

# **Year 8 Knowledge Organiser**

**Spring Term** 



# **How do I complete Knowledge Organiser Homework?**

HWCS

Link to self-quiz video: <a href="https://youtu.be/cFUuhtPIMPU">https://youtu.be/cFUuhtPIMPU</a>

# 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 selfquizzing book.

DO NOT PEEK!

# Step 5

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

# Step 6

Repeat steps 3-5 again until you are confident.

You will need to bring your self-quizzing book in every day and your teacher will check your work.

You will be tested in class.

# Knowledge Organiser - YEAR 8 - SPRING TERM

HWCS	
SUCCESS FOR LIFE	

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# **Art - Colour**



# **COLOUR**

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

# COLOUR WHEEL



Cool colours painting Warm colours painting





# + Secondary YELLOW-ORANGE RED-ORANGE RED-WOLET BLUE-VIOLET VIOLET GREEN BLUE-GREEN TINT is adding white to a colour TONE is adding grey to a colour

# SHADE is adding black to a colour



# ADJECTIVES TO DESCRIBE COLOURS

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

#### **COLOUR SCHEMES**

6

#### **PRIMARY**



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

#### COMPLEMENTARY



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

#### **SECONDARY**



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

#### **HARMONIOUS**



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

#### **TERTIARY**



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

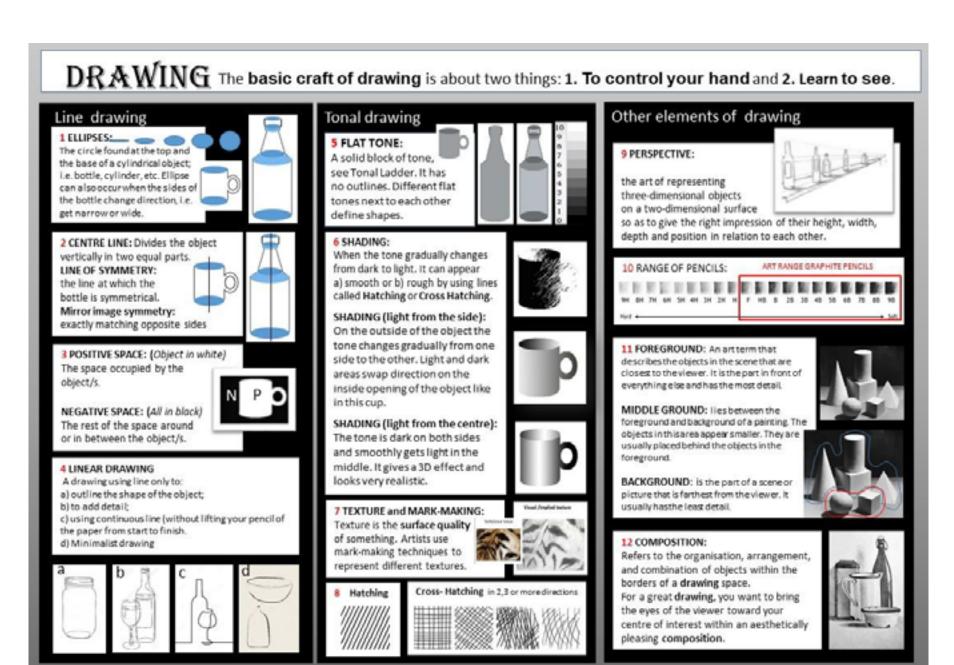
#### **MONOCHROMATIC**



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

# **Art - Drawing**



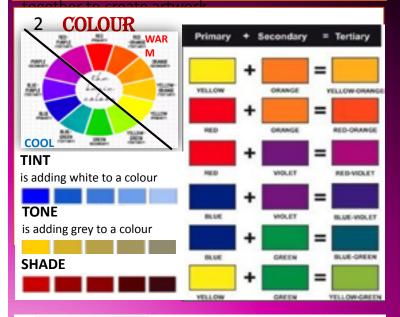


## **Art - Formal Elements**



# FORMAL ELEMENTS

The Formal Elements are: line, shape, form, tone, texture, pattern and colour. They are used



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.



#### LINE

4

is the path left by a moving point, i.e. a pencil or a brush.

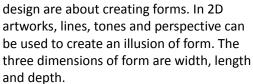
A line can take many forms. It can be horizontal, diagonal or curved. Line can be used to show: contours (the shape and form of something); movements, feelings



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



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.

A 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.







#### SCALE

9

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

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



# **Art - Painting**



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

#### 1 Watercolour brushes:

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



#### 4 ROUND BRUSHES:

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

5 ACRYLIC PAINT: Opaque and semi-opaque

fast-drying paint made of pigment and acrylic

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



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



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

#### 2 WATERCOLOUR:

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



ACRYLIC PAINTING SURFACES:

polymer emulsion dilutable with water.

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

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

ACRYLIC PAINTING BRUSHES:

# 9 MIXED MEDIA:

ASSEMBLAGE:

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.

# WATERCOLOUR PAPER:

by adding white.

b) The art of painting with

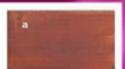
Best watercolour papers are made from cotton fibres. There are three types of w/c paper.

3 WATERCOLOUR TECHNIQUES:

gradually diluted with water.

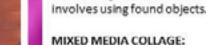


6 ACRYLIC PAINTINGS TECHNIQUES: UNDERPAINTING: A layer of paint applied first to a canvas or board.



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.



#### MIXED MEDIA COLLAGE:

The making of 3D art, often

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



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

a) Wash: When watercolour mixture is



the painting with some built in contrast and tonal values. IMPASTO: A technique used in painting,

b) A Tonal Under-Painting

A layer of paint applied first

that acts as a foundation for

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.



#### 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.



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.



CP (NOT) - Cold press. Slightly textured for most types of work

Rough - Heavily textured paper enhances the final piece of work.

# **Art - Photography & Critique**





# **Types of Photography**

#### Landscape

-Shows space within the world- think 'land' to remember, but can include sea

3. Tips

indoors)

shake

walls

work well

-Don't rush

-Do not use flash (especially

-Be still when you take your

before you take it

-Make sure your lighting is even

photograph to avoid camera

-Make sure your image is focused

-Use simple backgrounds; plain

-Get closer. DO NOT use zoom

-Take more than one photo

- -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 eves
- -Controlled lighting
- -Can be posed or natural
- Earthy Naturalistic Harmonious

started.

Colour

the colours.

Vibrant

Pale

Subtle

Bold

Complementary

Critiquing artwork

You need a specific

vocabulary to comment

on all the elements of art.

Here are some to get you

Colour is very important. No matter

define the piece and the artist. A lot

what type of artwork colour helps

of artwork can be determined on

who did the work jut by looking at

#### Shape

Art comes in various shapes whether it is a painting or a sculpture. All will contain shapes.

- Organic
- Curvaceous
- Geometric
- Angular
- Elongated

#### **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

## 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

#### 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

#### Line

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

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

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

8

# **Art - Surrealism**



1.

#### **One Point perspective**

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



2.



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

**Year 8 Project 1 SURREALISM** 

# **Literacy Focus**

- A. Metamorphosis
- B. Juxtaposition
- C. Silhouette
- D. Distorted scale
- E. Motif

The transformation of one thing into a completely different one (a)

Two things positioned close together with contrasting effect (b)

The shape and outline of something visible against a contrasting background (c)

An unfamiliar scale on a familiar object or image (d)

A dominant or recurring idea in an artistic work

3.

Artist focus Rene Magritte



A.



В



C



D



С



5.



Year 8
Project 2 **POP ART** 

## **Literacy Focus**

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

# Genre Focus POP ART

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



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

# ARTIST FOCUS Lichtenstein

2.





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

Pop Art is: **Popular** (designed for a mass audience)

Transient (short-term solution)
Expendable (easily forgotten)
Low cost, Mass produced
Young (aimed at youth)

3.

4.

Witty, Sexy, Gimmicky, Glamorous, Big business







Shepard Fairey James Rosenquist Peter Blake

# **Art - Textiles and Clay**

# **TEXTILES**

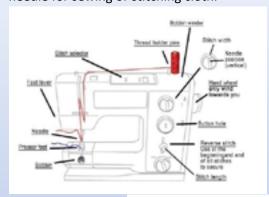
# **Key Stage 3**

# **CLAY MAKING**

#### 1.SEWING MACHINE

# Do not use ANY equipment before training

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



Zigzeg stitch	www.
Three-step giggag stitch	vvvvv
Lightning bolt stitch	mm
Straight stretch stitch	

#### 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.





#### 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











#### 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

**Bisqueware** 



Slab building



Glazing





# HWCS

# Year 8 Design and Technology TEXTILES / APRON Knowledge Organiser

#### **Smart Materials**

# **Smart materials**

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

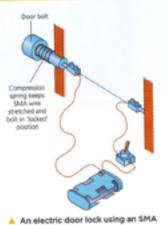
#### ▼ Examples of smart materials

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

#### Interactive textiles

#### Conductive threads

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



## **Environmental Factors**

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

#### **Environmental challenges**

Products can affect the environment in many ways:

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

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



The recycle logo shows that a product can be recycled

 10 6 85 0	 inability

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

# HWCS

# Year 8 Design and Technology TEXTILES / APRON Knowledge Organiser

#### **New Materials**

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

#### Graphene

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

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

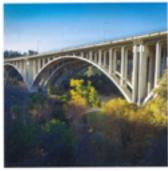


A sheet of graphene

#### Composites

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

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



A reinforced concrete bridge

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

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



#### **Social and Moral Issues**

#### Social challenges

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

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



 Listening to music while on public transport may irritate other passengers

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

#### **Economic challenges**

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

#### Key words

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

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

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

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

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

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

# **D&T Food Technology - Special Diets**



#### **Knowledge Organiser – Year 8 Food Special Diets**

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

#### Diabetes

There are two types of Diabetes:



Type 2 occurs in adults and is linked to a poor diet and not exercising enough.

