



**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-quiz video: <https://youtu.be/cFUuhtPIMPU>

## Step 1

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

## Step 2

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

## Step 3

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

## Step 4

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

**DO NOT PEEK!**

## Step 5

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

## Step 6

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

# Knowledge Organiser - YEAR 7 - AUTUMN TERM



## Contents

Art - Insects & Bugs	4	Maths - Autumn 2	31
Art - Colour	5	Music - Basic Theory & Keywords	32
Art - Drawing	6	PE - Sport - Hockey	33
Art - Formal Elements	7	PE - Sport - Basketball	34
Art - Painting	8	PE - Sport - Badminton	35
Art - Photo + Critique	9	PE - Sport - Netball	36
Art - Textiles and Clay	10	PE - Sport - Rugby	37
Dance	11	PE - Sport - Football	38
D&T - Steady Hand Game	12	PE - Theory - Part 1	39
D&T - Steady Hand Game Pt2	13	PE - Theory - Part 2	40
D&T - Door Stop	14	PSHE - Friendships	41
D&T - Door Stop Pt2	15	PSHE - Puberty	42
D&T - Picture Frame	16	RE - Part 1	43
D&T - Picture Frame Pt2	17	RE - Part 2	44
D&T - Food Technology	18	Science - Scientific Skills	45
Drama 1	19	Science - Biology - Cells	46
Drama 2	20	Science - Physics - Forces	47
English	21	Science - Physics - Energy	48
French - Core Language	22	Science - Chemistry - Elements	49
French - Basics	23	Spanish - Mi Vida - Part 1	50
French - Topic 1 - C'est Perso!	24	Spanish - Mi Vida - Part 2	51
Geography - Continents & Oceans	25	Spanish - Mi Tiempo Libre	52
Geography - Population of Urbanisation	26	Spanish - Los Verbos	53
History Part 1 + 2	27		
History Part 3 + 4	28		
ICT - Careers & Data Representation	29		
Maths - Autumn 1	30		

1.

**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

**Literacy focus**

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

2.

**Artist focus**

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

3.

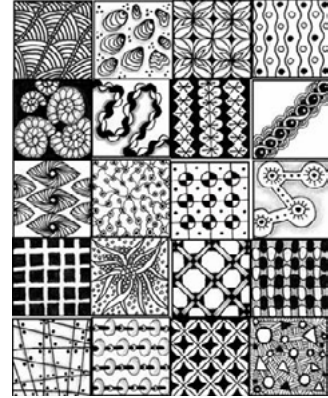
Year 7 Project 1  
INSECTS + BUGS  
Autumn Term



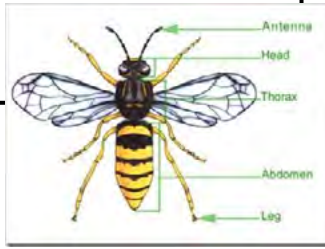
**Genre focus**

**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.

6.



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

2



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



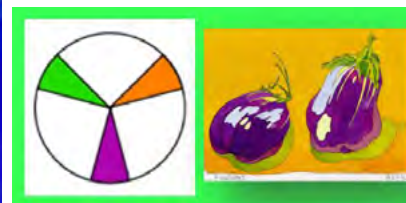
Uses the primary colours: Red, Yellow & Blue. They can not be made by mixing other colours.

### 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.

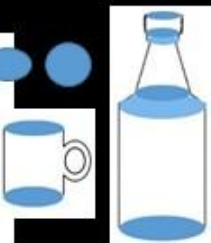
## DRAWING

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

### Line drawing

#### 1 ELLIPSES:

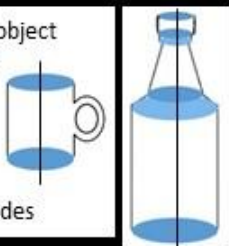
The circle found at the top and the base of a cylindrical object; i.e. bottle, cylinder, etc. Ellipse can also occur when the sides of the bottle change direction, i.e. get narrow or wide.



**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.



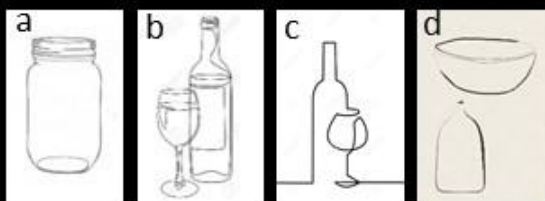
#### NEGATIVE SPACE: (All in black)

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:

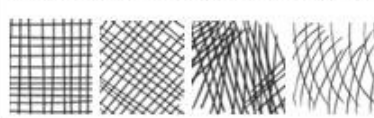
Texture is the **surface quality** of something. Artists use mark-making techniques to represent different textures.



#### 8 Hatching



#### Cross-Hatching in 2,3 or more directions



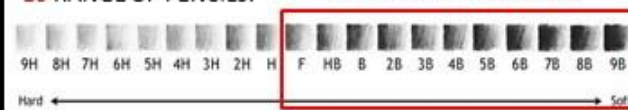
### Other elements of drawing

#### 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.



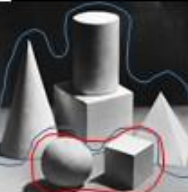
#### 10 RANGE OF PENCILS:



**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**

**Primary + Secondary = Tertiary**

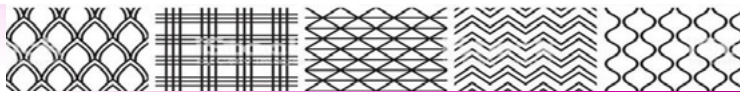
YELLOW	+	ORANGE	=	YELLOW-ORANGE
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BLUE	+	GREEN	=	BLUE-GREEN
YELLOW	+	GREEN	=	YELLOW-GREEN

**TINT**  
is adding white to a colour

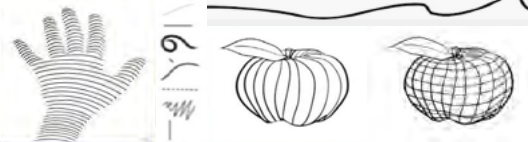
**TOPE**  
is adding grey to a colour

**SHADE**

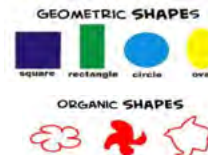
**3 PATTERN** is a symbol or shape that is repeated. A design that is created by repeating lines, shapes, tones or colours. The design used to create a pattern is often referred to as a **motif**. Motifs can be simple shapes or complex arrangements. Tessellating any image creates a Repetitive pattern.



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



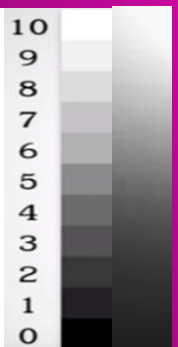
**5 SHAPE** is an area enclosed by a line. It could be just an outline or it could be shaded in. When drawing shapes, you must consider the size and position as well as the shape of the area around it. The space between the shapes is called **negative space**.



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



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



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



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



SCALE-RELATIVE SIZE OF ONE OBJECT TO ANOTHER

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



PROPORTION-RELATIVE SIZE OF PARTS OF A WHOLE

## PAINTING

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

### 1 Watercolour brushes:

Are specially made to allow the artist to control the flow of the colour from the brush onto the paper. A watercolour brush should hold a fine point when wet and spring back into shape after each stroke. It should carry the colour allowing the artist to:

a) lay it down on the paper evenly 2) consistency.



### 2 WATERCOLOUR:

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



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



### WATERCOLOUR PAPER:

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

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



### 3 WATERCOLOUR TECHNIQUES:

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



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



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



### d) Masking Fluid

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



### 4 ROUND BRUSHES:

Good for sketching, outlining, detailed work, controlled washes, filling in small areas.



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



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



### ACRYLIC PAINTING SURFACES:

Canvas, paper, wood, or anything which is neither greasy nor too glossy.



### ACRYLIC PAINTING BRUSHES:

A good selection of round and flat stiff synthetic brushes. Palette knives.



### 6 ACRYLIC PAINTINGS TECHNIQUES:

**UNDERPAINTING:** A layer of paint applied first to a canvas or board.



#### a) Tonal Grounds Under Painting

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

#### b) A Tonal Under-Painting

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



**IMPASTO:** A technique used in painting, where paint is laid on in very thick layers that the brush or palette-knife strokes are visible. Paint can also be mixed right on the canvas.



When dry, impasto provides texture; the paint appears to be coming out of the canvas.

### 7 POSTERPAINT:

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



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



### 9 MIXED MEDIA:

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

### ASSEMBLAGE:

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



### MIXED MEDIA COLLAGE:

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



### 10 SGRAFFITO TECHNIQUE:

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



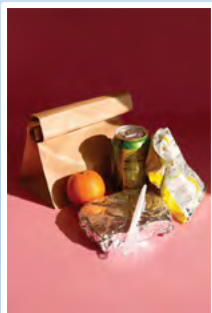


## 1. Types of Photography



### 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

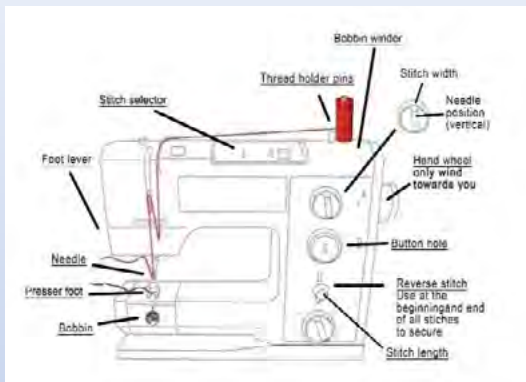
Line in art is similar to how a musician follows lines and creates expression using notes played for different lengths of time.

