tested in class.

Knowledge Organiser - YEAR 8 - AUTUMN TERM

Contents

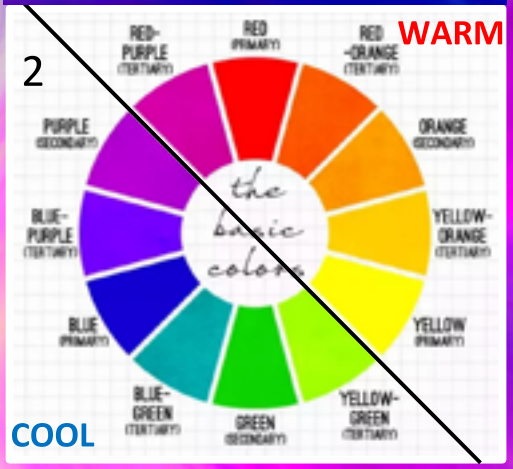
COLOUR

1

Colour plays a vitally **important** role in the world in which we live. **Colour** can sway thinking, change actions, and cause reactions. It can irritate or soothe your eyes, raise your blood pressure or suppress your appetite. As a powerful form of communication, **colour** is irreplaceable.

COLOUR WHEEL

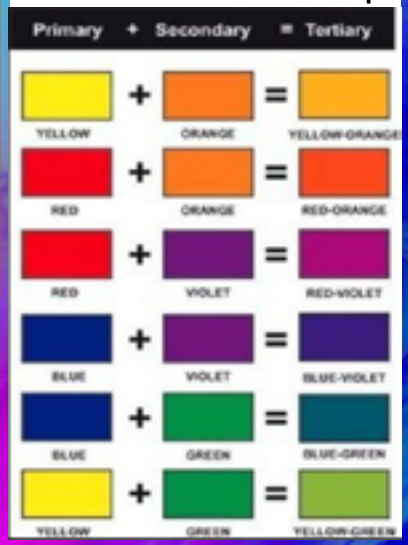
2



Cool colours painting

Warm colours painting

4



5

TINT
is adding white to a colour

TONE
is adding grey to a colour

SHADE
is adding black to a colour

ADJECTIVES TO DESCRIBE COLOURS

3

Light Bright Vivid Glowing Vibrant Brilliant Intense Dazzling Subdued Diluted Gloomy Depressing Pale Dull Murky Muted Monotonous Fluorescent Saturated Opaque Transparent

COLOUR SCHEMES

6

PRIMARY

Uses the primary colours: Red, Yellow & Blue. They can not be made by mixing other colours.

COMPLEMENTARY

Uses a pair of colours that are opposite each other on the colour wheel. The pairs are: Green/Red; Blue/Orange; Yellow/Purple.

SECONDARY

Uses the secondary colours: Orange, Green & Purple. Each secondary colour is made by mixing two primary colours.

HARMONIOUS

Uses three or four colours (primary, secondary and tertiary) that are next to each other on the colour wheel.

TERTIARY

Uses the tertiary colours. They are made by mixing a primary and a secondary colour next to each other on the colour wheel.

MONOCHROMATIC

Uses Tints, Tones & Shades of one colour. The word MONO means ONE and the word CHROMA means INTENSITY OF COLOUR.

DRAWING

The **basic craft of drawing** is about two things: **1. To control your hand** and **2. Learn to see.**

Line drawing

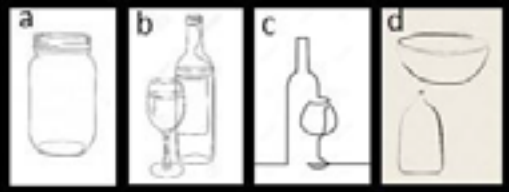
1 ELLIPSES:
The circle found at the top and the base of a cylindrical object; i.e. bottle, cylinder, etc. Ellipse can also occur when the sides of the bottle change direction, i.e. get narrow or wide.

2 CENTRE LINE: Divides the object vertically in two equal parts.
LINE OF SYMMETRY: the line at which the bottle is symmetrical.
Mirror image symmetry: exactly matching opposite sides

3 POSITIVE SPACE: (*Object in white*)
The space occupied by the object/s.

NEGATIVE SPACE: (*All in black*)
The rest of the space around or in between the object/s.

4 LINEAR DRAWING
A drawing using line only to:
a) outline the shape of the object;
b) to add detail;
c) using continuous line (without lifting your pencil of the paper from start to finish.
d) Minimalist drawing



Tonal drawing

5 FLAT TONE:
A solid block of tone, see Tonal Ladder. It has no outlines. Different flat tones next to each other define shapes.

6 SHADING:
When the tone gradually changes from dark to light. It can appear a) smooth or b) rough by using lines called **Hatching** or **Cross Hatching**.

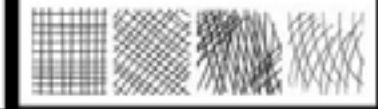
SHADING (light from the side):
On the outside of the object the tone changes gradually from one side to the other. Light and dark areas swap direction on the inside opening of the object like in this cup.

SHADING (light from the centre):
The tone is dark on both sides and smoothly gets light in the middle. It gives a 3D effect and looks very realistic.

7 TEXTURE and MARK-MAKING:
Texture is the **surface quality** of something. Artists use mark-making techniques to represent different textures.

8 Hatching

Cross- Hatching in 2,3 or more directions

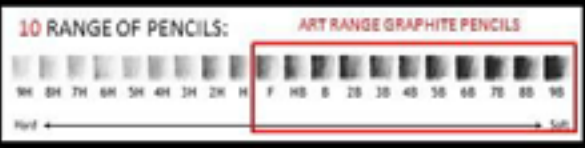


Other elements of drawing

9 PERSPECTIVE:

the art of representing three-dimensional objects on a two-dimensional surface so as to give the right impression of their height, width, depth and position in relation to each other.

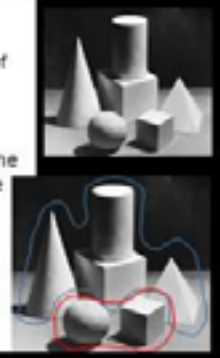
10 RANGE OF PENCILS:



11 FOREGROUND: An art term that describes the objects in the scene that are closest to the viewer. It is the part in front of everything else and has the most detail.

MIDDLE GROUND: lies between the foreground and background of a painting. The objects in this area appear smaller. They are usually placed behind the objects in the foreground.

BACKGROUND: is the part of a scene or picture that is farthest from the viewer. It usually has the least detail.

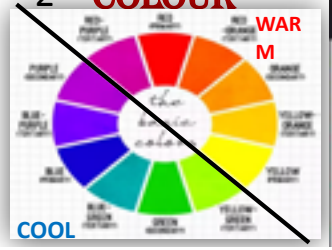


12 COMPOSITION:
Refers to the organisation, arrangement, and combination of objects within the borders of a **drawing** space.
For a great **drawing**, you want to bring the eyes of the viewer toward your centre of interest within an aesthetically pleasing **composition**.

FORMAL ELEMENTS

1 The Formal Elements are: **line, shape, form, tone, texture, pattern and colour**. They are used together to create artwork.

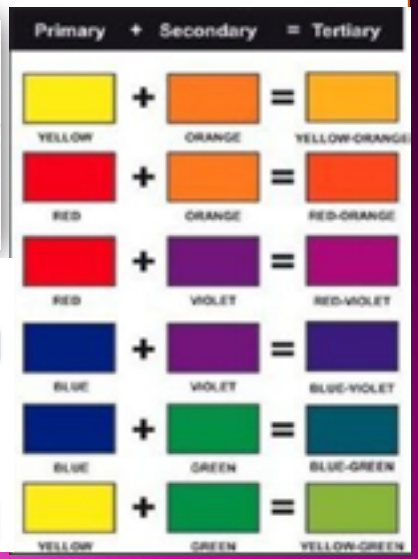
2 COLOUR



TINT
is adding white to a colour

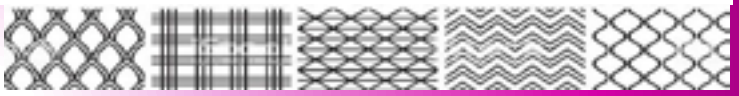
TONE
is adding grey to a colour

SHADE



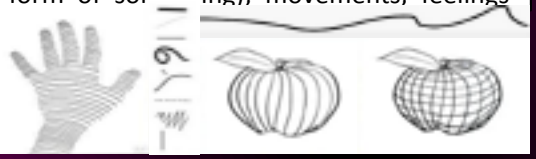
3 PATTERN

is a symbol or shape that is repeated. A design that is created by repeating lines, shapes, tones or colours. The design used to create a pattern is often referred to as a **motif**. Motifs can be simple shapes or complex arrangements. Tessellating any image creates a Repetitive pattern.



4 LINE

is the path left by a moving point, i.e. a pencil or a brush.
A line can take many forms. It can be horizontal, diagonal or curved. Line can be used to show: contours (the shape and form of something); movements, feelings



5 SHAPE

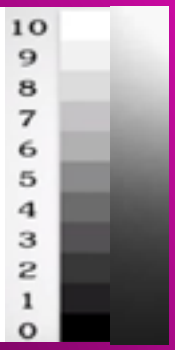
is an area enclosed by a line. It could be just an outline or it could be shaded in. When drawing shapes, you must consider the size and position as well as the shape of the area around it. The space between the shapes is called **negative space**.

6 FORM

is a three dimensional shape (3D), such as a cube, sphere or cylinder. Sculpture and 3D design are about creating forms. In 2D artworks, lines, tones and perspective can be used to create an illusion of form. The three dimensions of form are width, length and depth.

7 TONE

is the lightness or darkness of an object. This could be a shade or how dark or light a colour appears. Tones are created by the way light falls on a 3D object. In every 3D object there are minimum of 3 tones; light, mid-tone and dark. Tone can be flat or it can vary from dark to light.

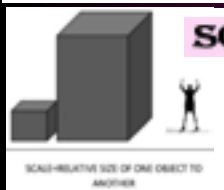


8 TEXTURE

is the **surface quality** of something, the way something feels or looks like it feels. **Actual texture** really exists, so you can feel it or touch it.
Visual texture is created using marks to represent actual texture. It gives the illusion of a texture or surface. You can create visual texture by using different lines, shapes, colours or tones.

9 SCALE

is the size of one object in relation to the other objects in a design



10 PROPORTION

refers to the relationship of the sizes of two or more subjects or elements.

Art - Painting

PAINTING

1. The act of **painting**, using a brush, palette knife, sponge, or airbrush to apply the paint; 2. The result of the action – the **actual picture**.

1 Watercolour brushes:
Are specially made to allow the artist to control the flow of the colour from the brush onto the paper. A watercolour brush should hold a fine point when wet and spring back into shape after each stroke. It should carry the colour allowing the artist to:
a) lay it down on the paper evenly 2) consistency.

2 WATERCOLOUR:
a) Paints that are made of pigments suspended in a water-based solution (binder).

b) The art of painting with watercolours, especially using a technique of producing paler colours by diluting rather than by adding white.

WATERCOLOUR PAPER:
Best watercolour papers are made from **cotton fibres.** There are three types of w/c paper.

HP- Hot Press. Smooth surface for detailed work
CP (NOT) – Cold press. Slightly textured for most types of work
Rough – Heavily textured paper enhances the final piece of work.

3 WATERCOLOUR TECHNIQUES:

a) **Wash:** When watercolour mixture is gradually diluted with water.

b) **Blending:** When two colours seamlessly merge into one another.

c) **Wet –on – Wet:** Water is applied onto the paper and then paint is applied onto it.

d) **Masking Fluid**
It is a rubber type product that prevents the paint from reaching the paper and is peeled off to expose the whitepaper left untouched.

4 ROUND BRUSHES:
Good for sketching, outlining, detailed work, controlled washes, filling in small areas.

FLAT BRUSHES: Good for bold strokes, washes, filling wide spaces, impasto. Edge can be used for fine lines, straight edges and stripes.

5 ACRYLIC PAINT: Opaque and semi-opaque fast-drying paint made of pigment and acrylic polymer emulsion dilutable with water.

ACRYLIC PAINTING SURFACES:
Canvas, paper, wood, or anything which is neither greasy nor too glossy.

ACRYLIC PAINTING BRUSHES:
A good selection of round and flat stiff synthetic brushes. Palette knives.

6 ACRYLIC PAINTINGS TECHNIQUES:
UNDERPAINTING: A layer of paint applied first to a canvas or board.

a) Tonal Grounds Under Painting
This type of painting has the entire canvas covered in a single transparent colour. This layer will create backlighting shadows that will tone the entire painting and provide contrast.

b) A Tonal Under-Painting
A layer of paint applied first that acts as a foundation for the painting with some **built in contrast** and **tonal values.**

IMPASTO: A technique used in **painting,** where paint is laid on in very thick layers that the brush or **palette**-knife strokes are visible. Paint can also be mixed right on the canvas. When dry, impasto provides texture; the paint appears to be coming out of the canvas.

7 POSTERPAINT:
A semi-opaque paint with a water-soluble binder, used mainly in schools.

8 OIL PAINTS: is a type of slow-drying **paint** that consists of pigment suspended in a drying **oil,** commonly linseed **oil.** Not used in schools.

9 MIXED MEDIA:
A Technique that uses more than one medium or material. Assemblages and collages are two common examples of art using different media that will make use of different materials including cloth, paper, wood and found objects.

ASSEMBLAGE:
The making of 3D art, often involves using found objects.

MIXED MEDIA COLLAGE:
This is an art form which involves combining different materials with paint to create a whole New artwork.

10 SGRAFFITO TECHNIQUE:
Used in **painting,** pottery, and glass. Consists of putting down a preliminary surface, covering it with another, and then scratching the top layer. The pattern or shape that emerges is of the colour below.

Art - Photography & Critique

Types of Photography

Landscape
-**Shows space** within the world- think 'land' to remember, but can include sea
-Can make use of **water for reflections**
-Often **symmetrical**
-Usually **all in focus**

Still Life
-**Inanimate objects**
-**Simple background** such as fabrics, wood & plain surfaces
-**lighting** usually from the side, usually natural

Portraiture
-**Photo of a person** or a group of people
-**Plain background**
-**Face fills the frame**
-Focus usually on the **eyes**
-**Controlled lighting**
-**Can be posed or natural**

2. How to use the camera

Portrait mode
Camera needs to be this way up to take a portrait photograph

Shutter
The large round button. Hold half way down to focus, listen for the beep, then hold all the way down to take.

On/off button

Strap **ALWAYS** on wrist

3. Tips

-**Do not use flash** (especially indoors)
-Make sure your lighting is even
-Be still when you take your photograph to avoid camera shake
-Make sure your image is focused before you take it
-Use **simple backgrounds**; plain walls work well
-Get closer. **DO NOT use zoom**
-Don't rush
-**Take more than one photo**

Critiquing artwork
You need a specific vocabulary to comment on all the elements of art. Here are some to get you started.

Movement
Movement is seen in every piece of art. Movement helps to create or define a piece of art.
- Swirling
- Flowing
- Dramatic
- Still

Colour
Colour is very important. No matter what type of artwork colour helps define the piece and the artist. A lot of artwork can be determined on who did the work jut by looking at the colours.
- Bold
- Vibrant
- Subtle
- Pale
- Earthy
- Naturalistic
- Harmonious
- Complementary

Tone
This will describe the light and dark areas in a piece of art.
- Subtle
- Contrasting
- Muted
- Dramatic

Contrast
This relates to the differences of the elements in an artwork.
- Dramatic
- Subtle
- Strong

Shape
Art comes in various shapes whether it is a painting or a sculpture. All will contain shapes.
- Organic
- Curvaceous
- Geometric
- Angular
- Elongated

Scale
This relates to the size of the work and the size of the objects in relation to each other.
- Large
- Small
- Intimate
- Miniature
- Monumental
- Distorted

Texture
Texture can be actual (it exists) or visual (made to look like it exists). It is often used when referring to clothing, furniture and hair.
- Rough
- Fine
- Smooth
- Coarse
- Uneven

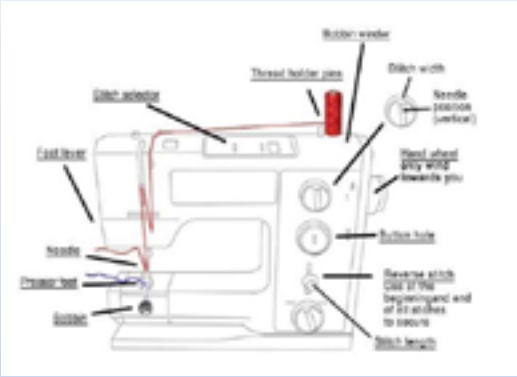
Line
Line is art is similar to how a musician follows lines and creates expression using notes played for different lengths of time.
- Flowing
- Delicate
- Simple
- Bold
- Thick
- Thin

Art - Textiles and Clay

TEXTILES

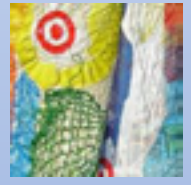
1.SEWING MACHINE

A machine with a mechanically driven needle for sewing or stitching cloth.



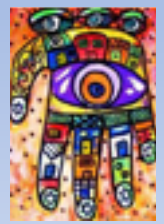
2. HEAT PRESS

A machine which uses heat and pressure, to transfer a design or a graphic on another surface, and to heat and fuse man-made materials.



3. BATIK

A method (originally used in Java) of producing coloured designs on textiles by dyeing them, having first applied wax to the parts to be left undyed.



Key Stage 3

Do not use ANY equipment before training

4. TAKE CARE

Electrical equipment
Tuck in ties
Tie hair back
No water near equipment
Be aware of sharp/hot objects
Electrical machines, take care with wires

Handstitching
Needles/Pin**s** - Use a pin cushion
Pick fabric scraps off the floor
Scissors – pass safely

Clay
No eating/drinking whilst using clay
ALL equipment to be wiped with damp cloth
Wear an apron
Pass knives safely
Clear clay from floor

5. Couching

Applique

Stitching by hand

CLAY MAKING

6. Clay Equipment + Process

Fire = method of heating clay
Kiln = oven in which clay is fired
Bisque ware = clay that has been fired to 1000oC
Greenware = clay that has not been fired
Board, guide sticks, rolling pin for rolling out clay to an even level
Tools = for joining
Slip = clay glue
Knives = for cutting only

7. Greenware

Pinch pot

Coil pot

Bisqueware

Slab building

Glazing

Art - Surrealism

1.

One Point perspective
A drawing method that shows how things appear to get smaller as they get further away, converging towards a single 'vanishing point' on the horizon line. It is a way of drawing objects upon a flat piece of paper (or other drawing surface) so that they look three-dimensional and realistic.

