



Harrow Way
Community School
Learning for life, success for all

Year 7 Knowledge Organiser

Autumn Term





How do I complete Knowledge Organiser Homework?

Link to self-quizz 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

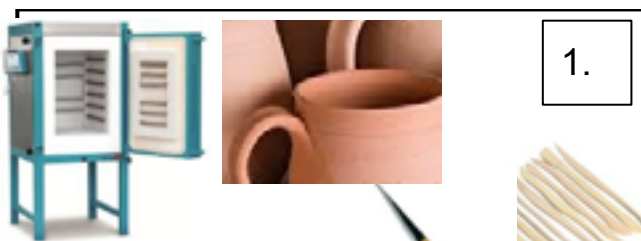
Repeat steps 3-5 again until
you are confident.
You will need to bring your
self-quizzing book in every
day and your teacher will
check your work.
You will be tested in class.


Knowledge Organiser - YEAR 7 - AUTUMN TERM



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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

1.

Literacy focus

2.

Formal elements
Symmetry
Background
Midground
Foreground
Zentangle
Proportion
Monochrome
Relief
Rosalind Monks
Pattern
Monochrome

Artist focus

3.

Rosalind Monks

<https://www.rosalindmonks.com/>



Year 7 Project 1
INSECTS + BUGS
Autumn Term

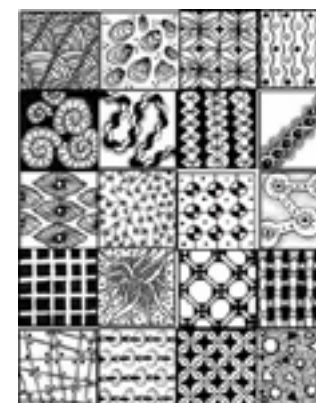
4.



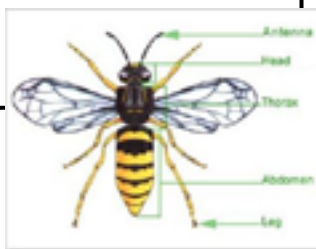
Genre focus

6.

Zentangles This is an easy-to-learn, relaxing, and fun way to create beautiful images by drawing structured patterns. We call these patterns, tangles. You create tangles with combinations of dots, lines, simple curves, S-curves and orbs. These simple shapes are the "Elemental Strokes" in all Zentangle art.



5.



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



Cool colours painting



Warm colours painting



ADJECTIVES TO DESCRIBE COLOURS

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

4

Primary	+	Secondary	=	Tertiary
YELLOW	+	ORANGE	=	YELLOW-ORANGE
RED	+	ORANGE	=	RED-ORANGE
RED	+	VIOLET	=	RED-VIOLET
BLUE	+	VIOLET	=	BLUE-VIOLET
BLUE	+	GREEN	=	BLUE-GREEN
YELLOW	+	GREEN	=	YELLOW-GREEN

TINT

is adding white to a colour



TOPE

is adding grey to a colour



SHADE

is adding black to a colour



3

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:

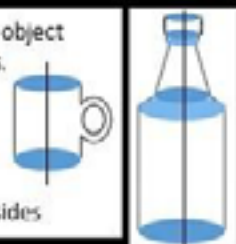
The circle found at the top and the base of a cylindrical object; i.e. bottle, cylinder, etc. Ellipse can also occur when the sides of the bottle change direction, i.e. get narrow or wide.



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)

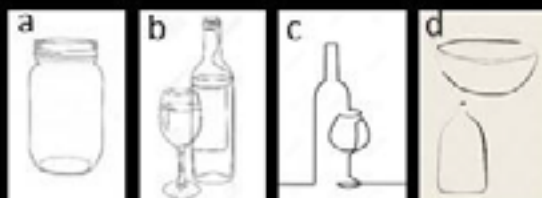
The rest of the space around or in between the object/s.



4 LINEAR DRAWING

A drawing using line only to:

- outline the shape of the object;
- to add detail;
- using continuous line (without lifting your pencil of the paper from start to finish,
- 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



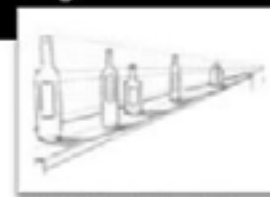
Cross-Hatching in 2, 3 or more directions



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.



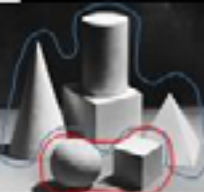
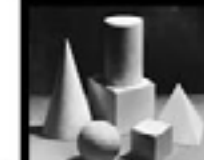
10 RANGE OF PENCILS:



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

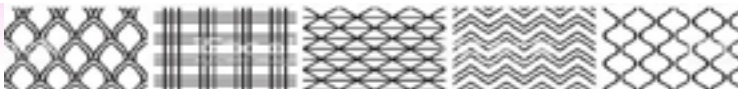
TINT
is adding white to a colour

TOPE
is adding grey to a colour

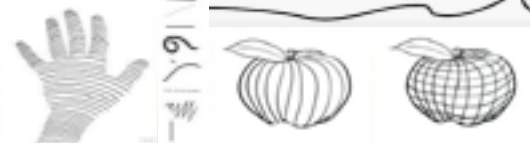
SHADE

Primary	+	Secondary	=	Tertiary
YELLOW	+	ORANGE	=	YELLOW-ORANGE
RED	+	ORANGE	=	RED-ORANGE
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BLUE	+	VIOLET	=	BLUE-VIOLET
BLUE	+	GREEN	=	BLUE-GREEN
YELLOW	+	GREEN	=	YELLOW-GREEN

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



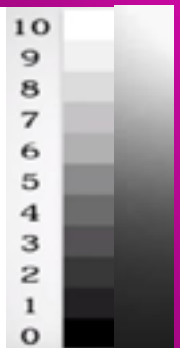
5 SHAPE is an area enclosed by a line. It could be just an outline or it could be shaded in. When drawing shapes, you must consider the size and position as well as the shape of the area around it. The space between the shapes is called **negative space**.



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.



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:



2 WATERCOLOUR:

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

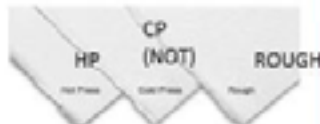


b) The art of painting with watercolours, especially using a technique of producing paler colours by diluting rather than by adding white.



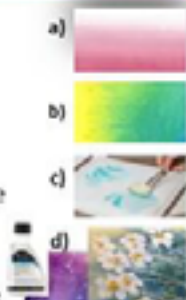
WATERCOLOUR PAPER:

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 white paper 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.

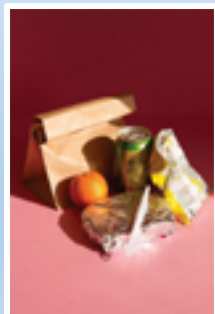


1. Types of Photography



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.

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 just by looking at the colours.

- Bold
- Vibrant
- Subtle
- Pale
- Earthy
- Naturalistic
- Harmonious
- Complementary

Movement

Movement is seen in every piece of art. Movement helps to create or define a piece of art.

- Swirling
- Flowing
- Dramatic
- Still

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

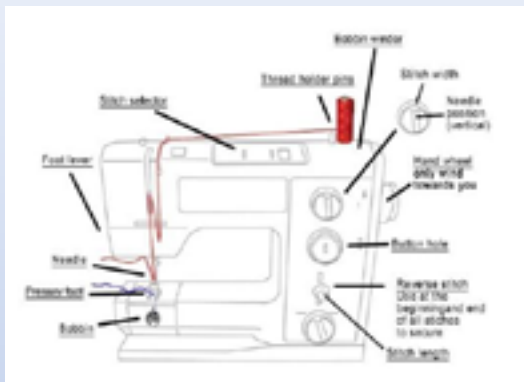
Line in art is similar to how a musician follows lines and creates expression using notes played for different lengths of time.

- Flowing
- Delicate
- Simple
- Bold
- Thick
- Thin

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

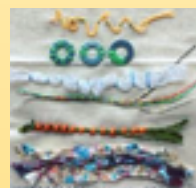
Handstitching

Needles/Pins - 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



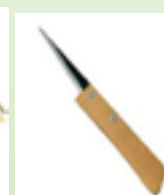
Applique



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

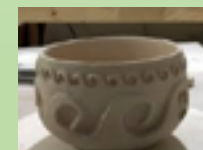
Board, guide sticks, rolling pin for rolling out clay to an even level

Tools = for joining

Slip = clay glue

Knives = for cutting only

7. Greenware



Pinch pot



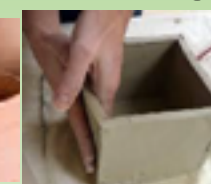
Coil pot



Bisqueware



Slab building



Glazing





Performing skills

Term	Definition
Timing	moving to the beat of the music and/or your group.
Energy	performing actions with the full amount of effort required.
Movement memory	remembering all of the movements.
Accuracy	making the correct shapes with your body.
Facial expressions	showing the mood of the dance through your face.
Extensions	Fully extending the legs, toes, arms and fingertips
Focus	being fully committed to the performance by ignoring distractions.
Flexibility	being able to perform a wide range of movements with ease.

Tier 2 vocabulary

Warm up
Leadership
Audience
Impact
Re-cap
Reflection

Choreography skills

Term	Definition
Actions	the dance movements.
Levels	the different heights the dancer reaches whilst performing.
Formations	the positions or shape that the dancers stand in.
Directions	the direction of travel or the way that the dancers are facing.
Transitions	linking one movement to another.
Dynamics	how the actions are performed.
Unison	same movements at the same time.
Canon	same movements performed one after another.

Tier 3 vocabulary

Sequence
Choreography
Rehearsal
Venue

Styles

Street dance often uses energetic and sharp movements whilst maintaining a low centre of gravity.

Contemporary is an expressive style of dance which often uses floor work, lifts, contractions and falls.

Genre

Narrative dance tells a story and has characters.

Abstract dance places importance on the movement rather than portraying a storyline.

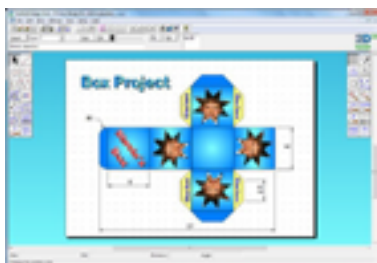
Year 7 Design and Technology Knowledge Organiser Steady Hand Game

Computer-aided design (CAD)

Computer-aided design (CAD) is about using computers to assist you, the designer, during the design process. It can help in a number of ways, for example you can produce a design in a variety of materials and you can rotate a design through 360 degrees on any axis. The designs can be manipulated and mirrored with a simple click of the mouse. Any area of a design can be viewed at a range of magnifications.



Examples of 2D and 3d CAD software



2D CAD software such as Techsoft 2d design can be used to design products such as packaging nets or panels for products. These can then be printed out or laser cut, then made into products.



3D CAD software such as Onshape or Tinkercad can be used to make 3d models of products. These can then be used as engineering drawings or made using 3d printers.

Input, process and output. Circuit components

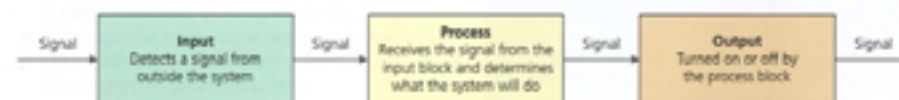
A system is a group of parts that work together to carry out a function. Almost all products that contain electronics and mechanical parts are systems. If you understand the blocks that make up a system and how these interact with each other, you will be able to design complex products quickly and easily.

Parts of a system

The simplest **system** has three systems blocks:

- The **input block** detects a signal from outside the system. For example, it could be a switch that detects movement or a sensor that detects light.
- The **process block** receives the signal from the input block and determines what the system will do. There are many different types of process block.
- The **output block** is turned on or off by the process block. Common output blocks produce light, movement or sound.

The systems blocks represent physical items – they might be individual components or groups of parts working as a sub-system. For example, the output block for an alarm could be a siren sub-system. The systems diagram for the alarm would include this sub-system as a single output block.



▲ A systems diagram

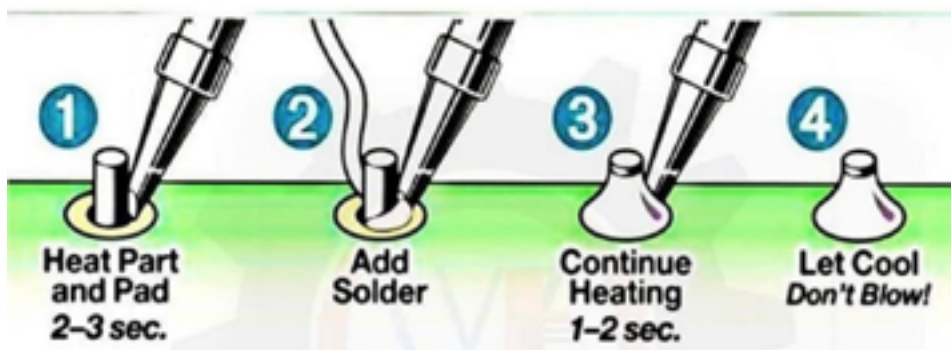
Year 7 Design and Technology Knowledge Organiser Steady Hand Game

Soldering

Soldering a process in which two or more items are joined together by melting and putting a filler metal (solder) into the joint, the filler metal having a lower melting point than the adjoining metal. Unlike welding, soldering does not involve melting the work pieces.

Method of soldering

The diagram below shows the correct steps you need to perform to solder an component into place



Soldering defects

The diagram below show the common defects that can happen when you are soldering.



Polymers

Approximately 5 million tonnes of polymer are used in the UK each year, according to government figures. This equates to approximately 1.5 kg per person per week. It is estimated that between 50 and 60 per cent of this is used only once before disposal.

Types of polymer

Thermoforming	Thermoforming plastics are a group of plastics that can be heated and formed into a shape. This type of polymer can be heated and formed more than once
Thermosetting	Thermosetting plastics are a group of polymer can be heated, and then set into shape. These polymers can only be heated and set once.

Some common thermoplastic polymers

Type	Properties	Typical uses
PMMA (poly(methyl methacrylate))	Known by the trade names Acrylic and Perspex Can be transparent Hard wearing and tough Softens between 85°C and 165°C	Plastic windows, both tubs
HDPE (high-density polyethylene)	Strong and stiff Softens at about 130°C	Pipes, buckets, bowls
PET (polyethylene terephthalate)	High strength and good toughness Heat resistant Softens at about 80°C	Drinks bottles, food packaging
HIPS (high-impact polystyrene)	Reasonable strength and good toughness Softens at about 90°C	Packaging
PLA (polylactic acid)	Reasonable strength but can be brittle Softens between 70°C and 80°C	3D printing, children's toys

D&T - Door Stop

Year 7 Design and Technology TEXTILES / DOOR STOP Knowledge Organiser

Fibres —Natural and Synthetic

How textiles are made

Textile fabrics are made from **fibres**. Fibres are very fine, hair-like structures that are spun or twisted into **yarns**. These yarns are then woven or knitted together to create fabrics. Different fibres can be mixed together to create improved fabrics.