- 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

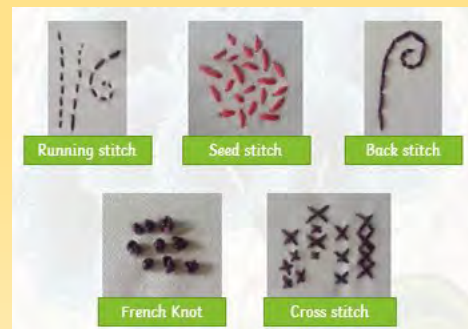
### 5. Couching



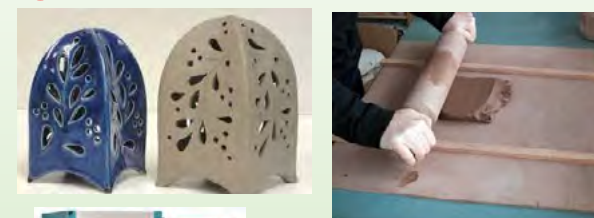
### Applique



### 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





# Dance



<b>Performing skills</b>	Term	Definition	<b>Tier 2 vocabulary</b>	
	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.		

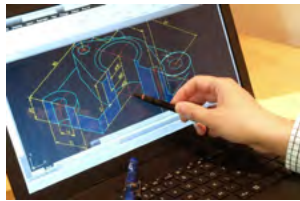
<b>Choreography skills</b>	Term	Definition	<b>Tier 3 vocabulary</b>	
	Actions	the dance movements.		
	Levels	the different heights the dancer reaches whilst performing.		
	Formations	the positions or shape that the dancers stand in.		
	Directions	the direction of travel or the way that the dancers are 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.		

<b>Styles</b>	<b>Street dance</b> often uses energetic and sharp movements whilst maintaining a low centre of gravity.	<b>Genre</b>	<b>Narrative dance</b> tells a story and has characters.
	<b>Contemporary</b> is an expressive style of dance which often uses floor work, lifts, contractions and falls.		<b>Abstract dance</b> places importance on the movement rather than portraying a storyline.

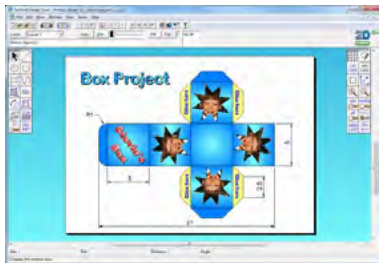
## Year 7 Design and Technology Knowledge Organiser Steady Hand Game

### 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

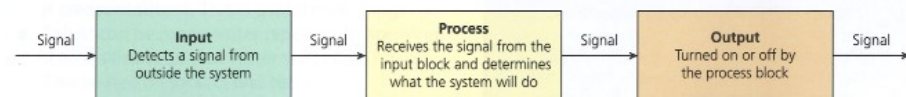
A system is a group of parts that work together to carry out a function. Almost all products that contain electronics and mechanical parts are systems. If you understand the blocks that make up a system and how these interact with each other, you will be able to design complex products quickly and easily.

### 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

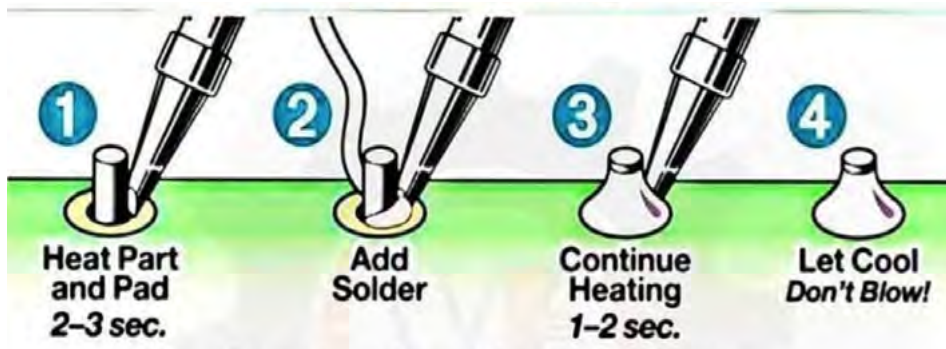
## Year 7 Design and Technology Knowledge Organiser Steady Hand Game

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

### Weaving and Knitting into Fabrics

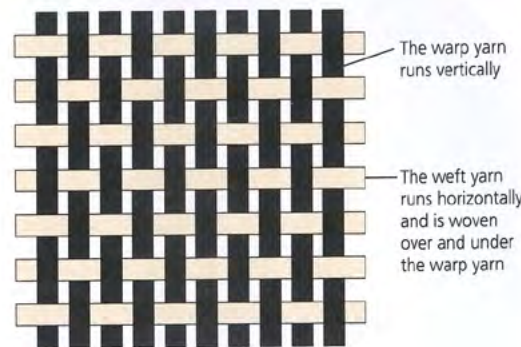
#### Types of material and their uses

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.



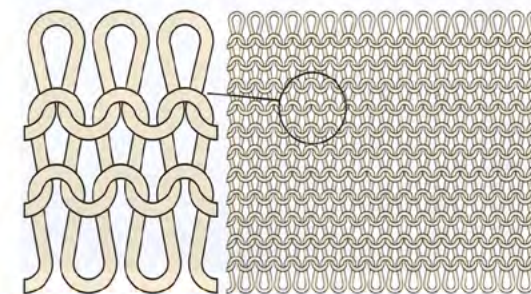
▲ A plain weave structure

#### 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



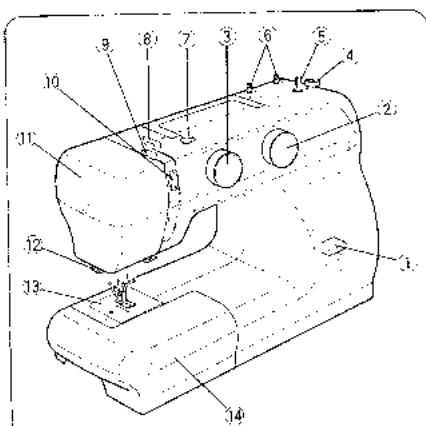
# D&T - Door Stop Pt2

## Year 7 Design and Technology TEXTILES / DOOR STOP Knowledge Organiser

### Setting up the Sewing Machine Step by Step

#### Sewing machines

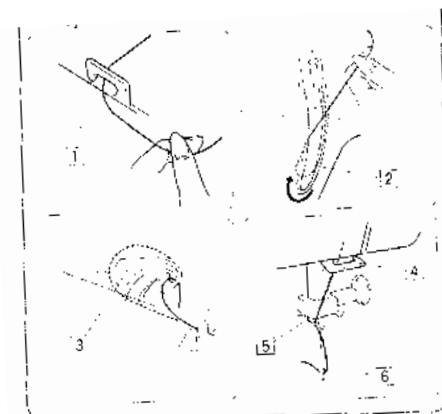
Most sewing machines have a variety of functions and stitches to complete the different processes that are needed to make a textile product. They have attachments, such as a special 'foot' for inserting a zip. Computerised sewing machines can be used to embroider original designs. An overlocker is a 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

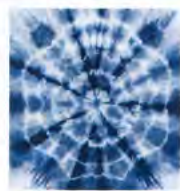

- 1) Reverse stitch button
- 2) Stitch length dial
- 3) Pattern selector dial
- 4) Bobbin winder stopper
- 5) Bobbin winder spindle
- 6) Spool pins
- 7) Bobbin winder thread guide
- 8) Thread guide
- 9) Thread take-up lever
- 10) Thread tension dial
- 11) Face plate
- 12) Needle threader
- 13) Needle plate
- 14) Extension table



1. Draw the thread into thread guide using both hands.
  2. While holding the thread near spool, draw thread down into the tension area and then around the check spring holder.
  3. Firmly draw the thread up and through the take-up lever from right to left.
  4. Then draw the thread down and slip it into the lower thread guide.
  5. Draw the thread down and slip it into needle bar thread guide on the left.
  6. Thread the needle eye from front to back.
- Note :** You may want to cut the end of thread with sharp scissors for easier needle threading.

### Embellishments and surface decoration techniques

#### ▼ Decorative techniques

<b>Tie-dye</b>		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.
<b>Appliqué</b>		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.

#### ▼ Decorative techniques

<b>Fabric paints</b>		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.
<b>Embroidery</b>		Embroidery can be done by hand or machine. Computerised machines can stitch motifs and lettering.
<b>Decorations</b>		Decorations like beads, sequins, diamantes or pearls can be sewn onto fabric.

## 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

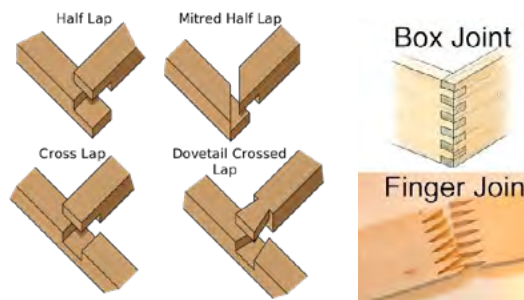
##### ▼ The properties and uses of selected hardwoods

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.