Diabetes is a condition that causes a person's blood sugar level to become too high.

When you eat food, it releases glucose into your bloodstream.

Insulin (hormone) then moves the glucose from your blood to your cells, where it is then used to produce energy. If you have diabetes your body can't break the glucose down into energy.

#### **BRITISH FOOD**

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

#### Lactose Intolerance

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

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

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

#### Diet

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

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

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

#### There are many reasons why people chose a vegetarian diet:

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



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

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

#### Coeliac's Disease





Coeliac disease is a digestive disease that damages the small intestine.

You struggle to digest and absorb gluten.

Gluten is a protein found in wheat.

Gluten is like a glue which holds food together. In bread dough it is what makes it stretchy when we knead it.

People with coeliac disease cannot eat cereals, pasta, grains and most processed foods.

Most food in supermarkets are now labelled to say if they are made with wheat or grain products because of people with Coeliac's.

#### 8 Government Guidelines for Healthy Eating

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



# Year 8 Design and Technology Knowledge Organiser Board Game

## **Branding**

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

#### Logos with meaning



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

#### Key terms

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

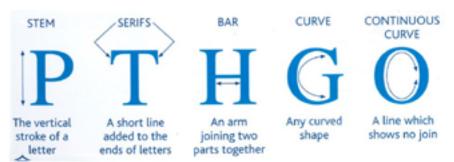
## **Typography**

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

#### **Key terms**

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

#### The parts of a letter.



## D&T - Board Game 2



# Year 8 Design and Technology Knowledge Organiser Board Game

# Common print processes

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

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

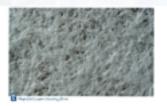




#### Paper and boards

# Why are there so many different types of paper?

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





#### Weight and thickness

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

#### Recycling

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

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

# **D&T - LED Desk Tidy 1**



# Year 8 Design and Technology Knowledge Organiser LED Desk Tidy

#### Electronics components—input, output and passive

#### Input devices

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



## **Output devices**

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



## Passive components

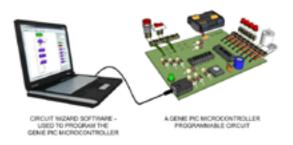
If a component is not an input, process or output device, or a power supply, then it is usually a passive component. Passive components are needed to allow the input, process and output devices to work properly. They do not add energy into a circuit and do not use electrical power to carry out their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



#### **Microcontrollers**

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

#### PIC MICROCONTROLLERS



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

# **D&T - LED Desk Tidy 2**



# Year 8 Design and Technology Knowledge Organiser LED Desk Tidy

#### **Flow charts**

#### **Programming flow charts**

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

#### Manufacturing flow charts.

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

ymbol	Name of symbol	Typical use in a flowchart program
	Start/end	Marks the start or end point of a program
	Decision/compare	Checks whether a digital input is 'on' or 'off', or whether a sensor value is within a certain range
$\overline{}$	Process	Performs various processing functions, such as counting and timing
$\overline{}$	7 Impot/output	Turns an output device lon' or 'off'
	Sub-routine	Activates a separate flowchart, then returns to the original flowchart

#### **Computer-aided manufacture (CAM)**

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





#### **Examples of computer-aided design machines**



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



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







Stage Terminology

Definition	Term	↓ ↓ Cover & Test ↓ ↓
The left hand side of the stage from the <b>actors'</b> point of view.	Stage Left (SL)	
The right hand side of the stage from the <b>actors'</b> point of view.	Stage Right (SR)	
The back of the stage / area furthest away from the audience.	Upstage (US)	
The front of the stage / area nearest the audience.	Downstage (DS)	
Areas at the side of the stage where actors can wait, unseen.	Wings	
Curtains that hang from the ceiling and hide actors in the wings.	Legs	
An extra bit of stage in front of the main tabs.	Thrust / Forestage	
The back wall of the stage, often white to reflect light.	Cyclorama or 'Cyc'	
The small room from which lights and sound are operated.	Tech Box	
A part of the wings where the Stage Manager sits.	Prompt Corner	
Curtains at the front of the stage that can be opened or closed.	Tabs	
The metal poles in the ceiling from which the lights are hung.	Bars	
A theatre term for steps.	Treads	
The 'frame' through which the audience watch the play.	Proscenium Arch	
The imaginary 'missing wall' through which the audience watches the play.	The Fourth Wall	
A corridor or route that takes you from one side of the stage to the other without being seen.	The Cross-Over	

Stage Jobs

Definition	Term	↓ ↓ Cover & Test ↓ ↓
They organise props and move the set during scene changes.	Stage Managers SM	
They make the sound effects and play them during the show.	Sound Operator SFX	
They operate the lighting and special effects during the show.	Lighting Operator LX	
The FoH Manager is in charge of the whole venue (theatre). FoH is in charge of checking that the show is safe and ready to begin.	Front of House Manager FoH	
Everyone who works on the show but is not a performer.	Tech Crew	

## Drama 2

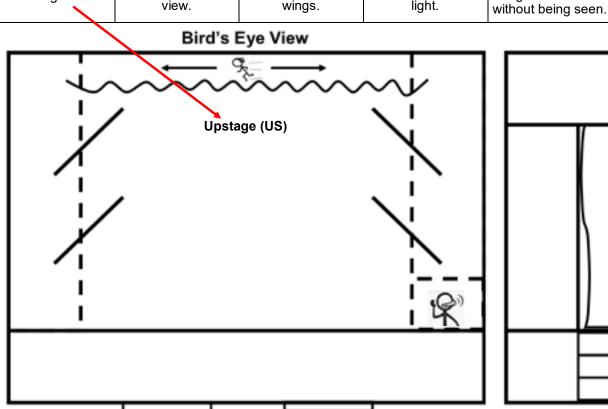
#### Year 8 - Drama - Term 2



the play.

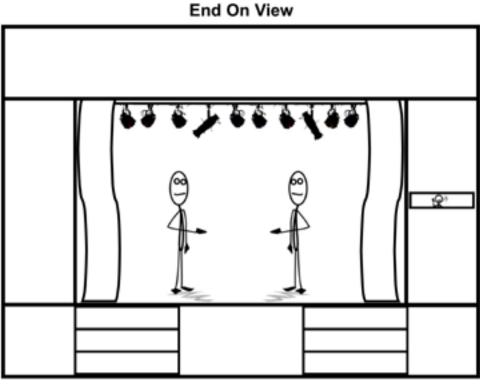
#### **EXAMPLE:** Cyclorama / 'Cyc' Stage Right (SR) The Cross-Over **Proscenium Arch** The Fourth Wall Legs **Bars** The back wall of A corridor or route The imaginary **Upstage (US)** The right hand side Curtains that hang The metal poles in The 'frame' through that takes you from 'missing wall' from the ceiling and the ceiling from of the stage from the stage, often which the audience The back of the one side of the through which the white to reflect the actors' point of hide actors in the which the lights are watch the play. stage to the other audience watches stage .

light.



wings.

view.



hung.

Stage Left (SL)	Downstage (DS)	Wings	Thrust / Forestage	Prompt Corner	Treads	Tabs	Tech Box
The left hand side	The front of the	Areas at the side of	An extra bit of	(In both diagrams)	(In both diagrams)	Curtains at the front	The small room
of the stage from	stage / area	the stage where	stage in front of the	A part of the wings	A theatre term for	of the stage that	from which lights
the actors' point of	nearest the	actors can wait,	main tabs.	where the Stage	steps.	can be opened or	and sound are
view.	audience.	unseen.		Manager sits.		closed.	operated.







#### SENTENCE TYPES

Sentences fall into three categories: simple, compound and complex.

SIMPLE SENTENCE – A simple sentence contains only one **clause.** A clause is a unit of a sentence containing a subject and a verb, or a subject, verb and object. Here are two examples:

Josie drew a picture.

Concentrating intensely, Josie drew a picture using pens and coloured pencils.

Although the second sentence is much longer, it is still only a simple sentence because the other parts are phrases, not clauses.

COMPOUND SENTENCE – A compound sentence contains two clauses joined together with a coordinating conjunction. There are only seven coordinating conjunctions in the English language, which you can remember with the acronym FANBOYS: For, And, Nor, But, Or, Yet, So. Here is an example:

Josie drew a picture and Selma made a sculpture.

COMPLEX SENTENCE – A complex sentence is made up of a main clause and a subordinate clause joined by a subordinating conjunction. There are lots of subordinating conjunctions in our language; examples include because, although, whereas, however, until, while, as, after, since, when.

