

# Thomas Estley Community College

## Year 9 Summer Term

### Knowledge Organiser



## What are Knowledge Organisers?

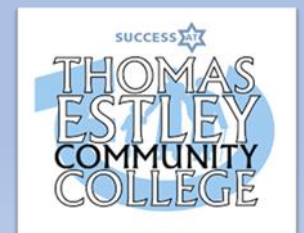
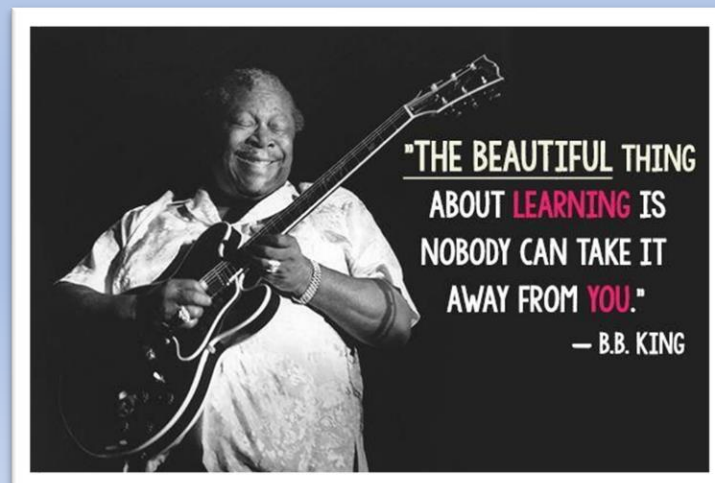
A knowledge organiser is an easy way that each subject can summarise the most important information. Each subject section will include key terms, short explanations, glossary words, diagrams etc making it clear to the student as to what is essential to learn. Each grid has an overall theme and these vary according to the subject being taught.

It will be the students responsibility to keep the knowledge organisers safe and refer to them over the whole academic year.

## How will these be used at Thomas Estley?

At Key stage 3, you will be given a knowledge organiser each term. You need to keep these safe in your learning packs that you were provided with at the start of the academic year.

Your subject teachers will use these in a variety of ways, for both class work, remote learning opportunities and homework. They will be used to help with revision for class quizzes and retrieval practice activities. They will also be used for flip learning activities, where subject teachers will ask you to learn some information and then go in to it in more detail in class.



# Revision Tips and Tricks!

## Record It

Record yourself on your phone or tablet reading out the information. These can be listened to as many times as you want!



## Teach it!

Teach someone your key facts and then get them to test you, or even test them!



## Flash Cards

Write the key word or date on one side and the explanation on the other. Test your memory by asking someone to quiz you on either side.

## Hide and Seek

Read through your knowledge organiser, put it down and try and write out as much as you can remember. Then keep adding to it until its full!



## Back to front

Write down the answers and then write out what the questions the teacher may ask to get those answers.



## Post its

Using a pack of post-it notes, write out as many of the keywords or dates as you can remember in only 1 minute!



## Practice!

Some find they remember by simply writing the facts over and over again.

## Read Aloud

Simply speak the facts and dates out loud as you're reading the Knowledge Organiser. Even try to act out some of the facts – it really helps you remember!



## Sketch it

Draw pictures to represent each of the facts or dates. It could be a simple drawing or something that reminds you of the answer.

# Knowledge Organiser (LO1): Graphic files & formats

Thomas Estley Community College

You must know file formats used for audio, video and images and to describe their features

## Common bitmap (raster) image file types

File Type	Advantages	Disadvantages
.JPG (bitmap)	Compresses well, so creates smaller files sizes. Reproduces millions of colours Good for web and printing	Lossy file format; Variable picture quality Cannot be used for animation
.TIFF (bitmap)	Lossless file format Reproduces millions of colours Standard format for print publishing industry	Large files Limited compression Doesn't support transparent background
.GIF (bitmap)	Lossless file format Enables animations (very popular use) Sharp edges to images	Larger file size Only 256 colours can be reproduced
.PNG (bitmap)	Lossless file format Reproduces millions of colours Excellent transparency in images	Compresses well Not suitable for digital photos No animation
.BMP (bitmap)	Works in many devices Millions of colours Lossless file format	Uncompressed Large file formats No compression