The Forest Stewardship Council symbol

## 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



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

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



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.

We need macro and micro nutrients in different amounts as they have different roles within our body.

Macro nutrients are our main energy providers and therefore we need a lot of them to help our bodies move and function throughout the day.

Macro nutrients include:  
Carbohydrates  
Protein  
Fats



Micro nutrients are only needed in small amounts as some of them the body can produce itself. Micro nutrients are needed to maintain normal cell function on a smaller scale, but they are just as important as macro nutrients as a lack of some micro nutrients can lead to serious health implications.

Micro nutrients include:  
Vitamins  
Minerals

### ENVIRONMENTAL HEALTH OFFICER

EHO enforces various food acts by looking at:

- Staff
- Processes in the workplace
- Food storage
- Equipment
- Food temperatures

They follow up complaints  
They follow up outbreaks of food poisoning

They have the power to:

- Inspect premises any time
- Inspect food
- Collect samples for analysis
- Issue improvement notices
- Close dirty premises immediately
- Impose fines
- Take legal action

EHO's also cover:



### Safe Cutting Techniques

#### Bridge Hold



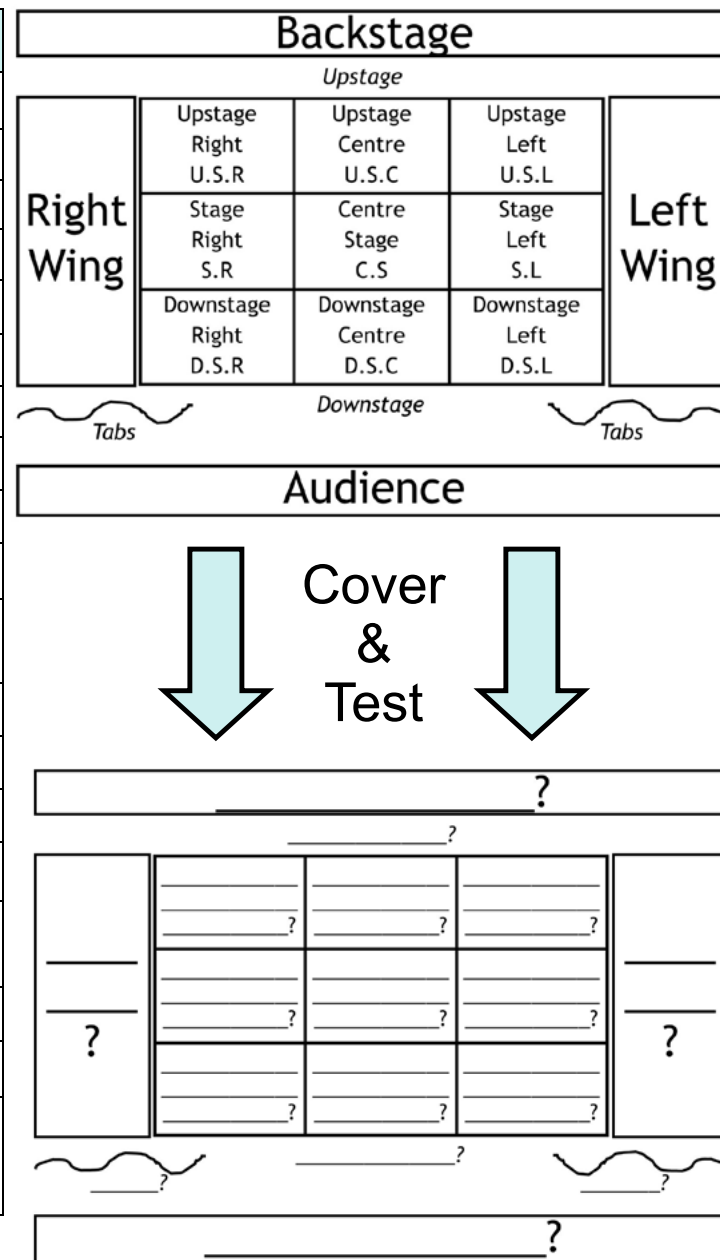
#### Claw Grip





### Theatre Terminology

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

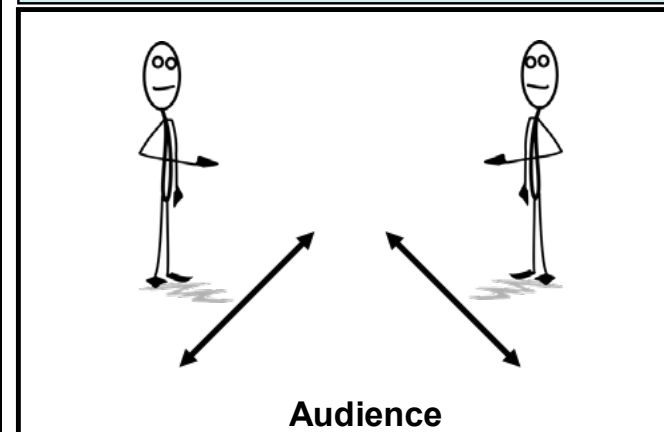
Term	Definition
<b>Communication</b>	This can be <b>verbal (using words)</b> or <b>non-verbal (without words)</b> . <b>In rehearsals</b> , your job is to listen to each other and offer your own ideas. <b>In performance</b> , the actor's job is to communicate with the audience, telling them, verbally and non-verbally, what their character is thinking and feeling.
<b>Collaboration</b>	How you <b>work together</b> . 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.
<b>Concentration</b>	In rehearsals this means <b>staying on task</b> and not wasting time. In performance it means staying in character and staying focussed.
<b>Character</b>	The <b>personality</b> of the person you are playing. 'Police Officer' is not a character, it is a job. ' <b>Grumpy</b> Police Officer' is a character because it tells us something about their <b>personality</b> .
<b>Conflict</b>	A <b>struggle</b> , a <b>problem</b> or a <b>challenge</b> that the characters must overcome. You cannot have interesting drama without conflict.
<b>Change</b>	The way character or story <b>develops</b> and <b>changes</b> 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.
<b>Conclusion</b>	The way your <b>play ends</b> . 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 <b>'open'</b> to the audience (making the 'V' shape)?
Are they <b>moving</b> like their characters?
Are they <b>speaking like</b> their characters?
Are they <b>speaking loudly</b> enough?
Are they <b>concentrating</b> as they perform / rehearse?
Does their performance <b>make sense</b> without them having to explain it to you?

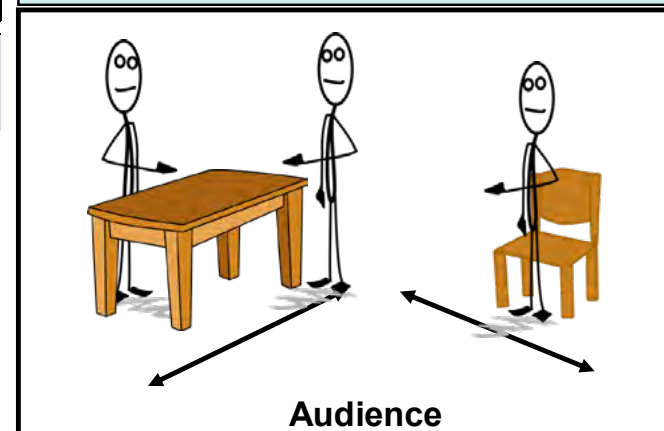
### The 'V' Shape: Acting

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.

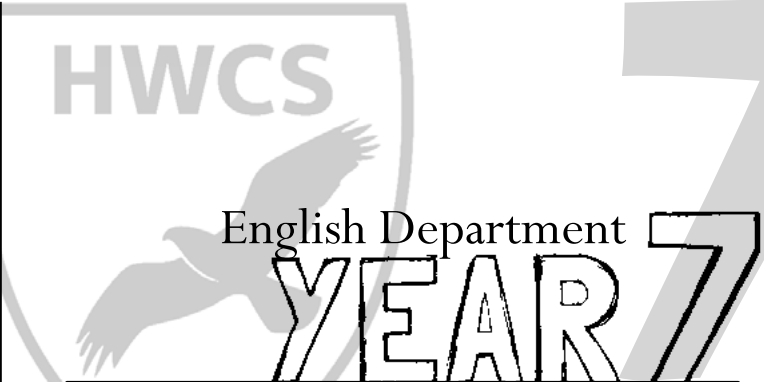
**FREE MORPHEME** – A morpheme that can stand as a word by itself, such as ‘book’. While most of our bound morphemes come from Latin or Greek, many of our free morphemes can be traced to other ancient languages.