There are two main types of fibre:

- **Natural fibres** come from plants and animals.
- **Synthetic fibres** (manufactured fibres) come from oil, coal or petrochemicals.



▲ The cotton boll (green pod) contains the plant seeds. The cotton fibre is found inside the boll, protecting the seeds.

Some common fibres

Type	Source	Properties	Uses
Cotton	Natural - cotton plant	Absorbent; strong; cool to wear; washable; flammable	Clothing; soft furnishings; bed sheets; sewing threads
Linen	Natural - flax plant	Absorbent; hard wearing; cool to wear; washable; flammable	Summer clothing, soft furnishings, table linen
Silk	Natural - silkworm	Absorbent; natural shine; comfortable to wear	Luxury clothing and lingerie; knitwear; soft furnishings
Wool	Natural - animals such as sheep or llamas	Warm; absorbent; strong; low flammability; shrinks easily	Coats; jackets; jumpers; socks; blankets; carpets
Polyester	Synthetic - petroleum, coal	Strong, flame resistant but still melts; poor absorbency	Versatile; has many uses throughout textiles
Polyamide (nylon)	Synthetic - petrochemicals	Strong; melts as it burns; good elasticity (will stretch and recover)	Clothing; carpets; rugs; seat belts; ropes; tents
Acrylic	Synthetic - petroleum	Strong; burns and melts; good insulator	Knitwear; knitted fabrics; fake fur; upholstery

Weaving and Knitting into Fabrics

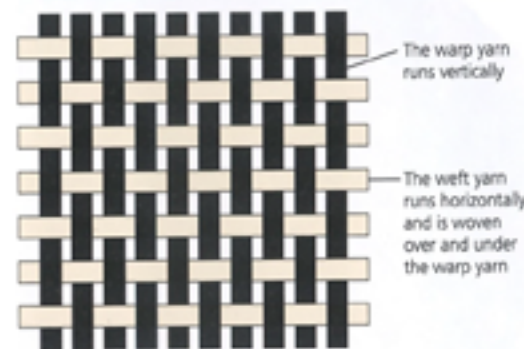
Types of material and their uses

There are two main methods for making textile fabrics: weaving and knitting.

Weaving

Woven fabrics are produced on a loom using **warp yarn** and **weft yarn**. The warp yarn is stronger and runs vertically, while the weft yarn is woven over and under the warp yarn to create the fabric. The most common type of weave is called plain weave and has many uses throughout textiles. Different types of woven fabric are created by changing the way that the yarns are woven or the thicknesses and texture of the yarns, and through the use of colours.

Weaving is the strongest method of fabric construction and is ideal for products that need a firm structure, including school shirts, smart trousers, bedlinen, kites, holdalls and school bags.



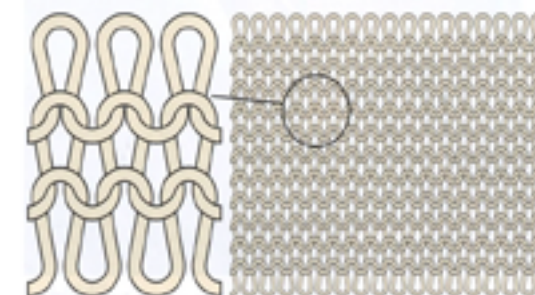
▲ A plain weave structure

Knitting

Knitted fabric is created by interlocking loops of yarn, which can be done either on a machine or by hand. The loops in the fabric trap air, making it warmer to wear, for example a knitted wool jumper will be comfortable and warm. Knitted fabrics can be stretched, but this can make them lose their shape.

There are two types of knitted fabric:

- **Warp knitting** uses several yarns that interlink vertically. These can be cut into shapes to make textile products.
- **Weft knitting** uses one yarn that runs horizontally. The fabric is built up row by row, with each loop interlocking with the row below. Hand knitting is done this way. This type of knitting will unravel if it is cut.



▲ Weft knitting

Setting up the Sewing Machine Step by Step

Sewing machines

Most sewing machines have a variety of functions and stitches to complete the different processes that are needed to make a textile product. They have attachments, such as a special 'foot' for inserting a zip. Computerised sewing machines can be used to embroider original designs. An overlocker is a specialist machine that trims and sews the edge of the fabric at the same time. This is the neatest and most professional method of joining fabrics and neatening a seam or edge.



SECTION 1. ESSENTIAL PARTS

Name of Parts

- [illegible]



Q. And that's all that you saw?

- As a result of this work, the authors have shown that the use of the proposed method for the analysis of the data obtained from the experiments on the effect of the concentration of the solution on the rate of the reaction is possible. The results of the analysis of the data obtained from the experiments on the effect of the concentration of the solution on the rate of the reaction are presented in Table 1.




[illegible]

Embellishments and surface decoration techniques

▼ Decorative techniques

<p>Tie-dye</p>		<p>The colour of fabric can be changed by dyeing. The tie-dye method involves folding, twisting, pleating or crumpling the fabric and tying it with string or rubber bands. The fabric is then placed in a dye bath. The tied areas do not absorb the dye and this forms a pattern.</p>
<p>Appliqué</p>		<p>Appliqué is a method of stitching fabric pieces onto a base fabric to create a design. Different stitches can be used to hold the fabric pieces in place. Complex designs can be created by using several pieces of fabric.</p>

▼ Decorative techniques

<p>Fabric paints</p>		<p>Fabric paints can be applied directly to fabric. Once the paint is dry, it needs to be fixed using a hot iron. Fabric felt pens and pastels can be used in the same way.</p>
<p>Embroidery</p>		<p>Embroidery can be done by hand or machine. Computerised machines can stitch motifs and lettering.</p>
<p>Decorations</p>		<p>Decorations like beads, sequins, diamantes or pearls can be sewn onto fabric.</p>

Year 7 Design and Technology Knowledge Organiser Picture Frame

Health and Safety 15 rules of the workshop

Why do you think workshop Safety Rules are important?

If everyone follows workshop rules, everyone will be safe and learn how to use tools and equipment properly and efficiently.

Always **listen carefully** to the teacher and follow instructions.

Do not run / rush in the workshop.

Know where the **emergency stop buttons** are positioned in the workshop.

Always wear an apron.

When attempting practical work, all stools should be put away.

Bags should be stored away, during practical sessions in the workshop.

Do not use a machine, if you have not been shown how to operate it safely, by your teacher.

Always be patient, never rush practical work.

Always use guards, when operating machines.

Keep hands / hair and clothing away from moving/rotating parts of machinery.

Use hand tools carefully, keeping both hands behind the cutting edge.






Report any damage / faults to machines/equipment. Damage or a faulty part, could cause an accident.

Keep your workbench tidy. When you have finished with a tool / piece of equipment, return it to its storage cupboard / rack.

Never distract another pupil, when they are working on a machine or using tools / equipment.

Wear good strong shoes. Training shoes are not suitable.

Tools and Equipment

Tool	Image	Use
Coping Saw		Cut sheet materials to irregular shapes. This saw can cope with cutting curves.
Tenon Saw		Cut timber in a straight line.
Try Square		Use to mark out perpendicular waste lines ready for cutting accurate 90
Workbench Vice		For Holding and securing materials in place whilst cutting, shaping and forming.
Disc Sander		For fine finishing, removing waste material to the waste line.

Year 7 Design and Technology Knowledge Organiser Picture Frame

Timber Classification

Hardwoods

Hardwoods come from Deciduous trees. They lose their leaves each winter and are slower growing than softwoods. This makes for higher quality wood as the grain is closer (**denser**) together than softwood making it harder wearing. It is also harder to machine.

Examples, OAK BEECH ASH



Softwoods

Softwoods come from Coniferous trees. They keep their leaves all year round and take only 30 years to mature so are considered fast growing trees. Their grain is more open and so the wood is softer and less hardwearing than Hardwood. They are cheaper and easier to machine.

Examples, PINE SPRUCE CEDAR



Hardwood

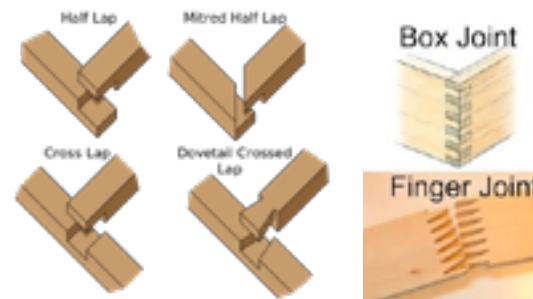
▼ The properties and uses of selected hardwoods

Type	Characteristic properties	Typical uses
Oak	Very strong and hard Light brown colour	High-quality furniture
Mahogany	Fairly strong and durable Pink to reddish-brown colour	High-quality furniture
Beech	Hard and tough, but easy to work with Light brown with darker brown flecks	Wooden toys, household items, furniture
Ash	Tough and flexible Light creamy-brown colour	Tool handles, sports equipment
Balsa	Soft - can be marked using a finger Off-white to tan colour	Modelling

Softwoods

▼ The properties and uses of selected softwoods

Type	Characteristic properties	Typical uses
Pine	Fairly strong, easy to work with Light brown or yellowish colour	Interior structures in buildings, furniture
Spruce	Strong and hard, but low resistance to decay Yellowish-white colour	Wooden aircraft frames



Sources of timber

Timber is made from trees that are chopped down and then cut into planks in a sawmill. The wood may be seasoned after cutting, which means that it is dried before use to remove moisture. Seasoning makes wood less likely to distort or warp.

Timber can be a renewable resource if grown in well-managed forests. Responsible management includes planting new trees as older trees are cut down. Timber grown this way can be identified by the Forest Stewardship Council® (FSC®) 100% claim or label.



Knowledge Organiser – Year 7 Food Technology Fruits and Vegetables

Nutrients

Carbohydrates give the body **energy**.

Protein provides **growth and repair of cells**.

Fats are needed for **warmth, energy, hormone production and protection**.

Vitamins and minerals help to **maintain normal cell function and maintain general health**.

Personal Hygiene

- Wash your hands before handling any food
- Put your hair up
- Wear a clean apron
- Use a blue plaster if you have a cut
- Don't cough or sneeze on the food



Food Hygiene

- Clean work surfaces
- Keep work area clean and tidy
- Keep raw and cooked foods apart to prevent cross – contamination.
- Use a red chopping board for meat and a green board for fruit and vegetables
- Wash up correctly
 - Hot water, changed frequently
 - Washing up liquid
 - Cloth for washing
 - Clean tea towel for drying



How should you wash up at the end of each lesson?



Name of Equipment	scales	Measuring jug	Measuring spoons and cups
Used to Measure...	Solids	Liquids	Liquids and solids
Unit (e.g. grams, etc.)	g and oz	ml, oz, g, pints	ml + spoons + cups

Use a dish cloth and scourer in warm, soapy water to wash up all your equipment. Place it on a clean sink area and then use a tea towel to dry it up.

The sink should be left clean and dry. No food scraps in the bottom of the sink.

Tea towel and dish cloth are placed in washing basket at the end of the lesson.

ENVIRONMENTAL HEALTH OFFICER



EHO's also cover:



Safe Cutting Techniques

Bridge Hold



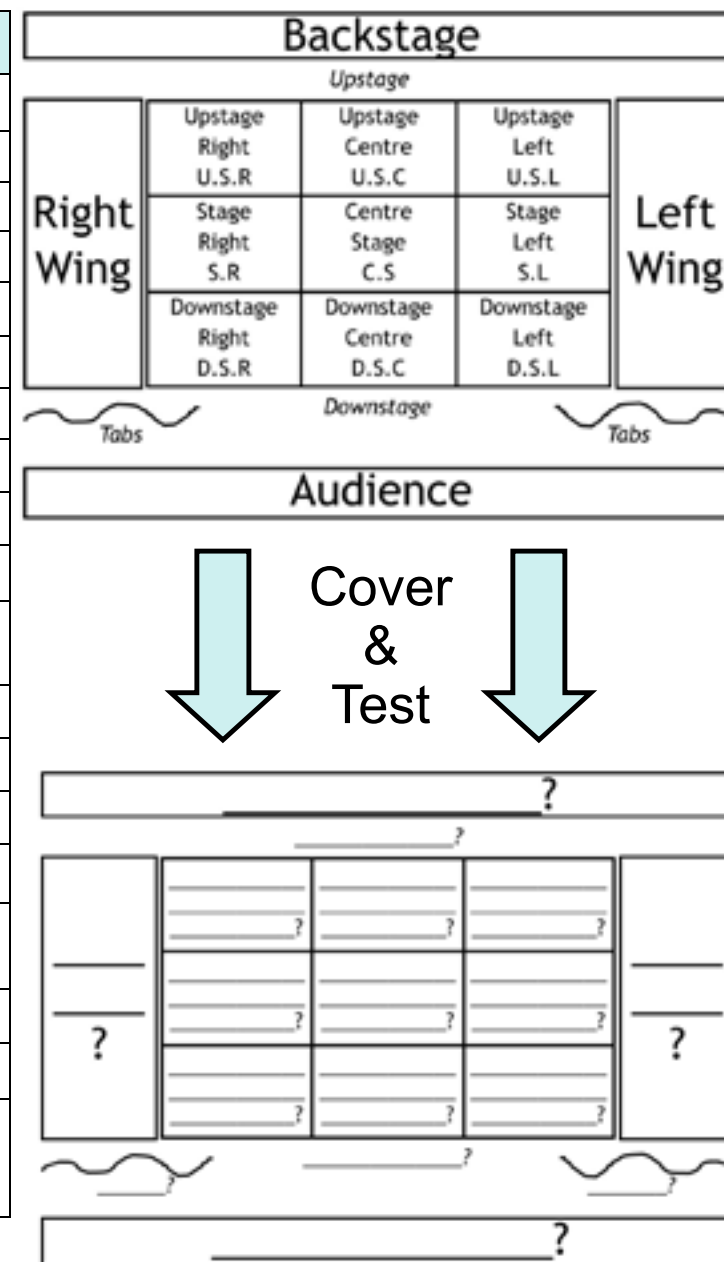
Claw Grip





Theatre Terminology

Term	Definition
Stage Left (SL)	The left hand side of the stage from the actors' point of view.
Stage Right (SR)	The right hand side of the stage from the actors' point of view.
Upstage (US)	The back of the stage / area furthest away from the audience.
Downstage (DS)	The front of the stage / area nearest the audience.
Centre Stage (CS)	The middle of the stage.
Upstage Right (USR)	The back right corner of the stage from the actors' point of view.
Upstage Left (USL)	The back left corner of the stage from the actors' point of view.
Downstage Right (DSR)	The front right corner of the stage from the actors' point of view.
Downstage Left (DSL)	The front left corner of the stage from the actors' point of view.
Wings	The areas beside the stage in which actors wait before entering.
Backstage	The area where costumes, props and set are stored. You might find the dressing rooms and tech store here too.
Tabs	Curtains at the front of the stage that can be opened or closed.
Audience	The people watching your performance.
Actors	The people performing on stage.
Characters	The fictional people in the play - they are played by the actors.
Costume	The clothes the actors wear on stage. They should communicate something about the character.
Set	Furniture or other scenery that can make a location on stage.
Props	Items characters use on stage such as books, bags or phones.
Blocking / Staging	The basic movements characters make around the stage e.g. Kelly enters from SR and sits down at a table. Dave walks away from the table.