## Common vector image file types

File Type	Advantages	Disadvantages
.EPS (vector)	Most common vector type Standard for sharing in print publishing industry	Not widely supported in editing software Generally Adobe only software
.SVG (vector)	Scalable without image quality reduction International standard for vector graphics High quality printing possible Good web browser support	Not widely supported in software Files sizes can be large with many elements
.PDF (vector)	Widely supported by many devices Free to view PDF files Small file size	Not free to edit PDF files Text difficult to edit, text is treated as images
.AI (vector)	Scalable without image quality reduction Industry standard for professional vector graphics	Requires Adobe software to edit Cannot be viewed on websites
.DXF (vector)	Standard format used for Computer Aided Design (CAD) Well supported in many software applications	Large file sizes Data can be lost when shared across different software.

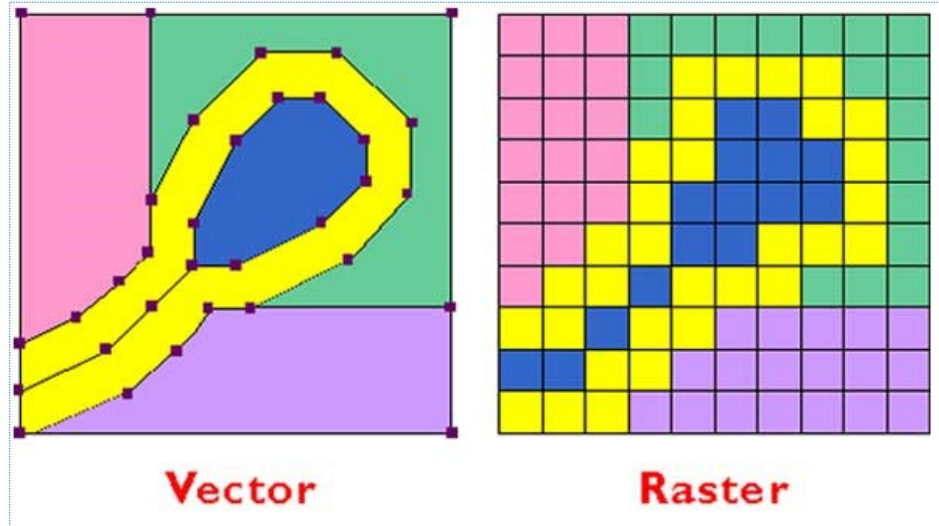
## File size compression

### Lossy compression

- Data is removed from the file to reduce the size of the file.
- The process cannot be reversed, data loss is permanent
- Increased compression introduces a greater reduction of image quality
- Ideal for communication over the internet and viewing on small screens

### Lossless compression

- All original image quality is retained, hence no loss
- Slight decrease in file size
- Ideal for archiving images to retain original quality
- Used for large images, such as posters and billboards



# Knowledge Organiser (LO1): Graphic files & formats

Thomas Estley Community College

You must know file formats used for audio, video and images and to describe their features