**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 5<sup>th</sup> 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

## 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 11<sup>th</sup> century until the end of the 15<sup>th</sup> 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 not

### 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



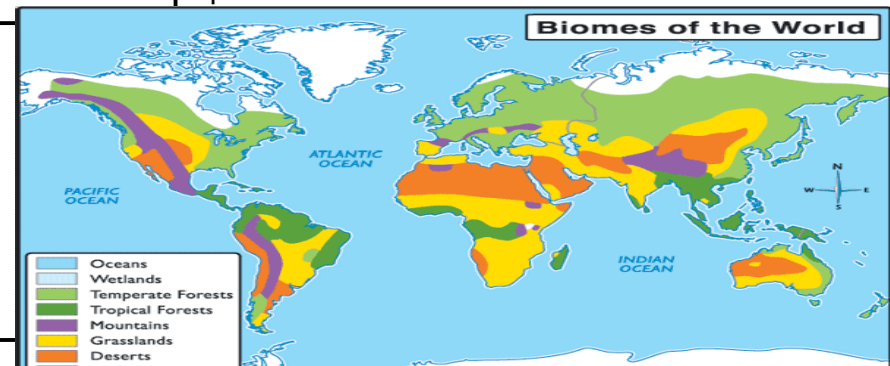
# Geography - Continents & Oceans



	CONTINENTS AND OCEANS KEY TERMS		BIOME KEY TERMS
<b>Continent</b>	large continuous mass of land	<b>Ecosystem</b>	An area in which plants, animals, and other organisms are linked to each other, and to the non-living elements of the environment.
<b>Country</b>	an area of land that is controlled by its own government	<b>Biome</b>	A very large ecosystem.
<b>Ocean</b>	A continuous body of saltwater that is contained on Earth's surface.	<b>Biomes are:</b> <b>Savanna</b>	Tropical grasslands, often found in Africa.
<b>Sea</b>	smaller than oceans, typically, partially enclosed by land	<b>Deciduous</b>	Trees that lose their leaves in winter. England has a lot of deciduous forests.
<b>Hemisphere</b>	The world is divided into two sections, north and south.	<b>Coniferous</b>	Evergreen trees, like pine forests, found in the northern latitudes.
<b>Equator</b>	The central line of latitude.	<b>Tundra</b>	Land is frozen for most of the year so only grasses grow here.
<b>Latitude</b>	Imaginary lines which show how far north or south a place is.	<b>Mountains</b>	areas of high land, sometimes topped with snow.



<b>Desert</b>	Very hot and dry areas.
<b>Tropical Rainforest</b>	Hot, humid growing conditions with many different species.

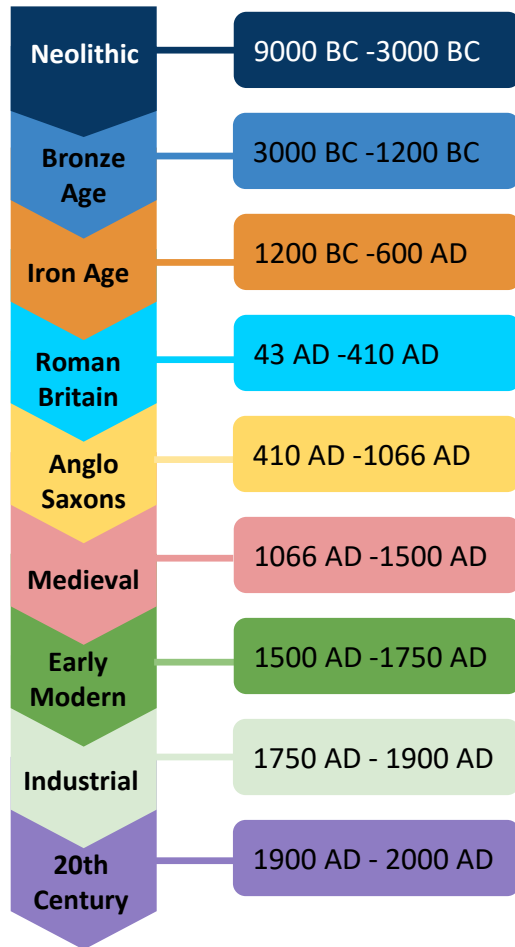


## Population of Urbanisation – Knowledge Organiser: Autumn One

<p><b>Three reasons for the increase in the world's population.</b></p> <ol style="list-style-type: none"> <li>1: Improvement in the world's agricultural practices</li> <li>2: Improvement in medicine</li> <li>3: Improvement in sanitation</li> </ol>	<p><b>Three rural-to-urban push factors:</b></p> <p>Push</p> <ol style="list-style-type: none"> <li>1: Lack of jobs</li> <li>2: Lack of education</li> <li>3: Crop failures and famine</li> </ol> <p><b>Three rural-to-urban pull factors</b></p> <ol style="list-style-type: none"> <li>1: Industrial jobs</li> <li>2: Cultural activities</li> <li>3: Technological innovations</li> </ol>	<p><b>Urban challenges faced during the industrial revolution</b></p> <ol style="list-style-type: none"> <li>1: A struggle for housing</li> <li>2: Boring and repetitive, low skills jobs</li> <li>3: Poor sanitation</li> <li>4: Low paid jobs</li> </ol>	<p><b>HIC: High Income country</b>          Example: Japan &amp; UK          Features: Good healthcare, Good education, good infrastructure</p>	<p><b>NEE: Newly emerging economy</b>          Examples: Brazil &amp; Nigeria          Features: High levels of inequality, rapid urbanisation, improving Quality of Life</p>
<p><b>LIC: Lower income country</b>          Examples: Poor sanitation, a weak rural economy, poor education and healthcare</p>	<p><b>Challenges faced in rural china</b></p> <ol style="list-style-type: none"> <li>1: Harsh living conditions</li> <li>2: Struggling for money, low paid jobs</li> <li>3: Lack of education</li> <li>4: Lack of healthcare</li> </ol>	<p><b>The disparity in an NEE</b></p> <ol style="list-style-type: none"> <li>1: Disparity in regard to income</li> <li>2: Disparity in regard to quality of life</li> <li>3: Disparity in terms of healthcare.</li> </ol>	<p><b>Challenges in an LIC/NEE city because of rapid urbanisation</b></p> <ol style="list-style-type: none"> <li>1: Informal economy</li> <li>2: Overcrowding</li> <li>3: Infrastructure deficit</li> <li>4: High rates of unemployment</li> <li>5: Housing challenges</li> <li>6: Health and education disparities</li> <li>7: Loss of Green Spaces</li> <li>8: Environmental challenges</li> </ol>	<p><b>Key words</b></p> <ol style="list-style-type: none"> <li>1: Urbanisation</li> <li>2: Rural</li> <li>3: Urban</li> <li>4: Migration</li> <li>5: Infrastructure</li> </ol> <p><b>Tier 2:</b></p> <ol style="list-style-type: none"> <li>1: Significant</li> <li>2: Disparity</li> <li>3: Exacerbated</li> </ol>

## 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

<b>Chronological</b>	Events or dates arranged in the order in which they happened	<i>Timelines have dates arranged in chronological order</i>
<b>Migrate</b>	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>
<b>Trade</b>	Buying and selling goods and services	<i>People often trade things they have made for money</i>
<b>Religion</b>	Belief and worship of a superhuman power	<i>Britain's official religion is Christianity</i>
<b>Economy</b>	To do with trade and money	<i>War changes a country's economy</i>
<b>Politics</b>	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

<b>Monarch</b>	<i>A supreme leader of a state who rules until death</i>	<i>Edward was the last Anglo Saxon monarch of England</i>
<b>Heir</b>	<i>The person next in line to inherit</i>	<i>Edward had no heir to the throne</i>
<b>Invasion</b>	<i>An unwelcome intrusion into someone else's country</i>	<i>The Normans launched an invasion of England in 1066</i>
<b>Tactics</b>	<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>
<b>Interpretation</b>	<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

<b>Feigned Retreat</b>	<i>Pretending to retreat during battle to fool the enemy</i>
<b>Bayeux Tapestry</b>	<i>An embroidered history of the events of 1066</i>
<b>Witan</b>	<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

<b>Change</b>	When things are noticeably different from how they were before	<i>There was a change to the monarch after 1066</i>
<b>Continuity</b>	When things stay the same over time	<i>The religion of England was one continuity after 1066</i>
<b>Consequence</b>	Something that happens as a result of something else	<i>One consequence of the Norman invasion was the change in monarch</i>
<b>Laws</b>	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

<b>Feudal System</b>	<i>All land in England now belongs to William. He awards large areas to his Knights in return for military service &amp; taxes. They in turn give land to local lords who have peasants (serfs) work their land and pay taxes.</i>
<b>Tithings</b>	<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>
<b>Castles</b>	<i>Motte &amp; 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>
<b>Forest Laws</b>	<i>William liked to hunt. Any Saxon found in the forests would be accused of poaching and be blinded.</i>
<b>Domesday Book</b>	<i>1085 William orders a survey to see how much England is worth. Andover is on the top 20% of English villages.</i>
<b>Murdrum Fine</b>	<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.



<b>Doom paintings</b>	<i>Showing visions of Hell were shown in many Churches. These were meant to remind the congregation that they needed to behave</i>
<b>Divine Right of Kings</b>	<i>A monarch's belief that his or her power comes directly from God</i>
<b>Benefit of Clergy</b>	<i>Priests were allowed to be tried in the more lenient church courts</i>
<b>Pilgrimage</b>	<i>A journey undertaken for a religious reason</i>
<b>Sanctuary</b>	<i>A refuge. People could claim sanctuary in churches if they had committed a crime</i>
<b>Ex-Communicate</b>	<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.  
**Wed 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

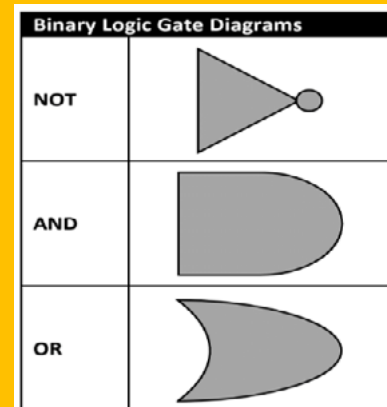
### Key words

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

### Key words

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

### Logic Gates



### Truth Tables

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

**Mathematics** Autumn Term 1 Year 7

**Topic: Number**

Rules for negatives:  $++ = +$   
 $-- = +$   
 $+- = -$   
 $-+ = -$

An **integer** is a whole number (with no decimal places).