Year 8 Project 1 SURREALISM

2.

https://www.tate.org.uk/kids/explore/who-is/who-rene-magritte

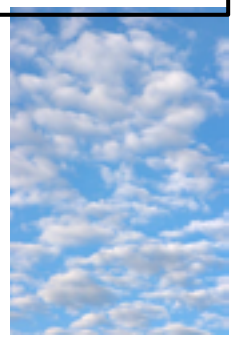
Literacy Focus

3.

A.	**Metamorphosis**	The transformation of one thing into a completely different one (a)
B.	**Juxtaposition**	Two things positioned close together with contrasting effect (b)
C.	**Silhouette**	The shape and outline of something visible against a contrasting background (c)
D.	**Distorted scale**	An unfamiliar scale on a familiar object or image (d)
E.	**Motif**	A dominant or recurring idea in an artistic work

Artist focus
Rene Magritte

A. B C D E



5.

Year 8
Project 2 **POP ART**

Literacy Focus
Pop Art
Popular culture
Onomatopoeia
Ben Day dots
Relief
Colour
Characteristics
Contemporary
Context

3.

4.

Genre Focus
POP ART

1.

https://www.tate.org.uk/kids/explore/what-is/pop-art

Pop Art began as a revolt against the main approaches to art, culture and the traditional views on what art should be. Young artists felt that what they were taught at art school and what they saw in museums did not have anything to do with their lives or the things they saw around them every day. Instead, they turned to sources such as Hollywood movies, advertising product packaging, pop music and comic books for their imagery.

ARTIST FOCUS
Lichtenstein

2.

https://www.tate.org.uk/kids/explore/who-is/who-roy-lichtenstein

Pop Art is: **Popular** (designed for a mass audience)
Transient (short-term solution)
Expendable (easily forgotten)
Low cost, Mass produced
Young (aimed at youth)
Witty, Sexy, Gimmicky, Glamorous, Big business

Shepard Fairey James Rosenquist Peter Blake

Year 8 Design and Technology TEXTILES / APRON Knowledge Organiser

Smart Materials

Smart materials

A **smart material** has a property that can change depending upon its environment. This change can be reversed if the environment changes again. For example, in some sunglasses the lenses get darker when the light gets brighter; when the light dims, the lenses become clear again.

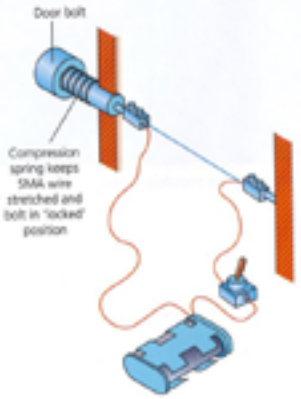
▼ Examples of smart materials

Smart material	Smart property	Examples of use
Thermochromic pigments	Change colour with temperature	Plastic strip thermometers Mugs or spoons that change colour when hot Test strips on batteries (a printed resistor under the film generates heat when current flows through it)
Photochromic pigments	Change colour with light	Lenses in sunglasses that get darker as the light gets brighter Security markers that can only be seen in ultraviolet light
Shape-memory alloys (SMA)	If bent, will return to their original shape when heated (either directly or when an electric current is passed through them)	Spectacle frames Sensors in fire sprinkler systems (heat causes the change in shape) Electric door locks

Interactive textiles

Conductive threads

Conductive fibres and threads made from carbon, steel and silver can be woven into textile fabrics and made into clothing. Conductive threads can also be sewn into a product to connect a circuit. Common uses include performance monitors for athletes, GPS tracking systems and heating elements, as well as communication devices, such as mobile phones.



▲ An electric door lock using an SMA

Environmental Factors

When a product is designed, the designer doesn't just think about how it will work. They may have to alter the design due to the effect it has on the environment, our society or the economy.

Environmental challenges

Products can affect the environment in many ways:

- The materials that are needed to make them might use up natural resources.
- The processes used to make them may need energy.
- The way they are used may affect the environment, for example electrical items need energy.
- When they are no longer needed, disposi them may cause pollution.

Designers must consider the impact that the products will have on the environment. One method of doing this is to apply the 6 Rs of **sustainability** when designing a product.

▲ The recycle logo shows that a product can be recycled

▼ The 6 Rs of sustainability

Refuse	Is the product necessary?
Rethink	Are there alternative materials or design options that are more sustainable?
Reduce	Can the product be made from fewer materials? Can the amount of unsustainable materials be reduced?
Reuse	Can parts of the product be **reused** in a different product?
Recycle	Can the materials used be **recycled**? Is the product made from recycled materials?
Repair	Can the product be repaired rather than being thrown away if it breaks?

Year 8 Design and Technology TEXTILES / APRON Knowledge Organiser

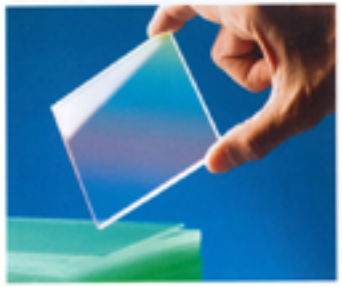
New Materials

The development of new materials can offer improved properties or combinations of properties that were not previously possible. In turn, this allows the development of improved or completely new products. This section outlines some of the recent developments in materials.

Graphene

Graphene was discovered in 2004 and is a form of the chemical element carbon. It is harder than diamond, about 300 times stronger than steel and conducts electricity better than copper. It is also extremely flexible, which is unusual for such a tough, strong material.

Graphene flakes are already being used to make ink that conducts electricity, and sheet graphene is used in some solar cells that make electricity from sunlight. Although graphene is still in the early stages of development, manufacturers are investigating its use for touchscreens. This could lead to foldable phone screens and televisions.



▲ A sheet of graphene

Composites

A composite material is made up of two or more different materials. The properties of the materials that they are made from are combined. If you look at the structure of the composite material under a microscope, you can still see the separate materials it is made from.

One of the most common composites is reinforced concrete. This contains cement, which has very good compressive strength but poor tensile strength, with steel reinforcement bars, which have good tensile strength. It is widely used to build buildings and bridges.

▲ A reinforced concrete bridge

Glass-reinforced polymer (GRP, also called fibreglass) reinforces a polymer with strands of glass fibres. The polymer is flexible and the glass fibres are strong but brittle. Together they make a composite that is tough and strong. GRP is used to make hulls for boats.

Similarly, carbon-reinforced polymer (CRP) reinforces a polymer with carbon fibres. This is even stronger than GRP. CRP is used to make crash helmets and the frames for high-performance racing bikes.

Social and Moral Issues

Social challenges

Products can have both positive and negative effects on people. For example, the ability to play music from a phone or MP3 player gives people entertainment no matter where they are. However, if the music is too loud, it could also damage the user's hearing. Further, the noise from the earphones can irritate other people, for example fellow passengers on public transport. The designer has to consider both the wants of the user and how the design will affect other people.

Another social issue is the working conditions and safety of the people who manufacture products.

▲ Listening to music while on public transport may irritate other passengers

In the UK there are very strict laws regarding this. However, not all countries have these rules in place. For example, in some countries child labour is used to make products, with children working long days in harsh conditions. Some customers may not buy products if they have been made in ways they do not agree with.

Economic challenges

The economy is the way money is made, organised and used by a society. Successful designs can have a really positive impact on the economy. If a product sells well, the company producing it can open new factories, creating more jobs and paying more workers. The more profit a company makes, the more tax it pays, which helps to fund public services such as healthcare and education. However, if an economy is not performing well and people are less well-off, it might be difficult for a designer to get the money needed to develop a product.

Key words

sustainability – the level to which resources can be used without them becoming unavailable in the future.

reusing – using the parts of a product in a new product, without reprocessing the materials.

recycling – the reprocessing of materials for use in new products.

social issue – an issue that has an impact on a community or group of people.

economy – how money is made, organised and used in a society.

profit – the money that a company makes after all of its costs have been paid.

Year 8 Design and Technology Knowledge Organiser Board Game

Branding

You can consider a brand as the idea or image people have in mind when thinking about specific products, services, and activities of a company, both in a practical (e.g. “the shoe is lightweight”) and emotional way (e.g. “the shoe makes me feel powerful”).

Logos with meaning

The yellow arrow in their logo starts at the letter ‘a’ and ends at the letter ‘z’, implying that they sell everything from a to z. The arrow also represents a smile, with the arrowhead being a stylized dimple or smile line. The smile indicates the happiness

Key terms

Branding	A logo or image associated by the public
Cooperate image	The branding of a company
Corporate identity	The qualities or values a company wishes to be associated with and recognised by and its

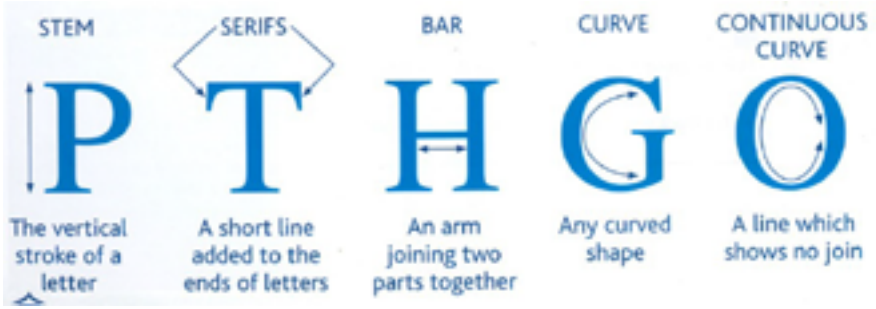
Typography

In essence, typography is the art of arranging letters and text in a way that makes the copy legible, clear, and visually appealing to the reader. Typography involves font style, appearance, and structure, which aims to elicit certain emotions and convey specific messages. In short, typography is what brings the text to life.

Key terms

Typography	The art form of letter style and design
Font	A specific letter type consisting of upper and lower case letters. You can change the style of
Type face	The style of the text you can use, for example
Kerning	Adjusting letter space to achieve the best visual

The parts of a letter.



Year 8 Design and Technology Knowledge Organiser Board Game

Common print processes

Because there are so many variations in printing surfaces, the quantity of prints required, the quality of the print and the costs involved, a range of different print processes have been invented.

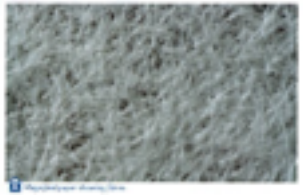
A The main qualities of each printing method

Print process	Common use	Advantages	Disadvantages	Cost (10 = high)	Print quality (10 = high)
Offset lithography	Newspapers Magazines Books	Most common method High quality Fast Prints onto paper extremely well	Expensive set-up costs	5	9
Flexography	Packaging Corrugated boxes Shopping bags 3D surfaces like bottles	Very fast	Expensive set-up costs	6	8
Screen printing	Short print runs T-shirts Big posters	Good for short print runs Can print on absorbent surfaces	Not as good quality as the other processes Slow	4	6
Gravure	Expensive high-quality magazines Stamps	Best quality print process Very fast	Very expensive setup costs	8	10
Laser	One-off items	Immediate printing No set-up costs	Very expensive individual print	10	7

Paper and boards

Why are there so many different types of paper?

We all use many types of paper and board in graphics. They are made from the vegetable fibres found in wood, which are carefully extracted through the process of crushing wood to make a 95 per cent water-based pulp. This looks a bit like milk. It is then refined by being passed through a series of dryers and rollers to achieve the basic quality that paper-makers need for board or paper.



Weight and thickness

Paper is sold by weight in **grams per square metre (gsm)** up to 220 gsm, when it is called board. Board is sold and measured for thickness in units called **microns**, represented by the symbol µm. There are 1000 microns in 1 mm and a typical birthday card is around 300 microns thick, compared with the paper this book is printed on which is about 90 microns thick and 90 gsm in weight.

Recycling

Virgin paper makes up 90 per cent of all paper, and the remaining 10 per cent of paper has some recycled content. Compared with recycled paper, virgin paper tends to be stronger and easier to make whiter. Virgin paper is used generally for food containers because it reduces the contamination risk to the food products.

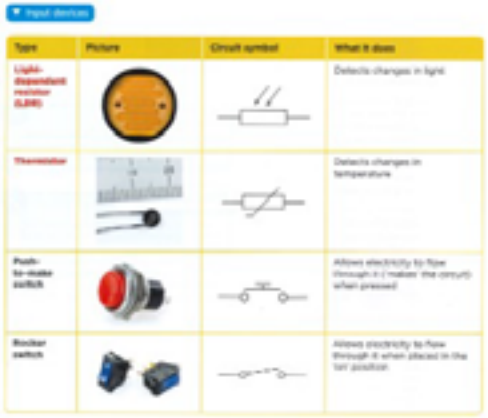
It is also possible to make paper from all sorts of materials other than wood pulp, such as corn, straw, cotton and hemp, and each of these materials gives the paper different properties. It is important that we try to recycle as much as possible in order to try to save our planet from additional global warming.

Year 8 Design and Technology Knowledge Organiser LED Desk Tidy

Electronics components—input, output and passive

Input devices

An input device is usually a sensor or switch. It detects a signal from the environment around it, such as light, temperature or movement (for example, when a switch is pressed). The input device normally transforms this signal into an electronic signal.



Output devices

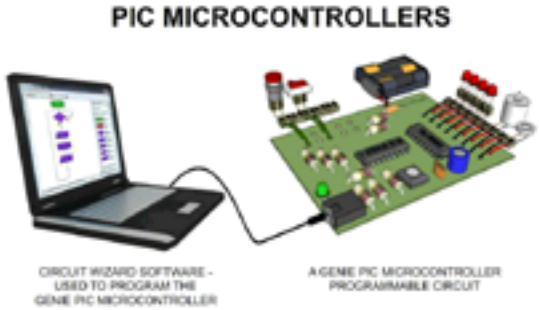
An output device transforms the electronic signals from the process blocks in a system into signals that we can understand in the 'real world', such as light, sound or movement.

Passive components

If a component is not an input, process or output device, or a power supply, then it is usually a passive component. Passive components are needed to allow the input, process and output devices to work properly. They do not add energy into a circuit and do not use electrical power to carry out their function.

Microcontrollers

Microcontrollers are quickly replacing computers when it comes to programming robotic devices. These microcontrollers are small and can be programmed to carry out a number of tasks and are ideal for school and industrial projects. A simple program is written using a computer, it is then downloaded to a microcontroller which in turn can control a robotic device.



Advantages	• They can be programmed to perform many different tasks such as timing, counting and reading sensors. • Can be reprogrammed many times, allowing circuits to be used for different things. • Makes circuits smaller, one of them can replace many non-programmable components saving many and reducing the amount of waste produced.
Disadvantages	• They can cost more than most non programmable components. This means they may not be the best option for simple circuits. • Access to a computer and software is needed to program them. • It the system doesn't work, then checks need to be made on both the electronic circuit and the program. This can take time.

Year 8 Design and Technology Knowledge Organiser LED Desk Tidy

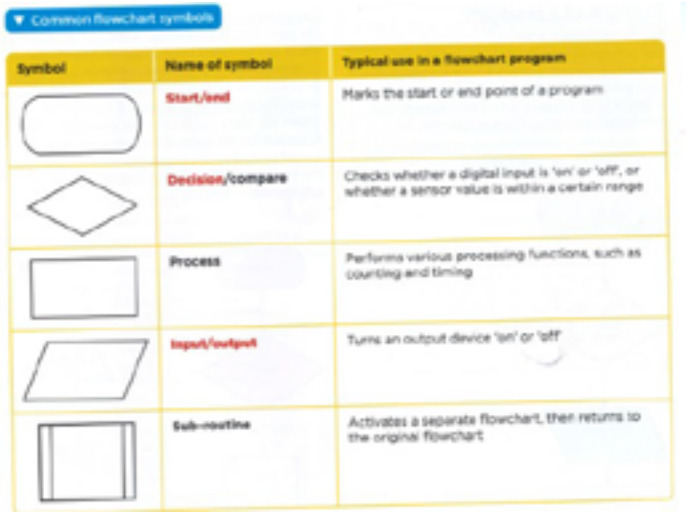
Flow charts

Programming flow charts

This is a flow chart representing the making of tea. It starts with filling the kettle with water all the way through every possible stage. Imagine a robot had to be programmed to perform this basic task. The programmer would have to give the robot every instruction. Remember - computers will only do what we instruct then to do. They cannot not decide anything for themselves.

Manufacturing flow charts.

Planning the manufacture of a design, is an important aspect of the design process. Plain flowcharts are often associated with planning a mass production line, so that thousands of a product can be manufactured efficiently in a factory. At the beginning of the century, the first mass production line was set up in the USA. The Ford Motor Company set up a 'line' of workers who put together each 'Model T' car. The production line was composed of hundreds of people, each doing only one job. When you plan your production line, you need to keep each stage of manufacture very simple. This is planning for 'mass production'



Computer-aided manufacture (CAM)

Computer-aided manufacture (CAM) is about the manufacturing process linked to a computer system. There are also lots of advantages when using CAM, for example it ensures that each product is produced exactly the same as the previous one. CAD and CAM can be linked together by converting the numerical data of a design into machine data that can be used to drive the machine.

Examples of computer-aided design machines

Laser Cutting is a non-contact process which utilises a laser to cut materials, resulting in high quality, dimensionally accurate cuts. The process works by directing the laser beam through a nozzle to the work piece. A combination of heat and pressure creates the cutting action

3D printing, also known as additive manufacturing, is a method of creating a three dimensional object layer-by-layer using a computer created design. 3D printing is an additive process whereby layers of material are built up to create a 3D part

Knowledge Organiser – Year 8 Food Special Diets

Food Allergy	Food Intolerance
Symptoms come on within seconds and include an itchy, red rash. Swelling of the lips, tongue, eyes and face Stomach pains, diarrhoea and vomiting .	Symptoms come on more slowly, are long-lasting and include bloating, stomach cramps and diarrhoea.
It is easily diagnosed with tests.	It's difficult to diagnose as there are only a few reliable tests and you may be intolerant to a number of different foods.
Even a tiny trace of the food can cause a reaction.	A reasonable portion of food is usually needed to cause a reaction
In extreme cases it can be life threatening.	It's never life threatening, symptoms are often bloating and stomach cramps
Most allergic reactions to food are to peanuts, milk, soya, nuts from trees, eggs and wheat.	Most common ones are wheat, gluten, dairy, yeast and alcohol.

Diabetes

There are two types of Diabetes:
Type 1 occurs in children and young adults
Type 2 occurs in adults and is linked to a poor diet and not exercising enough.