The 7 Cs of Drama

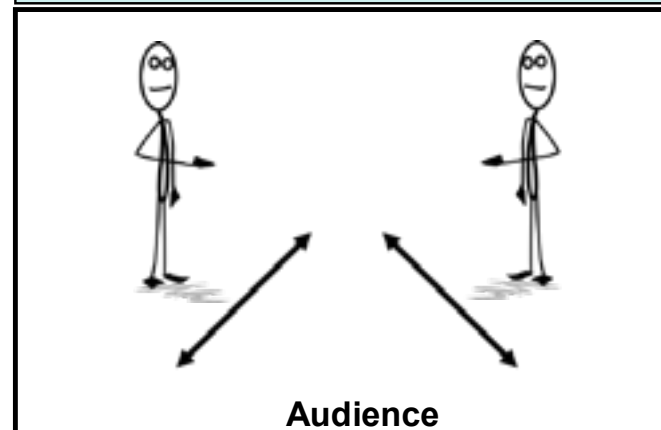
Term	Definition
Communication	This can be verbal (using words) or non-verbal (without words) . In rehearsals , your job is to listen to each other and offer your own ideas. In performance , the actor's job is to communicate with the audience, telling them, verbally and non-verbally, what their character is thinking and feeling.
Collaboration	How you work together . You could have a Director or no Director. You could each take it in turns to be in charge. However you organise yourselves, remember: Teamwork makes the dream work.
Concentration	In rehearsals this means staying on task and not wasting time. In performance it means staying in character and staying focussed.
Character	The personality of the person you are playing. 'Police Officer' is not a character, it is a job. ' Grumpy Police Officer' is a character because it tells us something about their personality .
Conflict	A struggle , a problem or a challenge that the characters must overcome. You cannot have interesting drama without conflict.
Change	The way character or story develops and changes as the play goes on. Like Luke Skywalker changing from a farm boy into a mighty Jedi Knight or Elsa learning to accept her powers.
Conclusion	The way your play ends . Your ending doesn't have to be happy or sad but it does have to make sense.

Directing Skills

When you are directing other actors, there are 6 key questions you should ask:	
Are they all ' open ' to the audience (making the 'V' shape)?	
Are they moving like their characters?	
Are they speaking like their characters?	
Are they speaking loudly enough?	
Are they concentrating as they perform / rehearse?	
Does their performance make sense without them having to explain it to you?	

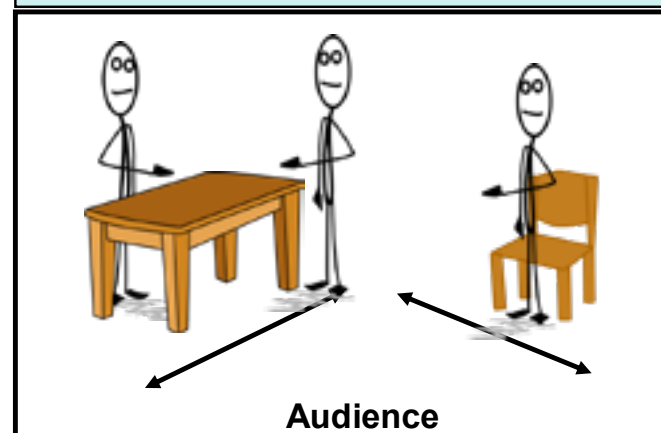
The 'V' Shape: Acting

Keeping your body 'open' to the audience.



The 'V' Shape: Staging

Keeping your scenery 'open' to the audience.



IMPORTANT TERMS

MORPHEME – A 'chunk' of a word that carries meaning. Morphemes are the smaller components that words are made of.

MORPHOLOGY – The study of how words are formed from smaller parts.

ETYMOLOGY – The study of where words come from and how they evolve over time.

PREFIX – A morpheme added to the beginning of a root word or morpheme to alter the meaning in some way.

SUFFIX – A morpheme added to the end of a root word or morpheme to alter its meaning in some way.

BOUND MORPHEME – A morpheme that cannot stand as a word on its own: it must be used in combination with another morpheme in order to form a word. Prefixes and suffixes are bound morphemes, as are most of our root morphemes.

FREE MORPHEME – A morpheme that can stand as a word by itself, such as 'book'. While most of our bound morphemes come from Latin or Greek, many of our free morphemes can be traced to other ancient languages.

LATIN – An extinct language, spoken by the Romans, from which we get many of our morphemes.

GREEK – Another extinct language, older than Latin. We tend to see Greek morphemes in technical or scientific words.

ANGLO-SAXON – The language also known as Old English, spoken by the Germanic peoples who settled in England in the 5th century. This language evolved into the language we speak today.

DUAL VARIATION – A pair of synonyms (words with the same meaning) for which each of the two words can be traced back to a different language, e.g. *bring/carry*; *buy/purchase*; *weird/strange*; *weep/cry*.

Autumn Term – Morphology

HWCS

English Department

YEAR 7

LEVELS OF MEANING

Communication contains several different levels of meaning, which we can represent as a hierarchy.

PARAGRAPHS are groups of sentences collected around a single focus or topic.

SENTENCES are strings of words placed together to express a complete thought or meaning. Sentences are made out of...

CLAUSES, which must consist of a noun and a verb. In addition to clauses, sentences can also contain...

PHRASES, which are smaller units of meaning usually made up of two or more words, and which do not make sense on their own. Phrases, like clauses, are made out of...

WORDS, which are single elements of language (i.e. sounds we speak) that have clear, distinct meanings. We call the meaning of a word its *definition*. Words are built out of...

MORPHEMES, which are the smallest level of meaning. Morphemes are the 'building blocks' of words. Some words have only one morpheme, but many words are built from several morphemes, each with its own 'flavour' of meaning. These morphemes can combine in many different ways to form different words. Once we know the 'flavour' of meaning that each morpheme contributes the word it sits within, we can get better at understanding new and unfamiliar words.

THE ORIGINS OF ENGLISH

The language we speak today is known as **Modern English**. This language evolved from an ancient language called **Anglo-Saxon**, which originated in northern Europe, in an area that now covers northern Germany and Denmark.

The Anglo-Saxon people migrated to England in the fifth and sixth centuries, bringing their language with them. Before the Anglo-Saxons arrived, people in Britain mostly spoke a Celtic language called Common Brittonic, and some would have spoken Latin, which had been brought to Britain by the Romans when they invaded in the mid-first century.

The Anglo-Saxon language replaced Common Brittonic across most of Britain, eventually becoming the language we speak today; however, Common Brittonic survived in Cornwall and Wales, and the modern Cornish and Welsh languages are directly descended from this language.

The Anglo-Saxon language, also known as Old English, evolved into Middle English, which was in use from around the 11th century until the end of the 15th century. Compared to Old English, Middle English is much easier for us to read and understand; this is because it is closer to the language we speak today.

WORD ORIGINS

Although the systems and rules that underpin our language come from Anglo-Saxon, many of the individual words that we use have their origins in other languages, as shown below.

29% of our words come from Latin;
29% of our words come from French;
26% of our words come from Germanic languages, including Anglo-Saxon;
6% of our words come from Greek;
10% of our words either originate with names or other languages, or have unknown origins.

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

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

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- quand = when

- 1- très = very
- 2- assez = quite
- 3- un peu = a little

French y7 Core Language

KnowIT

TIME MARKERS

- 1- quelquefois = sometimes
- 2- tous les jours = everyday
- 3- une fois par semaine = once a week
- 4- souvent = often
- 5- tout le temps = all the time

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- parce-que c'est= because it is

- génial = great
- Intéressant = interesting
- drôle = fun
- ennuyeux = boring
- nul = rubbish

Basics in French

Greetings

Bonjour / salut = hello / hi
 Au revoir = good bye
 A bientôt = see you soon
 Comment ça va? = how are you
 Ça va (bien) = I'm good
 Ça va mal = I'm not good
 Bof / comme-ci comme ça = so so
 Comment tu t'appelles = What's your name?
 Je m'appelle... = My name is...

Age and numbers

Quel âge as-tu? = How old are you?
 J'ai.... ans = I am.... years old.

1= un	14= quatorze
2= deux	15= quinze
3= trois	16= seize
4= quatre	17= dix-sept
5= cinq	18= dix-huit
6= six	19= dix-neuf
7= sept	20= vingt
8= huit	21= vingt et un
9= neuf	22= vingt deux
10= dix	30= trente
11= onze	31= trente et un
12= douze	
13= treize	

Days and months

Mon anniversaire c'est le... = my birthday is...

Lundi = Monday	Mars = March
Mardi = Tuesday	Avril = April
Mercredi = Wednesday	Mai = May
Jeudi = Thursday	Juin = June
Vendredi = Friday	Juillet = July
Samedi = Saturday	Août = august
Dimanche = Sunday	Septembre = September
Janvier = January	Novembre = November
Février = February	Décembre = December

Colours and pets

Ma couleur préférée c'est le... = my favourite colour is...

bleu = blue	J'ai = I have
vert = green	un chien = a dog
jaune = yellow	un chat = a cat
rouge = red	un lapin = a rabbit
orange = orange	un poisson = a fish
rose = pink	un oiseau = a bird
violet = purple	un cheval = a horse
marron / brun = brown	un hamster
blanc = white	une souris = a mouse
noir = black	qui s'appelle = called..

Family

Mon père s'appelle... = my dad is called...
 Ma mère s'appelle .. = my mum is called...
 Mon beau-père s'appelle... = my stepdad is called...
 Ma belle-mère s'appelle... = My stepmum is called...
 Mon frère s'appelle... = my brother is called..
 Ma soeur s'appelle... = my sister is called...
 Mes frères s'appellent... = my brothers are called...
 Mes soeurs s'appellent... = my sisters are called...

Classroom French / Travel Phrases

Pouvez-vous répéter? = can you repeat?
 S'il vous plait = please
 De rien = you are welcome
 Je ne sais pas = I don't know
 Je ne comprends pas = I don't understand
 Je voudrais... = I would like...
 Où est.... = Where is...?
 C'est combien? = How much is it?
 Excusez-moi / pardon = Excuse me / sorry
 Je suis Anglais = I am English

FRENCH Y7- TOPIC 1 - C'EST PERSO!

Mon autoportrait • My self-portrait

les animaux (m pl)	animals
les araignées (f pl)	spiders
la capoeira	a Brazilian dance
les chats (m pl)	cats
les chiens (m pl)	dogs
le cinéma	cinema
les consoles de jeux (f pl)	games consoles
la danse	dancing
le foot	football
les gâteaux (m pl)	cakes
le hard rock	hard rock
l'injustice (f)	injustice
les insectes (m pl)	insects
les jeux vidéo (m pl)	video games
les livres (m pl)	books
la musique	music
les mangas (m pl)	mangas
les maths (f pl)	maths
les pizzas (f pl)	pizzas
la poésie	poetry
le racisme	racism
le rap	rap
le reggae	reggae
les reptiles (m pl)	reptiles
le roller	roller-skating
le rugby	rugby
le skate	skateboarding
les spaghettis (m pl)	spaghetti
le sport	sport
la tecktonik	tecktonik (dance)
la télé	TV
le tennis	tennis
le théâtre	theatre, drama
les voyages (m pl)	journeys
la violence	violence

Les opinions • Opinions

j'aime	I like
je n'aime pas	I don't like
Tu aimes ... ?	Do you like ... ?
il/elle aime	he/she likes
Oui, j'aime ça.	Yes, I like that.
Non, je n'aime pas ça.	No, I don't like that.
Tu es d'accord?	Do you agree?
Je suis d'accord.	I agree.
Je ne suis pas d'accord.	I don't agree.
C'est ...	It's ...
génial	great
cool	cool
bien	good
ennuyeux	boring
nul	rubbish
essentiel	essen
important	impor
Ce n'est pas bien.	It's no

Les musiciens • Musicians

Il/Elle joue ...	He/She plays ...
de la batterie	the drums
de la guitare	the guitar
Il/Elle chante.	He/ she sings
Il/Elle a beaucoup de talent.	He/She has a lot of talent.

ETRE =to be

Je	suis
Tu	es
Il/elle/on	est
Nous	sommes
Vous	êtes
Ils/Elles	sont

Moi et les autres • Me and other people

je suis	I am
je ne suis pas	I am not
tu es	you are
il/elle s'appelle	he/she is called
il/elle est	he/she is
beau/belle	good-looking
branché(e)	trendy
charmant(e)	charming
cool	cool
curieux/curieuse	curious
de taille moyenne	average height
drôle	funny
généreux/généreuse	generous
gentil(le)	nice
grand(e)	tall
impatient(e)	impatient
intelligent(e)	intelligent
modeste	modest
petit(e)	small
poli(e)	polite

Les mots essentiels • High-frequency words

et	and
aussi	also
mais	but
très	very
assez	quite
toujours	always
Qu'est-ce que ... ?	What ... ?
Qui ... ?	Who ... ?