**Rounding** means making a number simpler but keeping its value close to what it was.

To **estimate** a sum, we first round the numbers to 1 **significant figure**, then do the calculation.

Video Links: [Multiplying](#) [Dividing](#) [Estimating](#)

**Topic: Basic Algebra**

Algebra is using **variables** (letters) to represent numbers.

Each part of an algebraic **expression** is called a **term**.

**Like terms** can be collected together.

**Simplify:** to multiply, divide or collecting like **terms** by adding or subtracting to make an expression as 'simple' as possible.

**Expand:** to multiply out a bracket.

Video Links: [Basic Algebra](#) [Simplify](#) [Expand](#)

**Topic: Shapes and Angles**

An **angle** is a measure of turn between two lines. Angles are measured in **degrees**. There are  $360^\circ$  in a full turn.

There some important phrases you need to remember:

- Angles on a **straight line** add up to  $180^\circ$
- Angles in a **triangle** add up to  $180^\circ$
- Angles **around a point** add up to  $360^\circ$
- Angles in a **quadrilateral** add up to  $360^\circ$

Video Links: [Measuring On a Straight Line](#) [Triangles Around a point](#) [Quadrilaterals](#)

**Topic: Ratio and Proportion**

A **ratio** compares values. It shows us the **proportion** of one amount compared to another.

The quantities in a ratio are separated by a colon. For example: **3 : 4**

**Simplify:** means to reduce to the ratio to its smallest possible integer values.

**Equivalent ratios** have the same proportions, but different values.

Video Links: [Simplify](#) [Find Missing Part](#) [Sharing in a Ratio](#)

# Mathematics

## Autumn Term 2

## Year 7

### Topic: Percentages

**Percentages** are part of a whole. They are out of 100.

To calculate a **percentage** (without a calculator) there are a few key methods to remember:

- 10% - Divide the amount by 10
- 5% - Half of 10%
- 1% - Divide the amount by 100

We use a **multiplier** to calculate percentages with a calculator. A **multiplier** is the percentage written as a **decimal**. To convert a percentage to a **decimal**, divide by 100.

**Video Links:** [Without a Calculator](#)      [Using a multiplier](#)

### Topic: Averages and Range

We use three different averages, **mean**, **median** and **mode**.

**Mean:** the mean is the sum of the values divided by the number of values.

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

**Mode:** the mode is the value (or values) that occur the most.

The **range** is measure of **spread**. It is the difference between the largest and the smallest values in the data.

**Video Links:** [Mean](#)    [Median](#)    [Mode](#)    [Range](#)

### Topic: Solving equations

An **equation** shows that two things are equal. It will have an equals sign.

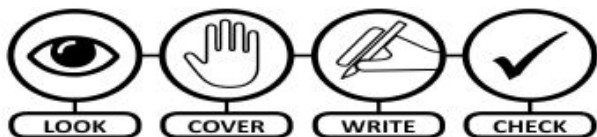
We use the 'balance method' to solve equations. To keep the equation balanced, whatever happens to one side of the calculation must also happen to the other.

Each letter in an **equation** is called a **variable**.

**Solve:** When a question asks you to **solve**, you must calculate the value of the **variable** in the equation.

**Video Links (solving equations):** [Solving Basic Equations](#)  
[Equations with the letter on both sides](#)

## 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 Quavers (1/2 beat)				
Remember it... Cof - fee				
Technical name Semi quaver (1/4 beat)				
Remember it... Ca - pu - cci - no				

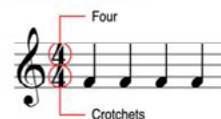
### Bars and time signatures

1. Notes on the **stave** 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.



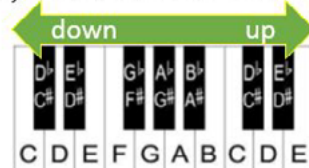
3 crotchet beats per bar



2 crotchet beats per bar

### Notes on a keyboard

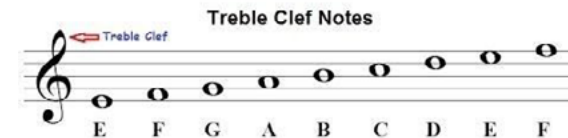
- Notes are in **alphabetical order**, going up to G
- Say: 'C is to the left of the two black keys: C D E F G A B'



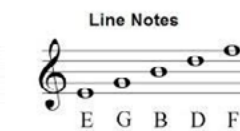
A note by itself **CANNOT** be major or minor!

- Every **black note** has two names: **sharp #** and **flat b**
- F**lat = lower than white note
- S**harp = higher than white note

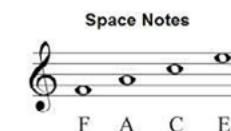
### How to read music notation



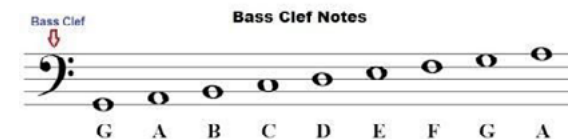
Treble Clef Notes



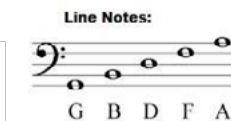
Line Notes



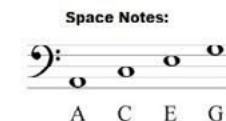
Space Notes



Bass Clef Notes



Line Notes:

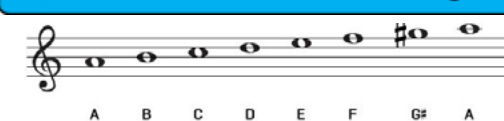


Space Notes:

### Major Scale - Happy Sounding



### Minor Scale - Sad/Serious Sounding

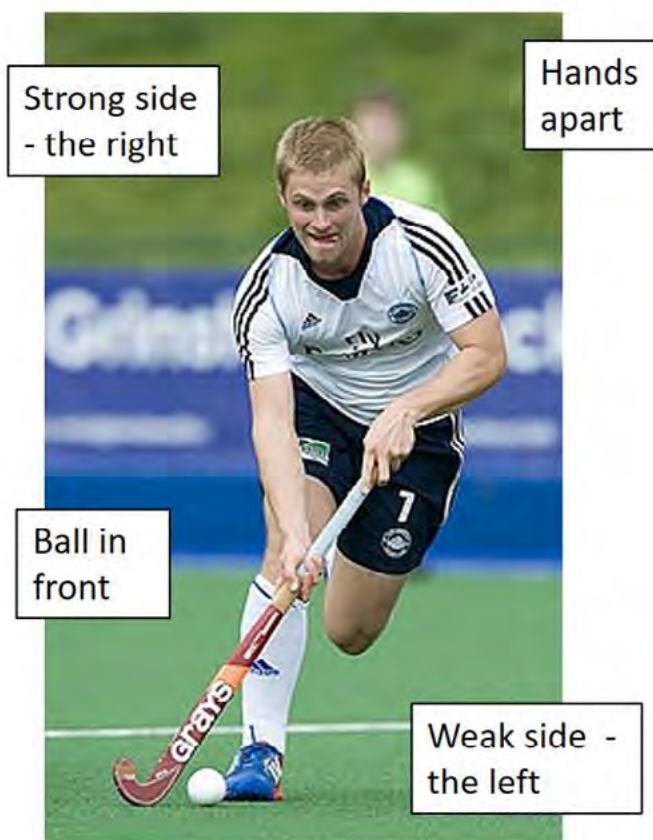


M	A	D	T	S	H	I	R	T
melody	articulation	dynamics	texture	structure	harmony	instruments	rhythm	tempo
the tune	how notes are played	loud / soft and any other volume changes	layers of sound and how they fit together	sections of music and how they are organised	chords used	types of instruments heard	the pattern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