Diabetes is a condition that causes a person's blood sugar level to become too high.
When you eat food, it releases glucose into your bloodstream.
Insulin (hormone) then moves the glucose from your blood to your cells, where it is then used to produce energy.
If you have diabetes your body can't break the glucose down into energy.

BRITISH FOOD

British food is reared, grown and produced under strict guidelines and is some of the best quality world wide

Lactose Intolerance

- Lactose intolerance is the inability to absorb lactose - the sugar in milk - into the digestive system.
- If lactose is not absorbed properly, it ferments (goes off) inside your stomach
- Symptoms include:

Stomach rumbling, increased wind, Diarrhoea, abdominal colic, nausea.

- You can get a test to see for sure from your doctor
- Cut back on certain food products like:
- Cows milk, butter, cheese, certain breads and chocolate.

Diet

- There are many reasons why people choose to or even have to follow a special diet.
- There are also many other factors which affect what a person eats.
  - The food available to them
  - Time
  - Whether they can cook
  - Their likes and dislikes
  - Culture and religion

8 Government Guidelines for Healthy Eating

- Base your meals on starchy foods
- Eat lots of fruit and vegetables
- Eat more fish (1 portion of oily fish a week)
- Cut down on saturated fat and sugar
- Try to eat less salt
- Get active and try to be a healthy weight
- Drink plenty of water
- Don't skip breakfast

Vegans eats no animal products at ALL! This includes red and white meats, fish, eggs and dairy. They also can't eat anything that comes from or is made by animals such as honey and beef stock.

A Vegetarian doesn't eat red and white meats, fish and who also avoids slaughter by-products such as gelatine (made from horns, hooves, bones etc).

There are many reasons why people chose a vegetarian diet:

- **HEALTH**-Reduce fat intake, decreases risk of heart disease, high cholesterol, no growth hormones etc.
- **Religious reasons**-Buddhism, Hinduism
- **Texture** – They don't like the way it tastes or feels in their mouth
- **Animal Cruelty**- Do not like the way animals are treated before they get to our plates

A vegetarian diet is considered healthy because of the emphasis....

on fresh fruit and vegetables. Protein is obtained mainly from beans, lentils, peas, nuts, tofu and wholegrain cereals, which are also rich in vitamins and minerals.

Coeliac's Disease

Coeliac disease is a digestive disease that damages the small intestine.
You struggle to digest and absorb gluten.
Gluten is a protein found in wheat.
Gluten is like a glue which holds food together. In bread dough it is what makes it stretchy when we knead it.
People with coeliac disease cannot eat cereals, pasta, grains and most processed foods.
Most food in supermarkets are now labelled to say if they are made with wheat or grain products because of people with Coeliac's.

Year 8 - Drama - Term 1

Definition	Romeo & Juliet - The Prologue	Definition
Two Families (Montagues & Capulets)	Two households, both alike in dignity,	Power and Respect
Beautiful	In fair Verona, where we lay our scene,	Where our play is set
An ‘old hatred / conflict’	From ancient grudge break to new mutiny,	Breaks out in a ‘new fight’
Normally calm peoples’ blood	Where civil blood makes civil hands unclean.	Normally calm peoples’ hands
From out of	From forth the fatal loins of these two foes	Enemies
Baby making bits!	A pair of star-cross'd lovers take their life;	Are born / kill themselves
Romeo & Juliet are doomed / destined to die	Whose misadventured piteous overthrows	Sad and upsetting struggles against their fate / destiny
A bad decision / an adventure that goes wrong	Do with their death bury their parents' strife.	Their parent’s arguments / feud
End	The fearful passage of their death-mark'd love,	Doomed / Destined to die
Terrifying journey	And the continuance of their parents' rage,	Anger
Carrying on / continuing	Which, but their children's end, nought could remove,	Nothing
Apart from their children’s death	Is now the two hours' traffic of our stage;	End
Our play will last two hours	The which if you with patient ears attend,	Action on stage (the play)
Anything we’ve not told you in this prologue	What here shall miss, our toil shall strive to mend.	Listen patiently
		Hard work (the performance)
		Work hard to fix

Year 8 - Drama - Term 1

Stage Fighting

Stage fights are like stories.
They have a beginning, a middle and an end.

Term	Definition
Masking	The way you hide the safety distance from the audience.
Safety Distance	The distance between your partner's face and your fist.
Eye Contact	How you check your partner is ready to do the next fight move.
Action	The movement of the attacker.
Reaction	The movement of the target.
Vocal Nap	The sound you make with your voice to show the impact.
Physical Nap	The sound you make with your body to show the impact.
Recovery	The reaction both the attacker and target have to the impact i.e. the attacker might shake their fist, as if it hurts, and the

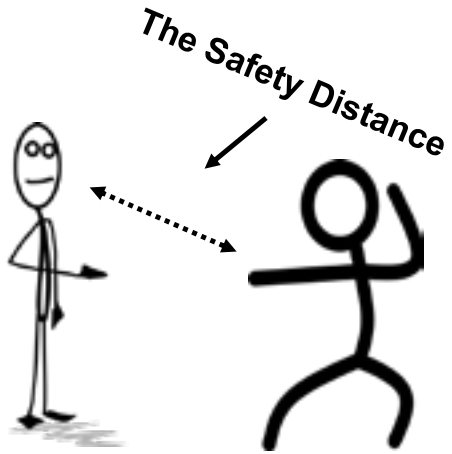
Performance Style

***The Reduced Shakespeare Company's* Performance of Romeo & Juliet has a specific style:**

Term	Definition
Energy	The actors perform with lots of energy
Choral Speech	The actors speak the same words at the same time.
Choral Movement	The actors' gestures are in time with each other.
Pace	The actors speak and move quickly.
Sharp & Accurate	The actors' movements are precise and clear.
Actions link to Words	The actors' gestures / movements link to the key words in the prologue. This is to help the audience understand the story.

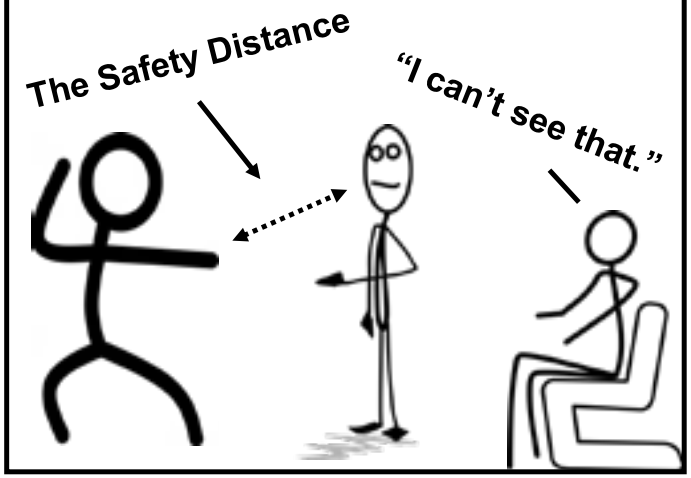
Safety Distance

How to keep you partner safe



Masking a Move

How to hide your safety distance.



English Department

YEAR 8

Autumn Term – Grammar

DESCRIBING WORDS

There are three types of describing word: adjectives, verbs, and adverbs.

ADJECTIVES describe the attributes or features of a noun, e.g. *the suspicious cat.*

VERBS describe actions, e.g. *the suspicious cat crept towards me.*

ADVERBS give more information on *how or when* an action happened, e.g *the suspicious cat crept towards me menacingly.*

NOUNS

Nouns are words for 'things', i.e. *objects, concepts, people or places*. There are three different types of noun.

CONCRETE NOUN – A word for an object we can see and touch, e.g. *pencil, lamp, table, apple, school, phone, house.*

ABSTRACT NOUN – A word for a concept or idea – something that does not exist as a physical object, e.g. *happiness, anger, honesty, courage, excitement, democracy.*

PROPER NOUN – A word for a person place. These always start with a capital letter, e.g. *Josie, Andover, Hampshire.*

PREPOSITIONS

Prepositions are words that show us the **relationship** between things in a sentence.

They can tell us about the **location** of something, e.g. *the cat sat **on** the cushion.*

They can tell us about the **time** that things happen, e.g. *the cat sat on the cushion **after** she ate her food.*

They can tell us about the **manner** in which things happen, e.g. *the cat played **with** her toy mouse.*

DETERMINERS

Determiners are words which go in front of a noun, in order to clarify what the noun refers to. There are several different types of determiner.

DEMONSTRATIVES, e.g. *this, that, these, those*

QUANTIFIERS, e.g. *some, many, much, a few, a little*

NUMBERS, e.g. *one, two, three etc.*

DISTRIBUTIVES, e.g. *all, both, half, neither, each, every*

DIFFERENCE WORDS, e.g. *other, another*

PRONOUNS are a special type of determiner. A pronoun is a word that stands in place of a noun, e.g. *he, she, they, his, her, their, our, my, your, this, that.*

OBJECTS AND COMPLEMENTS

Subjects and objects are always *things* (nouns or noun phrases), but some clauses contain another element called a **complement.** A complement gives more information about the subject or object.

SUBJECT COMPLEMENTS give more information about the subject of a sentence, e,g. *the cat looked happy and relaxed.*

OBJECT COMPLEMENTS give us more information about the object of a sentence, e.g. *the cat made Josie laugh hysterically.*

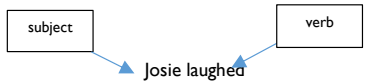
CLAUSE STRUCTURE

Sentences are built out of smaller units called **clauses** and **phrases**. The most basic type of sentence is called a **simple sentence** and consists of only one clause.

A clause must contain two elements: a **subject** and a **verb**.

The subject of a clause must be a **noun** or **noun phrase**.

Here is an example of a basic clause:



A clause can also contain a third element, called the **object**, which must also be a **noun** or **noun phrase**.

You can think of the subject as the 'thing' which *does* the action indicated by the verb. In the example above, Josie is the one laughing, which is why she is the subject of the sentence.

The object is the 'thing' which *receives* the action indicated by the verb. Here is an example of a clause with an object:

Here, Selma is the one being *laughed at* – she is not the one doing the laughing. Therefore, she is the object in the clause.

Most clauses in English follow the order *subject, verb, object.*

PUNCTUATION

Punctuation adds structure, order and clarity to sentences.

Commas are used to separate clauses in a sentence. This essentially means that they neatly divide up the different meanings and ideas in sentences. They can also be used to separate items in a list. *Without commas, writing becomes a continuous flow of information that quickly becomes meaningless.*

Apostrophes are used for two reasons: to show ownership, e.g. *Josie's friend Selma*, or to indicate where letters have been removed in contractions, e.g. *didn't, don't, can't.*

Colons are used before an explanation, or when you are about to add further information to a point. *In this way, they work a bit like the word 'because'.* Colons can also be used to introduce a list.

Semicolons are used to divide two closely related sentences.

VERB INFINITIVES

1-ETRE = to be
2- AVOIR = to have
3- FAIRE = to do
4- ALLER = to go
5- JOUER = to play
6. REGARDER = to watch
7. ECOUTER = to listen
8. AIMER = to like
9. MANGER = to eat

PRESENT TENSE VERBS WITH "JE"

1- je suis = I am
2- j'ai = I have
3- Je fais = I do
4- je vais = I go
5- je joue = I play
6. Je regarde = I watch
7. J'écoute = I listen
8- Je mange = I eat

PAST TENSE VERBS WITH "JE"

1- je suis allé(e) = I went
2- j'ai joué = I played
3- j'ai regardé = I watched
4- J'ai mangé = I ate

FUTURE TENSE VERBS WITH "JE"

1- je vais aller = I'm going to go
2- je vais jouer = I am going to play
3- je vais regarder = I am going to watch
4- je vais manger = I am going to eat

French y8

Core Language

KnowIT

TIME MARKERS

PAST
1- hier = yesterday
3- la semaine dernière = last week

FUTURE
1- demain = tomorrow

PRESENT

1- quelquefois = sometimes
2- tous les jours = everyday
3- une fois par semaine = once a week
4- souvent = often
5- soir = evening
6- matin = morning
7 – d'habitude = usually

OTHER VERY IMPORTANT PHRASES

1- ne…pas = not
2- ne… jamais = never
3- il y a = there is / il n'y a pas de = there isn't
4- dans = in

CONNECTIVES AND INTENSIFIERS

1- d'abord = firstly
2- puis / ensuite = then
3- enfin = finally
4- et = and / ou = or
5- mais = but
6- cependant = however
7- si = if
8- quand = when

1- trop = too
2- très = very
3- assez = quite
4- un peu = a little
5- vraiment = really

OPINIONS

1- j'aime = I like
2- je n'aime pas = I don't like
3- j'adore = I love
4- Je déteste = I hate
5- je trouve ça = I find it
6- parce-que / car c'est= because it is

j'ai horreur de = I really hate

génial / chouette = great
Intéressant = interesting
marrant / drôle = fun
ennuyeux / barbant = boring
Pénible = annoying
nul / horrible = rubbish

FRENCH Y8- TOPIC 1 – OU J'HABITE

Là où j'habite • Where I live

Qu'est-ce qu'il y a ... ?	*What is there ... ?*
Il y a ...	*There is ...*
un café	*a café*
un centre commercial	*a shopping centre*
un centre de loisirs	*a leisure centre*
un château	*a castle*
un cinéma	*a cinema*
une église	*a church*
un hôtel	*a hotel*
un marché	*a market*
un parc	*a park*
un restaurant	*a restaurant*
un stade	*a stadium*
une patinoire	*an ice rink*
une piscine	*a swimming pool*
des magasins	*shops*
des musées	*museums*
Il n'y a pas de ...	*There isn't a ... / There are no ...*

Les directions • Directions

Pardon ...	*Excuse me ...*
Où est ... ?	*Where is ... ?*
Où sont ... ?	*Where are ... ?*
C'est ...	*It's ...*
à gauche	*left*
à droite	*right*
tout droit	*straight on*
au carrefour	*at the crossroads*
entre	*between*
derrière	*behind*
devant	*in front of*

Les domiciles • Homes

j'habite	*I live*
la maison	*house*
l'appartement (m)	*flat*
la rue	*street/road*
à la campagne	*in the country*
dans un village	*in a village*
dans une ville	*in a town*

Qu'est-ce qu'on peut faire à ... ? • What can you do at/in ... ?

je peux	*I can*
tu peux	*you can (singular, informal)*
il/elle/on peut	*he/she can/we can*
nous pouvons	*we can*
vous pouvez	*you can (plural/formal)*
ils/elles peuvent	*they can*
aller au concert	*go to a concert*
faire du bowling	*go bowling*
faire du roller	*go roller-skating*
faire du skate	*go skateboarding*
faire du vélo	*go cycling*
faire une promenade en barque	*go on a boat trip*
jouer au babyfoot et au flipper au café	*play table football and pinball at the café*
manger au restaurant	*eat at a restaurant*
visiter les jardins/ les monuments/ les musées	*visit gardens/ monuments/ museums*

Les pièces • Rooms

Chez moi, il y a ...	*In my home, there is/ are ...*
la chambre (de mes parents/de ma sœur)	*(my parents'/my sister's) bedroom*
ma chambre	*my bedroom*
la cuisine	*kitchen*
le jardin	*garden*
la salle à manger	*dining room*
la salle de bains	*bathroom*
le salon	*living room*
les toilettes	*toilet*
Il n'y a pas de ...	*There isn't a .../There aren't any ...*

Les meubles et les appareils • Furniture and appliances

l'armoire (f)	*wardrobe*
le bureau	*desk*
le canapé/la chaise	*sofa/chair*
la douche	*shower*
la fenêtre	*window*
le frigo	*fridge*
le lavabo	*wash basin*
le lit	*bed*
la machine à laver	*washing machine*
la télé (satellite)	*(satellite) TV*

ALLER

Je	vais
Tu	vas
Il / elle / on	va
Nous	allons
Vous	allez
Ils / elles	vont

Les prépositions • Prepositions

dans/devant	*in/in front of*
derrière	*behind*
entre	*between*
sous	*under(neath)*
sur	*on*
à côté de	*next to*
à droite de/à gauche de	*on the right of/on the left of*

Les adjectifs • Adjectives

petit	*small*
grand	*big*
beau/belle	*beautiful*
joli(e)	*pretty*
vieux/vieille	*old*
nouveau/nouvelle	*new*
neuf/neuve	*brand new*
moderne	*modern*
confortable	*comfortable*
gros(se)	*big (for animals and objects)/fat*

Adjectives

Most adjectives come **after** the noun they describe. But some common adjectives come **before**:

petit grand joli gros vieux nouveau* beau**

J'habite dans une jolie petite maison blanche.