Subordinate means 'less important'. We call it this because its meaning is tied in with the main clause: it cannot stand alone as a sentence on its own. Here is an example:

Josie drew a picture because Selma asked her to.

With complex sentences, you can also switch the clauses around so that the subordinate clause comes first, like this:

Because Selma asked her to, Josie drew a picture.

Or even in the middle, like this:

Josie, because Selma asked her to, drew a picture.



#### SUBORDINATE CLAUSES

Subordinate clauses appear in **complex** sentences. They are sometimes called *dependent* clauses, because their full meaning *depends* on the information given in the main clause of the sentence.

#### HOW CAN WE TELL IF A CLAUSE IS SUBORDINATE?

Let's look more closely at this. Here are two similar sentences – the first is a **compound** sentence, i.e. two main clauses joined together, and the second is a **complex** sentence made up of a main clause joined to a subordinate clause.

main clause

main clause

The cat ran away and the dog barked.

The coordinating conjunction *and*, signals that the two things happening in this sentence (cat running away; dog barking) are separate events – there is no relationship between them. The information in both clauses is *independent*.

main clause

bo

subordinate clause

The cat ran away when the dog barked.

In this example, it is clear that there is a relationship between the two events. The subordinating conjunction when signals that the cat ran away at the same time as the dog barked, leading us to infer that the dog's bark may have caused the cat to run away. So, in this way, the information in the subordinate clause depends on the main clause

#### WHO OR WHOM?

These two words mean the same thing, so why do we have both? If we are referring to the **subject** of a clause, we say 'who', but if we are referring to the **object** of a clause, we say 'whom'.

#### **CLAUSE STRUCTURE**

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

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

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

Here is an example of a basic clause:



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

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

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



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

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

#### **RELATIVE CLAUSES**

A relative clause is a special type of **subordinate clause** which tells us more about the noun or noun phrase in the sentence. Unlike a normal subordinate clause, the position of a relative clause cannot be moved around in the sentence.

Relative clauses are easy to spot because they always start with a **relative pronoun**. The relative pronouns are *who/whom, which, that, and whose.* 

Here is an example. The relative clause is underlined:

The cat ran up the tree which stood at the end of the garden.

# French - Core Language



#### **VERB INFINITIVES**

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

- PRESENT TENSE VERBS WITH "JE"
- 1- je suis = I am
- 2- j'ai = I have
- 3- Je fais = I do
- 4- je vais = I go
- 5- je joue = I play
- 8- Je mange = I eat

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

#### **FUTURE TENSE VERBS WITH "JE"**

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

# French y8

# **Core Language**

# KnowIT

#### **TIME MARKERS**

#### **PAST**

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

#### **FUTURE**

1- demain = tomorrow

#### **PRESENT**

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

#### OTHER VERY IMPORTANT PHRASES

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

#### **CONNECTIVES AND INTENSIFIERS**

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

- 1- trop = too
- 2- très = very
- 3- assez = quite

6. Je regarde = I watch

7. J'écoute = I listen

- 4- un peu = a little
- 5- vraiment = really

#### **OPINIONS**

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

génial / chouette = great

Intéressant = interesting marrant / drôle = fun

ennuyeux / barbant = boring

Pénible = annoying nul / horrible = rubbish

## French - Mes Loisirs



#### À la télé • On TV

je ne regarde jamais

je ne rate jamais

je regarde ... I watch... les dessins animés cartoons documentaries les documentaires les émissions de sport sports programmes les émissions de reality TV shows télé-réalité les émissions musicales music shows les infos the news les jeux télévisés game shows la météo the weather les séries series les séries policières police series les séries américaines American series Mon émission préférée. My favourite c'est... programme is ... j'adore Hove j'aime bien Hike je n'aime pas I don't like

I never watch

I never miss

#### Les films • Films

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

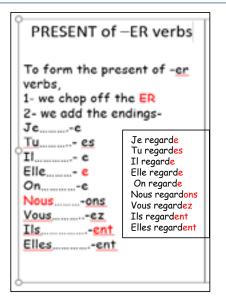
mon film préféré, c'est ... my favourite film is .

#### FRENCH Y8- TOPIC 2 - MES LOISIRS

#### Sur Internet . On the internet

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

I go onto forums.





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

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

#### Hier soir • Last night

Je vais sur des forums.

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

#### PAST of -ER verbs

To form the past of -er verbs, 1- we use AVOIR Jai Tu as II a Elle a Ona Nous avens Vous avez

Ils ont Elles ont 2- We chop off the ER and write a "&" at the end of the verb.

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

## French - Paris



#### A Paris – In Paris

J'ai envoyé des cartes

On a fait une balade en

bateau-mouche.

J'ai passé une semaine I spent a week in Paris. à Paris. J'ai visité la tour Eiffel. I visited the Eiffel Tower. J'ai mangé au restaurant. Late in a restaurant. J'ai admiré la Pyramide I admired the Louvre du Louvre. Pyramid. J'ai regardé le feu I watched the d'artifice. fireworks. J'ai acheté des souvenirs. I bought some souvenirs. J'ai rencontré un beau I met a good-looking garçon/une jolie fille. boy/a pretty girl.

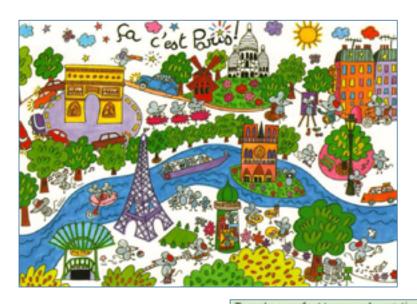
I sent some postcards.

We went on a boat trip.

postales. J'ai pris des photos. I took some photos. J'ai vu la Joconde. I saw the Mona Lisa. J'ai attendu le bus. I waited for the bus. J'ai très bien dormi. I slept very well. Je n'ai pas visité I didn't visit Notre-Notre-Dame. Dame. On a fait les magasins. We went shopping. On a bu un coca. We drank a cola. On a fait un tour de We did a tour of the la ville en segway. town by segway.

## FRENCH Y8- TOPIC 3 - PARIS

La Tour Eiffel - Le Sacré Coeur - Le Louvre Notre Dame - L'arc de Triomphe-Le Champs Elysées - Le Centre Pompidou



# Tu as voyagé comment? • How did you travel?

en avion by plane en bus by bus by coach en car en métro by underground en train by train by car en voiture à vélo by bicycle à pied on foot

Some verbs have irregular past participles.

Infinitive Perfect tense with je boire (to drink) j'ai bu (I drank)

faire (to do/make) j'ai fait (I did)

prendre (to take) j'ai pris (I took)

voir (to see) j'ai vu (I saw)

To make a perfect tense verb negative, put ne ... pas around the part of avoir.

Je n'ai pas mangé au restaurant.

Change un/une and du/de la/de l'/des to de after a negative:

J'ai envoyé une carte postale à mes parents. →
Je n'ai pas envoyé de carte postale à mes parents.

#### Un voyage • A journey

Je suis allé(e) (à Paris). I went (to Paris). Je suis parti(e)/arrivé(e) Heft/arrived at à (dix heures). (ten o'clock). Le train est parti/arrivé The train left/arrived at à (huit heures). (eight o'clock). Je suis sorti(e). I went out. Je suis resté(e) I stayed (at home). (chez moi). Je suis rentré(e) I went/got home. (chez moi). Je suis monté(e). I went up.





#### C'était comment? • What was it like? C'était... It was ... J'ai trouvé ca... I found it... good bizarre weird logo cher expensive effrayant scary ennuyeux boring fabuleux wonderful/fantastic génial great horrible horrible/terrible intéressant interesting funny/a laugh marrant rubbish Ce n'était pas mal. It wasn't bad.

# **Geography - Volcanoes**

# Year 8 Geography Knowledge Organiser Term 3: Volcanoes



Location and Distribution	Structure of the Earth	Plate Boundaries	Volcano Structure
Volcanoes are found along plate boundaries and hot spots.	The earth is made up of 4 layers.	Convection currents drive the movement of tectonic plates. When the tectonic plates meet they create 4 types of boundary:  Collison, Constructive Destructive Conservative  Volcanoes are formed at constructive and destructive plate boundaries.	A volcano is where magma is able to escape from the earth's surface.  The two types of volcano are shield (gentle, flat and runny lava) and composite (violent, steep and thick lava).
Volcanic Hazards	Speak Like a Geographer	Fieldwork	Skills
Volcanoes produce fertile warm land which has many benefits. However, there are many hazards which can be mitigated through the 3 P's; Plan, Predict and Prepare  Yellow Stone Super Volcano The Yellowstone Caldera is a supervolcano in Yellowstone National Park in Wyoming (USA). Beneath Yellowstone Park is a monstrous plume of hot rock. Past volcanoes have erupted with a thousand times the power of Mount St. Helens.	Volcano, Magma, Magma Chamber, Shield Volcano, Composite Volcano, Pyroclastic Flow, Plume, Vent, Crater, Primary Impact, Secondary Impact, Plan Predict, Prepare, Geothermal Energy, Agriculture, Fertile, Tourism, Minerals, Geology	Evaluation  Geographical enquiry  Conclusions  Data analysis  Introduction  Methods and data collection  Data presentation	A hazard map is a map that highlights areas that are affected by or are vulnerable to a particular hazard  Advantages: provide important information to help people prepare and evacuate safely  Disadvantages:  It's not always 100% accurate

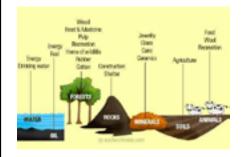
# **Geography - Remarkable Resources**



# Year 8 Geography Knowledge Organiser Term 4: Remarkable Resources

# Earth's Natural Resources

A resource is something of use. The main resources are; food, energy, minerals and water.