## HOCKEY

### IMPORTANT TECHNIQUES



Strong side - the right

Hands apart

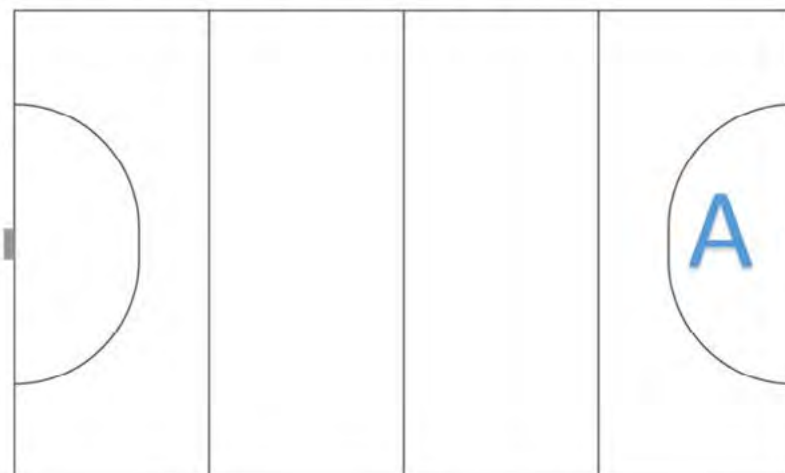
Ball in front

Weak side - the left

### 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



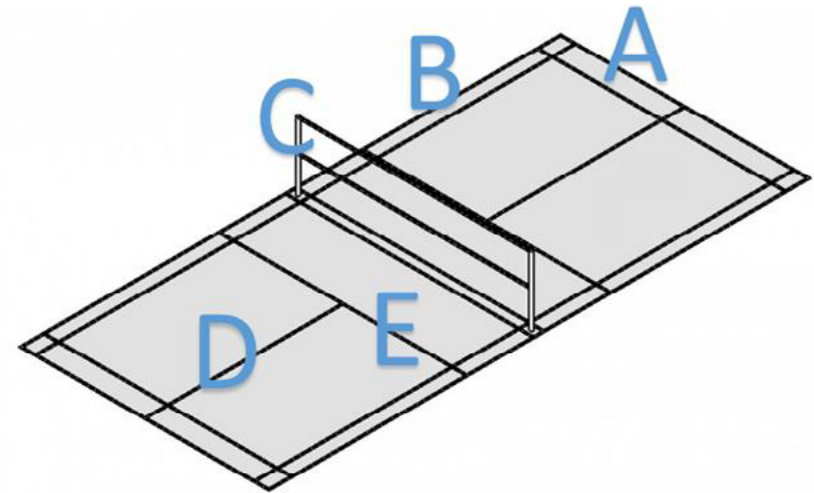
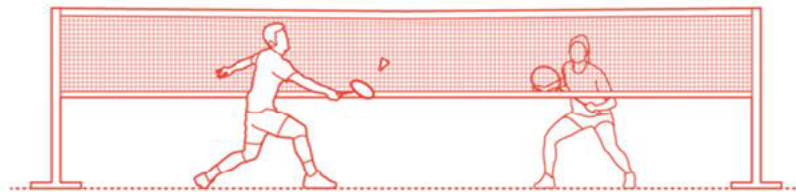
## BADMINTON

### 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

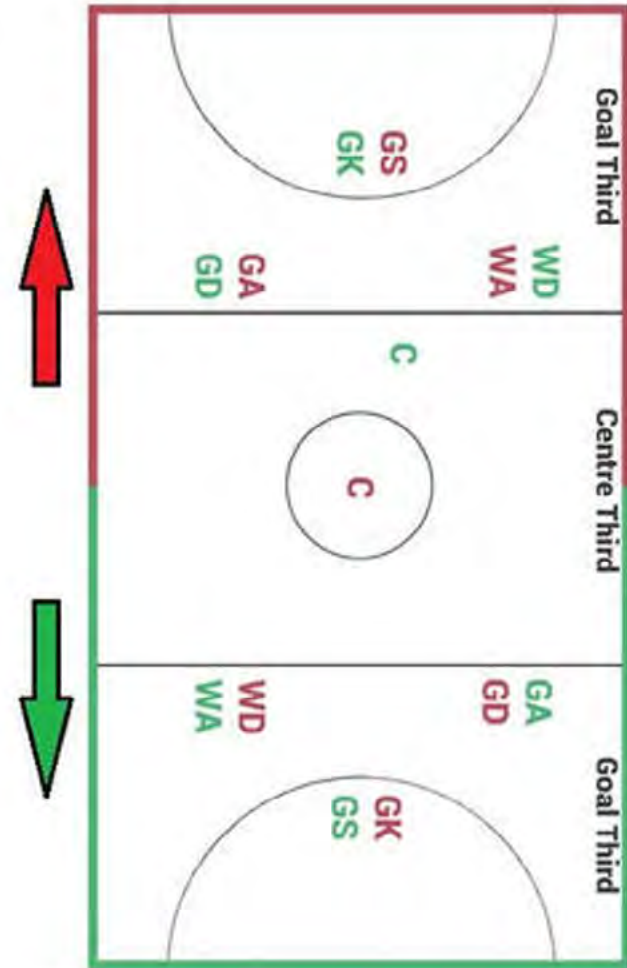


- A: Baseline: the end of the court
- B: Side line: the side edge of the court
- C: The net
- D: Centre line: the middle of the court
- E: Service line: where a rally is started

## 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.



The starting positions of the players in netball.

GS = Goal Shooter  
GA = Goal Attack  
WA = Wing Attack  
C = Centre  
WD = Wing Defence  
GD = Goal Defence  
GK = Goal Keeper

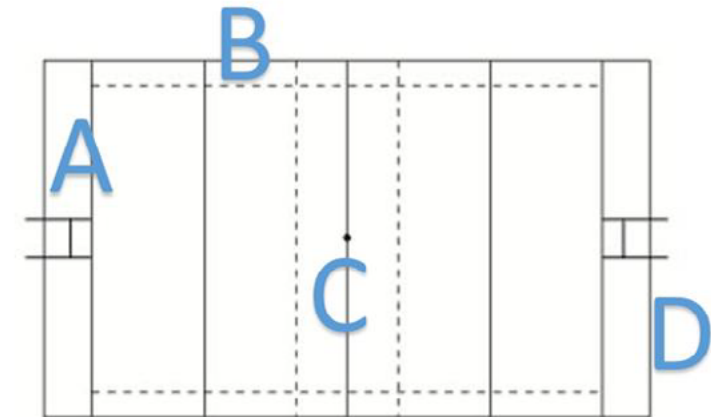


## RUGBY

### 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.

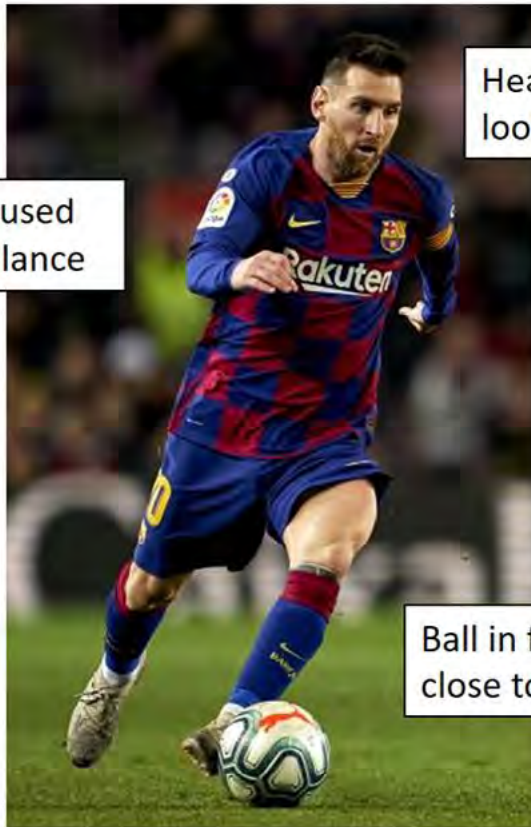


- A – Try line and in-goal area.
- B – Side line
- C – Half way line
- D – Dead ball line, the end of the pitch.

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



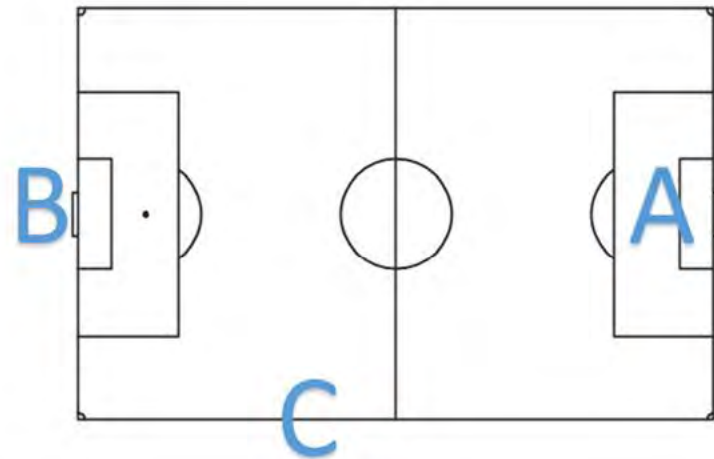
Arms used  
for balance

Head up -  
looking forward

Ball in front -  
close to feet

### Overview of the rules

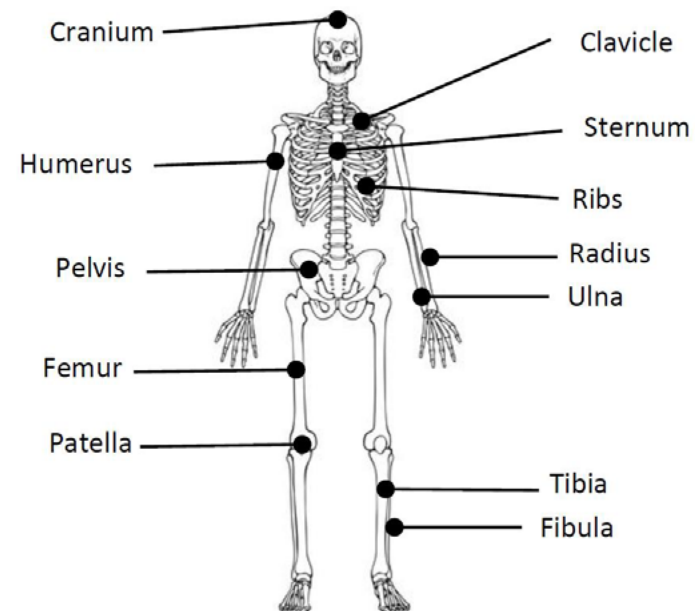
1. A football match is played by two teams, with each allowed no more than 11 players on the field (9-a-side at under 12).
2. All players must use their feet head or chest to play the ball. Only the goalkeeper is allowed to use their hands, and only within their designated goal area (box A).
3. The aim 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.