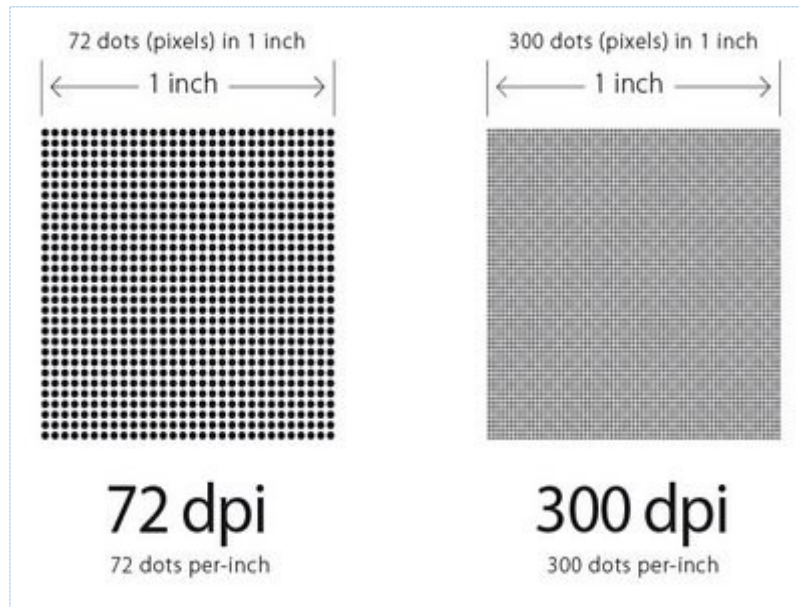


Image Resolution	
Pixel dimensions	The density of pixels in an image. Normally stated as the number pixels on the horizontal and vertical axis of an image, for example HD TV is 1280 pixels wide and 720 high (1280 x 720 = 921,600 pixels = 0.92 megapixels).
DPI resolution	Dots Per Inch. How many pixels occur across one inch (2.54 cm) DPI usually refers to printed media.
PPI resolution	Pixels Per Inch. How many pixels occur across one inch (2.54 cm) DPI usually refers to screen media.
Typical resolutions	Print media typically uses 300 dpi Web media is typically 72 ppi

## Question:

A monitor is 20 inches wide and it has a resolution of 1024 x 720. What is the monitors dpi?

## Answer:

DPI = dots per inch = dots/inch

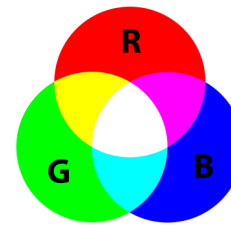
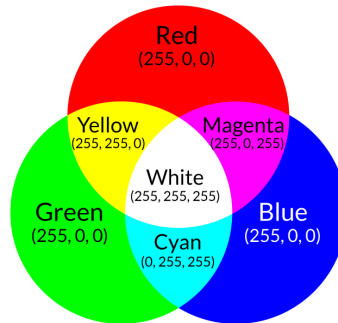
DPI = resolution / width

DPI = 1024/20 = **51.2 dpi**

Each pixel for a computer to TV screen is made from three values for Red, Green and Blue to determine how bright each colour is.

- **R** = 0 to 255 (255 is the maximum intensity)
- **G** = 0 to 255 (255 is the maximum intensity)
- **B** = 0 to 255 (255 is the maximum intensity)

These three **colour channels** are 8-bit values to determine **colour depth**.



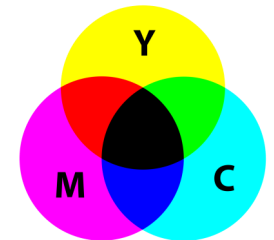
Images are represented **pixels (Picture Elements)**.

TVs and monitors produce pixel colours using Red, Green and Blue light (**RGB**)

All screen colours can be produced just from RGB

Printed media pixel colours are produced from Cyan, Magenta and Yellow ink (**CMY**).

It is very difficult to colour match between CMY and RGB



# B1 Cells

Knowledge organiser – page 1



## Using a microscope

- Light microscopes use visible light to **magnify** an image by up to 2000 times.
- The **magnification** of a microscope is calculated by multiplying the eyepiece lens magnification by the objective lens magnification. For example, if an eye piece is 10X and an objective lens is 4X then the total magnification would be  $10 \times 4 = 40X$ .

- To calculate the size of an object use this formula:

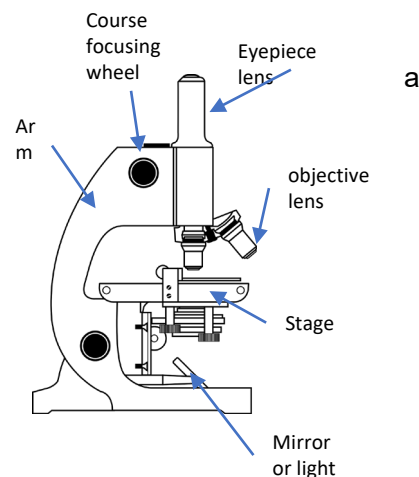
$$\text{size of real object} = \text{image size} \div \text{magnification}$$

- For example, if you are using a microscope with magnification of 40X and the image of a cell through the microscope measures 2mm, then:

$$\text{size of the cell} = 2\text{mm} \div 40$$

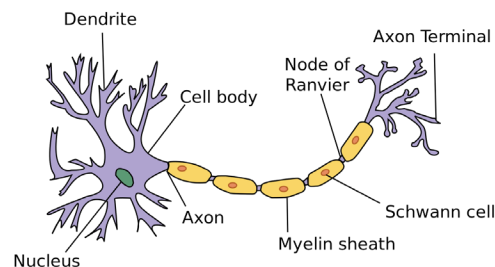
- The cell therefore has a size of 0.05mm or **50µm**

- The quality of an image through a microscope is more than just magnification. If two points are very small or close together it can be difficult to see them as two separate points and instead they appear as a single point. This is called **Resolution**. The greater the resolving power of a microscope, the more detail that can be seen.