#### **Location and Distribution**

Resources are not evenly spread around the world e.g. oil shown in dark orange. Demand and supply drives international trade and it is worth billions of dollars.



# Humans' Use of Resources

ACs have become very dependent on resources and have often depleted their own supplies.

They therefore depend on links with EDCs and LIDC's to supply them with resources.

Humans have over exploited many resources having a negative impact on the environment e.g. deforestation.

## Types of Energy

Fossil fuels such as coal, oil and natural gas take millions of years to form. They are cheap to produce, however, they release a lot of energy when burnt and give off a lot of pollution.

Renewable energy comes from a source that will not run out including; solar, geothermal, hydropower, wind and biomass. They are expensive to set up and generate less energy but release minimal pollutants.

#### The Middle East

The Middle East is south east of the UK, in Asia. It is rich in oil (fossil fuel) and therefore exports to many ACs like the UK. There have been many conflicts in oil rich countries.

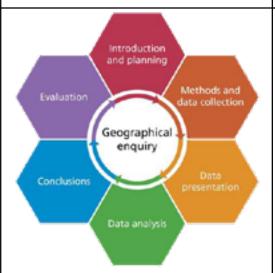


## Speak Like a Geographer

Natural Resources, Fossil Fuels, Non-Renewable, Consumption, Fracking, Environment, Mining, Deforestation, Food Security, Water Crisis, Commercial Fishing, Mechanisation, Sustainability, Demand and Supply



## **Fieldwork**



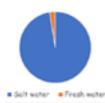
#### Skills

A pie chart is a circular chart that shows how data sets relate to one another.

**Advantages**: summarize a large data set in visual form and be visually simpler than other types of graphs.

#### **Disadvantages**:

If too many pieces of data are used, pie chart becomes less effective.





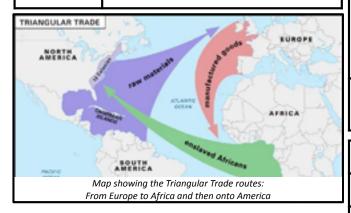
# History



# **Year 8 History: Spring Term**

	Key Words	
Democracy	A way of governing which depends on the allowing people to choose	Britain is a democracy
Elections	The process of voting to choose a political leader	Britain has elections to choose a new Prime Minister
Strike	Workers deliberately stopping work to protest something	The Match girls went on strike due to low pay
Suffrage	The right to vote in political elections	The Suffragists and Suffragettes fought for women's suffrage
Middle passage	The forced voyage of enslaved Africans across the Atlantic Ocean from Africa to the New World.	Millions of African people forcibly travelled the Middle passage.
Slavery	The practice of people owning other people. Enslaved people have to work for the owners, doing whatever the owners ask them to do.	America and Britain participated in slavery.
Abolition/ abolish	To stop something/making it illegal.	The British government passed an act abolishing slavery in 1807.

# Arguments used to justify it Belief that Africans needed to convert to Christianity Economic benefits Supposed superiority of white people (racism) Arguments against Kidnapping Africans Treatment of slaves (starvation, disease, beatings, murder) Forced labour



Key individuals		
William Wilberforce	British MP who campaigned for the abolition of slavery in Parliament.	
Olaudah Equiano	A slave who bought his freedom and published a description of life as a slave. He became an anti slavery campaigner	

Part 2: Women's suffrage			
Suffragists (National Union of Women's Suffrage Societies)	1897 - Led by <b>Millicent Fawcett</b> . Aimed to gain the vote by <b>peaceful</b> persuasion. Wrote letters gather signatures & went on peaceful marches.		
Suffragettes (Women's Social & political Union)	1903 Led by Christabel Pankhurst they aimed at "deeds not words" - using arson, hunger strikes and violent demonstrations. Emily Davison died at 1913 Derby while trying to pin a votes for women banner on the King's race horse. Government responded with arrests and forced feeding of hunger strikers.		
WW1	Women gave support to the war effort and the government promised vote in return.		

Tactics		
Hunger Strike When people refuse to eat as a form of protest.		
Petition	A formal written request, usually signed by lots of people, asking the government or another important group to do something.	
Arson	The act of deliberately setting fire to property with a view to causing extensive damage.	

#### **Cat and Mouse Act**

Permitted suffragettes on hunger strike to be released but re-arrested once well again to complete their sentences.

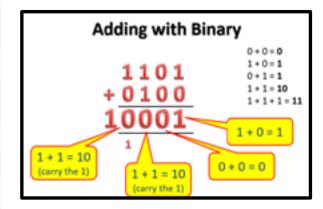
# **ICT - Data Representation**



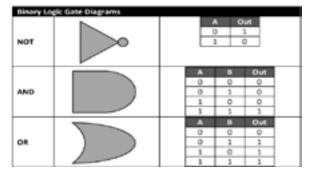
# **Year 8 ICT Knowledge Organiser – Data representation**

Key words	
Binary	Counting using base 2 (0's & 1's) the only language that computers truly understand.
Denary	Counting using base 10 (0-9)
Bit	The smallest amount of data (stands for Binary digit (0 or 1)
Nibble	4 bits − ½ a Byte
Byte	8 bits – representing a character on the keyboard
Kilobyte	1024 bytes
Megabyte	1024 Kilobytes
Gigabyte	1024 Megabytes
Terabyte	1024 Gigabytes
Image file size equation	An image 1000 x 800 pixels with 16 bit colour depth would be: (1000 x 800) x 16 = 12,800,000 bits or 12 MB
Resolution	how big the pixels are in the image
Meta Data	The data to help the computer process the image. It includes Size of the image grid (width and height), Colour depth (number of bits per pixel) and Resolution to display the image in (pixels per inch)

**IMAGES - Bitmaps** are types of images. They are laid out in a grid format with each box on the grid containing one "*Pic*ture *el*ement" which is better known as a "*Pixel*".



## Logic Gates and Truth Tables



**SOUND** - To improve the quality of the digital signal so that is becomes closer to the original analogue signal you need to

- Increase how often the sample is taken - this is known as the "Sample Rate".
- Increase the number of bits per sample to allow a more precise recording of the sample to be taken – for instance, have a range between 0 and 255 (8 bits) rather than 0 – 31 (5 bits)

These changes will increase the size of the file.



# **Year 8 ICT Knowledge Organiser - Networking**

Network Hardware:
Switch
Server
Router
Wire/Cable
Wireless

A NETWORK - 2 or more computers connected together using wired or wireless media to share resources, files, programs and to communicate. **Peer to Peer Network** – Computers are connected directly together and there is NO central server . Each user is responsible for their own hardware, software and security but can share files and resources.

Client Server Network – A central server provides services to client computers. The server allows the computers to have a central backup, communicate, share files and monitor and maintain everything from a central point 24/7.

## **Topologies**

STAR – Computers connected via a central switch.







MESH – Each computer is connected to every other computer.

#### **Types of Computer Network**

**A LAN** - A collection of computers connected together over a small geographic area. There are found in homes, schools, and single-site companies. The hardware required is owned and maintained by the organisation that uses it.

**A WAN** - A collection of computers that are connected over a large geographic area. The hardware required is owned and maintained by large telecommunication companies. The Internet is the largest WAN in the world.



# **Mathematics**

# **Spring Term 1**

Year 8

# **Topic:** Circles

A **compound shape** is more than one shape joined to make a new shape.

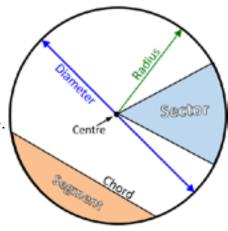
An **arc** is part of a **circumference**.

**Circumference** = 
$$\pi \times d$$

Area of a circle = 
$$\pi \times r^2$$

Arc length = 
$$\frac{angle}{360} \times \pi d$$

**Sector area** = 
$$\frac{angle}{360} \times \pi r^2$$



Video Links: <u>Circumference</u>
<u>Area Arcs Sectors</u>

# **Topic:** Ratio and Proportion

A **ratio** shows us the **proportion** of one amount compared to another. They are written like this: **3**: **4** 

**Equivalent ratios** have the same proportions, but different values. (Multiply or divide both sides by the same value)

Two quantities are in **direct proportion** if they both increase at the same rate. **Inverse proportion** is when one quantity increases as the other decreases. (eg: As one doubles, the other is halved.)