* These adjectives have a special form in front of a masculine noun that begins with a vowel or a silent 'h': *vieil, nouvel, bel.*

un vieil immeuble, un nouvel ami, un bel appart'

FRENCH Y8- TOPIC 2 – MES LOISIRS

À la télé • On TV

je regarde ...	*I watch ...*
les dessins animés	*cartoons*
les documentaires	*documentaries*
les émissions de sport	*sports programmes*
les émissions de télé-réalité	*reality TV shows*
les émissions musicales	*music shows*
les infos	*the news*
les jeux télévisés	*game shows*
la météo	*the weather*
les séries	*series*
les séries policières	*police series*
les séries américaines	*American series*
Mon émission préférée, c'est ...	*My favourite programme is ...*
j'adore	*I love*
j'aime bien	*I like*
je n'aime pas	*I don't like*
je ne regarde jamais	*I never watch*
je ne rate jamais	*I never miss*

Les films • Films

j'aime ...	*I like ...*
je suis fan de ...	*I'm a fan of ...*
je ne suis pas fan de ...	*I'm not a fan of ...*
j'ai une passion pour les ...	*I have a passion for ...*
j'ai horreur des ...	*I really dislike ...*
je déteste ...	*I hate ...*
les comédies	*comedies*
les films d'action	*action films*
les films d'amour	*romantic films*
les films d'arts martiaux	*martial-arts films*
les films d'aventure	*adventure films*
les films fantastiques	*fantasy films*
les films d'horreur	*horror films*
les films de science-fiction	*science-fiction films*
mon acteur préféré, c'est ...	*my favourite actor is ...*
mon film préféré, c'est ...	*my favourite film is ...*

Sur Internet • On the internet

J'envoie des e-mails.	*I send emails.*
Je fais beaucoup de choses.	*I do lots of things.*
Je fais des recherches pour mes devoirs.	*I do research for my homework.*
Je fais des achats.	*I buy things.*
Je fais des quiz.	*I do quizzes.*
Je joue à des jeux en ligne.	*I play games online.*
Je mets à jour ma page perso.	*I update my homepage.*
Je vais sur mes sites préférés.	*I go onto my favourite sites.*
Je vais sur des blogs.	*I go onto blogs.*
Je vais sur des forums.	*I go onto forums.*

PRESENT of –ER verbs

To form the present of -er verbs,
1- we chop off the ER
2- we add the endings-

Je.....-e
Tu.....- es
Il.....- e
Elle.....- e
On.....-e
Nous.....-ons
Vous.....-ez
Ils.....-ent
Elles.....-ent

Je regarde
Tu regardes
Il regarde
Elle regarde
On regarde
Nous regardons
Vous regardez
Ils regardent
Elles regardent

Qu'est-ce que tu lis? • What are you reading?

je lis ...	*I'm reading ...*
une BD	*a comic book*
un livre sur les animaux	*a book on animals*
un livre d'épouvante	*a horror story*
un magazine sur les célébrités	*a magazine about celebrities*
un manga	*a manga*
un roman fantastique	*a fantasy novel*
un roman policier	*a thriller*
un roman d'amour	*a love story*

Hier soir • Last night

J'ai discuté.	*I discussed/chatted.*
J'ai écouté la radio.	*I listened to the radio.*
J'ai envoyé des SMS.	*I sent text messages.*
J'ai joué à des jeux en ligne.	*I played games online.*
J'ai posté des photos.	*I posted photos.*
J'ai regardé la télé/des clips vidéo.	*I watched TV/video clips.*
J'ai surfé sur Internet.	*I surfed the net.*
J'ai tchatté sur MSN.	*I chatted on MSN.*
J'ai téléchargé des chansons.	*I downloaded some songs.*

PAST of –ER verbs

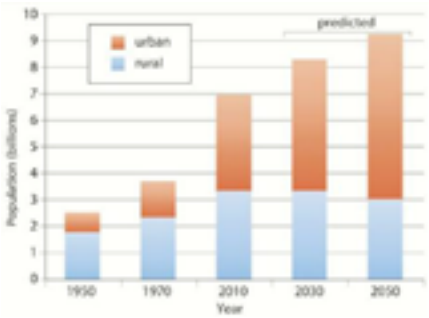
To form the past of -er verbs,
1- we use AVOIR
J'ai
Tu as
Il a
Elle a
On a
Nous avons
Vous avez
Ils ont
Elles ont
2- We chop off the ER and write a "é" at the end of the verb.

J'ai regardé
Tu as regardé
Il a regardé
Elle a regardé
On a regardé
Nous avons regardé
Vous avez regardé
Ils ont regardé
Elles ont regardé

Year 8 Geography Knowledge Organiser Term 1: Megacities

Global Population

Better medicine and agriculture means people are living longer. There are over 7.3 billion people in the world and 51% of those people live in urban areas.



Megacities

Megacities have a population over 10 million. In 1950 New York and Tokyo were the only megacities with the most rapid growth in Asia.

Migration

People move into cities from other cities or rural areas within the same country (internal) or (international) aboard. People move for many reasons:

Push Factors	War, extreme weather, crime
Pull Factors	Better jobs/ medicine, close to family

Challenges in AC Cities

Most people have already made the move into cities in ACs so urbanisation is steady. There are many advantages to living in cities. However, AC cities must make sure they support their population with enough resources and mitigate the negative impacts e.g. car pollution in Southampton, (UK).

LIDC/EDC City Challenges

Inequality between rural and urban areas is highest in EDC and LIDCs. Rapid urbanisation causes slums (informal housing). Slums are rich in culture and crime Dharavi Slum in India is Asia's largest.

In order for cities to be sustainable they must meet the needs of people today and in the future. Cities must be environmentally, socially and economically sustainable. BedZED in London is an example of a sustain -able community where people's home, work and leisure activities are grouped together.

Speak Like a Geographer

Population, Megacity, Urbanisation, Rural, Urban, Migration, Internal, International, Slum, Sustainable, LIDC, EDC, AC, Pull Factor, Push Factor, Transportation, Infrastructure, Economy, Overpopulation, Sanitation, Hygiene

Fieldwork

Skills

Choropleth Map:

Advantages: Visually effective - can see a large amount of information and general patterns

Disadvantages: Map assumes the whole region/area has the same value, but there could be variations

Year 8 Geography Knowledge Organiser Term 2: Wild Weather

Weather

Weather is the day to day atmospheric conditions. Pressure drives the global circulation system and ultimately our weather. Meteorologists record and monitor the weather through weather stations and satellite images. The MET office are the main weather reporting organisation in the UK.

Climate

Climate is the change in average weather over time. The UK's climate can be described as temperate maritime. Due to global warming many climates are changing rapidly. The most significant changes are being seen at the poles.

UK Weather

The UK weather changes day to day due to the many air mases battling over head.

Extreme Weather

Extreme weather is significantly different from the average weather. It often causes damage to live and property. Weather can be extreme in three ways. Temperature, wind and precipitation.

Case Studies

The **Beast from the East** is cold and wintry conditions in the UK as a result of a polar continental air mass. In March 2018 heavy snow fell killing 10 people, grounding flights, closing schools and causing millions in damage to the UK economy.

Tropical storms are spiralling storms of wind and precipitation. **Hurricane Irma** was a category 5 hurricane that caused widespread destruction across the Caribbean September 2017. Irma killed 129 people, millions were evacuated and billions $ in damages recorded.

Speak Like a Geographer

Weather, Climate, Climate Change, Extreme Weather, Tropical Storms, Typhoon, Cyclone, Hurricane, Saffir-Simpson Scale, Atmosphere, Precipitation, Rain, Sleet, Snow, Hail, High Pressure, Low Pressure, Cause, Effect, Impact, Response, Mitigate

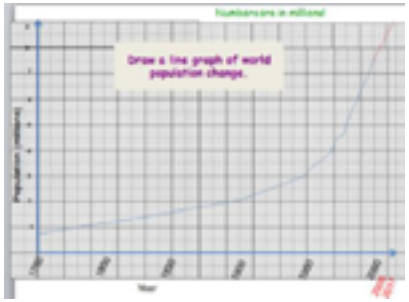
Fieldwork

Skills

An line graph is often used to show a trend over time.

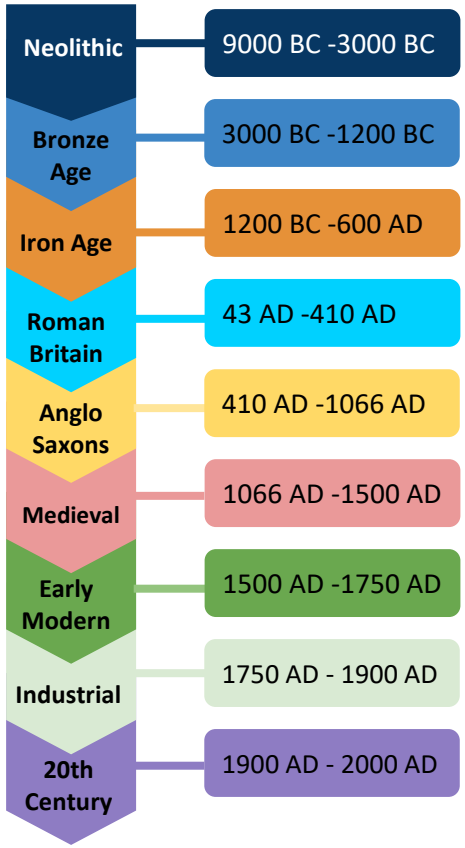
Advantages: It's better for seeing the rate clearly. Simple to read and understand.

Disadvantages:
It's harder to compare. It can be difficult to make out exact values for data.



Year 8 History: Autumn Term

Key time periods:



Part 1. The Industrial Revolution

The Industrial Revolution in Britain brought huge technological advances, which had a big impact on people's lives. However, not all of these changes were positive.

Key Words

Chronological	Events or dates arranged in the order in which they happened	*Timelines have dates arranged in chronological order*
Migrate	To move from one place to another with the intention of settling	*Lots of people choose to migrate to find better places to live.*
Trade	Buying and selling goods and services	*People often trade things they have made for money*
Economy	To do with trade and money	*War changes a country's economy*
Industry	A group of businesses that make or sell similar products or perform similar services	*The coal industry were popular in the Northern parts of Britain.*
Agriculture	The practice of farming	*Due to the growth of industry people moved away from agriculture.*
Revolution	A rapid or drastic change	*Moving from an agricultural economy to one base on industry is a revolution*

Empire	A group of territories ruled by one single ruler or state	*The British Empire ruled approximately 25% of the world*
Colony	A group of people from one country who build a settlement in another territory, or land	*Britain had colonies in India and Africa*
Entrepreneur	Someone who decides to create or run a business	*Entrepreneur 's see a need for something and start a business to fill it*
Philanthropist	A person who gives generously to help other people	*Philanthropists often give a lot money to charity*

Topic specific words

Urbanisation	More areas becoming cities and fewer are small towns or farmland.
Industrialisation	The process of transforming the economy from a focus on agriculture to a reliance on manufacturing.
Workhouse	A building where very poor people in Britain used to work, in the past, in exchange for food and shelter.

History Part 2

Part 1. Why did Britain become the Workshop of the World?

Notable Inventors

James Hargreaves - Spinning Jenny	
Isambard Kingdom Brunel - The Great Western Railway, tunnels and bridges	
James Watt - factories	
George Stephenson - canals	
Sir Humphry Davy - miners safety lamps	

Raw materials

The British isles was home to huge supplies of raw materials such as **iron ore, lead, tin and coal**. These could be used to provide materials for factories, iron for trains and engines. Surplus raw materials could be sold abroad for profit

Trade & empire

Britain had a vast global empire. The **colonies** of the empire (such as Canada, India & South Africa) provided both raw materials and a market for British produced goods. Some products such as cotton and sugar were produced via slavery.

Transport

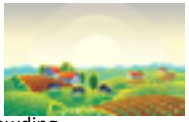
Improved transport via **toll roads, canals** and **railways** allowed goods and raw materials to be quickly and easily moved.

Rising population

Between 1750 and 1900 the population rose by 260%. More people meant more workers for factories and mines as well as customers for goods.

Part 2: Rural to Urban Migration

Reasons to stay in rural areas



- Less pollution from mines and factories.
- Easier access to food.
- Smaller communities- everyone knows everyone.
- Cities were often troubled by crime, disease and overcrowding.

Reasons to move to urban areas

- More job opportunities offered by factories and the development of new industries.
- Chances to earn higher wages.
- Farming areas can suffer from seasonal unemployment.

Part 3: Life in Industrial Britain

Changes in transport

Canals and railways allowed heavy goods to be transported. By 1855 there were over 8,000 miles of railway. Much of this was built at a high cost in human life.

Poverty & the Workhouse

The 1834 Poor Law Amendment Act said that "able-bodied" poor could only receive help inside a Workhouse. The poor lived in these buildings and worked for food.

Mining

As the country needed more coal to fuel its factories so more people were sent underground to mine coal. This was a dangerous occupation due to the threat of- flooding, explosions, Roof collapse, breathing in coal dust (Black lung).

1842 Mines Act attempted to improve working conditions for miners.

Living conditions in the East End of London

The murder of five women in the East End in 1888 caused people to pay more attention to living conditions in the Whitechapel area. The areas was a terrible place to live due to:

- Overcrowding and completion for jobs.
- Low paid, casual work (employment might be day by day)
- Disease such as typhus and cho
- Availability of cheap alcohol (especially gin).

History Part 3

Part 1: Who was the greatest architect of Empire?

Main people involved in building the British empire:

1. **Cecil Rhodes-** Controlled South African diamond trade. Ruled Rhodesia (Zimbabwe).
2. **John Locke-** Head of the East India Company. Trade company with its own private army.
3. **Queen Victoria-** Empress of India. Ruled British empire.
4. **David Livingstone**: Explorer- tried to spread
5. Christianity to the interior of Africa.

5. **James Cook-** mapped southern hemisphere. Claimed New South Wales and New Zealand for Britain.

Topic specific words	
Empire	A group of countries ruled by a single person, government, or country.
Middle passage	The forced voyage of enslaved Africans across the Atlantic Ocean from Africa to the New World.
Slavery	The practice. of people owning other people. Enslaved people have to work for the owners, doing whatever the owners ask them to do.

Part 2: How did Britain benefit from the slave trade?

The trade triangle.

Goods from British factories (guns, metal goods, glass, beer etc.) were traded with West African tribes in return for slaves. Slaves were taken to the Americans (Middle Passage) and sold at auction. Money made from sale of slaves was used to buy goods produced by slave plantations (cotton, sugar, tobacco). These were then sold to buyers in Britain.

Slavery also meant work for ship builders & crew. Cotton and tobacco factory workers gained employment and profits were invested into banks.

Part 3: What was life like on plantations?

Slaves who survived the voyage across the Atlantic were sold at auction. Families could be spilt up permanently. Slaves were branded to identify their new "owners".

Field slaves worked to produce cotton, sugar & tobacco. House slaves worked in kitchens, cleaned and did laundry. None were paid. Housing varied depending upon the owner.

Some "free" time allowed from socialising, music and dance.

Escape attempts, poor work or "disobedience" were often harshly punished by whipping and even murder.

Source analysis

Provenance	Nature (what it it?) Origin (who? Where? where?) Purpose (why?)
Utility	How useful is the source?
Content	What does the source say/show?
Knowledge	What do you know about the topic?

History Part 4

Part 4: Was abolition just down to "white fellas in wigs"?

slave trade was abolished in the British empire in **1807.** Ownership was abolished in **1833.**
Reasons:

1. Economics- slavery was making less profit.
2. Abolitionists such as Wilberforce, Sharpe & Equiano publicised the horrors of slavery. Made speeches in Parliament and organised petitions.
3. Slave rebellions- Slave rebellions on Haiti showed that it was possible to successfully overthrown slave owners.
4. Protest from white working class campaigners- some feared slavery in Britain would lead to job losses.

Part 5 :Should we be proud of the Empire?

Positives

- Abolished Hottentot law in South Africa which required black people to carry ID cards.
- Hong Kong provided a safe haven for Chinese fleeing the Taiping Rebellion
- Introduced Parliamentary democracy to Australia & New Zealand.
- In India- ended suti (practise of killing wives once husbands died). Introduced post, railways and cricket.

Negatives

- Slave trade saw over 13 million Africans kidnapped.
- Cloth trade in India was destroyed in order to help factories in Lancashire make money.
- Colonisation led to wars such as the Boer, Zulu & Opium Wars.
- Indigenous Australians were hunted for sport.

Key Words		
Chronological	Events or dates arranged in the order in which they happened	*Timelines have dates arranged in chronological order*
Migrate	To move from one place to another with the intention of settling	*Lots of people choose to migrate to find better places to live.*
Trade	Buying and selling goods and services	*People often trade things they have made for money*
Economy	To do with trade and money	*War changes a country's economy*
Government	The group of people with the authority to govern a country	*The government introduce new laws*
Democracy	A government run by the people. Each citizen has a say (or vote) in how the government is run.	*Britain is a democracy*
Investment	The act of putting out money in order to gain a profit	*People invest in businesses to gain profit*

Year 8 ICT Knowledge Organiser

Computational thinking allows us to take a complex problem, understand what it is and develop solutions. These can be presented in a way that a computer, a human, or both, can understand.

There are four key techniques (cornerstones) to computational thinking:

1. **Decomposition** - breaking down a complex problem or system into smaller, more manageable parts
2. **Pattern recognition** – looking for similarities among and within problems
3. **Abstraction** – focusing on the important information only, ignoring irrelevant detail
4. **Algorithms** - developing a step-by-step solution to the problem, or the rules to follow to solve the problem

Key Vocabulary
Personal Data – data that can be used to identify an individual. This could be Name, date of birth or home address.
Digital Footprint Is the information about a particular person that exists on the internet as a result of their online activity.

Key vocabulary	
Programming	The process of writing computer programs
Code	The instructions that a program users
Algorithm	A set of rules/instructions to be followed by a computer system
Variable	A value that will change whilst the program is executed
Sequencing	Performing one instruction after another
Selection	The program makes a decision (If Statement)
Iteration	The program repeating, looping infinitely or for a set m=number of times (For and While loops)

Who to contact if you have any concerns

- Parent or Guardian
- Teacher
- Another adult you trust (Aunt or Uncle, Grandparent, dinner lady etc.)

ChildLine 0800 1111

CEOP

THINK U KNOW

Knowledge Organiser: Year 8. Autumn 1, Topic 1 Number

Negatives Adding and Subtracting

Same Signs:
Add and keep the same sign

(+) + (+) = (+)

(-) + (-) = (-)

Different Signs:
Subtract and keep the sign of the "larger" number

(-8) + (+6) = (-2)

Notice that the larger number is negative

(+8) + (-6) = (+2)

Notice that the larger number is positive

Negatives Multiplying and Dividing

When multiplying negative numbers remember:

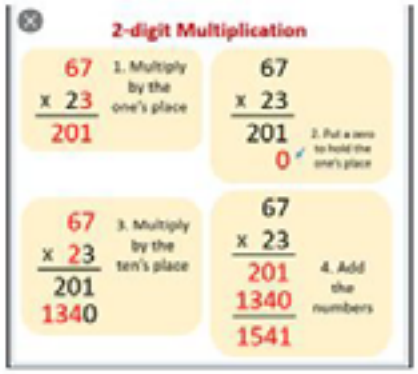
⊕ × ⊕ = ⊕
⊕ × ⊖ = ⊖
⊖ × ⊕ = ⊖
⊖ × ⊖ = ⊕

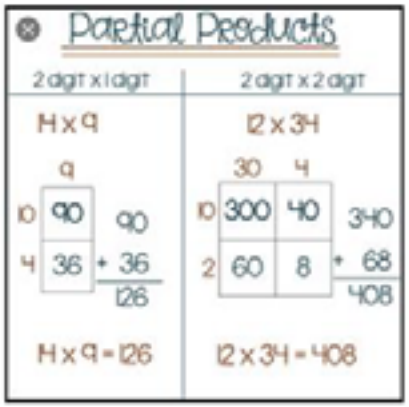
Dividing is the opposite operation to multiplying.

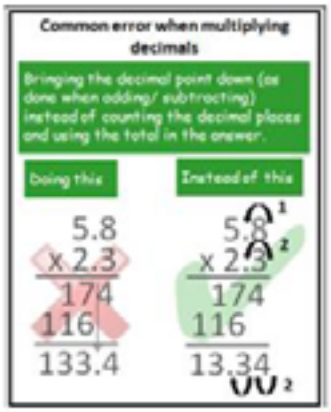
When we are dividing negative numbers similar rules apply:

⊕ ÷ ⊕ = ⊕
⊕ ÷ ⊖ = ⊖
⊖ ÷ ⊕ = ⊖
⊖ ÷ ⊖ = ⊕

Multiplication - Examples







Division - Examples

$$8\overline{)360} = 045$$

$$4\overline{)1432.0} = 035.5$$

$$4\overline{)92.8} = 23.2$$

Rounding to decimal places

3.248 rounded to 1 d.p.