Les yeux et les cheveux • Eyes and hair



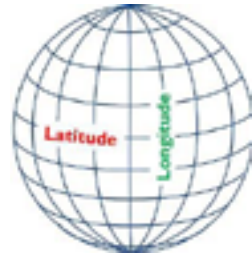
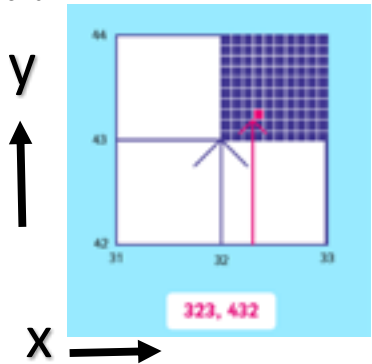

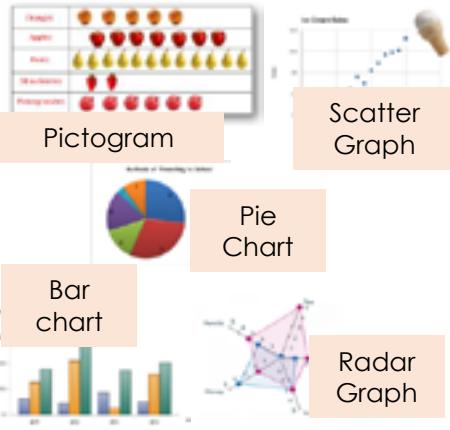
j'ai	I have
tu as	you have
il/elle a	he/she has
mon ami(e) a	my friend has
J'ai les yeux bleus/verts/ gris/marron.	I have blue/green/grey/ brown eyes.
J'ai les cheveux ...	I have ... hair.
longs/courts/mi-longs	long/short/ medium-length
frisés/raides	curly/straight
blonds/bruns/noirs/roux	blond/brown/black/red

AVOIR =to have

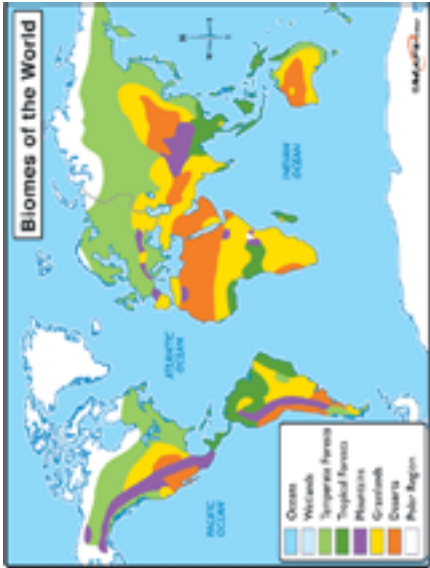

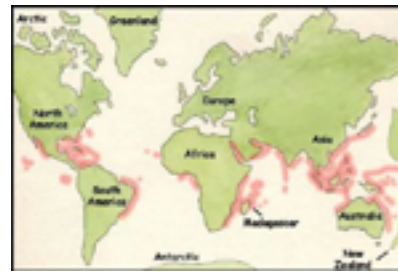


J'	ai
Tu	as
Il / elle / on	a
Nous	avons
Vous	avez
Ils / elles	ont



Year 7 Geography Knowledge Organiser Term 1: Wonderful World

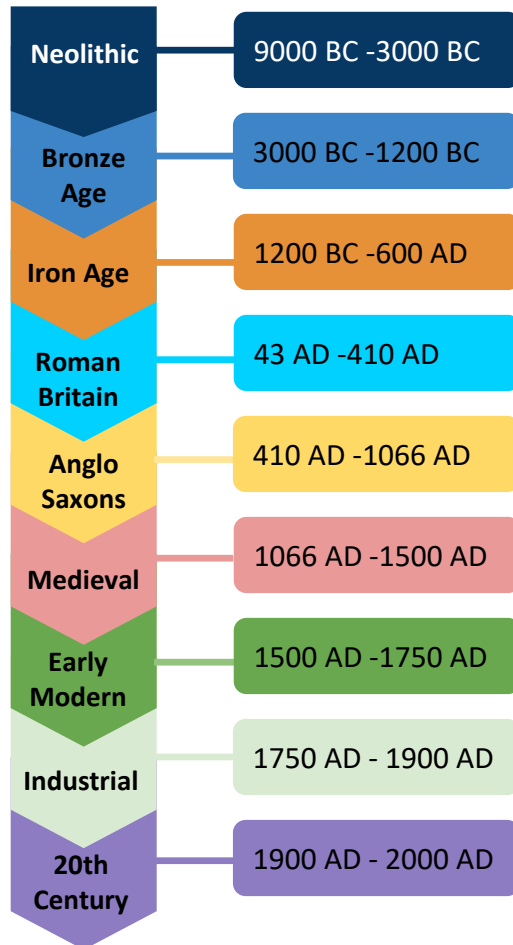
Location of Continents and Oceans		Compass Directions	Longitude and Latitude
			<p>Longitude – Runs in a north to south direction known as meridians</p> <p>Latitude – Runs in a east to west direction</p> 
Grid References	Speak Like a Geographer	Fieldwork	Skills
<p>Read along the corridor and up the stairs</p> 	<p>Continent, Country, Ocean, Region, Equator, Scale, Relief, Distribution, Physical Geography, Human Geography, Field work, Global, Local, Regional, Geographical Information System (GIS)</p>		

Year 7 Geography Knowledge Organiser Term 2: Ecosystems Explorers

Biomes of the World	Types of Biomes	Coral Reefs	Threats to Coral Reefs
	<p>An ecosystem is a natural area in which plants, animals, and other organisms are linked to each other, and to the non-living elements of the environment. A biome is a large scale ecosystem. Interdependence is when organisms in an ecosystem depend upon each other.</p> 	 <p>For coral to grow, there needs to be:</p> <ul style="list-style-type: none"> • Warm water all year around with a mean temperature of 18°C. • The water needs to be clear and shallow. • The water cannot be deeper than 30 metres. Beyond this, there is not enough sunlight for photosynthesis. • A continental shelf. This is located on the seabed around the land, before the water depth increases. 	<p>Pollution from boats, walking on the reef, runoff from sunscreens and many other activities all damage the reef.</p> <p>Corals cannot survive if the water temperature is too high.</p> <p>Harmful tourists litter the reef and break pieces off to take home as a souvenir which kills the coral and the fish.</p> <p>Destructive fishing methods like blast fishing or dynamite fishing damages the reef.</p>
Responses to threats	Speak Like a Geographer	Fieldwork	Skills
<p>There are five main gyres in the world's oceans. These trap plastic and rubbish and affect marine wildlife. Several attempts to reduce the amount of plastic in the ocean have been introduced.</p> <ol style="list-style-type: none"> 1. A litre of light 2. The flip flop recycling company 3. The Plastiki 	<p>Biotic, Abiotic, Flora, Fauna, Climate Zones, Coral reefs, Coral Bleaching, Interdependence, Threats, Overfishing, Goods, Services, Waste</p>		<p><u>How to draw a field sketch</u></p> <ol style="list-style-type: none"> 1. Draw a frame. 2. Make it simple – don't draw everything. 3. Title. 4. Use pencil first and then colours. 5. Label it!

Year 7 History: Autumn Term

Key time periods:



Part 1. Stories of the Harrow Way

The Harrow Way is one of the oldest roads in Britain. As a result it has seen a lot of different people travel it over the centuries.



Key Words

Chronological	Events or dates arranged in the order in which they happened	<i>Timelines have dates arranged in chronological order</i>
Migrate	To move from one place to another with the intention of settling	<i>Lots of people choose to migrate to find better places to live.</i>
Trade	Buying and selling goods and services	<i>People often trade things they have made for money</i>
Religion	Belief and worship of a superhuman power	<i>Britain's official religion is Christianity</i>
Economy	To do with trade and money	<i>War changes a country's economy</i>
Politics	Relating to the government or leadership	<i>People who want to govern a country will often study politics</i>

Part 2. 1066 And All That...

Following the death of Edward the Confessor, **Harold Godwinson** is crowned King of England. His claim is challenged by **Harald Hardrada** (Norway) & **William of Normandy**.



Key Words

Monarch	<i>A supreme leader of a state who rules until death</i>	<i>Edward was the last Anglo Saxon monarch of England</i>
Heir	<i>The person next in line to inherit</i>	<i>Edward had no heir to the throne</i>
Invasion	<i>An unwelcome intrusion into someone else's country</i>	<i>The Normans launched an invasion of England in 1066</i>
Tactics	<i>A strategy used during battle for a specific purpose</i>	<i>William's use of tactics helped him win the Battle of Hastings</i>
Interpretation	<i>An opinion of what happened or what something means</i>	<i>John of Worcester's interpretation was that Harold was a good King</i>

Specific Terms

Feigned Retreat	<i>Pretending to retreat during battle to fool the enemy</i>
Bayeux Tapestry	<i>An embroidered history of the events of 1066</i>
Witan	<i>The Anglo Saxon council that advised the Kings</i>

Year 7 History: Autumn Term

Part 3. How did the Normans keep control

Once William became King, he asserted his authority over the Kingdom in different ways. Whilst he made lots of changes, there was also some continuity in how England was ruled



Key words

Change	When things are noticeably different from how they were before	<i>There was a change to the monarch after 1066</i>
Continuity	When things stay the same over time	<i>The religion of England was one continuity after 1066</i>
Consequence	Something that happens as a result of something else	<i>One consequence of the Norman invasion was the change in monarch</i>
Laws	The rules by which a country is governed	<i>Many Saxon laws such as trial by ordeal were kept but trial by combat was added to allow Norman Knights to settle disputes by fighting.</i>

Part 3 continued: Norman England

Life in Norman England had some very distinctive features that demonstrate how the Normans had an impact on England



Specific terms

Feudal System	<i>All land in England now belongs to William. He awards large areas to his Knights in return for military service & taxes. They in turn give land to local lords who have peasants (serfs) work their land and pay taxes.</i>
Tithings	<i>All men in a village were grouped in tens. Each group was responsible to each other for their behaviour. If one committed a crime it was up to the rest to ensure he faced justice.</i>
Castles	<i>Motte & Bailey castles are built quickly to protect Norman soldiers from attack. These are replaced by stone built castles with battlements and moats, drawbridges and thick walls.</i>
Forest Laws	<i>William liked to hunt. Any Saxon found in the forests would be accused of poaching and be blinded.</i>
Domesday Book	<i>1085 William orders a survey to see how much England is worth. Andover is on the top 20% of English villages.</i>
Murdrum Fine	<i>This was a fine imposed on an entire village if a Norman soldier was found dead.</i>

Part 4: The power of the Church

Medieval England was predominantly **Christian** (although there were some Jewish people in the bigger cities). The Church taught that by living a good life you would be rewarded with Heaven when you died. Sinners would go to Hell. You could ease your way into Heaven by contributing money to the Church or by going on **Crusade**.

Churches were also used to hold **trial by ordeal**. The church sometimes came into conflict with the monarchy about who had the most power. This was particularly true when **Thomas Becket** was Archbishop of Canterbury.



Doom paintings	<i>Showing visions of Hell were shown in many Churches. These were meant to remind the congregation that they needed to behave</i>
Divine Right of Kings	<i>A monarch's belief that his or her power comes directly from God</i>
Benefit of Clergy	<i>Priests were allowed to be tried in the more lenient church courts</i>
Pilgrimage	<i>A journey undertaken for a religious reason</i>
Sanctuary	<i>A refuge. People could claim sanctuary in churches if they had committed a crime</i>
Ex-Communicate	<i>To be thrown out of the church. You could not be baptised or take communion</i>

Year 7 Computing Knowledge Organiser – Careers and Data Representation

Some Careers in Computing

Software engineer - design and write programs for all types of computers,
Hardware Engineer - design, develop, test and produce computer systems and various physical components related to all computer systems.

Networking Engineer - plan, implement and oversee the computer networks

Cyber Security - responsible for discovering vulnerabilities and risks in networks,

Software designer / developer - designs and builds computer programs

Software tester - They test the systems works as they are intended.

Web Designer/Developer - responsible for the design and construction of websites

Robotics engineers - Designs and develops robotic prototypes. Constructs, configures, tests, and debugs robots and robotic systems. Installs, operates, calibrates, and maintains robots

Data Analysis - collect, organise and interpret statistical information to help colleagues and clients use it make decisions.

128 64 32 16 8 4 2 1

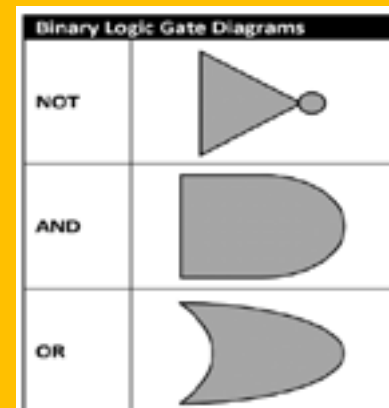
Key words

Resolution	how big the pixels are in the image
Meta Data	Data which helps computers process images including image size, Colour depth and Resolution.

Key words

Binary	1 or 0 the only language that computers understand.
Denary	Counting using base 10 (0-9)
Bit	The smallest amount of data (0 or 1)
Nibble	4 bits – ½ a Byte
Byte	8 bits – representing a character on the keyboard
Kilobyte	1024 bytes
Megabyte	1024 Kilobytes
Gigabyte	1024 Megabytes
Terabyte	1024 Gigabytes

Logic Gates



Truth Tables

NOT		
A	Out	
0	1	
1	0	

A	B	Out
0	0	0
0	1	0
1	0	0
1	1	1

A	B	Out
0	0	0
0	1	1
1	0	1
1	1	1

Knowledge Organiser
Year 7 Autumn 1 Topic
1: Number

Key words

Add
Subtract
Multiply
Divide
Decimal
Negative

(don't
forget to
'borrow'
from digits
to the left)

Column Method Multiplying

$$\begin{array}{r} 938 \\ \times 72 \\ \hline 1876 \quad \leftarrow \text{Multiply 2 by 938} \\ 6560 \quad \leftarrow \text{Don't forget the zero then multiply 7 by 938} \\ \hline 67536 \end{array}$$

Multiplying Integers Rules

$$\begin{array}{l} (+) \times (+) = (+) \\ (-) \times (-) = (+) \\ (+) \times (-) = (-) \\ (-) \times (+) = (-) \end{array}$$

(also works for dividing)

Column Subtraction

$$\begin{array}{r} \overset{2}{3}.\overset{13}{4}\overset{17}{7} \\ - 1.59 \\ \hline 1.88 \end{array}$$

BUS STOP DIVISION

$$142 \div 4 = 35.5$$

$$\begin{array}{r} 035.5 \\ 4 \overline{)142.0} \end{array}$$

1 1×1=1 1×2=2 1×3=3 1×4=4 1×5=5 1×6=6 1×7=7 1×8=8 1×9=9 1×10=10 1×11=11 1×12=12	2 2×2=4 2×3=6 2×4=8 2×5=10 2×6=12 2×7=14 2×8=16 2×9=18 2×10=20 2×11=22 2×12=24	3 3×3=9 3×4=12 3×5=15 3×6=18 3×7=21 3×8=24 3×9=27 3×10=30 3×11=33 3×12=36	4 4×4=16 4×5=20 4×6=24 4×7=28 4×8=32 4×9=36 4×10=40 4×11=44 4×12=48	5 5×5=25 5×6=30 5×7=35 5×8=40 5×9=45 5×10=50 5×11=55 5×12=60	6 6×6=36 6×7=42 6×8=48 6×9=54 6×10=60 6×11=66 6×12=72
7 7×7=49 7×8=56 7×9=63 7×10=70 7×11=77 7×12=84	8 8×8=64 8×9=72 8×10=80 8×11=88 8×12=96	9 9×9=81 9×10=90 9×11=99 9×12=108	10 10×10=100 10×11=110 10×12=120	11 11×11=121 11×12=132	12 12×12=144

Knowledge organiser Year
7 Autumn 1 Topic 2:
Expanding and
Simplifying expressions