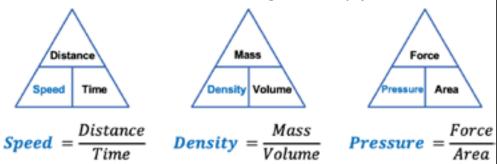
Video Links: Simplify Find Missing Part Sharing in a Ratio

Direct Proportion (unitary) Inverse Proportion Recipes

# **Topic:** Compound measures

Compound measures include **speed**, **density** and **pressure**. eg: **Miles-per-hour** (mph), **Metres-per-second** (m/s)

Learn these three triangles to help you:



Video Links: Speed Density Pressure

# **Topic:** Data handling

A **frequency polygon** is a graph using straight lines to join the midpoints of intervals in order.

A **time series graph** is a line graph measured over regular time intervals.

A graph can show a pattern which we call a **trend**. This can be upward, downward, or a repeating pattern over time.

We calculate three types of **average**: **mean**, **median** and **mode**. The **range** is a measure of how spread out the data is (*maximum* – *minimum*).

Estimated mean =  $\frac{sum \ of \ (frequency \times midpoint)}{sum \ of \ frequency}$ 

Video Links: Mean Median Mode Range Frequency Polygon Estimated mean



# **Mathematics**

# **Spring Term 2**

Year 8

**Topic: Standard form** 

**Standard form** is another way of writing numbers. It is useful for writing either very small or very large numbers.

It has two parts...

2.45 × 10<sup>5</sup>
A single digit A power of 10
(followed by a decimal point if needed)

**Positive** powers of 10 show the value of the number is multiplied by that power of 10 (eg, x10, x100, x1000,...)

**Negative** powers of 10 show the value of the number is divided by that power of 10 (eg,  $\div$ 100,  $\div$ 1000,...)

Video Links: Standard Form SF Multiply

**SF Division SF Addition** 

**Topic:** Linear Graphs

**Linear graphs** are the graphs of straight lines on a set of axes (x - axis) and a y - axis.

The **gradient** is the steepness of the line. A line with zero **gradient** is flat (horizontal).

$$\mathbf{Gradient} = \frac{change\ in\ y}{change\ in\ x}$$

The **y-intercept** is the point where the line crosses the y-axis.

The **midpoint** of any line segment is calculated using the two coordinates at each end,  $(x_1, y_1)$  and  $(x_2, y_2)$ .

Midpoint (coordinate) = 
$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

The equation of a sloping line is in the form of...

$$y = mx + c$$

Where m is the gradient and c is the y-intercept.

Video Links:  $\underline{Gradient}$   $\underline{y = mx + c}$   $\underline{Midpoint}$ 

# Music - Reggae / Pop





# KNOWLEDGE ORGANISER – Year 8 – Reggae / Pop

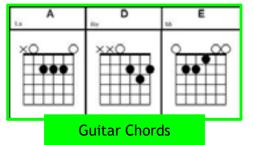
#### Reggae

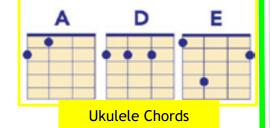
"Three Little Birds" is made up of the three PRIMARY chords (I, IV and V) in the key of A:

Chord I = A (A+C#+E)

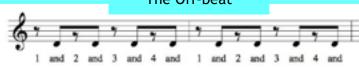
Chord IV = D (D+F#+A)

Chord V - E (E+G#+B)





# The Off-beat



In Reggae music the chords are played on the off-beat. This means that they are not played on the usually stressed beats. You need to play on the "and".

Reggae started in Jamaica around the late 1960s. The earliest reggae lyrics spoke mostly of love but as the music and the musicians making it made their way into the 1970s, reggae started taking on a heavy Rastafarian influence. Now the love being sung about was not just romantic love, but spiritual love, the love of God, or "Jah". When reggae singers weren't singing about love, they were singing about rebellion and revolution against the forces preventing that love, like the extreme violence, poverty, racism, and government oppression they were witnessing or experiencing on a regular basis.

Tick when done	Reggae Listening - Identify the instrumentation		
	https://www.youtube.com/watch?v=2XiYUYcpsT4 "I Shot The Sheriff" - Bob Marley		
	https://www.youtube.com/watch?v=xlCmQcRPtRg "Welcome To Jamrock" - Damien Marley		

#### Pop - 4-chord songs

Chord	Keyboard	Ukulele	Notes	Most Pop songs are made up of the same four chords in a key,
C	dilli		CEG	these are: Chord I
F	diffi	•	FAC	Chord IV Chord V Chord vi (minor)
G	WW		6 B D	In the key of C they are listed below:
Am	mm m		ACE	I ii iii IV V vi vii C Dm Em F G Am Bdii

# **Pop Song Structure**

Tick when done	Watch the following video on pop song structure
	https://www.youtube.com/watch?v=oXifpcE7ewU "Learn
	Popular Music Song Structure" - Mr D. Morley

#### **Keywords**

Chord	Two or more notes played at the same time.
Key	Adds a sense of space to a sound
Riff	A short, repeated melodic pattern usually 1-4 bars long.
Hook	A short catchy melodic idea designed to be instantly memorable
Fills	Short flourishes used to fill a gap between phrases - often played on drums
Middle 8	The section of a song where there is a new, different tune/chord progression. Usually 8 bars in length.
Reverb	Adds a sense of space to a sound.

Am Bdim



# HOCKEY

#### THEORY IN ACTION



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

## **DEFINE THIS**

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

#### Overview of the rules

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

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





# BASKETBALL

#### Rules for Offence

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

- 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.
- Once a player has stopped dribbling they cannot start another dribble. A player who starts dribbling again is called for double-dribble.
- A player can only start another dribble after another player from either team touches or gains control of the basketball.
- Back court violation. Once you advance beyond the half way line you cannot return to your half in possession of the ball.

#### **Defensive Rules**

The team on defence is the team without the basketball.

 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

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

#### THEORY IN ACTION

Power is important in explosive movements like jumping.

#### **DEFINE THIS**

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

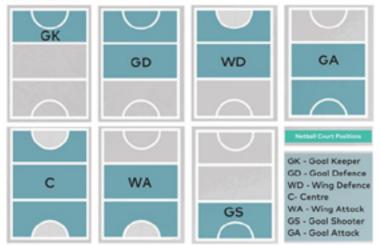




# NETBALL

#### Overview of rules

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



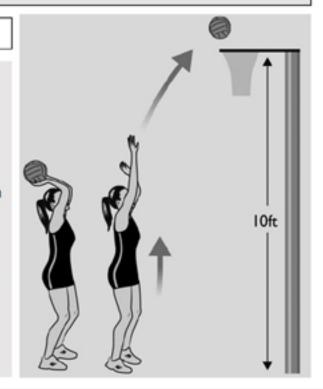
#### THEORY IN ACTION

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

#### **DEFINE THIS**

### Antagonistic pairs:

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





# **BADMINTON**

#### Overview of the rules

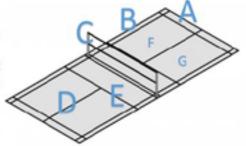
Badminton is a net game and played as singles (two opposing players) or doubles (two opposing pairs). The aim of the game is to win points by hitting a shuttlecock across the net and into your opponent's court forcing your opponent to make an error and be unable to return the shuttlecock back.

#### The basic rules

- 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.
- If your score is "even" (0,2,4,6...) you serve from the right-side service box (F).
- If your score is "odd" (1,3,5,7...) you serve from the left-side service box (G).

A: Baseline: the end of the court

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



#### THEORY IN ACTION



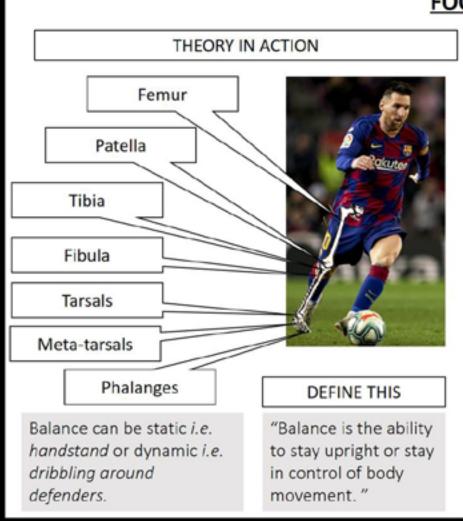
Athletes with good Agility keep their entire body under control throughout. Agility is especially important in sports that require a sharp movement or turn. i.e. returning a shuttle in badminton.

## **DEFINE THIS**

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



# **FOOTBALL**



Overview of the rules

- A football match is played by two teams, with each allowed no more than 11 players on the field.
- 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 <u>designated goal area (box A)</u>.
- 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 (8).
- If the ball touches or crosses the <u>side line (C)</u>, it is thrown back in by the team that
  was not the last to touch the ball.
- The game is controlled by a central referee. They award free kicks and penalties when rules are broken.
- A player is in an offside position if, when the ball is played by a team-mate, they are nearer to the opposition's goal line than the ball and the second last opponent.





# RUGBY

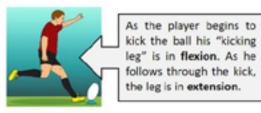
Overview of the general rules

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

- 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.
- 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.
- Kicking . Kicking is allowed but must kicked from the hands and not while the ball is on the floor.
- Offside. Players are not allowed to receive the ball if they were in front of the ball when it was passed or kicked.
- 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.
- Starts and re-starts. If the ball goes out of play the ball is passed back in by the opposition. The ball is kicked from the half way line forward at the start of the match and after each try.