3.248 → 3.2

1st dp 3.2 — Look at the next digit. 4 stays down - stay at 3.2.

3248 rounded to 2 d.p.

3.248 → 3.25

2nd dp 3.24 — Look at the next digit. 8 rounds up - go to 3.25

Rounding to significant figures

3268 rounded to 1 sig. fig.

3268 → 3000

1 sf 3000 — Look at the next digit. 2 is less than 5 - stay at 3000

3268 rounded to 2 sig. fig.

3268 → 3300

2 sf 3200 — Look at the next digit. 6 rounds up - go to 3300

1. 47.27×18.3

Answer: $50 \times 20 = 1000$

2. $\frac{32.6 + 47.18}{4.8 \times 3.9}$

Answer: $\frac{30 + 50}{5 \times 4} = \frac{80}{20} = 4$

Knowledge organiser Year 8: Autumn Term 1, Topic 2: Algebra

Key Concepts

- **Simplify** means multiplying or dividing or collecting like terms together by adding or subtracting
- **Expand and simplify** means to multiply out the brackets and collect like terms
- **Factorise** means insert brackets by taking out all the common factors

Key Words

- Simplify
- Expand
- Factorise
- Quadratic expression

Examples

Simplify

Simplify $6y + 5z - 3y - 8z = 3y - 3z$

Simplify $3p^2 + 4p - p^2 = 2p^2 + 4p$

Simplify $4m^3 \times 2n^4 \times 3m^2 = 24m^5n^4$

Expand and simplify

Expand $4(3x - 6) = 12x - 24$

Expand and simplify $6(5x - 3) - 2(3x - 7)$

$= 30x - 18 - 6x + 14$

$= 24x - 4$

(for the second bracket you are multiplying by -2)

Expand and simplify

$(2x - 3)(4x + 5) = 8x^2 + 10x - 12x - 15$

$= 8x^2 - 2x - 15$

Factorise

$16x - 12 = 4(4x - 3)$

$2a^2b + 6ab^2 = 2ab(a + 3b)$

Factorise a quadratic expression

$x^2 + bx + c$ look for a pair of numbers that multiply to give c and add to give b

$x^2 + 8x + 12 = (x + 2)(x + 6)$

Factor of 12 are 1, 12
2, 6 $2 + 6 = 8$
3, 4

Tips

Simplify – you can only add or subtract terms which have the same letters. x and x^2 are not the same!

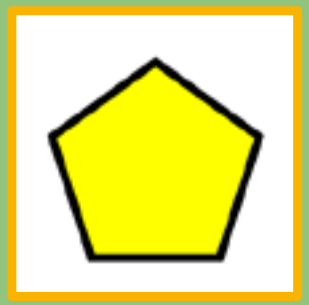
Expand and simplify – be careful with negative numbers and remember the sign goes with the term it is in front of.

Factorise – always multiply back out to check

Knowledge organiser Year 8:
Autumn Term 1, Topic 3:
Angles in Polygons

Key Concept

A **regular polygon** is a flat shape whose sides are all equal and whose **angles** are all equal.



Key Words

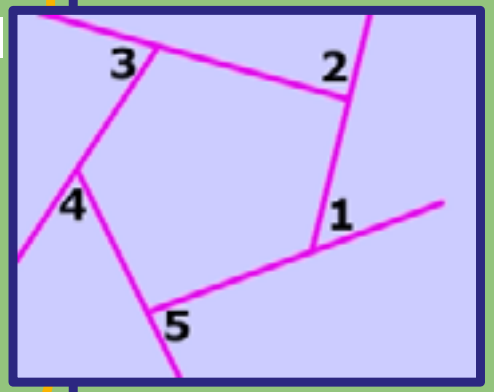
Interior - inside

Exterior - outside

Regular - all sides and angles are equal

Examples

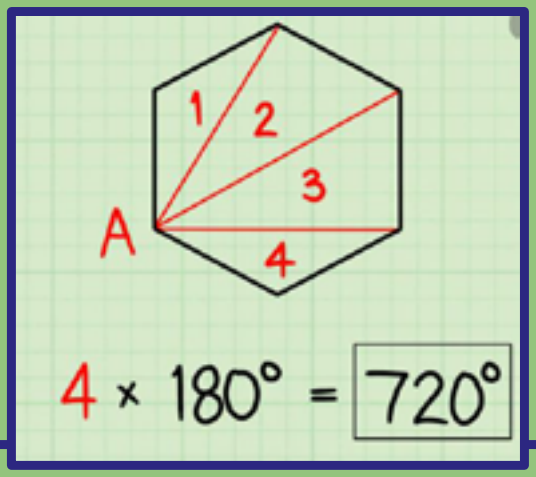
Exterior angles of all polygons total **360°**

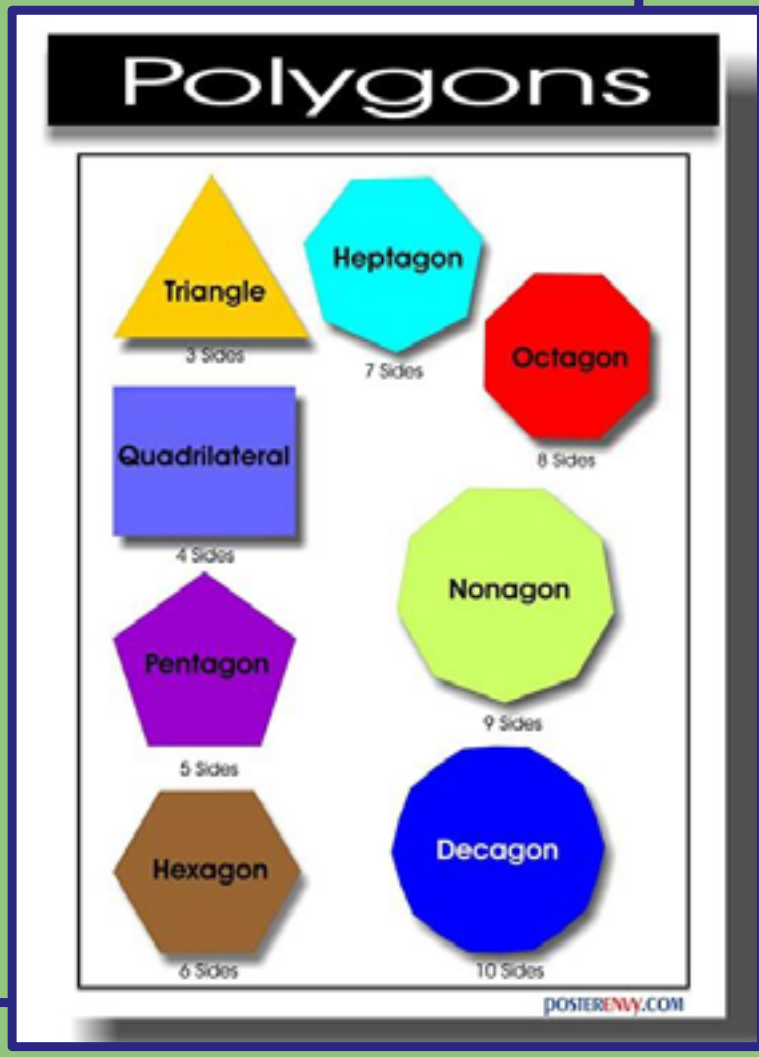


One exterior angle of a regular ploygon = $\frac{360}{n}$

n = number of sides

The sum of all interior angles is **(n-2) x 180°**





Knowledge organiser Year 8: Autumn Term 1, Topic 4: **Sequences**

Key Concepts

Linear Sequences –increase by addition or subtraction and the **same amount** each time eg arithmetic sequence

Non-linear Sequences –do not increase by a constant amount –quadratic, geometric and Fibonacci.

•The differences between terms can be found by addition, subtraction, multiplication or division.

Key Words

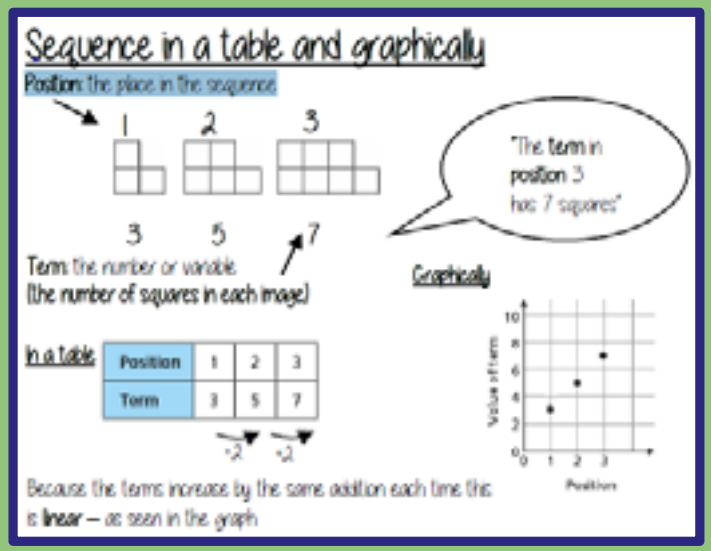
Term

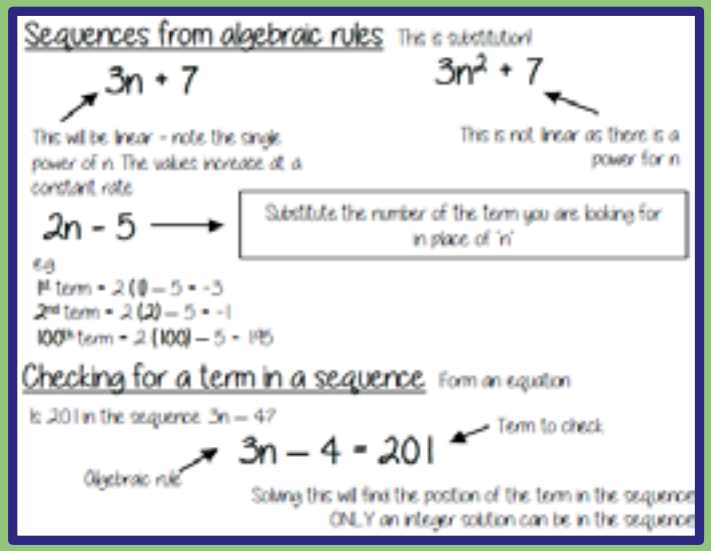
Position

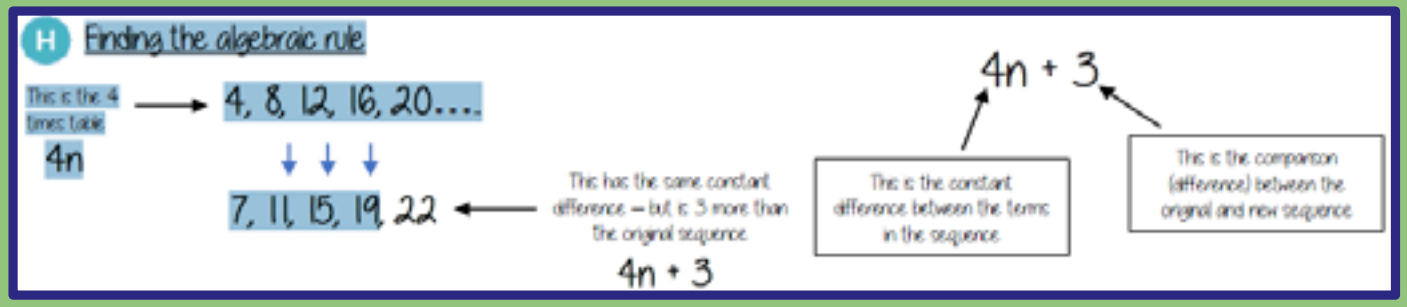
Difference

Arithmetic

Geometric







Knowledge organiser Year 8: Autumn Term 2, Topic 1: Percentages

Key Concepts

- 100% = a whole = 1
- Percentages can be changed to decimals by dividing by 100
- Percentage increase – add the percentage to 100, change to a decimal and multiply
- Percentage decrease – take away from 100, change to a decimal and multiply
- Reverse percentage – divide by the new percentage

Examples

Percentage Of

e.g. Find 42% of £68

42% = 42 ÷ 100 = 0.42

0.42 x 68 = £28.56

Percentage increase

e.g. Increase £45 by 32%

100 + 32 = 132% = 132 ÷ 100 = 1.32

45 x 1.32 = £59.40

Percentage decrease

e.g. Decrease £45 by 17%

100 – 17 = 83% = 83 ÷ 100 = 0.83

45 x 0.83 = £37.35

Repeated change (such as Compound Interest) e.g. find the value of an investment of £500 after 3 years, with an interest rate of 2%

100 + 2 = 102% = 102 ÷ 100 = 1.02

$500 \times 1.02^3 = 530.604$

The value is £530.60

Reverse Percentages

e.g. what was the cost of a coat which costs £63.75 in a sale with 15% off

100 – 15 = 85% = 85 ÷ 100 = 0.85

63.75 ÷ 0.85 = £75

Key Words

- Percentage Change
- Decimal Multiplier
- Compound Interest
- Repeated Percentage change
- Reverse Percentage
- Profit/Loss

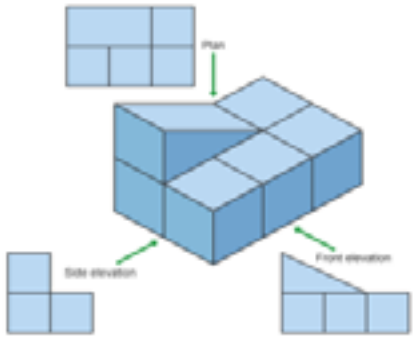
Tips

- Always show full working (even using a calculator)
- The decimal multiplier can be used with or without a calculator
- Remember to check you answer is sensible!

Knowledge organiser Year 8:
Autumn Term 2, Topic 2
3d Shapes and Volume:

Key Concepts

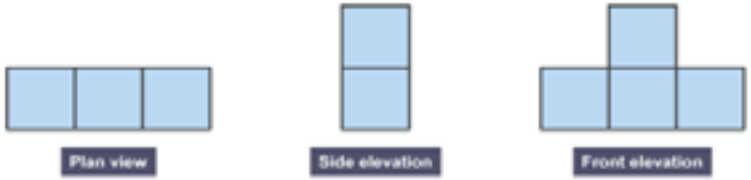
- Plans and elevations are 2D drawings of a 3D shape.
- A plan is a scale drawing showing a 3D shape when it is looked at from above.
- An elevation is the view of a 3D shape when it is looked at from the side or from the front.

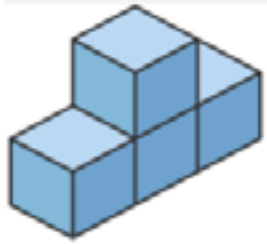


Examples

Question

Draw the 3D shape which has the following plan and elevations:





Keywords

- Plan
- Side
- Front
- Elevation
- Scale

Tip

- Remember that the Front and Side Elevations are interchangeable.

Knowledge organiser Year 8:
Autumn Term 2, Topic 2
3d Shapes and Volume:

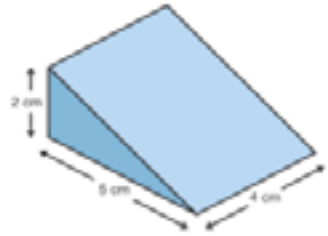
Key Concepts

- Volume is the amount of space a 3D shape takes up.
- A cubic cm block takes up 1 cubic cm. This is written as $1cm^3$.
- The Formula is shortened to: V = lwh
- Or V = cross section x length
- If the shape is made of cubic cm blocks, you can count the cubes to find the shape's volume

Examples

Example: What is the volume of a prism where the base area is 25 m^2 and which is 12 m long:

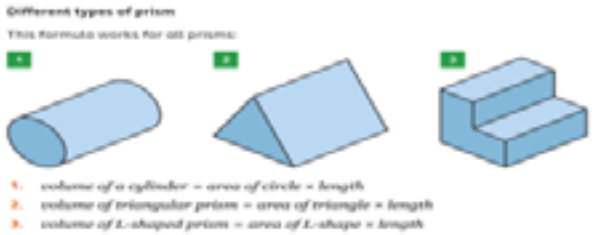
Volume = Area × Length
= 25 m^2 × 12 m
= 300 m^3



a) volume = area of triangle × length

$= \left(\frac{1}{2} \times 2\,cm \times 5\,cm\right) \times 4\,cm$

$= 20\,cm^3$



Keywords

- Volume
- Length
- Width
- Height
- Cross Section
- Prism

Tip

- It doesn't really matter which one is length, width or height, so long as you multiply all three together.
- When finding volumes of prisms, find the area of the cross section and then multiply it by the length of the prism.

Knowledge organiser Year 8: Autumn Term 2, Topic 3
Equations

Key Words

Solve: To find the value of the *variable* in an equation.

Variable: Any letter in an equation or expression is a *variable*. It represents a missing value (or values).

Balance Method: A way of solving equations. What you do to one side of the equation my also do to the other, to keep it *balanced*.

Inverse Operation: We use inverse operations to solve equations by simplifying them. Inverse means opposite, so the inverse of *multiply* is *divide*, the opposite of *adding* is *subtracting*.

Multiply ⇄ Divide

Adding ⇄ Subtracting

Coefficient: The coefficient is the number touching a variable.

eg: For the equation below the coefficient of x is 5, and coefficient of x^2 is 3.