## Animal cell specialisation

- Plants and animals are made from many different types of cell, each with a specialised functions. They differentiate into these special cells as the organism develops.
- Nerve cells are specialised communicate information in the form of electrical impulses around your body. They have **dendrites** to make connections. They have long axons to cover large distances and they have synapses pass information from one nerve cell to another.
- Muscle cells** are cells which contain special proteins allowing them to contract and relax. They contain many mitochondria and glycogen to release energy.
- Sperm cells are used to fertilise eggs. They have long tails for movement, many mitochondria for releasing energy and enzyme containing acrosomes for breaking into the egg



## Animal and plant cells

- All living things are made from **cells which** contain a number of structures within them.

### Both animal and plant cells contain:

- Nucleus** – surrounded by a nuclear membrane, it contains the genes on chromosomes which carry the instructions for producing the proteins involved in cellular activity.

- Cytoplasm** – A jelly like liquid which holds all of the other cellular structures. It is also where most of the chemical reactions take place that are needed for a cell to live.

- Cell membrane** – A thin layer made from fat and protein which controls the passage of substances into and out of the cell.

- Mitochondria** – Very small structures containing lots of folds of membrane across which aerobic respiration takes place. This process releases energy from glucose to be used by the cell.

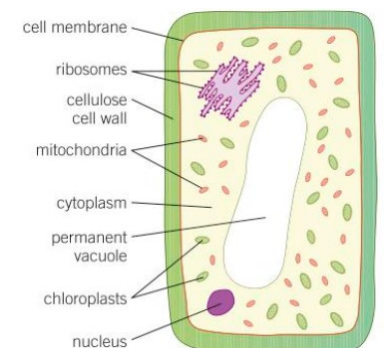
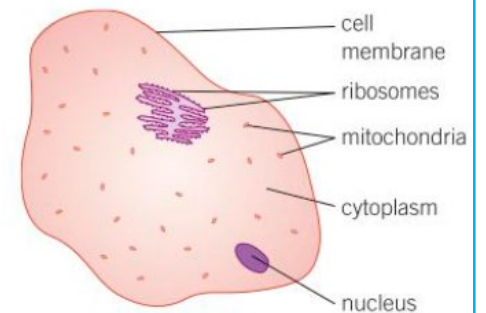
- Ribosomes** – Very small structures which are the site of protein synthesis.

### Plant cells also contain:

- Chloroplasts** – Small structures which contain a green substance called **chlorophyll**. They absorb light for photosynthesis.

- Permanent vacuole** – An area in the cell which contains cell sap. This is important in keeping the cell turgid to support the plant

- Cell wall** – cellulose structure that supports the cell.



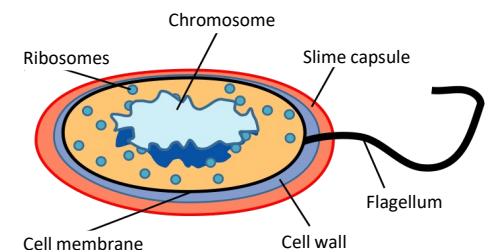
## Eukaryotic and prokaryotic cells

- Animal and plant cells are examples of **eukaryotic** cells. They have a membrane, cytoplasm and genetic material contained within a nucleus.

- Bacteria are examples of **prokaryotic** cells, they are around 100x smaller than eukaryotes. They consist of cytoplasm within a cell membrane and cell wall (although not made of cellulose). The genetic material is also not contained within a nucleus but is instead a large ring floating within the cytoplasm.

- As well as the main chromosome, prokaryotes have several extra small loops of DNA called plasmids.