- 1. Tackling rules:
- 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.
- 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.
- If the ball is presented or loose, then a defending player may make an attempt to claim (turn over) the ball.
- TOUCH VERSION use two hands to touch the player at the waist. They then have 2-3 seconds to pass or present the ball.

#### THEORY IN ACTION





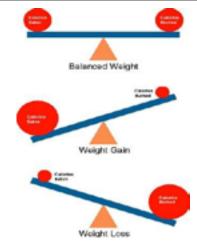
DEFINE THIS Flexion - a decrease in the angle at the joint.

Extension - an increase in the angle at the joint.



#### **Nutrition and Balanced Diet**

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



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

### Health, Fitness and Wellbeing

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

Health, Fitness and Wellbeing

Fitness: the ability to meet the demands of the environment

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



## Types of Movement and Muscle Action

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

#### Classification of joint

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





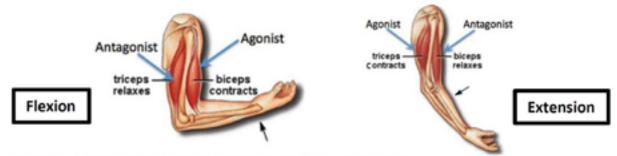
#### Connective tissue

Ligaments – attaches bone to bone to add joint stability.

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

Antagonistic pairs - Muscles are arranged in antagonistic pairs.

As one muscle contracts (shortens) its partner relaxes (lengthens) i.e. Biceps and Triceps.



Agonist = the muscle that contracts to produce movement.

Antagonist = the muscle that relaxes to allow the movement to occur.

### Examples in the body:

- Biceps & Triceps
- Quadriceps & Hamstring

### **Effects of Exercise**

Immediate effects of exercise (during exercise)

Short-term effects of exercise (up to 36 hours after exercise)

Long-term effects of exercise (months and years of exercising)

- hot/sweaty/red skin
- increase in depth and frequency of breathing
- increased heart rate.
- tiredness/fatigue
- light headedness
- nausea
- aching/delayed onset muscle soreness (DOMS)/cramp.
- · body shape may change
- Improvements in specific components of fitness
- · build muscle strength
- · improve muscular endurance
- Improve speed
- improve suppleness
- build cardio vascular endurance
- improve stamina
- increase in the size of the heart (hypertrophy)
- lower resting heart rate (bradycardia).

# **PSHE - Family and Feelings**



#### Define:

### **Body Language**

Nonverbal signals that you use to communicate your feelings and intentions. It includes your posture, your facial expressions and your hand gestures.

#### Define:

### Emotional Intelligence

The ability to understand and manage your own emotions, and those of the people around you.

### Define:

### **Nuclear Family**

A family unit consisting of two parents (usually married) and one or more children

### Define:

### Siblings

A sibling is one of two or more individuals having one or both parents in common. A full sibling is a first-degree relative. A male sibling is a brother, and a female sibling is a sister.

#### Indications that someone is lying to you.

- Going over the top with detail
- Covering mouth and eyes
- Not looking at you
- Gesturing
- Pausing a lot when telling a story





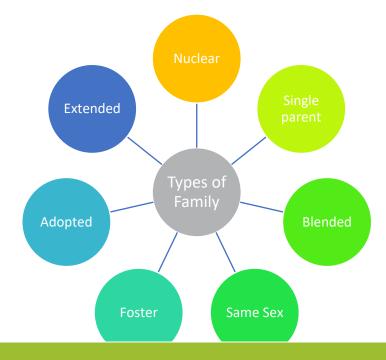


#### **Facial Expressions**

Facial expressions can help us determine how someone is feeling. Usually, if you have high emotional intelligence, you are good at determining someone's feelings based on their facial expressions.



Anger Compassion Contempt Embarrassment Pride Politeness Happiness Shame



# **PSHE - Smoking**



#### Define:

#### **Nicotine**

A toxic colourless or yellowish oily liquid which is the chief active constituent of tobacco. It acts as a stimulant in small doses, but in larger amounts blocks the action of autonomic nerve and muscle cells.

### Define:

## Vaping

The action or practice of inhaling and exhaling the vapour produced by an electronic cigarette or similar device

### Define:

### **Smoking**

The action or habit of inhaling and exhaling the smoke of tobacco or a drug. Usually through cigarettes or cigars

#### Define:

### **E-Cigarette**

E-cigarettes are electronic devices that heat a liquid and produce an aerosol or mix of small particles in the air. Which is then inhaled

### **Effects of Nicotine**

# Nicotine is both a sedative and a stimulant.

When a body is exposed to nicotine, the individual experiences a "kick." This is partly caused by nicotine stimulating the adrenal glands, which results in the release of adrenaline.

This surge of adrenaline stimulates the body. There is an immediate release of glucose, as well as an increase in heart rate, breathing activity, and blood pressure. Indirectly, nicotine causes the release of dopamine in the pleasure and motivation areas of the brain.

### Risks from Smoking Smoking can damage every part of the body Chronic Diseases Cancers Stroke Head or Neck 9 Blindness \* Cum infection Lung \* Aortic rupture Leukomia • Heart disease · Hardening of the arteries Pancreas \* Chronic lung disease Colon \* & asthma Hip fracture

#### Smoking and the Law

You must be over 18 to buy cigarettes in the UK. If you're under 16 the police have the right to confiscate your cigarettes. It's illegal:

- •For shops to sell you cigarettes if you are underage
- •For an adult to buy you cigarettes if you are under 18
- •To smoke in all public enclosed or substantially enclosed area and workplaces.
- •To smoke in a car with a child.

#### Vaping and the Law

- •You must be 18 or over to purchase e-cigarettes or e-liquids in the UK.It also became illegal for an adult to buy e-cigarettes for someone under the age of 18.
- •Although there is no legal restriction on where you can vape in the UK there are local laws and bylaws in force that prohibit the practice. The choice of whether or not to allow vaping is that of the property owner.
- •Vaping generally is not allowed on the underground, planes, buses or trains and train stations in the United Kingdom.
- •Vaping while you drive may not seem like such a big deal but it could land you with up to nine penalty points and a fine of £2,500.

### **How do E-Cigarettes work?**

E-cigarettes produce an aerosol by heating a liquid that usually contains nicotine, flavorings, and other chemicals that help to make the aerosol.

The liquid used in e-cigarettes often contains nicotine and flavorings. This liquid is sometimes called "e-juice," "e-liquid," "vape juice," or "vape liquid."

Users inhale e-cigarette aerosol into their lungs. Bystanders can also breathe in this aerosol when the user exhales it into the air. E-cigarette aerosol is NOT harmless "water vapor." The e-cigarette aerosol that users breathe from the device and exhale can contain harmful and potentially harmful substances, including:

- Nicotine
- •Ultrafine particles that can be inhaled deep into the lungs
- •Flavoring such as diacetyl, a chemical linked to a serious lung disease
- Volatile organic compounds
- Cancer-causing chemicals
- •Heavy metals such as nickel, tin, and lead

It is difficult for consumers to know what e-cigarette products contain. For example, some e-cigarettes marketed as containing zero percent nicotine have been found to contain nicotine.



Year 8 Spring Term Knowledge Organizer Self-Quizzing

### **Key words**;

- <u>Sacrifice</u>; giving something up for something of greater value.
- Martyrdom; someone who dies for a cause.
- Resurrection; body coming back to life.
- Ascension; body and soul rising to heaven.

While they were wondering about this, suddenly two men in clothes that gleamed like lightning stood beside them. <sup>5</sup>
In their fright the women bowed down with their faces to the ground, but the men said to them, "Why do you look for the living among the dead? <sup>6</sup> He is not here; he has risen!

Key aspect of the Last Supper is that Jesus had the opportunity to flee but didn't. Think of reasons why; cowardice is never respected, he had to die in order to resurrect.

### **Crucifixion**

Facts of crucifixion are; nails through wrists and feet, crown of thorns, sign saying INRI ('king of the Jews') above his head and his legs were likely broken.

Questions to which to know answers...

- What was the hill he was crucified on called?
- What happened to his body?
- Do you think there would be a religion called Christianity if the crucifixion had not happened?

### Steps to crucifixion are;

- JC was betrayed by Judas; who revealed his whereabouts to the Romans for 30 pieces of silver.
- He had become a threat to the Romans; they ruled the country and had ultimate power but JC was preaching and drawing large crowds.
- He had been popular but eventually the crowd turned against him.

Simon of Cyrene helped him when he fell carrying the cross.
The Romans cast lots for his clothes. Both these people/groups show the difference in attitude using agape.



Year 8 Spring Term Knowledge Organizer Self-Quizzing

We all know what it is, we all want it but it can be very difficult to achieve in some countries/situation.

Freedom is having the right/ability to think what you want and, within the law, behave in the way you wish.

It isn't being able to do anything you want.



There are certain freedoms which have been gained in Britain such as women getting the vote and free education for all.