One Step Equations (these equations only need one simple step to solve them)

Examples:

$x + 5 = 11$
$-5 \quad -5$
$x = 7$

$y - 3 = 16$
$+3 \quad +3$
$y = 19$

$3y = 18$
$\div 3 \quad \div 3$
$y = 6$

$\frac{a}{4} = 5$
$\times 4 \quad \times 4$
$a = 20$

Two Step Equations (these equations two steps to solve them)

Examples:

$3x + 2 = 17$
$-2 \quad -2$
$3x = 15$
$\div 3 \quad \div 3$
$x = 5$

Subtract 2
Divide by 3

$5 + 2y = 13$
$-5 \quad -5$
$2y = 8$
$\div 2 \quad \div 2$
$y = 4$

Subtract 5
Divide by 2

$\frac{x}{5} - 4 = 3$
$+4 \quad +4$
$\frac{x}{5} = 7$
$\times 5 \quad \times 5$
$x = 35$

Add 4
Multiply by 5

$\frac{y-2}{3} = 8$
$\times 3 \quad \times 3$
$y - 2 = 24$
$+2 \quad +2$
$x = 26$

Multiply by 3
Add 2

Equations with brackets

Examples:

Expand the bracket first

$3(x + 2) = 21$
$3x + 6 = 21$
$-6 \quad -6$
$3x = 15$
$\div 3 \quad \div 3$
$x = 5$

Expand the bracket
Subtract 6
Divide by 3

Expand the bracket first

$4(2x + 1) = 52$
$8x + 4 = 52$
$-4 \quad -4$
$8x = 48$
$\div 8 \quad \div 8$
$x = 6$

Expand the bracket
Subtract 4
Divide by 8

Expand the bracket first

$4(y - 5) = -8$
$4y - 20 = -8$
$+20 \quad +20$
$4y = 12$
$\div 4 \quad \div 4$
$x = 3$

Expand the bracket
Add 20
Divide by 4

Knowledge organiser Year 8: Autumn Term 2, Topic 3
Equations

Key Words

Solve: To find the value of the *variable* in an equation.

Variable: Any letter in an equation or expression is a *variable*. It represents a missing value (or values).

Balance Method: A way of solving equations. What you do to one side of the equation my also do to the other, to keep it *balanced*.

Inverse Operation: We use inverse operations to solve equations by simplifying them. Inverse means opposite, so the inverse of *multiply* is *divide*, the opposite of *adding* is *subtracting*.

Multiply ⇄ Divide

Adding ⇄ Subtracting

Coefficient: The coefficient is the number touching a variable.

eg: For the equation below the coefficient of x is 5, and coefficient of x^2 is 3.

$$3x^2 + 5x + 1 = 0$$

Equations with the variable on "both-sides"

Examples:

The x is on both sides of the 'equals' sign

$$5x - 8 = 2x + 7$$
$$-2x \quad -2x$$
$$3x - 8 = 7$$
$$+8 \quad +8$$
$$3x = 15$$
$$\div 3 \quad \div 3$$
$$x = 5$$

Look for the side with **fewer 'x'**, and remove that amount from **both sides**

Find the side with fewer 'x'
Subtract $2x$
Add 8
Divide by 3

The x is on both sides of the 'equals' sign

$$25 - x = 4x - 5$$
$$+1x \quad +1x$$
$$25 = 5x - 5$$
$$+5 \quad +5$$
$$30 = 5x$$
$$\div 5 \quad \div 5$$
$$6 = x$$

Find the side with fewer 'x'
Add x *(add one x)*
Add 5
Divide by 5

Solving Quadratic Equations

by Factorising

$$x^2 + 5x + 6 = 0$$

(1) Write the factor pairs of the lone number

1×6
2×3

(2) Find which pair sums to make the coefficient of x, Then put them into two brackets with x in each

$$(x + 2)(x + 3) = 0$$

The two solutions are $x = -2$ and $x = -3$

$$x^2 + 2x - 24 = 0$$

-1×24
-2×12
-3×8
-4×6

$-4 + 6 = 2$

$$(x - 4)(x + 6) = 0$$

The two solutions are $x = 4$ and $x = -6$

by using the quadratic formula

$$ax^2 + bx + c = 0$$

This symbol means use the formula **twice**. Once with a plus, then again with a minus.

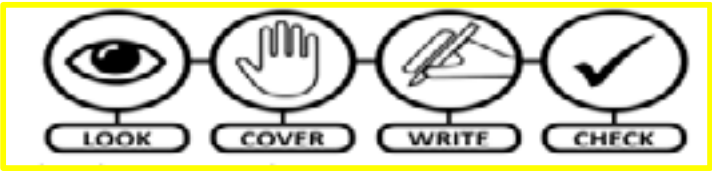
$$x^2 + 6x + 4 = 0$$
$$a = 1$$
$$b = 3$$
$$c = 4$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\frac{-6 + \sqrt{6^2 - 4 \times 1 \times 4}}{2 \times 1} = -0.763$$

$$\frac{-6 - \sqrt{6^2 - 4 \times 1 \times 4}}{2 \times 1} = -5.236$$

The two solutions are $x = -0.763$ and $x = -5.236$



KNOWLEDGE ORGANISER – Year 8 – Blues / Rock 'n' Roll

The Blues

The 12-bar blues is made up of the three **PRIMARY** chords (I, IV and V) in a key. In the key of C
Chord I = C (C+E+G)
Chord IV = F (F+A+C)
Chord V – G (G+B+D)
They follow the pattern shown here.

The Blues scale is made up of a flattened third and seventh. The flattened fifth is also a sharpened fourth so can appear as an $F^{\#}$ or G^{b} (they are the same note).

This scale is used to improvise over the 12-bar blues using swung rhythms.

The blues emerged towards the end of the 19th century. This early style of blues was known as **country blues** and was usually a solo singer accompanied on guitar or piano sometimes with added harmonica or drums. Well-known country blues musicians include Lead Belly, Blind Lemon Jefferson and Robert Johnson.

Keyword	Definition
Chord	Two or more notes playing simultaneously
Walking Bass	A bassline that moves by step using some of the notes of the primary chords and blues scale
Swung rhythms	A rhythm that emphasizes the first set of quavers (like a slow heartbeat)
Improvisation	Making something up on the spot

Rock 'n' Roll

- World War 2 ended in 1945, this led to a large baby and economic boom.
- This meant that there were lots of teenagers in the 1950s with lots of pocket money either from jobs or parents.
- Rock 'n' Roll was a genre of music **largely influenced by The Blues** and was aimed at Teenage listeners.
- In the 1950s there was still a large amount of segregation between black and white people but both audiences would listen to and attend Rock 'n' Roll concerts.
- Most parents were not pleased with this genre of music and saw it as an act of rebellion against them and society.

Instrumentation in Rock 'n' Roll

Typically a 1950s Rock 'n' Roll band would consist of:

- Piano
- Vocals
- Drum
- Bass
- Electric Guitar
- Saxophone

Tick when done	Listen to the following Rock 'n' Roll songs and list any similarities they have to The Blues:
	Chuck Berry – Johnny B Goode https://www.youtube.com/watch?v=T38v3-SSGcM
	Bill Haley & The Comets – Rock Around The Clock https://www.youtube.com/watch?v=xbYiGR0YAAk
	Elvis Presley – Jailhouse Rock https://www.youtube.com/watch?v=gj0Rz-uP4Mk

HOCKEY

THEORY IN ACTION

Coordination may be advantageous to hockey player in producing an effective dribble, coordinating footwork and arm action.

DEFINE THIS

"Co-ordination is the ability to move two or more body parts under control, smoothly and efficiently."

Overview of the rules

The rules of hockey are very similar to the rules of football except that players must use sticks instead of their feet to play the ball. There are 11 players on a team made up of a goalkeeper, defenders, midfielders and attackers.

1. Use the "front" (flat) side of the stick.
2. Cannot use feet.
3. At re-starts or free hits, the defending team must stand 5m from the ball.
4. Can only score from inside the "D" (A).
5. From a re-start a players is allowed to move the ball to themselves. Known as a self-pass.

BASKETBALL

Rules for Offence

When a player has the basketball (offence) there are certain rules they must follow:

1. The player must bounce the ball with one hand while moving both feet. If both hands touch the ball or the player stops dribbling, the player must only move one foot.

2. Once a player has stopped dribbling they cannot start another dribble. A player who starts dribbling again is called for double-dribble.

3. A player can only start another dribble after another player from either team touches or gains control of the basketball.

4. Back court violation. Once you advance beyond the half way line you cannot return to your half in possession of the ball.

Defensive Rules

The team on defence is the team without the basketball.

1. The main rule for the defensive player is not to foul. This means the defensive player may not touch the offensive player in a way that causes the offensive player to lose the ball or miss a shot.

Rules for everyone

1. Although the foul rule is described as a defensive rule, it applies exactly the same to all players on the court.

2. Basketball players cannot kick the ball or hit it with their fist.

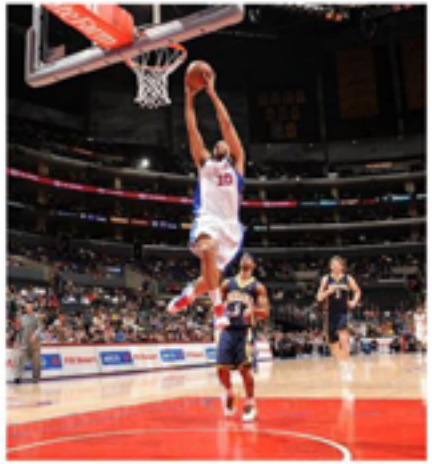
3. The positions in basketball are just for basketball strategy and there are no positions in the rules.

THEORY IN ACTION

Power is important in explosive movements like jumping.

DEFINE THIS

"Power is the ability to exert maximum muscular contractions in an explosive burst."



NETBALL

Overview of rules

1. 3 seconds on the ball – Players are only allowed to have the ball in possession for 3 seconds.
2. Start of a game – a game starts with a pass that must be received in the centre third. This is also how a game re-starts.
3. Shooting –Players can only shoot form inside the "D".
4. Footwork – Players cannot more their landing foot (first foot to hit the floor) when they have the ball.
5. Contact – contact is not allowed in netball
6. Penalty pass – Awarded for major fouls: Contact and obstruction.
7. Distance – Defending players must be 0.9m away from the ball before putting up their arms to defend. 2.
8. Replaying the ball: You must not pick the ball up or bounce the ball if you have dropped it

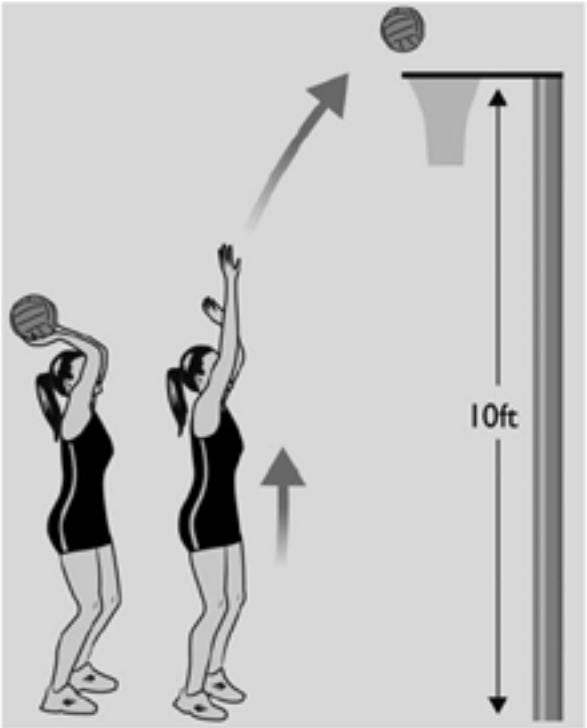
THEORY IN ACTION

To generate the **power** to shoot the ball toward the hoop, the **triceps** must **contract** to **extend** the arm at the **elbow**. The **biceps relax**.

DEFINE THIS

Antagonistic pairs:

Muscles can **only pull**; they cannot push. This is why they usually work in pairs. One muscle **contracts to move** the body part, the other muscle in the pair then **contracts to return** the body part back to the original position.



BADMINTON

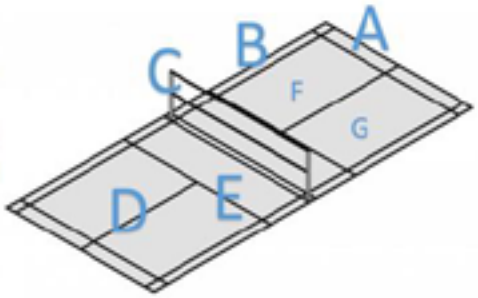
Overview of the rules

Badminton is a net game and played as singles (two opposing players) or doubles (two opposing pairs). The aim of the game is to win points by hitting a shuttlecock across the net and into your opponent's court forcing your opponent to make an error and be unable to return the shuttlecock back.

The basic rules

1. You must serve underarm.
2. A serve must reach the front service line.
3. If the shuttle lands **on** the edge line of the court, this is IN.
4. If you win a rally, **you** get a point added to your score and **you** serve next.
5. You can only hit the shuttle once in a row.
6. In a full game, the game is the first player to 21 points.
7. If your score is "even" (0,2,4,6...) you serve from the right-side service box (F).
8. If your score is "odd" (1,3,5,7...) you serve from the left-side service box (G).

A: Baseline: the end of the court
B: Side line: the side edge of the court
C: The net
D: Centre line: the middle of the court
E: Service line: where a rally is started
F: Right-side service box
G: Left-side service box



THEORY IN ACTION

Athletes with good **Agility** keep their entire body under control throughout. Agility is especially important in sports that require a sharp movement or turn. i.e. returning a shuttle in badminton.

DEFINE THIS

"Agility is the ability to change the position of the body quickly and with control."

FOOTBALL

THEORY IN ACTION

Femur

Patella

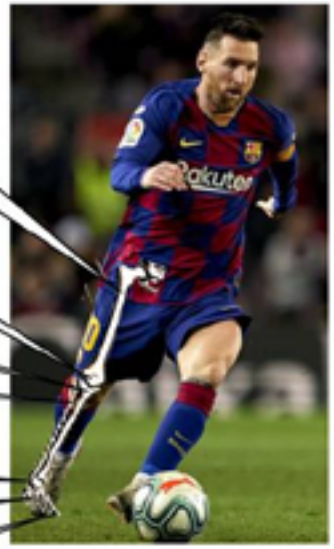
Tibia

Fibula

Tarsals

Meta-tarsals

Phalanges



Balance can be static *i.e. handstand* or dynamic *i.e. dribbling around defenders.*

DEFINE THIS

"Balance is the ability to stay upright or stay in control of body movement."

Overview of the rules

1. A football match is played by two teams, with each allowed no more than 11 players on the field.
2. All players must use their feet head or chest to play the ball. Only the goalkeeper is allowed to use their hands, and only within their *designated goal area (box A)*.
3. The aim of the game is to outscore the opposition. A goal (score) is achieved by kicking or heading the ball into the *opposition team's goal (B)*.
4. If the ball touches or crosses the *side line (C)*, it is thrown back in by the team that was not the last to touch the ball.
5. The game is controlled by a central referee. They award free kicks and penalties when rules are broken.
6. A player is in an **offside** position if, when the ball is played by a team-mate, they are nearer to the opposition's goal line than the ball and the second last opponent.

RUGBY

Overview of the general rules

Rugby has may variations but the aim of the game is very simple - use the ball to score more points than the other team.

1. Scoring a "try". A try is scored when the ball is placed down on the playing surface with pressure in the in goal area by the attacking team.

2. Moving the ball. To move the ball toward the line you can run with it, kick it and pass it. However, passing or knocking the ball *forwards* (unless kicked) is not allowed.

3. Kicking . Kicking is allowed but must kicked from the hands and not while the ball is on the floor.

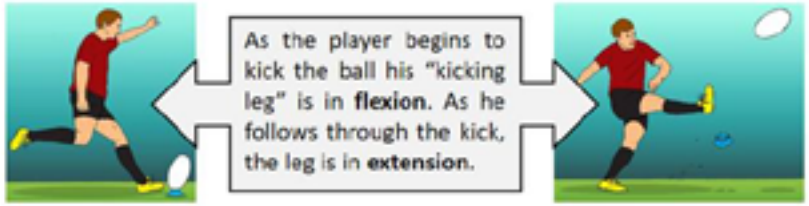
4. Offside. Players are not allowed to receive the ball if they were in front of the ball when it was passed or kicked.

5. Penalties. A penalty can be awarded by the referee if any player breaks the laws of the game, this will lead to a turnover of possession. The opposition can choose to tap and run, tap and pass or kick to resume the game.

6. Starts and re-starts. If the ball goes out of play the ball is passed back in by the opposition. The ball is kicked from the half way line forward at the start of the match and after each try.

1. Tackling rules:
2. The tackler must grasp/ wrap the ball carrier below the armpits, on the shirt, shorts or around the legs. The grasp must be simultaneous with, or prior to, shoulder contact.
3. The tackler must not shoulder barge their opponent.
4. When a tackle is called the player can pass the ball to team mate or present the ball on the ground for a team mate.
5. If the ball is presented or loose, then a defending player may make an attempt to claim (turn over) the ball.
6. TOUCH VERSION – use two hands to touch the player at the waist. They then have 2-3 seconds to pass or present the ball.

THEORY IN ACTION



As the player begins to kick the ball his "kicking leg" is in **flexion**. As he follows through the kick, the leg is in **extension**.

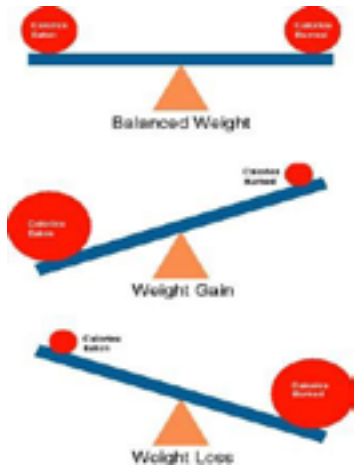
DEFINE THIS

Flexion – a decrease in the angle at the joint.

Extension – an increase in the angle at the joint.

Nutrition and Balanced Diet

Carbohydrates	Provides quick energy. 60% of our diet should comprise 'carbs'.	Running. Athletes in training will eat more 'carbs'. Marathon runners will 'load' (build up stores of fuel in the muscles by resting and eating lots of pasta etc) for three days before the event.	Pasta cereals and potatoes
Fats	Provides slow energy. 25% of our diet should be fat.	Walking and low impact exercise - it produces energy too slowly to be used when working hard.	Oils, dairy products, nuts and fish
Protein	Builds and repairs muscle. We only need 15% of our diet to be protein.	When training hard and recovering from injury. 'Power' athletes such as weight lifters will eat more protein.	Meat, pulses and fish
Vitamins	Helps the body work. Helps concentration.	Staying calm, making quick decisions.	Fresh fruit and vegetables
Minerals	Helps release energy from food. Helps decision making.	When training hard and competing.	Fruit, vegetables and fish
Fibre	Can't be digested. Fills you up and keeps you 'regular'.	Healthy digestion, (no constipation) helps in sport. Also helps with weight control.	Fresh fruit, vegetables and wholegrain cereals
Water	Maintains fluid levels.	Whenever you sweat. It prevents dehydration.	The top! It's all you need most of the time.



A **Balanced Diet** is one that contains the correct proportions of nutrients necessary to maintain good health".