Key words

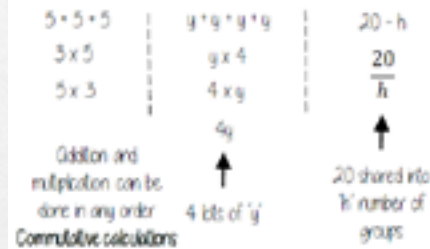
Operation: a mathematical process

Expression: a maths sentence with a minimum of two numbers and at least one math operation (no equals sign)

Term: a single number(s) and variables multiplied together



Using letters to represent numbers



Expanding brackets:

- Expanding means remove brackets
- Use the claw

$$\begin{aligned} \text{e.g. } 3(5a - 2) &= (3 \times 5a) - (3 \times 2) \\ &= 15a - 6 \end{aligned}$$

Building knowledge: Simplifying expressions (multiplying)

- Multiply the numbers and terms separately
- Remember your rules of indices

$$\text{e.g. } 5p \times 3q \times 4p = 60p^2q$$

$$5 \times 3 \times 4 \times p \times p \times q$$

$$60 \times p^2q = 60p^2q$$

Building knowledge: Simplifying expressions (adding/subtracting)

- Can only simplify like terms.
- Be sure to include the sign before the term

$$\text{e.g. } 2a + 3b - a + 4b = a + 7b$$

$$2a - a = a \quad + 3b + 4b = +7b$$

Knowledge organiser Year 7
Autumn 1 Topic 3
Shapes and Angles

Key Concept

- Angles on a straight line add up to 180°
- Angles in a triangle add up to 180°
- Angles round a point add up to 360°
- Angles in a quadrilateral add up to 360°

Key Words

Acute, obtuse, reflex

Straight Line

Point

Isosceles, Equilateral

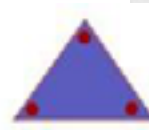
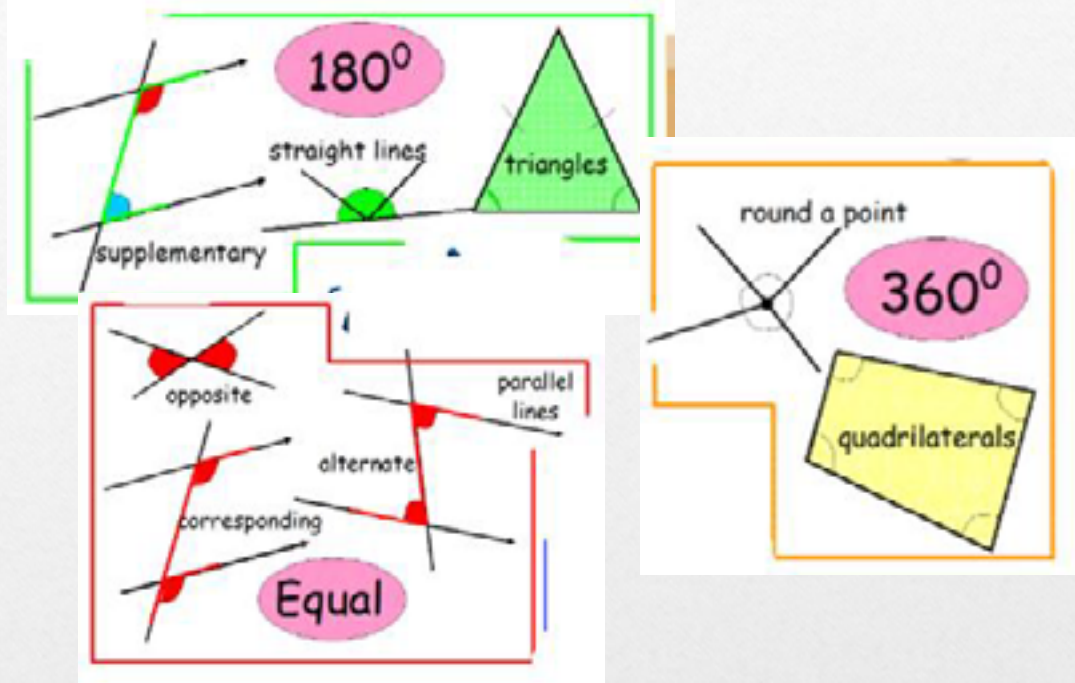
Quadrilateral

Alternate, Corresponding

Tip

Draw a diagram
Mark on it any angles
you have found out.
Show your working.

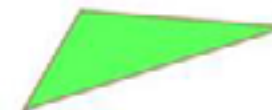
Examples



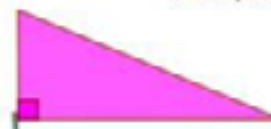
Equilateral - all three sides are equal, and all three equal angles are 60°



Isosceles - two sides are equal, and their two base angles are equal.



Scalene - All sides and angles are different sizes.



Right Triangle - One of the angles is a 90° degree L shaped angle.

Knowledge organiser Year 7 Autumn 1 Topic 4 : Ratio and Proportion

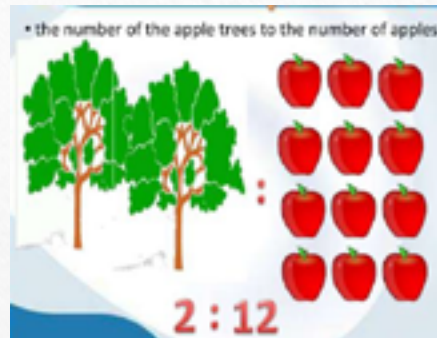
Key Words

Ratio
Proportion
Share
Divide
Equivalent
Simplify

Key Concept

A **ratio** compares values. A ratio says how much of one thing there is compared to another thing.

Proportion compares the size of a part to the size of a whole.



To share an amount in a given ratio, **ADD** your ratio to find the total number of shares. **DIVIDE** your amount to calculate the value of one share. **MULTIPLY** that value by each part of the ratio.

Example: **Sharon** and **Bob** share £35 in a ratio 2 : 5.

ADD: $2 + 5 = 7$ shares
DIVIDE: $£35 \div 7 = £5$ for each share
MULTIPLY: $2 \times £5 = £10$ for Sharon
 $5 \times £5 = £25$ for Bob

Writing in a ratio 1 : n

When asked to write a ratio in the format 1 : n you need to **divide BOTH** sides by the ratio where the 1 is.

Example 1: Write **7 : 21** in the ratio 1 : n

The side with 7 needs to become 1, so divide **BOTH** sides by 7.

$$\div 7 \quad \begin{array}{c} 7 : 21 \\ 1 : 3 \end{array} \quad \div 7$$

Example 2: Write **16 : 8** in the ratio 1 : n

The side with 16 needs to become 1, so divide **BOTH** sides by 16.

$$\div 16 \quad \begin{array}{c} 16 : 8 \\ 1 : 0.5 \end{array} \quad \div 16$$

Tip

It's important to notice what order the parts of the ratio are written in. 2:3 is **not** the same as 3:2.

Two quantities are in **direct proportion** when they increase or decrease in the same ratio.

Knowledge organiser Year 7
Autumn 2 Topic 1:
Percentages

Key Concept
Percentage - is a
part of a whole,
out of 100
Percentages can
increase or
decrease

Key Words
Percentage = out of
100
Simple interest
VAT
Increase/Decrease -
Profit/Loss
Decimal Multiplier

Examples

10% of a quantity = divide by 10

1% of a quantity - divide by 100

10% of £350 = £35

1% of £350 = £3.50

Decimal Multiplier

Increase = 100 +

Decrease = 100 -

Increase/Decrease

Increase £200 by 22%

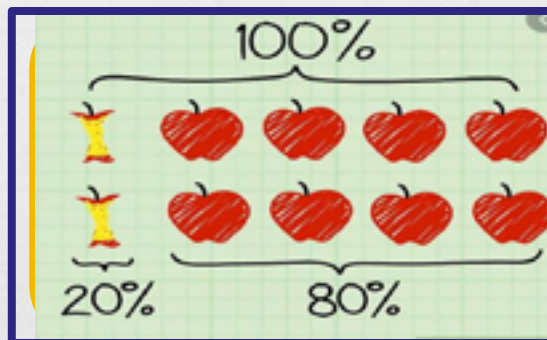
$100 + 22 = 122\%$, divide by 100 = 1.22

$£200 \times 1.22 = £244$

Decrease £200 by 22%

$100 - 22 = 78\%$, divide by 100 = 0.78

$£200 \times 0.78 = £156$



Fractions, Decimals, Percentages and Money Equivalents (£ and p)

	=	1	=	1	=	100%	=	£1.00 or 100p	=	
	=	$\frac{1}{2}$	=	0.5	=	50%	=	£0.50 or 50p	=	
	=	$\frac{1}{3}$	=	0.3	=	33.3%	=	-	=	-
	=	$\frac{1}{4}$	=	0.25	=	25%	=	-	=	-
	=	$\frac{1}{5}$	=	0.2	=	20%	=	£0.20 or 20p	=	

Knowledge organiser Year 7 Autumn 2 Topic : 2 Basic Averages

Key Words

Average: A value which is typical of a set of data. We use 3 types of average: **Mean; Median; Mode.**

Data: A piece of information. (eg: a number, measurement, colour, age, etc.)

Data Set: A group of data. (eg: the heights of everyone in a class)

Range: The range is a measure of how spread out some data are.

Range

The **range** is the difference between the largest and smallest values in the data.

Example: Here are the heights of eight plants:

12cm, 8cm, 9cm, 11cm, 15cm, 12cm, 14cm, 11cm.

What is the **range** of these data?

$$\begin{aligned} \text{range} &= \text{largest} - \text{smallest} \\ &= 15 - 8 \\ &= 7\text{cm} \end{aligned}$$

Mean

The **mean** is the sum of the values divided by the number of values.

$$\text{mean} = \frac{\text{the sum of the values}}{\text{the number of values}}$$

Example: Here are the heights of eight plants:

12cm, 8cm, 9cm, 11cm, 15cm, 12cm, 14cm, 11cm.

Calculate the **mean** average.

$$\text{mean} = \frac{12 + 8 + 9 + 11 + 15 + 12 + 14 + 11}{8} = \frac{92}{8} = 11.5\text{cm}$$

Median

The **median** is middle value when the data is put in size order.

Example: Here are the heights of eight plants:

12cm, 8cm, 9cm, 11cm, 15cm, 12cm, 14cm, 11cm.

Calculate the **median** value.

Put them in order first \Rightarrow 8cm, 9cm, 11cm, 11cm, 12cm, 12cm, 14cm, 15cm

Cross out the outside values **IN PAIRS** \Rightarrow ~~8cm~~, ~~9cm~~, ~~11cm~~, ~~11cm~~, 12cm, 12cm, ~~14cm~~, ~~15cm~~
(until you get to the centre)

~~8cm~~, ~~9cm~~, ~~11cm~~, 11cm, 12cm, ~~12cm~~, ~~14cm~~, ~~15cm~~

If there are two numbers left in the centre: add them and divide by 2

$$\text{median} = \frac{11 + 12}{2} = 11.5\text{cm}$$

Mode

The **mode** is the value (or values) that occurs the most. It can also be called the **modal** value.

Example 1: Here are the shoe sizes of seven people.

Size 4, size 6, size 3, size 5, size 3, size 2, size 7.

Write down the **mode**

of these data. *Size 3 appears more than the others.*

The mode is size 3.

Example 2: Here are the heights of eight plants:

12cm, 8cm, 9cm, 11cm, 15cm, 12cm, 14cm, 11cm.

Write down the **modal** values of these data.

The modal values are 11cm and 12cm

Both 11cm and 12cm appear twice

Knowledge organiser Year 7
Autumn 2 Topic 3:
Solving Equations

Key Concept Inverse Operations

Operation	Inverse
+	—
—	+
×	÷
÷	×
x^2	\sqrt{x}

Key Words

Unknown: A letter which represents a number we do not know the value of.

Inverse: The operation which will do the opposite.

Examples

$x + 9 = 16$ $-9 \quad -9$ $x = 7$	$x - 12 = 20$ $+12 \quad +12$ $x = 32$	$\frac{x}{3} = 5$ $\times 3 \quad \times 3$ $x = 15$	$2x + 5 = 14$ $-5 \quad -5$ $2x = 9$ $\div 2 \quad \div 2$ $x = 4.5$
--	--	--	--

$\frac{x}{4} - 2 = 4$ $+2 \quad +2$ $\frac{x}{4} = 6$ $\times 4 \quad \times 4$ $x = 24$	$2(3x + 5) = -14$ expand $6x + 10 = -14$ $-10 \quad -10$ $6x = -24$ $\div 6 \quad \div 6$ $x = -4$	$2x + 7 = 5x + 1$ $-2x$ (smallest x term) $+7 = 3x + 1$ $-1 \quad -1$ $6 = 3x$ $\div 3 \quad \div 3$ $2 = x$
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Tip

Answers can be:

- Integers
- Decimals
- Fractions
- negatives

KNOWLEDGE ORGANISER – Year 7 – Basic Theory and Keywords



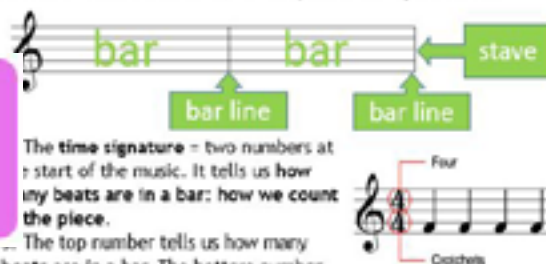
The rhythm grid below shows basic rhythm values in 4/4 time. You should know the note values and be able to play them. Try using the "Remember it" name and clapping it. This actually helps you understand the beat value.

Basic Rhythm Values in 4/4 time

	Beat 1	Beat 2	Beat 3	Beat 4
Technical name Semi-Breve (4 beats)				
Remember it... Hold for 4 beats				
Technical name Minim (2 beats)				
Remember it... L - ong				
Technical name Crotchet (1 beat)				
Remember it... tea				
Technical name Quaver (1/2 beat)				
Remember it... Cut - fee				
Technical name Semiquaver (1/4 beat)				
Remember it... Ga - pu - oo - ho				

Bars and time signatures

- Notes on the staff are divided up into bars by bar lines.



The **time signature** = two numbers at the start of the music. It tells us how many beats are in a bar: how we count the piece.

The top number tells us how many beats are in a bar. The bottom number tells us what sort of beats they are.



Notes on a keyboard

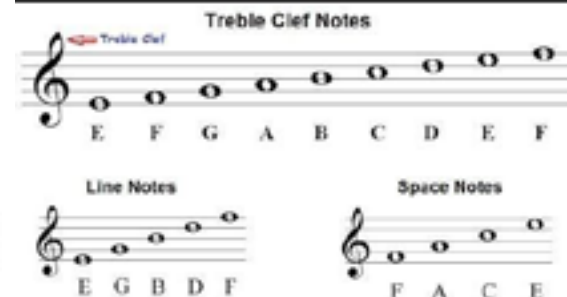
- Notes are in alphabetical order, going up to G
- Say: 'C is to the left of the two black keys: C D E F G A B'



A note by itself **CANNOT** be major or minor!