Countries such as <a href="Saudi Arabia">Saudi Arabia</a> and North Korea have very low levels of freedom for the individual. These are gained through struggle, hard work and occasionally violence. The Peasants' Revolt and the Suffragettes both utilized these ideas to gain freedoms denied to them.

Keeping freedom is reliant on the people in a society being vigilant as people who live in totalitarian regimes say it is a gradual erosion of rights which stopped their freedom.

- Democracy; this means that the majority will win an election but it generally keeps out dictators.
- Education; on the whole the more you have the more money you get and that often ties in with freedom.
- 3. Crime; having a criminal record limits your freedom immeasurably. Can't go to certain countries or get certain jobs etc.

## **Freedom**;

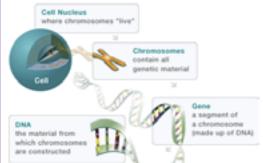
Democracy is the majority voting for a party. Best way of assuring freedom for the individual.

# **Science - Biology - Variation**



Section 1 Definitions		
1	Cell	The unit of a living organism, contains organelles o carry out life processes
2	nucleus	Contains genetic material (DNA) which controls the cell's activities
3	Chromosome	Thread-like structures containing tightly coiled DNA.
4	Gene	section of DNA that determines an inherited characteristic
5	DNA	A molecule found in the nucleus of cells that contains genetic information.
6	Variation	The differences within and between species.
7	Mutation	A change in the genetic code (DNA)
8	Inherited variation	Features that are passed from parents to their offspring.
9	Environmental variation	Feature that are due to the surrounding and conditions where an organism lives.
10	Population	Group of organisms of the same kind living in the same place
11	Natural selection	Process by which species change over time in response to environmental changes and competition for resources.
12	Biodiversity	The variety of living things. It is measured as the differences between individuals of the same species, or the number of different species in an ecosystem
13	Competition	When two or more living things struggle against each other to get the same resource.
14	Evolution	Theory that the animal and plant species living today descended from species that existed in the past.
15	Extinct	When no more individuals of a species remain.

#### Section 2 genetic material

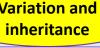


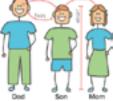
The genetic material in the nucleus of a cell is composed of a chemical called DNA. DNA is a polymer made up of two strands forming a double helix. The DNA is contained in structures called chromosomes.

A gene is a small section of DNA on a chromosome. Each gene codes for a particular sequence of amino acids, to make a specific protein.

The genome of an organism is the entire genetic material of that organism. The whole human genome has now been studied and this will have great importance for medicine in the future.

# Variation and







- the conditions in which they have developed (environmental causes)
- a combination of genes and the environment

Section 3 Passing on characteristics

Ordinary human body cells contain 23 pairs of chromosomes.

22 pairs control characteristics only, but one of the pairs carries the genes that determine sex.

Differences in the characteristics of individuals in a population is called variation and may be

- In females the sex chromosomes are the same (XX).
- In males the chromosomes are different (XY).

#### Section 4 Changes over time

The theory of evolution by natural selection states that all species of living things have evolved from simple life forms that first developed more than three billion years ago.

#### Natural selection – the process

- 1. Within any population there is variation caused by a mutation.
- 2. The organisms within the population complete for resources.
- 3. The organisms that are best adapted will
- 4. The organisms will breed and pass on the adaptations to the next generation





**Biodiversity** is vital to maintaining populations. Within a species variation helps against environment changes, avoiding extinction. Within an ecosystem, having many different species ensures resources are available for other populations, like humans.

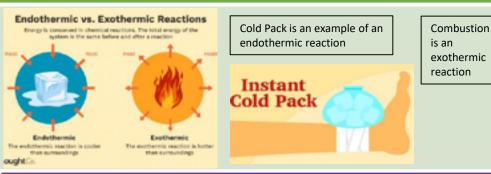
#### Extinction may be caused by:

- changes to the environment over geological time
- new predators
- new diseases
- new, more successful competitors
- a single catastrophic event, eg volcanic eruptions or collisions with asteroids

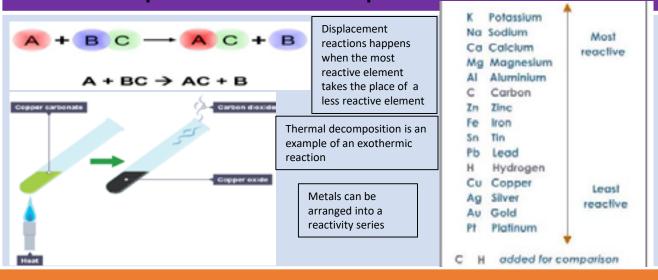
# **Science - Chemistry - Chemical Reactions**

Section 1: Definitions		
1	Chemical reaction	When bonds are broken and made
2	Exothermic	Process of making bonds (releasing heat)
3	Endothermic	Process of breaking bonds (taking heat from the surrounding)
4	Physical reaction	A physical change where a compound is not changed
5	Chemical reaction	A chemical change where a new compound is formed
6	Combustion	Burning of fuel
7	Displacement	When a more reactive element removes a less reactive element from a compound
8	Thermal decomposition	When compounds break down when heated, forming two or more products from one reactant
9	Catalyst	A substance that speeds up the rate of reaction. It is not used up or changed chemically during the reaction.
10	Catalytic Converter	Exhaust systems of cars are fitted with catalytic converters. These help reduce the release of toxic gases from the exhaust pipe.

### **Section 2: Exothermic and Endothermic**



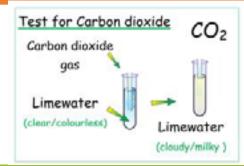
# **Section 3: Displacement and decomposition**

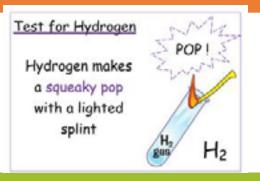


### **Chemical Reactions**

### **Section 4: Gas tests**



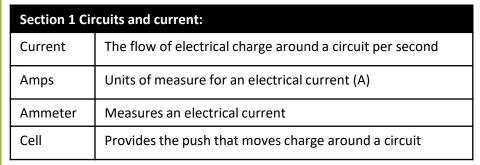




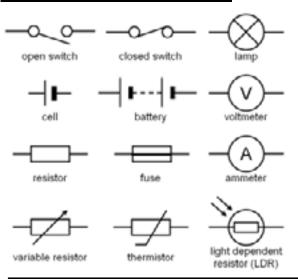


# **Science - Physics - Electricity**





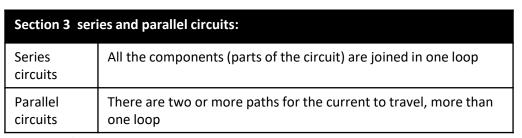
## Section 2 – circuit symbols

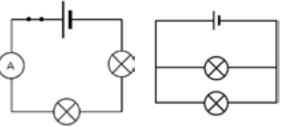


# Rules for drawing circuits:

- 1. Always use a **ruler**
- 2. Leave no gaps
- 3. Set it out as a square/rectangle
- 4. Don't put components on corners

Section 3 Potential difference:		
Potential Difference	The measure of a the push that a cell/battery can supply	
Volts	The measurement of potential difference	
Voltmeter	Measures the potential difference	





Section 4 resistance:		
Resistance	How difficult it is for current to flow through a component in a circuit	
Ohms	The unit of measurement for resistance	
Equation (Ohm's law)	Resistance (R) = $\frac{\text{potnetial differnce (V)}}{\text{Current (A)}}$	

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.



Independent	The variable we change during an investigation
Dependent	The variable we measure during an investigation

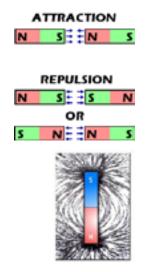
# **Science - Physics - Magnets**

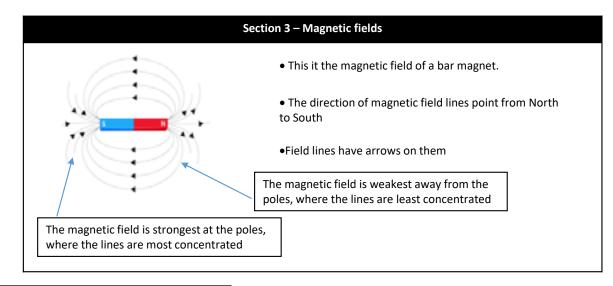


# Magnets

Section 1 -Keywords		
Magnet	An object that attracts iron, cobalt and nickel	
Attract	To move towards something	
Repel	To move away from something	
Magnetic force	The force exerted between magnets or a magnetic and a magnetic material e.g. iron	
Magnetic pole	Magnets have a north pole and a south pole. Like poles repel but opposite poles attract	
Magnetic field	a region around a magnetic material where the force of magnetism acts.	
Core	the piece of iron, bundle of iron wires forming the central or inner portion in an electromagnet	
Permanent magnet	a metal that is always magnetic	
Induced magnet	A material that becomes a magnet when it is placed in a magnetic field	
Electromagnet	A magnet made by passing electric current through a coil surrounding	

Section 2 – Attract or Repel?		
		Attract or repel?
North	North	Repel
South	South	Repel
North	South	Attract





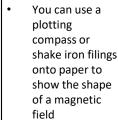
turned on and off

can be changed

2. Strength of electromagnet

#### Section 4- Magnetic fields - part 2

- The Earth's core is made from iron and molten nickel. It has a magnetic field.
- •The needle on a compass points towards the Earth's North pole.