Health, Fitness and Wellbeing

Physical Health	Emotional Health	Social Health
Cardiovascular Fitness: your ability to exercise your whole body for long periods of time, sometimes called stamina or aerobic endurance **Body Composition:** the percentage of body weight that is muscle, bone or fat **Muscular Strength:** the amount of force a muscle can exert against a resistance **Muscular Endurance:** the ability to use voluntary muscles many times without getting tired **Flexibility:** the total range of motion possible at a joint.	**Feeling Good:** doing exercise produces serotonin, a 'feel good' chemical in the body **Relieving Stress & Tension:** provide a distraction from the problems of daily life **Increasing Self Esteem & Confidence:** overcoming a challenge in sport gives a sense of achievement **Enjoyment:** most people who exercise and play sport do so because they enjoy it **Emotional/Psychological Challenge:** challenging yourself can boost your confidence **Aesthetic Appreciation:** enjoying something because it is pleasing to look at	**Cooperation:** working in groups helps to improve teamwork and communication **Developing Friendships & Social Mixing:** you get to know more people, make new friends and develop lasting friendships **Gaining a Good Attitude to Competing:** to compete well in sport you need to have a strong sense of self; and learn to respect your opponent

Health, Fitness and Wellbeing

Fitness: the ability to meet the demands of the environment
Wellbeing: being comfortable, healthy & happy so impacting on emotional/psychological health and happiness
Health: a complete state of physical, mental and social wellbeing, not merely the absence of disease or infirmity.

Types of Movement and Muscle Action

- **Flexion-** bending and decreasing the angle at a joint e.g. performing a bicep curl.
- **Extension-** straightening and increasing the angle at a joint e.g. when throwing/ releasing a dart.
- **Adduction-** moving a limb towards the centre line of the body e.g. when jumping up to do a star jump.
- **Abduction-** moving a limb away from the centre line of the body e.g. when returning back to the ground at the end of a star jump.

Classification of joint

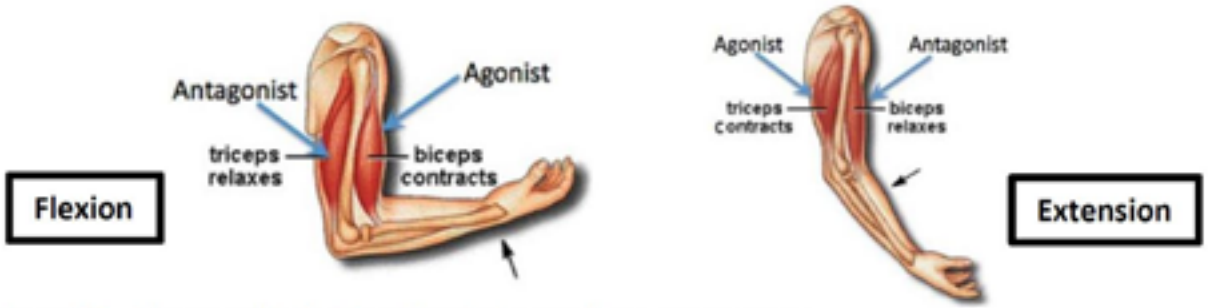
- Pivot (neck – atlas and axis)
- Hinge (elbow and knee)
- Ball and socket (hip and shoulder)
- Condyloid (wrist)

Connective tissue

Ligaments – attaches bone to bone to add joint stability.

Tendons – attaches muscles to bone and contributes to joint movement as a result of muscle contraction.

Antagonistic pairs - Muscles are arranged in antagonistic pairs.
As one muscle contracts (shortens) its partner relaxes (lengthens) *i.e. Biceps and Triceps.*



Agonist = the muscle that contracts to produce movement.
Antagonist = the muscle that relaxes to allow the movement to occur.

Examples in the body:

- Biceps & Triceps
- Quadriceps & Hamstring

Effects of Exercise

Immediate effects of exercise (during exercise)	• hot/sweaty/red skin • increase in depth and frequency of breathing • increased heart rate.
Short-term effects of exercise (up to 36 hours after exercise)	• tiredness/fatigue • light headedness • nausea • aching/delayed onset muscle soreness (DOMS)/cramp.
Long-term effects of exercise (months and years of exercising)	• body shape may change • improvements in specific components of fitness • build muscle strength • improve muscular endurance • improve speed • improve suppleness • build cardio vascular endurance • improve stamina • increase in the size of the heart (hypertrophy) • lower resting heart rate (bradycardia).

PSHE - Human Rights and Bullying

Define:
Human Rights
Human rights are the basic rights and freedoms that belong to every person in the world, from birth until death. They apply regardless of where you are from, what you believe or how you choose to live your life.

Define:
Prejudice
Making a pre judgment which is not based on reason or experience. Prejudices are usually based on stereotypes.

Define:
Discrimination
Discrimination is when people act upon their own prejudices.

Define:
UNICEF
The United Nations International Children's Fund is a United Nations agency responsible for providing humanitarian and developmental aid to children worldwide

Needs/Rights	Wants
-Decent shelter -Nutritious food -Protection from abuse and neglect -Education -Fair treatment and non-discrimination -Clean air -Opportunities to share opinions -Playgrounds and recreation -Clean water -Opportunities to practise your own culture, language and religion	-Clothes in the latest style -A bicycle -Holiday trips -Your own bedroom -A personal computer or tablet -A television -Bluetooth speakers -Money to spend as you like -Fast food

Immigrants, asylum seeker and refugees

-An **immigrant** is someone who wants to move to a different country for a better standard of living. Factors that could pull someone to a different country are; Economic prospects (job, business opportunities), education, living conditions, weather, human rights.

-A **refugee** is a person who is pushed or forced out of their own country due to fear or persecution, or war and they may be in fear of their life. Refugees usually take long dangerous journeys to get to safety.

-An **asylum seeker** is an individual who is a refugee who has to apply for asylum (safety) in the country that they travel to. They often have to stay in special centres before they are granted asylum and are allowed to move freely within that country.

Common Characteristics that are discriminated against
-Gender
-Age
-Race
-Religion
-Ethnicity
-Politics
-Sexuality
-Wealth
-Language
-Birthplace
-Weight
-Hair colour
-Nationality
-Opinions
-Traditions
-Clothes
-Differences

Prejudice and discrimination in the world

-**The Holocaust**
Millions of Jewish people were murdered because of their religion. Other minorities were also killed. Gay men and women, travellers, black people, disabled and mentally ill people, political figures and many others.

-Islamophobia
Muslims across the world are continuously discriminated against and treated poorly because of peoples assumptions that they are a terrorist. Islamic terrorists make up a very small number of Muslims.

-Sexism
Women in the UK were not allowed to vote until 1917, but only if they were over 30 and married to a homeowner. Women were able to vote the same as men in 1928

PSHE - British Values and Prevent

Define:
British Values
Fundamental British Values to reflect life in modern Britain.
These 4 fundamental British values are:

Democracy
Rule of Law
Respect & Tolerance
Individual Liberty

Define:
Terrorist
A person who uses unlawful violence and intimidation, especially against civilians, often in the pursuit of political aims.

Define:
Prevent
A strategy to prevent young people from being radicalised and drawn into terrorist activities.

Define:
Extremism
Literally means driving (something) to the limit, or to the extreme.
Today, the term is mostly used to refer to extreme political or religious matters.

What does a terrorist look like?
A terrorist can look like anyone, often due to the media we have a very narrow view of what a terrorist looks like and often assume they are Muslim. In fact, many terrorist are not Muslim and they are born in the country they attack. There are many reasons why people commit terrorist attacks and not all of them are not motivated by religion.

Why do people commit acts of terrorism?
-Because they don't agree with specific Laws
-Out of retaliation for attacks on their members/people
-Because they want to change the government
-As revenge for perceived or real injustice
-Because they want religious freedom
-Because they want to be independent from the rest of the nation

Key Words for this term;

Jihad……struggle
Ummah……community
Allah……God
Dukkah……suffering

If you cover the answer, you can test yourself.

Is Islam a religion of peace?

Yes
Zakah
v. small % are terrorists
Are all Christians perfect?
Red Crescent
Lesser jihad is misunderstood

No
Some are terrorists

Jihad is 'struggle' but there are two types of jihad. Greater jihad is the struggle within yourself to become a better Muslim and Lesser jihad is the physical struggle sometimes called 'holy war'. Terrorism is a misinterpretation of what jihad really is which is a defence of Islam.

Muslim identity is defined by the ways in which a Muslim follows the customs and practices of the religion.

Ummah

Because Islam is a worldwide faith, Muslims use the term **ummah** for the worldwide community of Islam. This term means that all Muslims, regardless of where they live in the world, are all members of a worldwide faith

YR8 Knowledge Organizer for self-quizzing
Autumn

Is Ramadan Jihad?

Yes, because it is a mental and physical struggle why?

No, because it is something you have opted to do and you shouldn't have to struggle

What rules of lesser jihad did 9/11 break?

Ramadan is fasting. No food, drink, swearing, sex or sinful behaviour during daylight hours for one month.

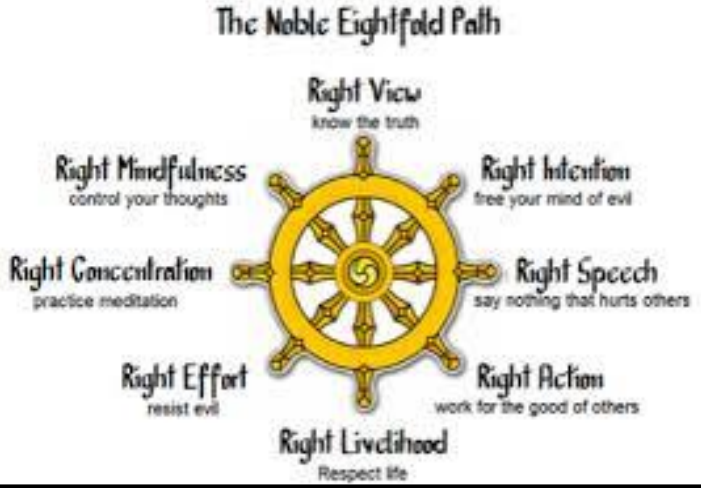
If Christianity, Islam and Judaism are monotheistic religions which believe in one God, the only God, Buddhism is different in that there is no mention of god at all, it is more of a philosophy and a way to lead your life giving everyone the best outcome.

Key Word

Dukkha; suffering (it's a mistake to think we can rid ourselves of suffering). We have to know how to deal with it.

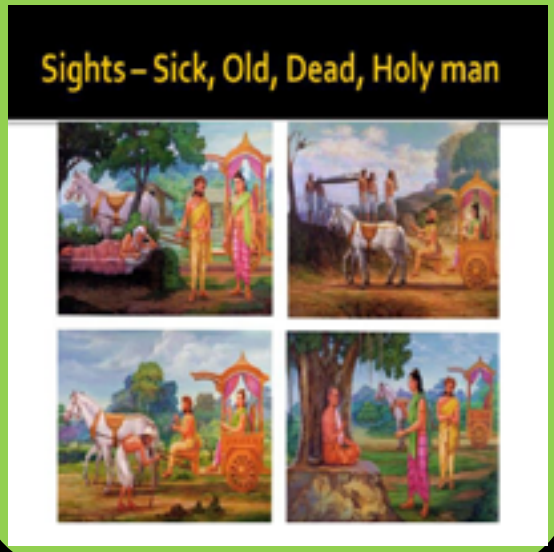
YR8 Knowledge Organizer for self-quizzing
Autumn

1. Suffering, pain and misery exist. Accept it
2. Suffering is caused by selfish craving and personal desire.
3. Selfish craving and personal desire can be overcome.
4. The way to overcome this misery is through the Eightfold Path.



A man traveling along a path came to a great expanse of water. As he stood on the shore, he realized there were dangers and discomforts all about. But the other shore appeared safe and inviting.
The man looked for a boat or a bridge and found neither. But with great effort he gathered grass, twigs and branches and tied them all together to make a simple raft. Relying on the raft to keep himself afloat, the man paddled with his hands and feet and reached the safety of the other shore. He could continue his journey on dry land.
Now, what would he do with his makeshift raft? Would he drag it along with him or leave it behind? He would leave it, the Buddha said. Then the Buddha explained that the dharma is like a raft. It is useful for crossing over but not for holding onto.

The Buddha was born a privileged prince and never knew any form of hardship because he had never left his palace. When he did eventually leave *what did he see? Why was it a shock?*



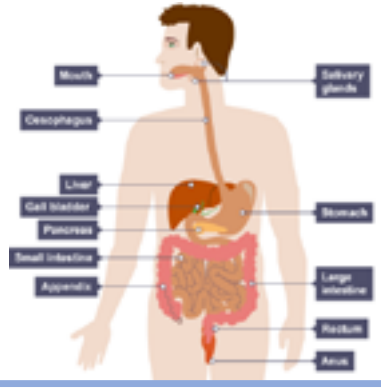
Science - Biology - Digestion

Section 1 Definitions

Keyword	Definition
Digestion	The breakdown of large insoluble food molecules into smaller soluble ones.
Digestive System	Organ system involved in breaking food down so that it can be absorbed into the bloodstream.
Absorbed	When a substance is taken in by something or moved across a barrier such as a cell membrane.
Amylase	An enzyme that can break down starch into simple sugars.
Lipase	Enzyme that breaks down lipids (fats & oils).
Carbohydrase	Enzyme that breaks down carbohydrates.
Protease	Enzyme that breaks down proteins.
Enzyme	A protein which catalyses or speeds up a chemical reaction.
Surface Area	The area of the surface of an organism or membrane.
Villi	Finger-like projections in the small intestine that provide a large surface area for the absorption of food.
Capillary	Tiny blood vessels with walls one-cell thick where exchange of materials occurs.
Bile	Substance produced in the liver. It emulsifies fats to prepare them for digestion.
Pancreas	Produces biological catalysts called enzymes which speeds up the digestive reactions.
Excretion	Process by which waste products from chemical reactions in an organism are removed.

Section 2 The digestive system

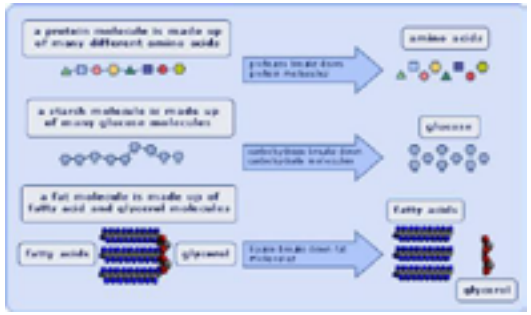
Food has to be broken down into smaller substances that our bodies can use.
This is called **digestion**



Organ	Function
Oesophagus	Also known as the gullet. Connects the mouth to the stomach. Food is pushed down using contractions of muscles.
Liver	Production of bile.
Stomach	Churns and mixes the food with hydrochloric acid and enzymes.
Pancreas	Produces biological catalysts called enzymes which speeds up the digestive reactions.
Small Intestine	Absorption of digested food into the bloodstream, production of enzymes to aid digestion.
Large Intestine	Absorption of excess water.
Rectum	Storage of faeces (undigested material) before excretion.
Anus	Where faeces are excreted (removed from the body).

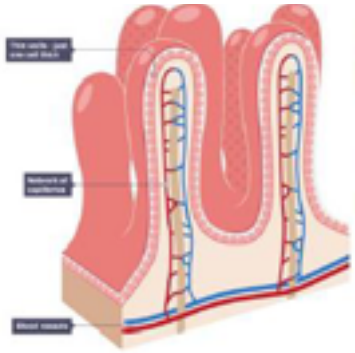
Section 3 Enzymes

Enzymes are not living things. They are special proteins that can break large molecules into smaller molecules.



Systems - digestion

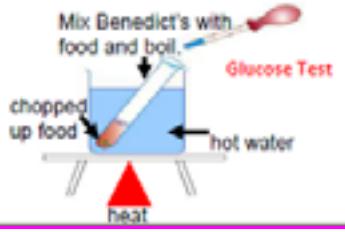
Section 4 Adaptations of the small intestine.

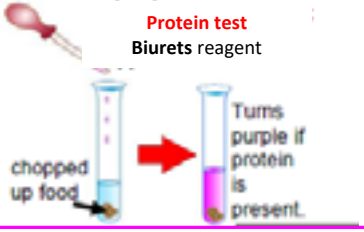


The small intestine is adapted for efficient absorption of digested food into the blood stream by:

- Having a very large surface area.
- Surrounded by lots of blood capillaries.
- Thin walls (1 cell thick) for faster absorption.

Section 5 Food tests





Science - Biology - Interdependence & Photosynthesis

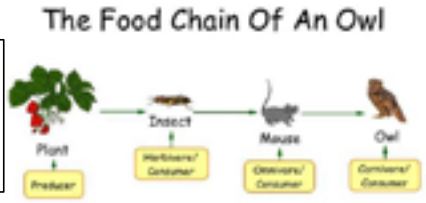
Section 1 Definitions		
1	Habitat	A place where an organism lives
2	Adaptation	A structure or a function that allows a living organism to survive in a given habitat
3	Ecosystem	
4	Food chain	Part of a food web, starting with a producer, ending with a top predator.
5	Food web	Shows how food chains in an ecosystem are linked.
6	Predator	An animal that hunts and eats another animal for food
7	Prey	An animal that is eaten for food
8	Population	Group of the same species living in an area.
9	Competition	When two or more living things struggle against each other to get the same resource.
10	Producer	Green plant or algae that makes its own food using sunlight.
11	consumer	Animal that eats other animals or plants.
12	Photosynthesis	A process where plants and algae turn carbon dioxide and water into glucose and release oxygen.
13	Mineral	A chemical needed by an organism as an essential nutrient for healthy living.
14	Fertilizer	Chemicals containing minerals that plants need to build new tissues
15	Pollutant	A substance or condition that contaminates air, water, or soil.

Interdependence and photosynthesis

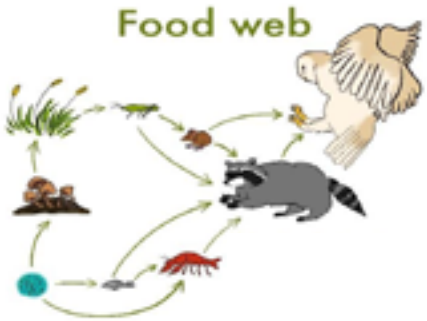
Section 2 Food chains and webs

Every living plant and animal must have energy to survive. Plants rely on the soil, water, and the sun for energy. Animals rely on plants as well as other animals for energy.
In an ecosystem, plants and animals all rely on each other to live. Scientists sometimes describe this dependence using a food chain or a food web.