- Every **black note** has two names: sharp # and flat b
- F# = flower than white note
- Sharp = higher than white note

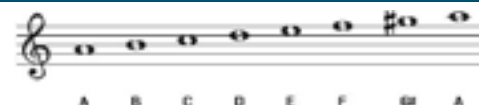
How to read music notation



Major Scale - Happy Sounding



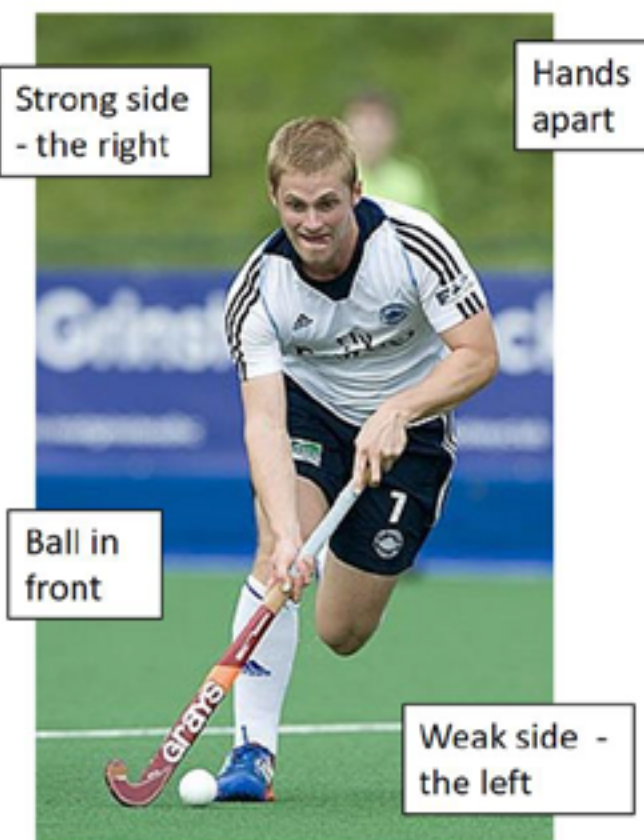
Minor Scale - Sad/Serious Sounding



M	A	D	T	S	H	I	R	T
melody	articulation	dynamics	texture	structure	harmony	instruments	rhythm	tempo
the tune	how notes are played	loud / soft and any other volume changes	layers of sound and how they fit together	sections of music and how they are organised	chords used	types of instruments heard	the pattern of notes	the speed

HOCKEY

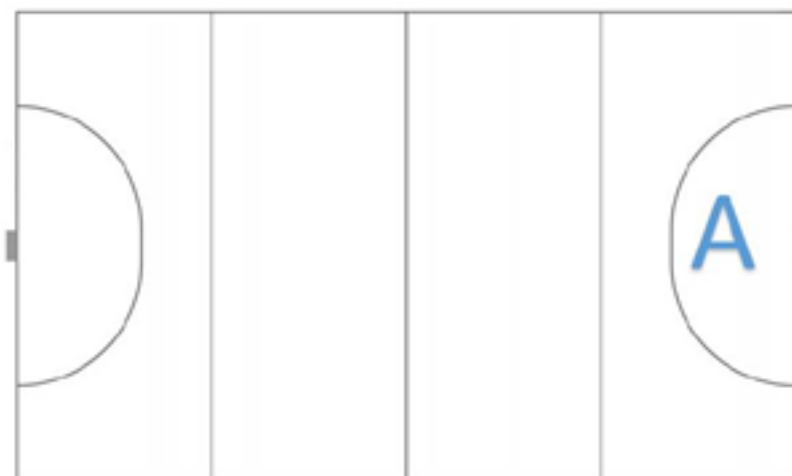
IMPORTANT TECHNIQUES



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).



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.

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.

IMPORTANT TECHNIQUES



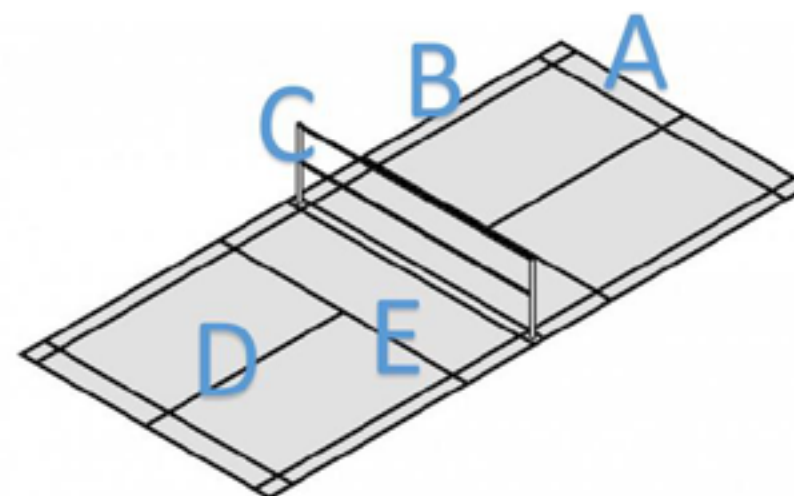
BADMINTON

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

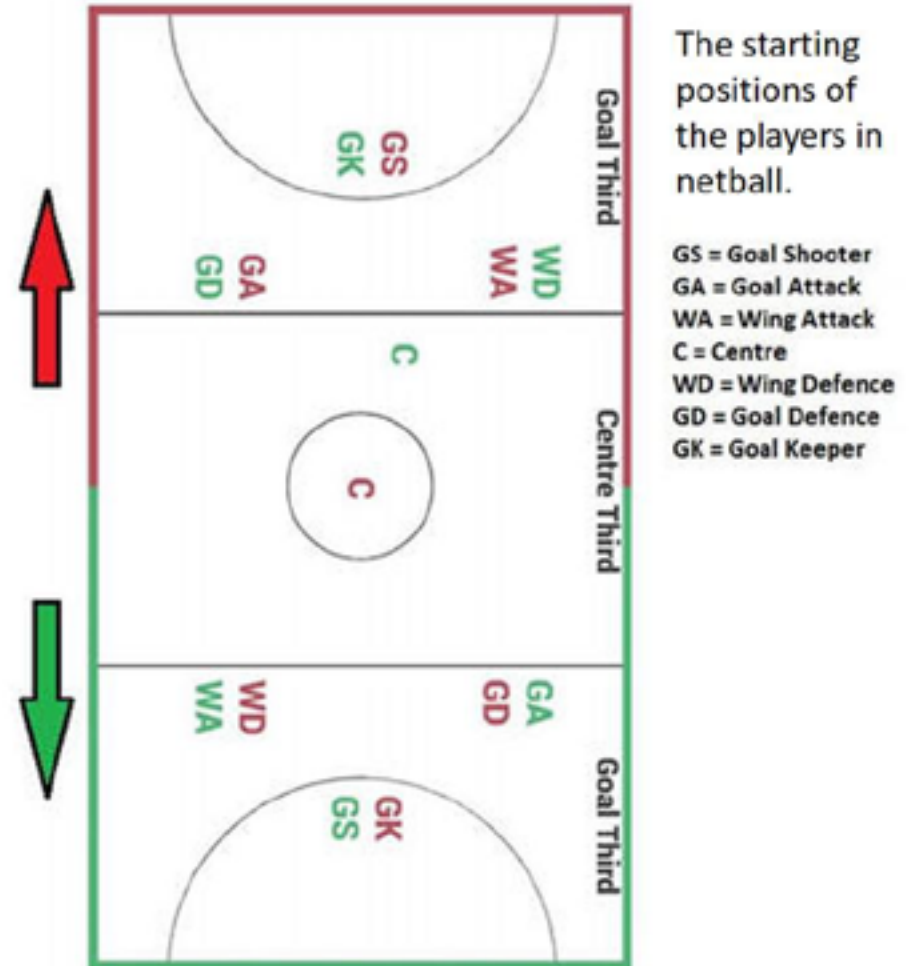


- A: Baseline: the end of the court
B: Side line: the side edge of the court
C: The net
D: Centre line: the middle of the court
E: Service line: where a rally is started

NETBALL

Rules and skills of Netball

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 from inside the “D”.
4. Footwork – Players cannot move 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.

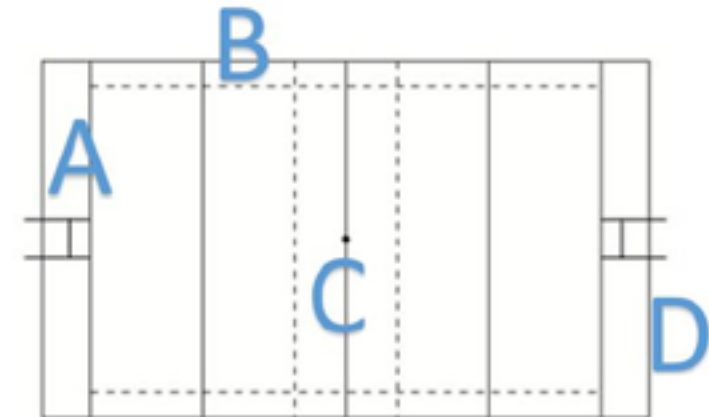


RUGBY

Overview of the general rules

Rugby has many 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 be 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.



- A – Try line and in-goal area.
- B – Side line
- C – Half way line
- D – Dead ball line, the end of the pitch.

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. The ball is not allowed to be contested by the opposition.
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.

FOOTBALL

IMPORTANT TECHNIQUES



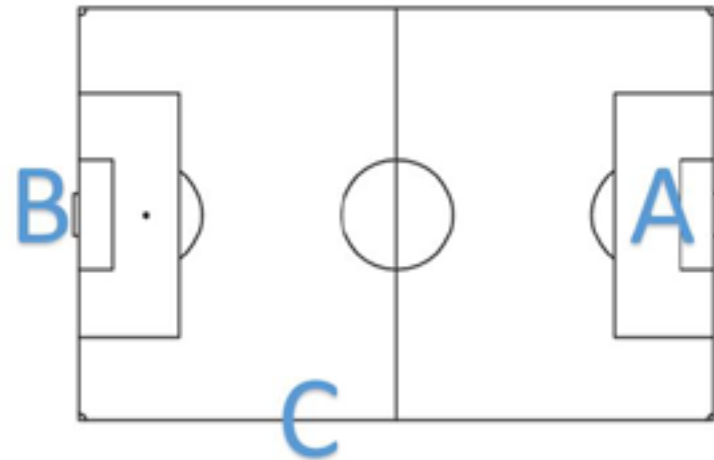
Arms used
for balance

Head up -
looking forward

Ball in front -
close to feet

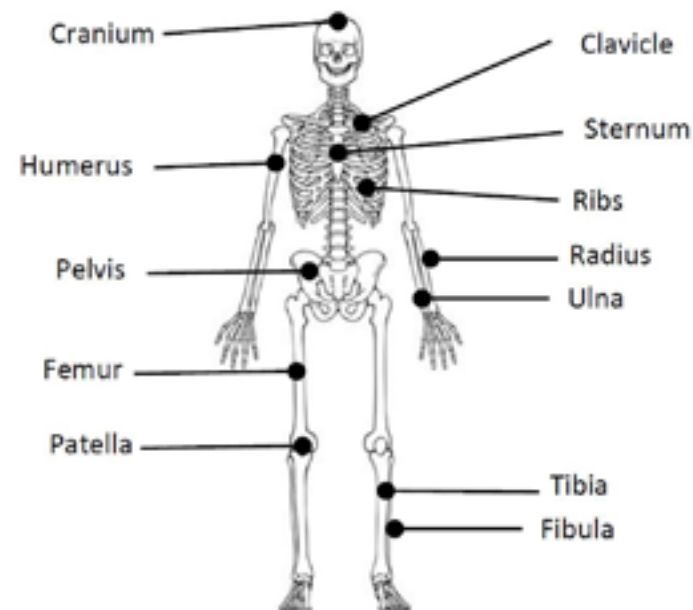
Overview of the rules

1. A football match is played by two teams, with each allowed no more than 11 players on the field (9-a-side at under 12).
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.

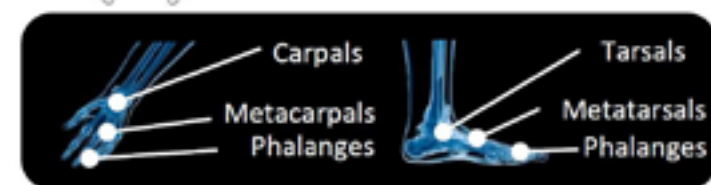
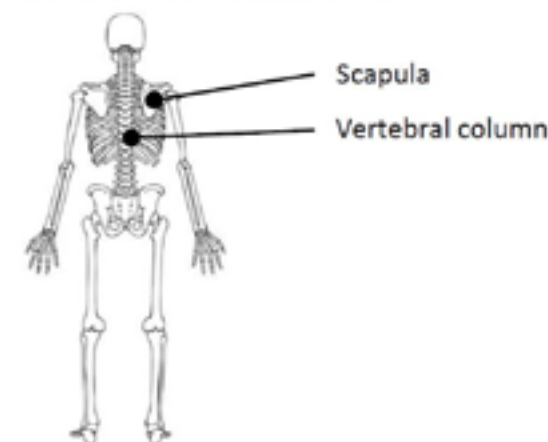


Health-related components	Cardiovascular endurance	The ability of heart and lungs to deliver oxygen to the working muscles.	Multi-stage Fitness Test
	Muscular Strength	The ability to overcome resistance.	Grip strength dynamometer Test
	Muscular Endurance	The ability of a single muscle or group to undergo contractions avoiding fatigue.	Sit up Test
	Flexibility	The range of movement possible at a joint.	Sit and Reach Test
	Body Composition	A comparison of the percentage of bone, fat, water and muscle within the body.	BMI
Skill-related components	Speed	The maximum rate at which an individual can perform a movement or cover distance.	30m Sprint Test
	Power	Explosive strength is the product of speed and strength. Speed x strength.	Vertical Jump Test
	Agility	The ability to move and change direction at speed while maintaining control.	Illinois agility test
	Coordination	The ability to use two or more body parts smoothly and efficiently.	Wall throw test
	Balance	The maintenance of the centre of mass over the base of support.	Stork Stand Test
	Reaction Time	The time taken to initiate a response to a stimulus.	Ruler Drop Test

Structure of the skeletal system



Structure of the skeletal system



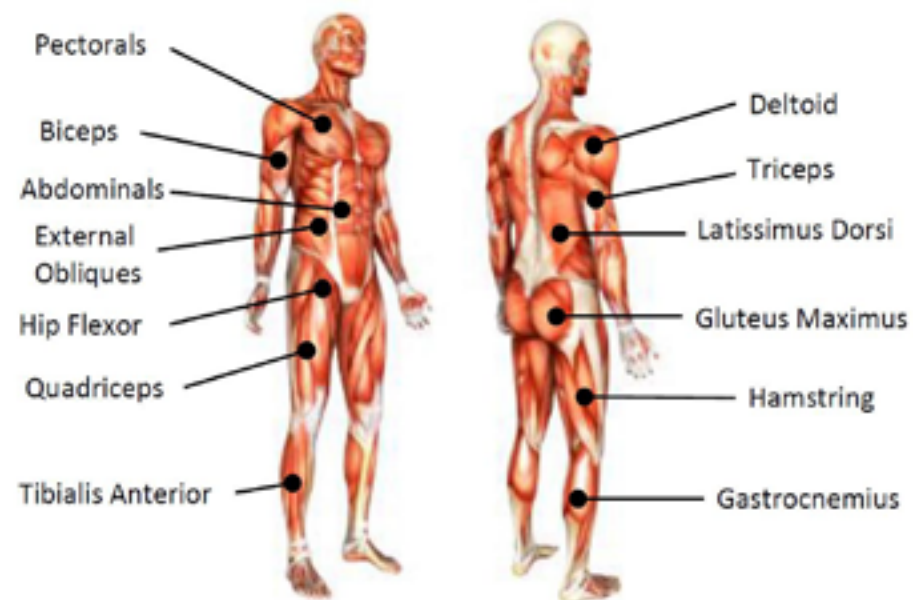
Phases of a Warm Up (1)			
	Term	Phase	Description
1	Pulse Raiser	First	Light continuous activity such as slow jogging, is used to increase heart rate and blood flow . Muscles, ligaments and synovial fluid in the joints are warmed, increasing flexibility
2	Stretching	Second	Stretching the main muscle groups and joints increases their elasticity and mobility so that they are less likely to be strained.
3	Skills Specific	Third	Sport specific drill performed to focus on muscle groups that come under particular stress in the planned activity.