#### Section 5 - Making an Electromagnet

- Coil a piece of metal wire around an iron core
   Use a power supply/battery
  - to provide an electrical current to the circuit
  - Pass the current through the coil
  - To turn the magnet off, turn the power supply off

# How to increase the strength of an electromagnet

- 1. Increase voltage
- 2. Increase no. turns in coil

# **Spanish - A Comer**



Spanish \	18- A	comer
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¿Qué te gusta comer y beber?	What do you like to eat and drink?	
Me gusta	l like	
No me gusta	I don't like	
Odio	I hate	
Me encanta	l love	
Prefiero	I prefer	
El agua	Water	
el arroz	Rice	
La carne	Meat	
Los caramelos	Sweets	
La fruta	Fruit	
Las hamburguesas	Hamburgers	
Los huevos	Eggs	
La leche	Milk	
El marisco	Seafood	
El pescado	Fish	
El queso	Cheese	
Las verduras	Vegetables	

¿Qué desayunas?	What do you have for brekafast?
Desayuno	I have breakfast
Los cereales	Cereal
Los churros	Churros
Las tostadas	Toast
El yogur	Yoghurt
El café	Coffee
El té	Tea
El cola cao	Chocolate milk
El zumo de naranja	Orange juice
No desayuno nada	I don't have breakfast
Como	l eat
Un bocadillo	A sandwich
Las patatas fritas	Chips
El pollo con ensalada	Chicken with salad
Desayuno a las siete	I have breakfast at 7
Como a las dos	I eat at 2

En el restaurante	Opinions
Me gusta	l like
Me gusta mucho	I really like
Me encanta	I love
No me gusta	I don't like
No me gusta nada	I really don't like
Odio	I hate
Detesto	I detest
Pues	Well
Depende	It depends
No sé	I don't know
Bueno/vale	Ok
A ver	Let's see

En el restaurante	In the restaurant
Buenos días	Good day
¿Qué van a tomar?	What are you going to have?
Voy a tomar	I am going to have
De primer plato	As a starter
De segundo plato	As a main
De postre	For dessert
Tengo hambre	I'm hungry
Tengo sed	I'm thirsty
Nada más	Nothing else
La cuenta por favor	The bill, please

Palabras m	Palabras muy frecuentes		High frequency words	
A las	At	Lugar	Place	
Bastante	Quite	Para	For	
Día	Day	Por ejemplo	For example	
Favorito/a	Favourite	Pasado/a	Last	
Hora	Hour	Que viene	Next	

# Spanish - ¿Qué Hacemos?- Part 1



Colours

Yellow

Blue

White

Grey Brown

Purple Orange Black

Red Pink

Green

Multicoloured

Spanish	У8-	ćQué	hacemos?	(1)
---------	-----	------	----------	-----

¿Te gustaría ir al cine?	Would you like to go to the cinema?	
A la bolera	To the bowling alley	
A la cafetería	To the cafeteria	
Al centro comercial	To the shopping cenre	
Al museo	To the museum	
Al parque	To the park	
A la pista de hielo	To the ice skating rink	
Al polideportivo	To the sports centre	
Al castillo	To the castle	
A la iglesia	To the church	
Al catedral	To the cathedral	
Al ayuntamiento	To the town hall	

up A5	é hora?	At what	time?
A las	At	Seis y media	6:30
Seis	6	Siete menos cuarto	6:45
Seis y cuatro	6:15	Siete menos diez	6:50

¿Dónde	Where do we
quedamos?	meet up?
Al lado de	Next to
Delante de	In front of
Detrás de	Behind of
Enfrente de	Opposite
En	In
A la izquierda da	To the left of
A la derecha de	To the right of
Lo siento, no	I'm sorry, I
puedo	can't
¿quieres salir?	Do you want to go out?
¿quieres salir? Tengo que	•
- '	go out?
Tengo que Cuidar a mi	go out? I have to Look afer my
Tengo que Cuidar a mi hermano Hacer los	go out? I have to Look afer my brother To do my
Tengo que Cuidar a mi hermano Hacer los deberes	go out? I have to Look afer my brother To do my homework
Tengo que Cuidar a mi hermano Hacer los deberes Pasaer al perro Salir con mis	go out? I have to Look afer my brother To do my homework To walk the dog To go out with

¿Cómo te	How do	Los color
preparas?	you get ready?	Amarillo/a
Me baño	I have a bath	Azul
Me ducho	I have a	Blanco/a
	shower	Gris
Me lavo la	I wash my face	Marrón
cara	1466	Morado/a
Me lavo los dientes	I brush my teeth	Naranja
Me visto	I get dressed	Negro/a
Me maquillo	I put on	Rojo/a
,	makeup	Rosa
Me peino	I brush my	Verde
	hair	De muchos
Me aliso el	I straighten	colores
pelo	my hair	
Palabras mu	y frecuentes	High fre
Al/a la	To the	Demasiados

Palabras mu	y frecuentes	High frequ	iency words
Al/a la	To the	Demasiados	Too many
Del/ de la	Of the	Siempre	Always
Demasiado/a	Too (much)	Puedo	l can
Por eso	For this reason	Quiero	I want
Por supuesto	Of course	Hacer	To do / make

# Spanish - ¿Qué Hacemos? - Part 2



# Spanish Y8- ¿Qué hacemos? (2)

¿Qué vas a llevar?	What are you going to wear?
¿Qué llevas normalmente los fines de semana?	What do you normally wear at the weekend?
Normalmente llevo	Normally I wear
Una camisa	A t-shirt
Una camiseta	A shirt
Un jersey	A jumper
Una sudadera	A sweatshirt
Una falda	A skirt
Un vestido	A dress
Una gorra	A hat
Unos pantalones	Some trousers
Unos vaqueros	Some jeans
Unas botas	Some boots
Unos zapatos	Some shoes
Unos zapatos de deporte	Some trainers
Llevo	I wear
Voy a llevar	I am going to wear

Reacciones		Reactions	
De acuerdo	All right	Estoy de acuerdo	l agree
Vale	Ok	No estoy de acuerdo	I don't agree
Muy bien	Very good	Con tus padres	With your parents
Genial	Great	Contigo	With you
Sí, me gustaría mucho	Yes, I would really like to	Con mis amigos	With my friends
¡Ni hablar!	No way!	Eres demasiado joven	You are too young
¡Ni en sueños!	Not a chance!	En mi opinión	In my opinion
No tengo ganas	I don't feel like it	Tienes razón	You're right
¡Qué aburrido!	How boring!	¿Tú qué opinas?	What do you think?

# Estrategia 4

## Finding the right word

Be careful not to choose the wrong Spanish word when you use a dictionary.

#### Make sure you:

- 1 Look up the correct spelling of the English word (e.g. meet/meat, pair/pear).
- 2 Look for dictionary abbreviations (vt, nm, nf, etc. see page 86). If it's a noun you want, don't choose a verb (e.g. a watch/to watch).
- 3 Look at any example sentences given.
- 4 Double-check the Spanish word in the Spanish-English half of the dictionary.

Find the correct Spanish translations of these items of clothing in a dictionary:

tie cap trainers suit dress

# **Spanish - Tenses - El Presente**



# Spanish Y8- El Presente

Key Verbs
My name is
I am
He/she is
We are
They are
I have
He/she has
They have
I do
I play
It is (location)
I go
I like
I love
I hate
I live

Los ve	rbos -AR	AR Verbs
Yo	T	0
Tú	You	As
Él/ella	He/she	Α
Nosotros	We	Amos
Vosotros	You (pl)	Áis
Ellos/ellas	They	an

Los ve	rbos -ER	ER Verbs
Yo	T	0
Tú	You	Es
Él/ella	He/she	Es
Nosotros	We	Emos
Vosotros	You (pl)	Éis
Ellos/ellas	They	En

Los ve	erbos -IR	IR Verbs
Yo	1	0
Tú	You	Es
Él/ella	He/she	E
Nosotros	We	Imos
Vosotros	You (pl)	Ís
Ellos/ellas	They	En

# **Spanish - Tenses - El Preterito**



# Spanish Y8- El preterito

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

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

Los ve	rbos -ER	ER Verbs
Yo	1	ſ
Tú	You	Iste
Él/ella	He/she	ló
Nosotros	We	Imos
Vosotros	You (pl)	Isteis
Ellos/ellas	They	leron

Los ve	erbos -IR	IR Verbs
Yo	T	ĺ
Tú	You	Iste
Él/ella	He/she	ló
Nosotros	We	Imos
Vosotros	You (pl)	Isteis
Ellos/ellas	They	leron

# **Spanish - Tenses - Near Future**



# Spanish Y8- Near future

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

	IR	IR
Yo	1	Voy
Tú	You	Vas
Él/ella	He/she	Va
Nosotros	We	Vamos
Vosotros	You (pl)	Vais
Ellos/ellas	They	Van



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

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