A food chain shows the path of energy from one living thing to another



A food web shows the transfer of energy within the whole ecosystem

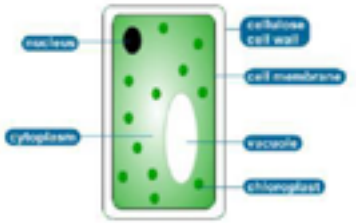


Section 3 Adaptations

Predator adaptation	Prey adaptation
Good eyesight / eyes at front of head	Good eyesight (eyes on side of head for wide vision)
Strong muscles – strength and speed	Speed
Sharp beaks / claws / talons	Good senses eg hearing
camouflage	Camouflage and mimicry
Poisonous venom	Warning colours and patterns

Section 4 Producers and photosynthesis

Green plants and algae do not need to eat food to gain energy. Instead they make their own food by a process called photosynthesis.
Photosynthesis takes place inside plant cells in organelles called chloroplasts. Chloroplasts contain a green pigment called chlorophyll. This absorbs the light energy from the sun needed for photosynthesis



Plants use raw materials from the environment: carbon dioxide from the air , water from the soil and light energy from the sun.
The raw materials are converted to glucose (food) and oxygen (waste gas)

Plants also need essential minerals for healthy growth

If plants do not get the correct minerals they become **deficient.** This affects their growth

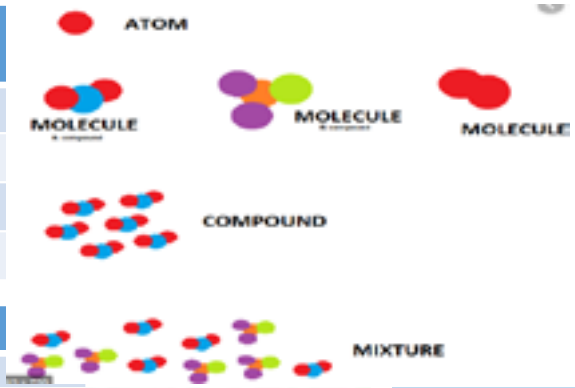
Nitrates	Contain nitrogen for proteins needed for growth and repair
Phosphates	Contains phosphorus for healthy roots
Potassium	Potassium for healthy leaves and flowers
magnesium	To make chlorophyll for photosynthesis

Science - Chemistry - Mixtures

Elements, Compounds and Mixtures Recap	Definition
1. Element	Made up of the same type of atoms
2. Compound	2 or more DIFFERENT atoms chemically bonded together
3. Mixture	2 or more different substances NOT chemically bonded together
4. Molecule	2 or more atoms chemically bonded together

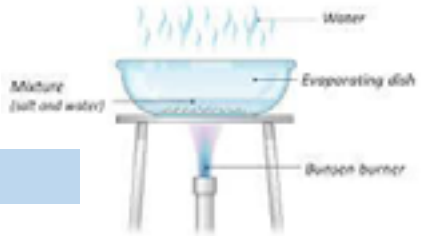
Pure and Impure Substances	Definition
5. Pure	Made up of one substance has a sharp melting point
6. Impure	Made up of different substances has a gradual melting point

Separation Techniques	Definition
7. Filtration	Separates an insoluble solid from a solvent
8. Soluble	Dissolves in water
9. Insoluble	Will not dissolve in water
10. Solvent	Liquid part of solution
11. Solute	What dissolves in the solvent usually a solid e.g. salt, sand, sugar
12. Solution	Solvent + Solute make a solution
13. Evaporation	Water is evaporated from a soluble solution e.g. salt water leaves salt
14. Distillation	A mixture of liquids with 2 different boiling points are heated until the lower boiling point condenses and is collected first.
15. Chromatography	Soluble mixture is separated out into different heights on the filter paper
16. Hydrocarbon	Molecules made of hydrogen and carbon only
17. Fractions	Different chain lengths of hydrocarbons with different boiling points
18. Crude oil	A mixture of hydrocarbons fractions with different boiling points
19. Fractional Distillation	Separates crude oil into different fractions in a fractionated column
20. MEPB	Monkeys (Methane, CH_4) eat (Ethane, C_2H_6) peeled (Propane, C_3H_8) bananas (Butane, C_4H_{10})

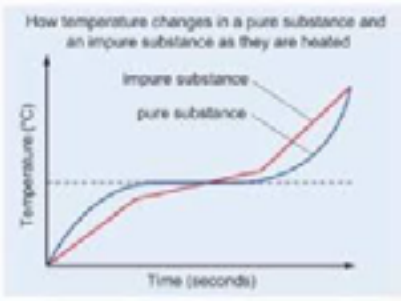


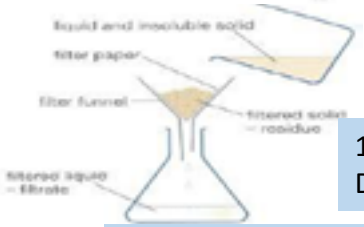
Mixtures and separating techniques

13. Evaporation



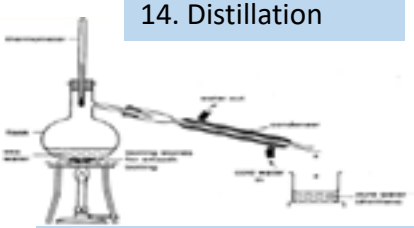
7. Filtration

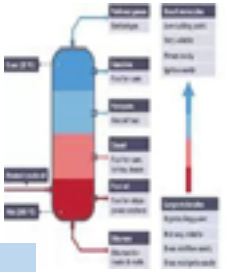




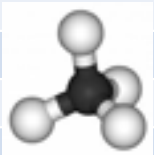
19. Fractional Distillation

14. Distillation

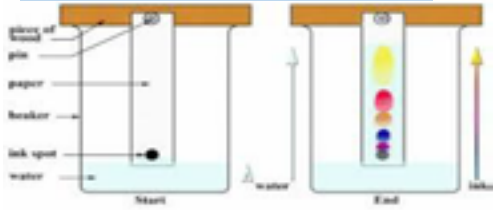




20. Methane

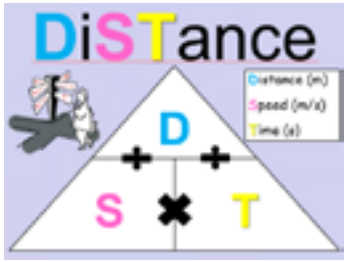


15. Chromatography

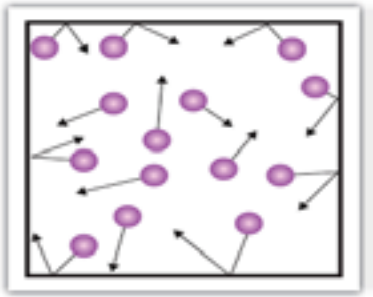


Motion

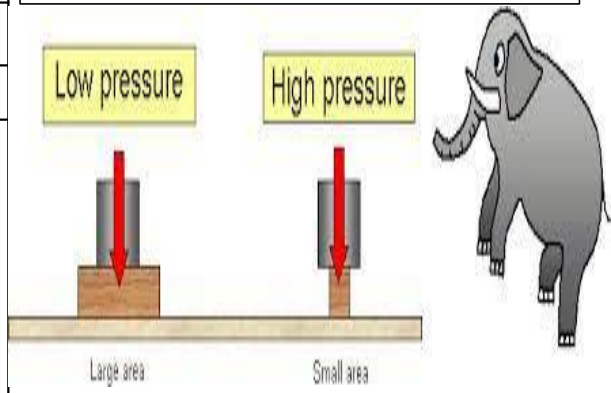
Section 1 – Calculating speed	
1 Speed	How far something travels in a particular time. Measured in metres per second (m/s)
2 Calculating speed	Speed (m/s) = distance travelled (m) / time taken (s)



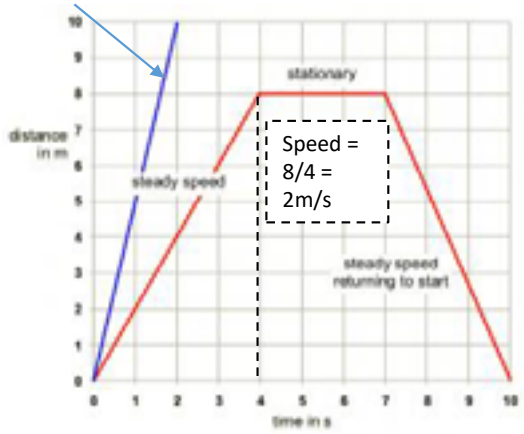
Section 3 – Gas Pressure	
1 Pressure	Force exerted over a given area
2 Volume	Quantity of space an object fills up
3. Temperature	Measure of average heat energy



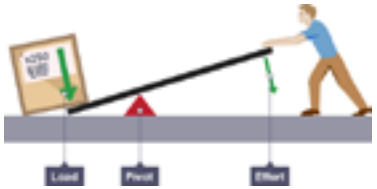
Pressure (N/m^2) = $\frac{\text{Force (N)}}{\text{Area } (m^2)}$

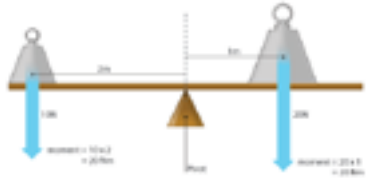


Section 2 - Motion graphs		
1. Distance – time graph	A graphical way of showing how something moves, distance on the y axis, time on the x axis	Steeper gradient = faster speed
2. Gradient	The gradient on a distance time graph shows you the speed it was travelling. Horizontal = stationary, steeper = faster.	
3. Acceleration	Shown on a distance – time graph as a curved line	
4. Finding speed	**Can be calculated from a distance – time graph by finding the gradient of the line. (y ÷ x)**	



Section 4 – Levers and Moments	
Lever	Used to make things turn. Consists of a pivot, effort and load
Pivot	The point around which something can rotate or turn
Effort	The force used to move the load
Load	The force exerted by the object being moved
Moment	The turning effect of a force
Calculating a moment	Moment (Nm) = Force (N) x Distance (m)
How to increase the moment	• Increase the distance from the pivot • Increase the force applied





Spanish Y8- Mis Vacaciones

De vacaciones	On holiday
¿Adónde fuiste de vacaciones?	Where did you go on holiday?
En año pasado	Last year
El verano pasado	Last month
Fui a…	I went to
¿Con quién fuiste?	Who did you go with?
Fui con…	I went with…
Mis amigos	My friends
Mi clase	My class
Mis padres	My parents
Fui en…	I went by…
Fuimos en…	We went by…
Autocar	Coach
Avión	Plane
Barco	Boat
Coche	Car
Tren	Train
No fui en vacaciones…	I did not go on holiday

¿Qué hiciste?	What did you do?
Bailé	I danced
Compré una camiesta	I bought a t-shirt
Descancé en la playa	I relaxed on the beach
Mandé SMS	I sent texts
Monté en bici	I rode my bike
Nadé en el mar	I swam in the sea
Saqué fotos	I took photos
Tomé el sol	I sunbathed
Visité monumentos	I visited monuments
No nadé	I did not swim
Bebí una limonada	I drank a lemonade
Comí paella	I ate paella
Conocí a la gente	I met people
Salí	I went out

Palabras muy frecuentes		High frequency words	
En	In	Todos los días	Everyday
Con	With	A veces	Sometimes
Mi/mis	My	Fue	It was
Pero	But	Es	It is
Siempre	always	Nunca	never

¿Cómo te fue?		How was it?	
Fue divertido	It was fun	Fue raro	It was stange
Fue estupendo	It was amazing	Me gustó	I liked it
Fue fenomenal	It was fenomenal	Me encantó	I loved it
Fue flipante	It was great	¿Por qué?	Why?
Fue genial	It was great	Porque	Because
Fue guay	It was cool	Hizo buen tiempo	It was good weather
Fue regular	It was alright	vomité	I vomited
Fue un desastre	It was a disaster	Comí algo mal	I am something bad
Fue horrible	It was horrid	Llovió	It rained
Fue horroroso	It was horrendous	Perdí mi móvil	I lost my phone

Spanish - Todo Sabre Mi Vida- Part 1

Spanish Y8- Todo sobre mi Vida (1)

¿Qué haces con tu móvil?	What do you do with your phone?
Chateo con mis amigos	I chat with my friends
Comparto vídeos	I share videos
Descargo melodías	I download melodies
Descargo canciones	I download songs
Hablo por Skype	I talk on Skype
Juego a los videojuegos	I play videogames
Leo mis SMS	I read my texts
Mando SMS	I send texts
Escribo SMS	I write texts
Veo vídeos	I watch videos
Veo películas	I watch films
Escucho música	I listen to music
Navego por internet	I surf the net
Busco información	I look for information
Hago mis deberes	I do my homework

¿Con qué frecuencía?	How often?
Todos los días	Everyday
De vez en cuando	From time to time
A veces	Sometimes
nunca	Never

¿Qué tipo de música te gusta?	What type of music do you like?
El rap	Rap
El R'n'B	R'n'B
El rock	Rock
La música clásica	Classical music
La música electrónica	Elctronic music
La música pop	Pop music
¿Qué tipo de música escuchas?	What music do you listen to?
Escucho…	I listen…
Escucho la música de…	I listen to the music of
Escucho de todo	I listen to everything

Opiniones	Opinions
Me gusta	I like
Me gusta mucho	I really like
Me encanta	I love
No me gusta	I don't like
No me gusta nada	I really don't like
Odio	I hate
Detesto	I detest
La letra	The lyrics
La melodía	The melody
El ritmo	The rhythm
Porque es guay	Because it is cool
Porque es triste	Because it is sad
Porque es horrible	Because it is horrid
Mi canción favorita	My favourite song
Mi grupo favorito	My favourite group
En mi opinión	In my opinion

Me gustan las comedias	I like comedies
Un programa de música	A music programme
Un programa de deportes	A sports programme
Un concurso	Competition
Un documental	Documentary
Un reality	Reality TV
Una comedia	Comedy
Una serie policíaca	Police tv show
Una telenovela	Soap opera
El telediario	The news
Más… que…	More… than…
Menos… que…	Less… than….
Divertido/a	Fun
Informativo/a	Informative
Interesante	Interesting
Aburrido	Boring
Emocionante	Exciting
Gracioso/a	Fun

Spanish Y8- Todo sobre mi Vida (2)

¿Qué hiciste ayer?	What did you do yesterday?
Bailé en mi cuarto	I danced in my room
Fui al cine	I went to the cinema
Hablé por Skype	I talked on Skype
Hice gimnasia	I did gymnastics
Hice mis deberes	I did my homework
Hice kárate	I did karate
Jugué en línea con mis amigos	I played online with my friends
Jugué tres horas	I played for 3 hours
Monté en bici	I rode my bike
Vi una película	I watched a film
Salí con mis amigos	I went out with my friends
No hice los deberes	I did not do homework
Ayer	Yesterday
Luego	Later/then
Por la mañana	In the morning
Por la tarde	In the afternoon

Palabras muy frecuentes		High frequency words	
Así que	So (that)	No	No/not
Más… que…	More than	Nunca	Never
Menos… que…	Less than	O	Or
Mi/mis	my	Porque	Because
Su/sus	His/her	También	Also
Normalmente	Normally	y	And

Estrategia 2

The gender of nouns

You can often work out whether a noun is masculine or feminine by looking at the ending of the word:

Most nouns ending in **-o**, **-or** and **-ón** are masculine.
Most nouns ending in **-a**, **-dad**, **-ión** and **-ción** are feminine.

But be careful! There are exceptions, for example:
el problema, **la foto**

To check, use a dictionary: look for the abbreviations *nm* (masculine noun) and *nf* (feminine noun).

Can you work out the gender of these nouns from Module 2 without using a dictionary?

- actividad
- concurso
- televisión
- música
- canción
- amigo
- aplicación
- millón

Spanish - Tenses - El Presente

Spanish Y8- El Presente

Verbos Claves	Key Verbs
Me llamo	My name is
Soy	I am
Es	He/she is
Somos	We are
Son	They are
Tengo	I have
Tiene	He/she has
Tienen	They have
Hago	I do
Juego	I play
Está	It is (location)
Voy	I go
Me gusta	I like
Me encanta	I love
Odio	I hate
Vivo	I live

Los verbos -AR		AR Verbs
Yo	I	O
Tú	You	As
Él/ella	He/she	A
Nosotros	We	Amos
Vosotros	You (pl)	Áis
Ellos/ellas	They	an

Los verbos -ER		ER Verbs
Yo	I	O
Tú	You	Es
Él/ella	He/she	Es
Nosotros	We	Emos
Vosotros	You (pl)	Éis
Ellos/ellas	They	En

Los verbos -IR		IR Verbs
Yo	I	O
Tú	You	Es
Él/ella	He/she	E
Nosotros	We	Imos
Vosotros	You (pl)	Ís
Ellos/ellas	They	En

Spanish - Tenses - El Preterito

Spanish Y8- El preterito

Verbos Claves	Key Verbs
Fui	I went
Fue	It was
Comí	I ate
Bebí	I drank
Estuve	I was (location)
Tuve	I had
Hizo buen tiempo	It was good weather
Hizo mal tiempo	It was bad weather
vi	I saw
Jugué	I played
Jugó	He/she played
Nadé	I swam
Bailé	I danced
Conocí	I met
Visité	I visited
compré	I bought

Los verbos -AR		AR Verbs
Yo	I	É
Tú	You	Aste
Él/ella	He/she	Ó
Nosotros	We	Amos
Vosotros	You (pl)	Asteis
Ellos/ellas	They	Aron

Los verbos -ER		ER Verbs
Yo	I	Í
Tú	You	Iste
Él/ella	He/she	Ió
Nosotros	We	Imos
Vosotros	You (pl)	Isteis
Ellos/ellas	They	Ieron

Los verbos -IR		IR Verbs
Yo	I	Í
Tú	You	Iste
Él/ella	He/she	Ió
Nosotros	We	Imos
Vosotros	You (pl)	Isteis
Ellos/ellas	They	Ieron

Spanish Y8- Near future

The steps	
Use the verb 'ir' and decide who is going to be speak	**I – voy**
Followed by the Word 'a'	a
Followed by the infinitive	Comer

IR		IR
Yo	I	Voy
Tú	You	Vas
Él/ella	He/she	Va
Nosotros	We	Vamos
Vosotros	You (pl)	Vais
Ellos/ellas	They	Van

+ a +

Voy a comer – I am going to eat
Va a visitar – he/she is going to visit

Los infinitivos	Infinitives
Comer	To eat
Beber	To drink
Jugar	To play
Ir	To go
Mandar	To send
Ver	To watch
Visitar	To visit
Aprender	To learn
Hablar	To speak
Salir	To go out
Tener	To have
Ser	To be
Estar	To be (location)
Nadar	To swim
Bailar	To dance
vivir	To live

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