Principles of a Warm Up (2)		
	Principle	Description
1	Prepare the Body	To gradually prepare the body and mind for physical activity.
2	Increases Body Temperature	Makes muscles, tendons and ligaments more elastic increasing range of movement and reducing the risk of injury at a joint or in a muscle.
3	Increase Blood Flow	By increasing the heart rate, blood flow increases resulting in an increase in the oxygen being supplied to muscles .
4	Injury Prevention	To ensure that muscles are stretched and prepared for physical activity to avoid injuries such as strains.

Principles of a Cool Down (3)		
	Principle	Description
1	Prevent Muscle Soreness	To gradually allow the body and mind for recover from physical activity .
2	Reduce Body Temperature	Allows muscles to cool down slowly reducing the chance of tightness and muscle ache to set in after activity.
3	Reduce Heart Rate	Allows the body to slowly return to its resting state .

Immediate Effects of Exercise on the Body (1)		
	Immediate Effects of Training	Body System
1	Increase temperature of synovial fluid	The Skeletal System
2	Increased flexibility	
3	Rise in muscle temperature	The Muscular System
4	Increased blood flow to muscles	
5	Increased flexibility	
6	Muscle soreness (DOMS)	
7	Increased heart rate, cardiac output	The Cardiovascular System
8	Blood diverted to muscles from digestion and other systems (vascular shunting)	
9	Increase in blood pressure	
10	Increased rate of breathing	The Respiratory System
11	Increased rate of gaseous exchange	
12	Increased depth of breathing	

Structure of the muscular system



Define:
Platonic Relationship

A friendship or relationship where there is no romantic, intimate or sexual feelings.
Friends and Colleagues.

Define:
Intimate Relationship

A relationship which can include a sexual attraction and sexual activity.
Boyfriend. Girlfriend, Married

Define:
Familial Relationship

A relationships with someone who has a blood, kinship or legal tie to you.
Parents, Siblings etc.

Define:
Toxic Relationship

A relationship that has a negative impact on your mental health and self-esteem.

Friendships

Good friends make you feel good

Good friends say and do things that make you feel good, giving compliments and congratulations and being happy for you.

Good friends listen

A good friend allows you to talk and doesn't interrupt you. They're interested in what you have to say.

Good friends support each other

If you're feeling down, a good friend will support you. If you need help, a good friend will try to help you out.

Good friends are trustworthy

If you tell a good friend something private, they won't share it. You can trust a good friend not to be judgmental.

Good friends handle conflict respectfully and respect boundaries

A good friend will tell you if you've done something to hurt them. If you tell a good friend they've hurt you, they'll be sorry and won't do it again.

Friends not followers

In the digital world you can feel under pressure to have a lot of friends and followers. Remember that you only need a small circle of friends to be happy,

Toxic Friendships

Sometimes people who claim to be your friends can show bullying behaviour. This is sometimes called a 'frenemy' but is a type of toxic relationship. You can spot them by:

- They might say "brutally honest" things to you which are unkind or hurtful
- Put pressure on you to do things you don't want to do
- Be manipulative (e.g. 'If you were my friend you would...')
- Put you down
- Laugh at you, or encourage others to laugh at you
- Talk about you behind your back
- Deliberately exclude you from group chat and activities
- Take the "banter" too far
- Share things about you online
- Make you feel bad about yourself

What to do if you are in a toxic friendship

- Remember: the problem isn't you:** Hold on to that thought. Their behaviour might make you feel bad, but they need to change, not you.
- Talk to them about how their behaviour makes you feel:** Explain calmly and without accusation. Be specific, Tell them what you'd like to happen moving forward. Their response will tell you a lot, sometimes our behaviour hurts others without us realising.
- If they apologise, give them another chance:** If they mean it, they'll change their behaviour and stop making you feel bad. However, sometimes frenemies might apologise insincerely, and their behaviour afterwards won't change. If they're still making you feel bad despite what you've told them, it's time to move on.
- Make new friends:** Moving on can be scary, but you deserve people in your life who support you and make you feel good about yourself. See our guide to making new friends for help.
- Don't retaliate:** It can be tempting to encourage others to exclude your former frenemy, or to put them down behind their back. Don't do this: you're only showing the same behaviour you found difficult in them.

Define:

Puberty

The process of development from child to adult. Usually consisting on both physical and emotional changes.

Define:

Adolescence

A life stage which is between the ages of 9-18 and is typically where puberty occurs.

Define:

Menstruation

Also known as a period. The process in a woman of discharging blood and other material from the lining of the uterus every 28 days. This happens up until menopause and pauses during pregnancy.

Define:

Wet Dream

An involuntary ejaculation that occurs when a person is asleep.

Physical Changes

- | | |
|-----------|---|
| Boys Only | <ul style="list-style-type: none"> • Facial Hair • Voice Breaks • Erections • Wet Dreams • Widening of the chest and shoulders |
|-----------|---|

- | | |
|------------|--|
| Girls Only | <ul style="list-style-type: none"> • Menstruation/Periods begin • Breast growth • Stretch marks • Hips Widen |
|------------|--|

- | | |
|------|--|
| Both | <ul style="list-style-type: none"> • Growth of pubic hair • Spots and pimples • Greasy skin and hair • Grow taller • Body Odour |
|------|--|

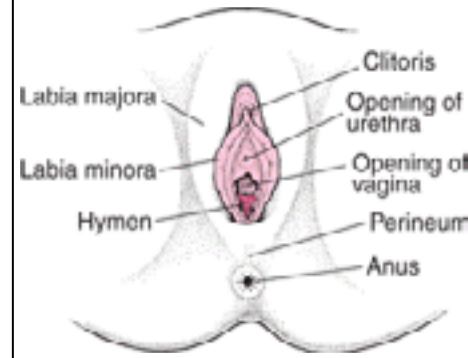
Who Can you turn to for help and Support

Parents or trusted family members Teachers or school Staff
Your Doctor or Practice Nurse School Nurse

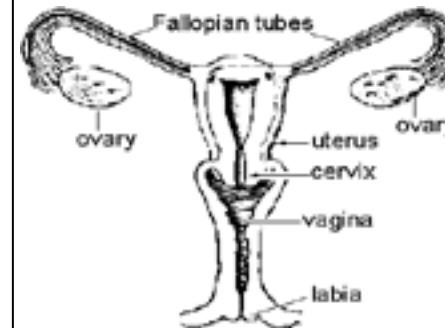
NSPCC Helpline: 0808 800 5000 (24 hours, every day)
nspcc.org.uk
Childline Helpline: 0800 1111 (24 hours, every day)
https://www.childline.org.uk

NHS Live Well Website www.NHS.UK/Livewell

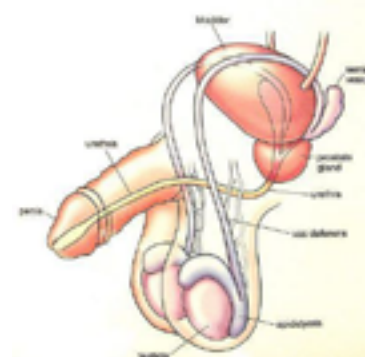
Female Genitalia - External



Female Genitalia - Internal



Male Reproductive System



Things to Remember

- Puberty begins at different times for different people.
- Changes will happen at different rates and in a different order for different people,
- Everyone goes through puberty, you are not alone.
- Good diet and exercise can help deal with some of the physical changes.
- Puberty is normal despite feeling very abnormal.

Year 7 Knowledge Organizer Autumn Term

Why are the 5 Pillars important to a Muslim?

Carrying out these obligations provides the framework of a Muslim's life, and weaves their everyday activities and their beliefs into a single cloth of religious devotion.

No matter how sincerely a person may believe, Islam regards it as pointless to live life without putting that faith into action and practice.

Carrying out the Five Pillars demonstrates that the Muslim is putting their faith first, and not just trying to fit it in around their secular lives.

Speciesism: placing one species above another. e.g. eating meat.

Sentient: having emotions and being aware of oneself.

*Do we treat animals well? Do we take medication tested on them?
Do we eat meat and wear leather?*

A Muslim follows Islam
A Christian follows Christianity
A Jew follows Judaism

*What is authority? Who has authority over us?
Think of all the reasons why this is a good thing. How can the 5 Pillars be an authority for Muslims?; give guidance and help during difficult times.*

Key Words

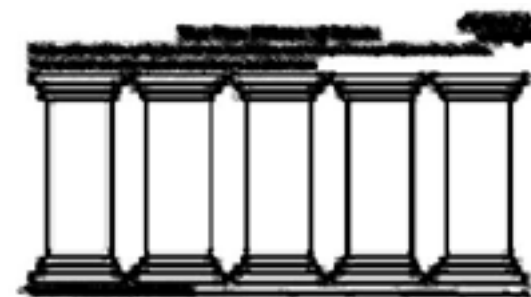
Shahadah (faith)	sincerely reciting the Muslim profession of faith
Salah (prayer)	performing ritual prayers in the proper way five times each day
Zakah (charity)	paying an alms (or charity) tax to benefit the poor and the needy
Sawm (fasting)	fasting during the month of Ramadan
Hajj (pilgrimage)	pilgrimage to Mecca

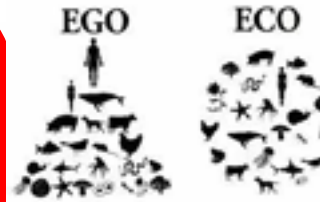
The Five Pillars consist of:

Shahadah Salat Zakat Sawm Hajj

The 5 Pillars have been around for roughly 1500 years. They pre-date many laws.

Shahadah is the most important pillar because...'





*What causes suffering to humans?
Different types of suffering; emotional, physical, psychological etc. someone can be starved, called names or treated less well than their peers which all contribute towards suffering.
Peter Singer's quote is not about if they can talk or reason but if they can suffer which is the most basic emotion in terms of how we treat people.*

Speciesism;

Why do we treat animals differently to humans?

Prejudice, history and how society regards animals. Most of us never think about the meat on our plate and where it has come from or whether it was treated well.

If we say we want to treat animals the same as humans we would technically have to give up meat, fur and medicines tested on animals.

Speciesism; placing one species above another. e.g. eating meat.

Sentient; having emotions and being aware of oneself.

Do we treat animals well? Do we take medication tested on them? Do we eat meat and wear leather?

Year 7 – Scientific skills

Section 1: Investigations

Stage 1 - ask a question

Stage 2 - make a prediction

Stage 3 – identify variables

Stage 4 – plan a method
picking the right equipment

Stage 5 - identify any risks
and put in place precautions

Stage 6 – record your
observations or results

Stage 7 – evaluate and
improve your method

Stage 8 – analyse your
results, what is the answer to
your question?



Always use
a pencil and
ruler!

Section 2: Variables

Independent	The thing you are changing in the investigation
Dependent	The thing you are measuring in the investigation
Control	Things which you need to keep the same to make sure it is a fair test.

chIn meD

Change the
independent

Measure the
dependent

Section 3: Key terms

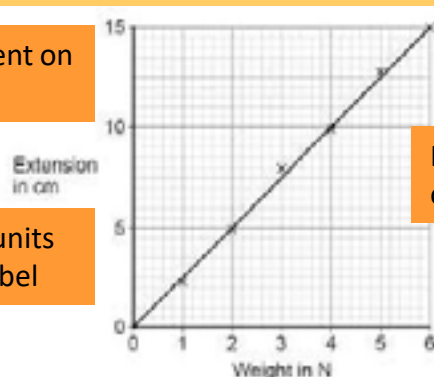
Accuracy	Using the appropriate equipment so your results are valid
Precision	This is how many decimal places you make your measurements e.g. 3.24cm is more precise than 3.2cm
Repeatability	How likely it is you would get the same results if you repeated the experiment
Reproducibility	How likely it is someone else would get the same results as you if they did the experiment

Section 5: Data analysis

Mean	Add up all the values and divide by how many you have
Range	Take the smallest value away from the largest.
Uncertainty	Divide the range by two

Section 4: Drawing graphs

Dependent on
y-axis



Straight line
of best fit

Independent
on x-axis

Include units
in axis label

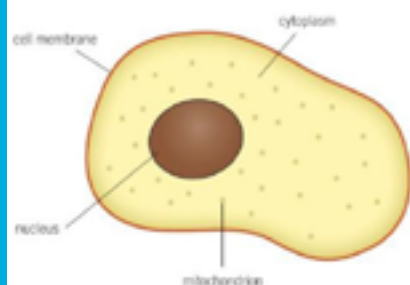
Axis scale
even spaces
between each
number



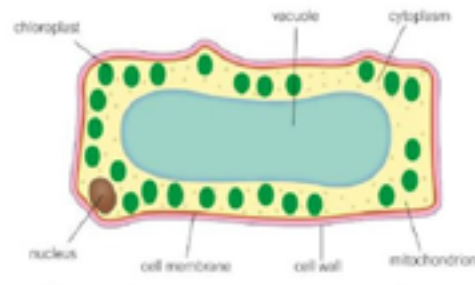
Y7 Cells

Section 1: Cell Structure

Cell Structure	Function	Eukaryotic	
		Animal Cells	Plant Cells
1 Nucleus	Contains genetic information that controls the functions of the cell.	Y	Y
2 Cell membrane	Controls what enters and leaves the cell.	Y	Y
3 Cytoplasm	Where many cell activities and chemical reactions within the cell occur.	Y	Y
4 Mitochondria	Provides energy from aerobic respiration.	Y	Y
5 Chloroplast	Where photosynthesis occurs.		Y
6 Vacuole	Used to store water and other chemicals as cell sap.		Y
7 Cell wall	Strengthens and supports the cell. (Made of cellulose in plants.)		Y



▲ An animal cell.