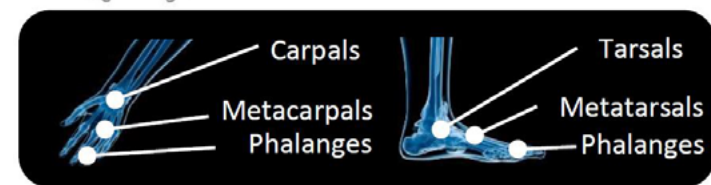
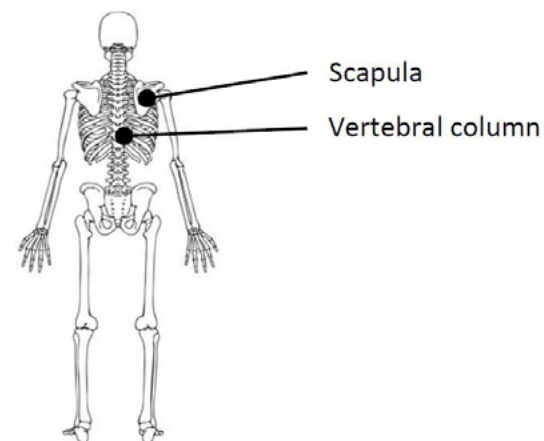


<b>Health-related components</b>	Cardiovascular endurance	The ability of heart and lungs to deliver oxygen to the working muscles.	Multi-stage Fitness Test
	Muscular Strength	The ability to overcome resistance.	Grip strength dynamometer Test
	Muscular Endurance	The ability of a single muscle or group 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
<b>Skill-related components</b>	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**



# PE - Theory - Part 2

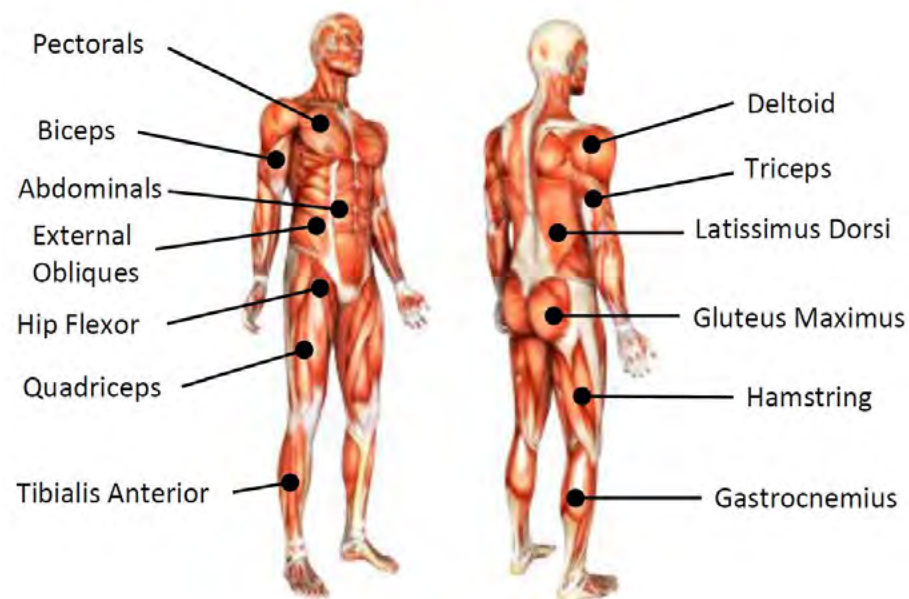
Phases of a Warm Up (1)			
	Term	Phase	Description
1	Pulse Raiser	First	<b>Light continuous</b> activity such as slow jogging, is used to <b>increase heart rate</b> and <b>blood flow</b> . Muscles, ligaments and synovial fluid in the joints are warmed, increasing flexibility
2	Stretching	Second	<b>Stretching the main muscle groups</b> and <b>joints</b> increases their elasticity and <b>mobility</b> so that they are <b>less likely</b> to be strained.
3	Skills Specific	Third	<b>Sport specific</b> 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 <b>gradually prepare</b> the <b>body</b> and <b>mind</b> for physical activity.
2 Increases Body Temperature	<b>Makes muscles, tendons and ligaments more elastic</b> increasing range of movement and <b>reducing the risk of injury at a joint or in a muscle</b> .
3 Increase Blood Flow	By increasing the heart rate, blood flow increases resulting in an <b>increase in the oxygen being supplied to muscles</b> .
4 Injury Prevention	To ensure that muscles are <b>stretched and prepared for physical activity</b> to avoid injuries such as strains.

Principles of a Cool Down (3)	
Principle	Description
1 Prevent Muscle Soreness	To <b>gradually</b> allow the body and mind for <b>recover</b> from <b>physical activity</b> .
2 Reduce Body Temperature	Allows <b>muscles to cool down slowly</b> 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 <b>resting state</b> .

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"> <li>• Facial Hair</li> <li>• Voice Breaks</li> <li>• Erections</li> <li>• Wet Dreams</li> <li>• Widening of the chest and shoulders</li> </ul>
Girls Only	<ul style="list-style-type: none"> <li>• Menstruation/Periods begin</li> <li>• Breast growth</li> <li>• Stretch marks</li> <li>• Hips Widen</li> </ul>
Both	<ul style="list-style-type: none"> <li>• Growth of pubic hair</li> <li>• Spots and pimples</li> <li>• Greasy skin and hair</li> <li>• Grow taller</li> <li>• Body Odour</li> </ul>

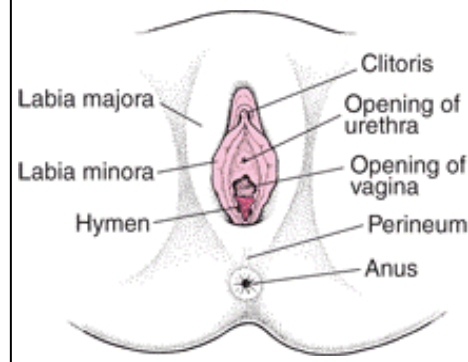
### Who Can you turn to for help and Support

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

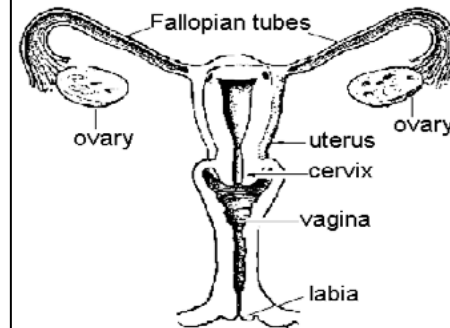
NSPCC      Helpline: 0808 800 5000 (24 hours, every day)  
nspcc.org.uk  
Childline      Helpline: 0800 1111 (24 hours, every day)  
https://www.childline.org.uk

NHS Live Well Website      www.NHS.UK/Livewell

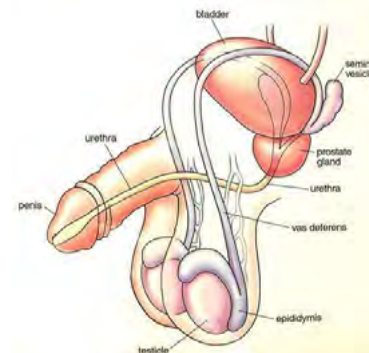
### Female Genitalia - External



### 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

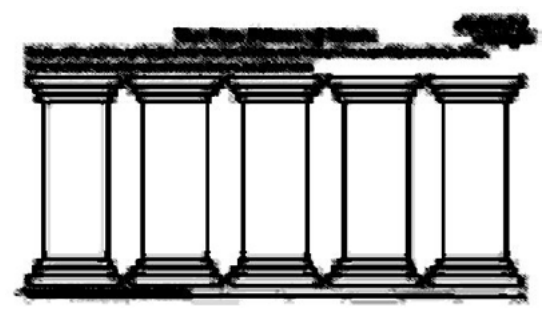
*What is authority? Who has authority over us?  
Think of all the reasons why this is a good thing. How can the 5 Pillars be an authority for Muslims?; give guidance and help during difficult times.*

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

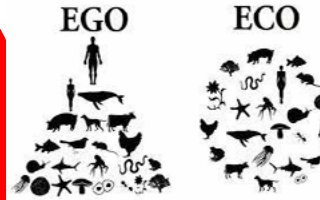


## Pillars

*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.*



Year 7 Knowledge Organizer  
Autumn

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

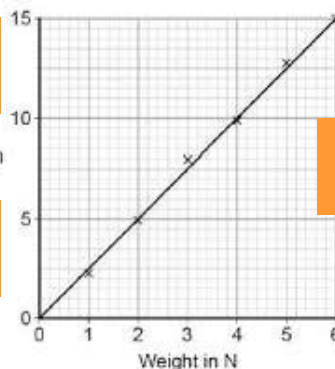
Mean	Add up all the values and divide by how many you have
Range	Take the smallest value away from the largest.
Uncertainty	Divide the range by two