- Prokaryotes may also have a protective slime capsule around the cell wall, flagella for movement



# B1

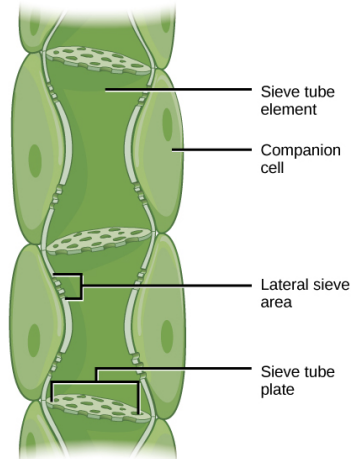
## Cells

Knowledge organiser – page 2



### Plant cell specialisation

- Plants also require many different types of cell
- Root hair cells** are found in the plant roots. They increase the surface area to allow more efficient uptake of water, have permanent vacuoles to speed up the movement of water and lots of mitochondria for releasing energy for active transport
- Palisade cells** are found in the plant leaf. They contain large numbers of chloroplasts for absorbing light energy, are positioned on the upper surface of the leaf to be in full sunlight and have large permanent vacuoles to store water and keep the leaf tissue rigid.
- Xylem cells** are found in the stems of plants. They transport water upwards from the roots to the leaves to be used in photosynthesis. They are made from dead cells constructed from spirals of lignin. These make them very strong to withstand the pressure of moving water.
- Phloem cells** are also found in plant stems. They carry the food made in photosynthesis up and down the plant. The cell walls between the cells break down to form sieve plates and they have companion cells to support them and keep them alive

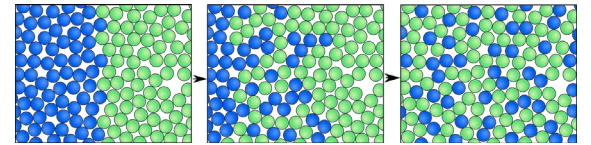


### Exchanging materials with the environment

- Cells need to take in and give out substances from their surroundings such as glucose for respiration. This exchange of materials is done by diffusion, osmosis or active transport.
- As organisms get bigger, these three processes by themselves is not enough. You for example cannot absorb enough oxygen through your skin to supply all the cells in your body. In fact as an organism gets larger, its **surface area to volume ratio** decreases. Organisms have adapted to make the transfer of substances more efficient:
  - Larger surface areas allow greater movement of substances, for example **villi** in the small intestines and **alveoli** in the lungs.
  - Thin membranes through which substances must travel allow substances to move more rapidly such as the thin filaments in a fish's gills or the membrane of the **capillaries**.
  - Ventilation** makes gas exchange more efficient by ensuring that the concentration gradient remains steep such as the movement of air into and out of the lungs to replenish the oxygen.

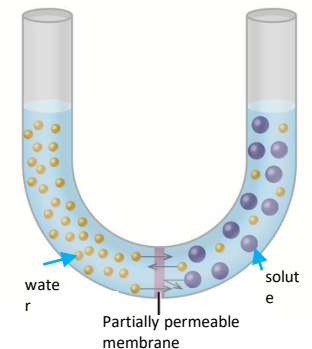
### Diffusion

- Diffusion** is the spreading out of the particles of a gas or any dissolved substances. Whilst the movement of the individual particles is random, the net movement (the overall movement) is always from an area of higher concentration to an area of lower concentration.
- Dissolved substances such as oxygen, carbon dioxide or waste products such as urea move into or out of cells via diffusion.
- Diffusion is fastest when there is a big difference between the concentration in two areas. We call this difference the **concentration gradient**.
- Diffusion is a passive process, meaning that it does not require energy use.



### Osmosis

- When substances are separated by a **partially permeable membrane**, such as the cell membrane, it stops larger particles from being able to diffuse; water however, being very small, can move freely.
- Osmosis** is the movement of water from an area of high water concentration (a dilute solution) to an area of low water concentration (a concentrated solution) across a partially permeable membrane.
- If the two sides of the membrane have the same solute concentration then we say they are **isotonic**, if the solution is more concentrated outside the cell it is **hypertonic** to the cell, if it is less concentrated outside the cell it is **hypotonic** to the cell. In the example given in the diagram the water will move to the right.
- Plants rely on osmosis to provide water to support stems and leaves. When water moves into the cell it swells it builds pressure known as **turgor**. If cells are filled with water they are **turgid**, if the pressure is removed, such as on hot dry days, the cells become **flaccid**. If the cell vacuole and cytoplasm shrink too much they can pull the membrane away from the cell wall. This is known as **plasmolysis** which can kill the cell.