▲ A plant cell.

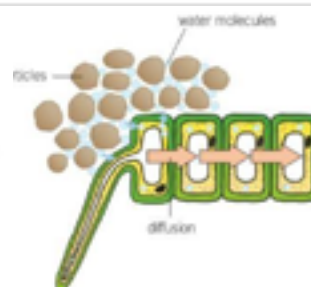
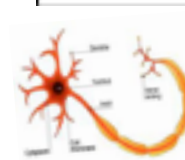
Section 3: Microscopy

13 Magnification	The degree by which an object is enlarged. $\text{Magnification} = \frac{\text{size of image}}{\text{size of real object}}$
14 Microscope	An instrument used to magnify objects.

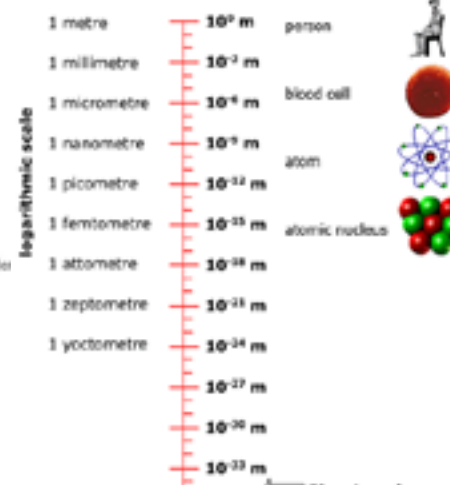


Section 2: Specialised Cells

Specialised Cell	How structure relates to function
8 Sperm cell	Streamlined head and long tail. Contains lots of mitochondria to transfer energy.
9 Nerve cell	Long and thin. Transmits electrical impulses over a distance.
10 Red blood cell	Contains haemoglobin to transport oxygen. Disc-like shape to increase surface area.
11 Root hair cell	Long extension to increase surface area for water uptake by osmosis; thin cell wall.
12 Leaf cell	Found at the top of the leaf and are packed with chloroplasts to maximise photosynthesis.



Scale of magnitude



Section 4: Diffusion

15 Diffusion	The movement of particles from an area of high concentration to an area of low concentration.
16 Concentration	A measure of the number of particles of a substance in a fixed volume.

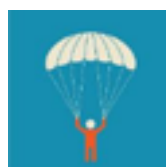
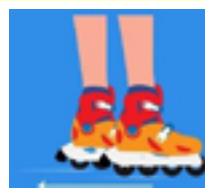


Science - Physics - Forces

Forces

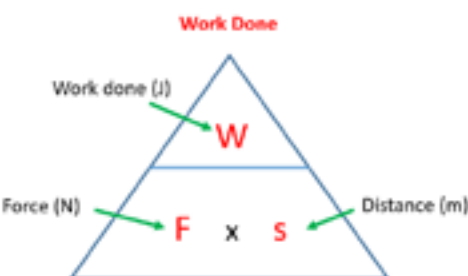
Section 1: Introduction to Forces		
1	Forces	A push or pull upon an object
2	Newtons	Forces are measured in Newtons (N) using a Newton meter
3	Interaction pair	This is formed when a force exist between objects.
4	Forces can...	Deform objects, change their speed or change their direction of motion
5	Examples of forces	Gravity, friction and air resistance.
6	Contact force:	A force that acts when an object is touching somethings such as friction
7	Non-contact force:	Magnetic, electrostatic or gravitational force that acts when objects are not in contact

Name of Force	What causes it?
Friction	When two objects rub together
Air resistance	When an object rubs against air particles
Reaction	A force that acts in the opposite direction
Weight	The force an object exerts on the ground due to gravity
Thrust	The force that drives on objects with an engine



Mass = 120 kg
Weight = 120×10
= 1200 N

Mass = 120 kg
Weight = 200 N



Section 2 Balanced and unbalanced forces	
Resultant force	The total force acting on an object:
Balanced force	When the forces acting in opposite directions are the same, the resultant force is zero. The object will remain stationary or carry on moving at the same speed.
Unbalanced force	When the forces acting on an object are different in size, the resultant force must be more than zero. The object might change speed or direction.



For example, the resultant force acting on this object is $5N - 5N = 0N$

Section 3 Investigating friction	
In this investigation you pulled different wooden blocks along the desk and measured the force required.	
Independent	The type of surface
Dependent	The force required to move the block (N)

Wood block and masses, M



Section 4 Weight, mass and gravity	
Weight (N)	The force of the Earth acting on an object due to its mass
Mass (kg)	The amount of matter an object is made up of
Equation	Weight (N) = mass (kg) x gravitational field strength (N/kg)

Science - Physics - Energy

Energy

Section 1 Energy basics	
Energy	Measured in Joules (J). Often written in kiloJoules (kJ) energy is the ability to do work
Food	Energy store which we need to take into our bodies. We need different amounts of energy to do different activities.
Fuel	Energy store which we need to heat houses or make transport work.

Section 2 Energy stores	
Energy to do with...	Type of store
Food, fuels, batteries	Chemical
Hot objects	Thermal
Moving objects	Kinetic
Position in a gravitational field	Gravitational potential
Changing shape, stretching or squashing	Elastic
Giving out light	Light
Giving out sound	Sound
Atoms and nuclear power	Nuclear

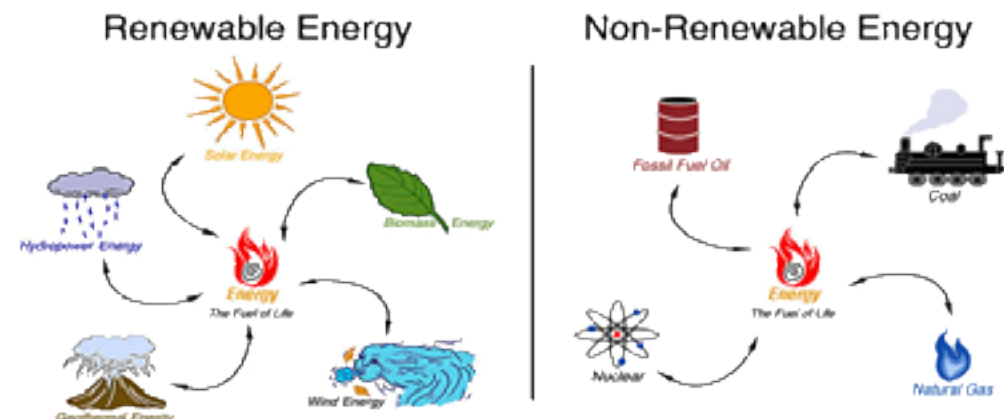
Term	Definition
Conduction	Conduction allows energy and heat to pass through an item quickly. This is usually a solid
Convection	Convection is described as the movement of particles of gases and liquids away from a heat source to form currents.
Insulation	Materials which do not transfer energy easily from a hotter area to a cooler area are called insulators. Air and plastics are good insulators.
Radiation	All objects emit radiation. Radiation works via waves and not particles



Section 3 Transferring energy	
Law of conservation of energy	Energy cannot be created or destroyed, it can only be stored or transferred.
Method of transferring energy	Electric current, light & sound
Wasted energy	Energy which is transferred into a store you do not want

Section 4 Work done	
Work done	The energy required to exert a force over a distance.

Section 6 Generating energy	
Fossil fuels	Non-renewable fuels coal, gas and oil. Made from the remains of sea creatures and plants.
Renewable energy	Energy sources which will not run out, such as wind, solar, tidal, geothermal, wave, biomass and hydrothermal.



Word	Definition
1. Element	a substance made of only one type of atom
2. Compound	2 or more different atoms joined together
3. Mixture	2 or more atoms and/or molecules that are not joined together
4. Molecule	2 or more atoms chemically bonded together
5. Atom	smallest type of particle
6. Particle	A word that can be used to mean an atom or a molecule

Elements and the Periodic Table

- Property: The characteristics of something.
- Chemical properties include the reactions a substance can take part in.
- Physical properties include colour and boiling point.

The periodic table:

- The Periodic Table is a way of organising all the known elements.
- It was put together by Dmitri Mendeleev
- He left gaps for undiscovered elements and predicted their properties correctly

Key

relative atomic mass
atomic symbol
atomic (proton) number

Metals

Non-metals

alkali metals
transition metals
halogens
noble gases

liquid
gas

Spanish Y7- Mi Vida (1)

Los números 1-31		Numbers 1-31	
Uno	1	Diecisiete	17
Dos	2	Dieciocho	18
Tres	3	Diecinueve	19
Cuatro	4	Veinte	20
Cinco	5	Veinte y uno	21
Seis	6	Veintidós	22
Siete	7	Veintitrés	23
Ocho	8	Veinticuatro	24
Nueve	9	Veinticinco	25
Diez	10	Veintiséis	26
Once	11	Veintisiete	27
Doce	12	Veintiocho	28
Trece	13	Veintinueve	29
Catorce	14	Treinta	30
quince	15	Treinta y uno	31
dieciséis	16		

Los días	Days
Lunes	Monday
Martes	Tuesday
Miércoles	Wednesday
Jueves	Thursday
Viernes	Friday
Sábado	Saturday
Domingo	Sunday

¿Tienes mascotas?	Do you have pets?
Tengo...	I have...
Un perro	A dog
Un gato	A cat
Un conejo	A rabbit
Un caballo	A horse
Un pez	A fish
Una serpiente	A snake
Un ratón	A mouse
No tengo mascotas	I don't have pets

Los meses	Months
Enero	January
Febrero	February
Marzo	March
Abril	April
Mayo	May
Junio	June
Julio	July
Agosto	August
Septiembre	September
Octubre	October
Noviembre	November
Diciembre	December

Saludos	Greeting
Hola	Hello
Buenas días	Good day
Buenas tardes	Good afternoon
Buenas noches	Good evening
¿Qué tal?	How are you?
Bien, gracias	Good, thanks
¿Cómo te llamas?	What is your name?
Me llamo	My name is
¿Dónde vives?	Where do you live?
Vivo en...	I live in...

Los colores		Colours	
Blanco/a	White	Azul	Blue
Amarillo/a	Yellow	Azul claro	Light blue
Negro/a	Black	Azul oscuro	Dark blue
Rojo/a	Red	Rosa	Pink
verde	Green	Naranja	Orange
Gris	Grey	Morado	Purple
marrón	Brown	Violeta	Violet

Spanish Y7- Mi Vida (2)

¿Qué tipo de persona eres?	What type of person are you?
Soy...	I am...
Divertido/a	Fun/funny
Estupendo/a	Brilliant
Fenomenal	Fantastic
Generoso/a	Generous
Genial	Great
Guay	Cool
Listo/a	Clever
Serio/a	Serious
Simpático/a	Kind
Sincero/a	Sincere
Tímido/a	Shy
Tonto/a	Silly
Tranquilo/a	Calm
Interesante	Interesting
Aburrido/a	Boring

Palabras muy frecuentes	High Frequency Words
Bastante	Quite
No	No
Mi/mis	My
Muy	Very
Pero	But
También	Also
Tu/tus	Your
Un poco	A little
Y	And

Mi pasión	My passion
Mi pasión es...	My passion is
Mi héroe es...	My hero is
El deporte	Sport
El fútbol	Football
La música	Music
El tenis	Tennis
El rugby	Rugby
La escalada	Rock climbing

¿Tienes hermanos?	Do you have siblings?
Tengo...	I have
Una hermana	A sister
Un hermano	A brother
Una hermanastra	A step/half sister
Un hermanastro	A step/half brother
No tengo hermanos	I don't have siblings
Soy hijo único	I'm an only child (boy)
Soy hija única	I'm an only child (girl)

Estrategia 1

Look, say, cover, write, check

Use the five steps below to learn how to spell any word.

- 1 LOOK** Look carefully at the word for at least 10 seconds.
- 2 SAY** Say the word to yourself or out loud to practise pronunciation.
- 3 COVER** Cover up the word when you feel you have learned it.
- 4 WRITE** Write the word from memory.
- 5 CHECK** Check your word against the original. Did you get it right? If not, what did you get wrong? Spend time learning that bit of the word. Go through the steps again until you get it right.

Spanish Y7- Mi Tiempo Libre

¿Qué te gusta hacer?	What do you like to do?
Me gusta	I like
Me gusta mucho	I really like
No me gusta	I don't like
No me gusta nada	I really don't like
Chatear	To chat
Escuchar música	To listen to music
Jugar a los videojuegos	To play videogames
Leer	To read
Mandar SMS	To send texts
Navegar por internet	To surf the net
Salir con mis amigos	To go out with my friends
Ver la televisión	To watch TV
Porque es	Because it is
Interesante	Interesting
Guay	Cool
Divertido/a	Fun

Las estaciones	The seasons
La primavera	Spring
El verano	Summer
El otoño	Autumn
El invierno	Winter

¿Qué deportes haces?	What sports do you do?
Hago artes marciales	I do martial arts
Hago atletismo	I do athletics
Hago equitación	I do horseriding
Hago gimnasia	I do gymnastics
Hago natación	I do swimming
Hago el ciclismo	I do cycling
Juego al baloncesto	I play basketball
Juego al fútbol	I play football
Juego al tenis	I play tennis
Juego al voleibol	I play volleyball
Juego al rugby	I play rugby
Juego al cricket	I play cricket

¿Qué tiempo hace?	What's the weather?
Hace calor	It is hot
Hace frío	It is cold
Hace sol	It is sunny
Hace buen tiempo	It is good weather
Hace mal tiempo	It is bad weather
Llueve	It rains
Nieva	It snows
Hay tormentas	There are storms

¿Qué haces en tu tiempo libre?	Greeting
Bailo	I dance
Canto	I sing
Hablo con mis amigos	I talk with my friends
Monto en bici	I ride my bike
Saco fotos	I take photos
Toco la guitarra	I play the guitar
Hago deportes	I do sports
Toco el piano	I play the piano

Palabras muy frecuentes		High frequency words	
Con	With	Porque	Because
Cuando	When	También	Also
Mucho	Lots/a lot	Y	And
O	Or	A veces	Sometimes
Nunca	Never	De vez en cuando	From time to time
Pero	But	Todos los días	Everyday

Spanish Y7- Los verbos

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



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