### Section 4: Drawing graphs

Dependent on y-axis

Extension in cm

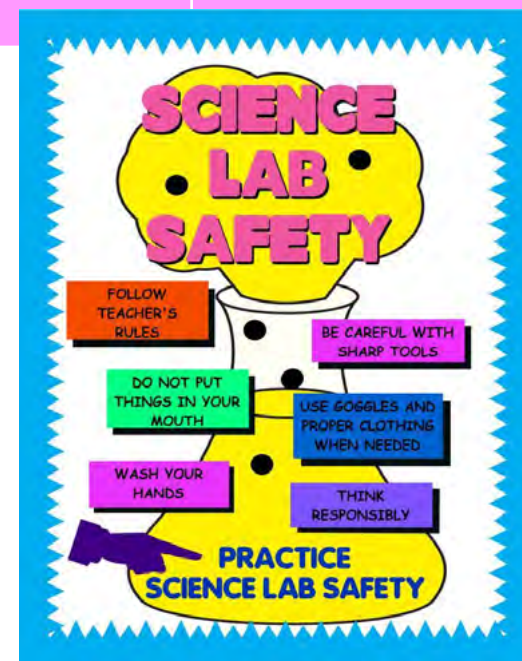
Include units in axis label



Straight line of best fit

Independent on x-axis

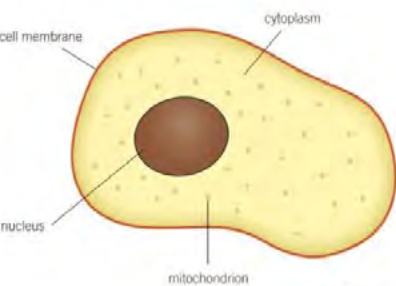
Axis scale even spaces between each number



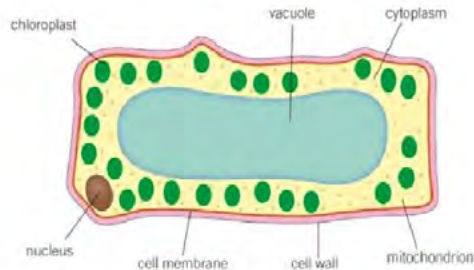
## Y7 Cells

### 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



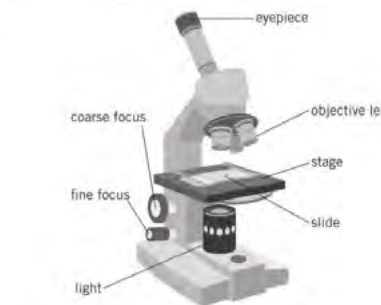
▲ An animal cell.



▲ A plant cell.

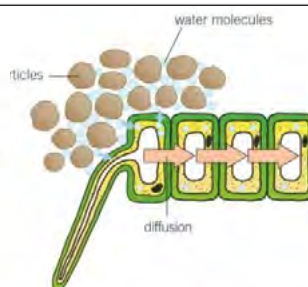
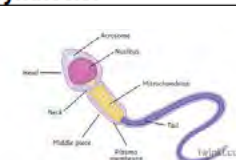
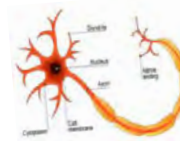
### Section 3: Microscopy

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

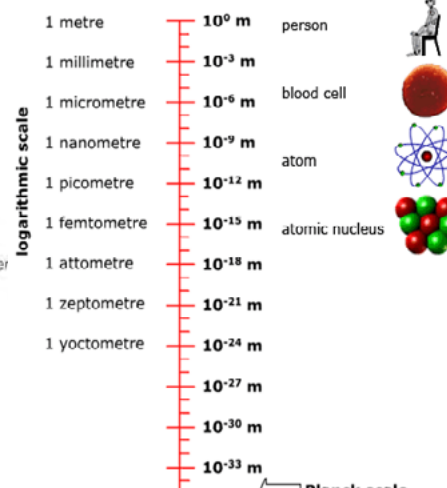


### Section 2: Specialised Cells

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.



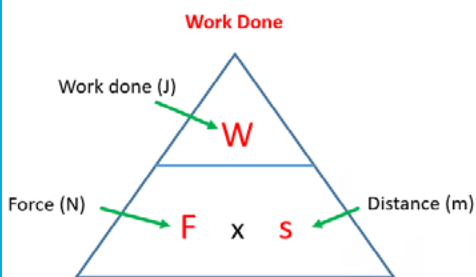
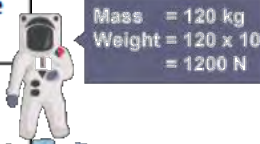
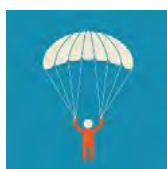
# Science - Physics - Forces

## Forces

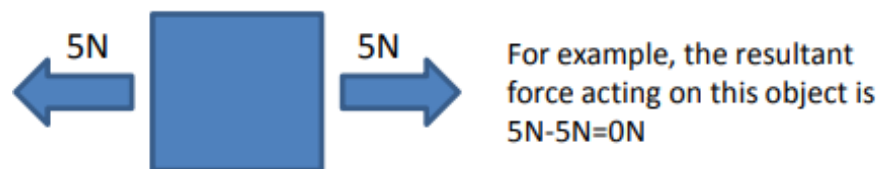
### Section 1: Introduction to Forces

1	<b>Forces</b>	A push or pull upon an object
2	<b>Newtons</b>	Forces are measured in <b>Newtons (N)</b> using a Newton meter
3	<b>Interaction pair</b>	This is formed when a force exist between objects.
4	<b>Forces can...</b>	<b>Deform</b> objects, <b>change their speed</b> or <b>change their direction</b> of motion
5	<b>Examples of forces</b>	<b>Gravity, friction and air resistance.</b>
6	<b>Contact force:</b>	A force that acts when an object is touching somethings such as <b>friction</b>
7	<b>Non-contact force:</b>	<i>Magnetic, electrostatic or gravitational</i> 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

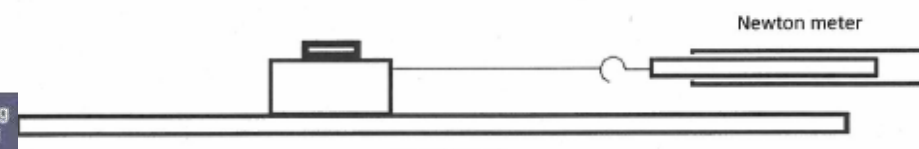


Section 2 Balanced and unbalanced forces	
Resultant force	The total force acting on an object:
Balanced force	When the forces acting in opposite directions are the same, the resultant force is zero. The object will remain stationary or carry on moving at the same speed.
Unbalanced force	When the forces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



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

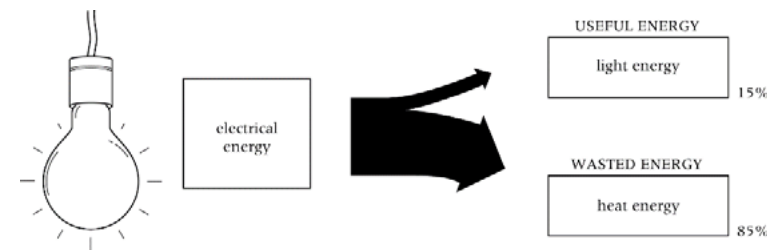


## Energy

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

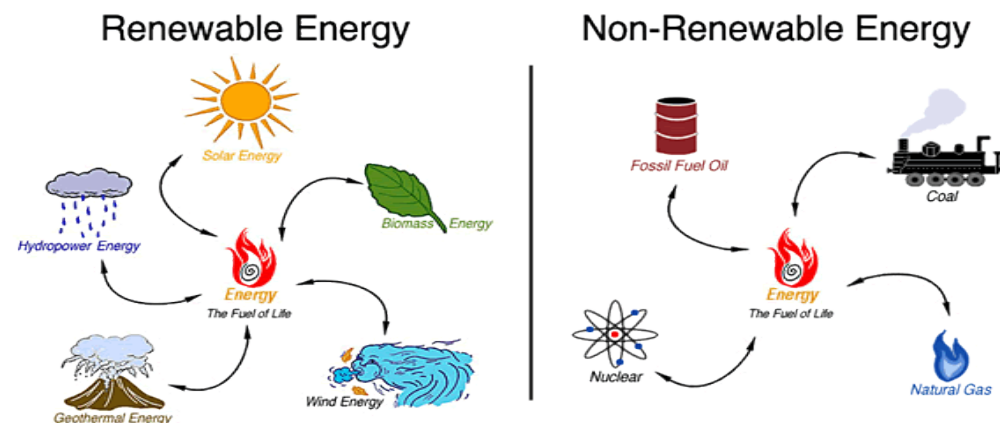
Term	Definition
Conduction	Conduction allows energy and heat to pass through an item quickly. This is usually a solid
Convection	Convection is described as the movement of particles of gases and liquids away from a heat source to form currents.
Insulation	Materials which do not transfer energy easily 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.





# Spanish - Mi Vida - Part 1



## 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 - Mi Vida - Part 2



## 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 - Los Verbos



## 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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