### Active transport

- Sometimes substances needed by a cell need to move against its concentration gradient across the partially permeable membrane. This is done by using energy in a process called **active transport**. Active transport can be seen in:
  - Root hair cells. Mineral ions are found in very low concentrations in the soil but need to be absorbed into the plant against its concentration
  - The small intestines. After a meal there is a very high concentration on glucose in the gut which can diffuse into the blood. After some time without eating this concentration decreases. Active transport is used to extract whatever is left before the next meal.

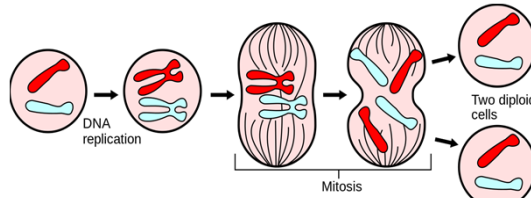
# B2

## Cell division Knowledge organiser



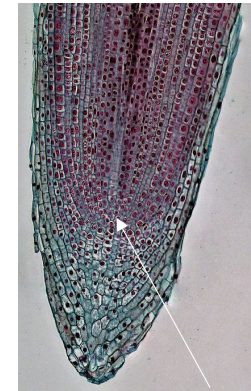
### Mitosis and the cell cycle

- New cells are needed when an organism grows or to replace cells that are worn out or damaged. This is done by mitosis.
- It is important that any new cells are identical to the cells they replace. This is done by carefully copying the genes into the new cell.
- All cells go through the **cell cycle** consisting of three phases:
  - Phase 1, **growth**, is where the cell grows bigger and produces new organelles such as mitochondria and ribosomes. This is the longest stage of the cell cycle.
  - Phase 2, **DNA synthesis**, is where the DNA replicates to form two copies of each chromosome.
  - Phase 3, **mitosis**, shown above, one set of chromosomes is pulled to each end of the cell. The nucleus reforms and the cell membrane splits into two identical cells.



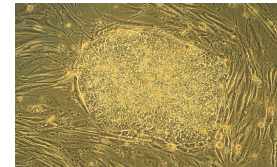
### Differentiation

- Your life began when a sperm cell fertilised an egg. At that point you are only 1 cell big, now you have approx. 40 trillion cells of many different types.
- Very early in your life your cells were special, known as **embryonic stem cells**. They had the capacity to **differentiate** into any other type of human cell.
- As cells differentiate different genes are turned on or off making the cells have specialised shapes and functions. From this point onwards when a cell undergoes mitosis they can only produce an identical daughter cell.
- Your body maintains a supply of **adult stem cells** which have only partially differentiated. These have a limited number of different cells they can produce e.g. some adult stem cells are found in your bone marrow and are able to produce different types of blood cell.
- Unlike animal cells many plant cells are capable of differentiating all through their lives. Areas of undifferentiated cells are kept in active regions such as in the tips of stems and roots known as the **meristem**. Mitosis takes place in these areas almost continuously producing new cells which go on to differentiate into the many types of specialist plant cell. You can see the meristem in the diagram above.



Root meristem

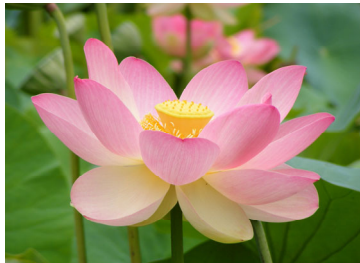
### Stem cells and cloning



- The picture is of human stem cells, these are undifferentiated cells. They can divide to form more undifferentiated cells which go on to differentiate into all of the other types in your body including skin, liver, muscle cells etc.
1. Embryonic stem cells – can be cloned and made to differentiate into most cell types. Used for **therapeutic cloning** where the nucleus is taken from patient and inserted into an embryonic stem cell (such as a human egg cell) from another person and cloned to replace damaged tissue. The body does not reject this tissue as it is genetically identical, however there is a risk of infection.
  2. Adult stem cells – Can form many types of cell e.g. blood cells. Tissue matching is used to avoid rejection however there are only a few types of cell that can be formed this way. It also carries a risk of infection.
  3. Meristems – can differentiate into any plant cell throughout the life of the plant. Use to produce clones quickly and economically. Very useful when producing many copies of rare species quickly without waiting for seeds.

The use of stem cells carries some moral and religious concerns, however research on stem cells continues because they could be used to treat spinal cord injuries, diabetes, heart attacks, eyesight and damaged bone and many more.

### Cloning



- Producing identical offspring is known as **cloning**. It is possible to produce many identical plant clones by taking stem or leaf cuttings of a plant.
  - Under the right conditions the cells in the cutting of a plant can undifferentiate and start to undergo mitosis producing many cells. These cells can re-differentiate back into all of the various types of specialised plant cells such as xylem, phloem or palisade cells and build a new plant.
- As the cells from this new plant have come from only the one parent plant, they will produce a genetically identical daughter plant. This is a great way of producing plants which have desirable characteristics such as flower colour.
  - Cloning of animals is much harder as most animal cells differentiate permanently in early development.



# C1

# Atomic structure Knowledge organiser

## Atoms, elements and compounds

- All matter is made from atoms which are the smallest part of the element. Each element is represented by a **chemical symbol** e.g. iron has the symbol **Fe**, oxygen has the symbol **O**. These elements are arranged on the periodic table.
- Compounds** are formed when **chemical reactions** take place. They contain 2 or more different elements which are **chemically combined**. These reactions can be represented as **symbol equations**.
- The **law of conservation of mass** states that no matter can be created or destroyed. This means that in a symbol equation there must be the same number of atoms for each element on either side of the equation. Use this QR code to watch short demonstrations on how to balance a symbol equation.

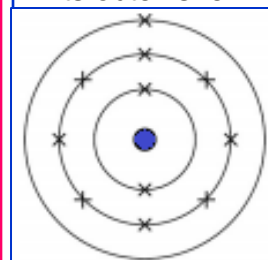


## Separating mixtures

- A mixture is made of 2 or more elements or compounds which are not chemically combined. The properties of each element or compound remain unchanged.
- They can be separated by the physical properties using techniques such as **filtration**, **crystallisation**, **simple distillation**, **fractional distillation** and **chromatography**.
- Separation techniques do not produce new compounds as no chemical reactions are taking place.

## The development of the model of the atom

- The first thought about an atom were that they were tiny spheres of matter that couldn't be divided.
- The **plum pudding model** suggested that the atom was a ball of positive charge with negative electrons embedded in it.
- The **alpha particle scattering experiment** showed that the mass of an atom was concentrated at the centre (nucleus) and had a positive charge. This new model was named the **nuclear model**.
- Niels Bohr** suggested that electrons orbit around the nucleus at specific distances, which was shown in experimental observations.
- The name **proton** was given later when it was found that the nucleus could be divided into smaller sub-atomic particles.
- James Chadwick's** experimental observations provided evidence to show that **neutrons** exist within the nucleus.



## The subatomic particles

- Atoms have no overall electrical charge because the number of protons and electrons is always equal. Their opposing charges balance one another out.

Sub-atomic particle	Relative Charge	Relative Mass
Proton	+1	1
Neutron	0	1
Electron	-1	0 (very small)

- The **atomic number** of an element is the same as the **number of protons**. Each element has a set number of protons which cannot change.
- The size of an atoms radius is about 0.1nm ( $1 \times 10^{-10}\text{m}$ ). The radius of a nucleus is about  $1 \times 10^{-14}\text{m}$ . Almost all of the mass of an atom is in the **nucleus**.
- The **atomic mass** of an element is the number of **protons** and **neutrons** in the nucleus added together e.g. Na has the numbers  $^{23}\text{Na}$  and  $_{11}\text{Na}$ . 23 is the atomic mass and 11 is the atomic number. The mass number is always the larger of the two numbers.

## Relative atomic mass

- The **relative atomic mass** is the average mass of all of the common **isotopes** of the element. An isotope is where the element has the same number of protons and electrons but a different number of neutrons. This affects the overall mass of the atom, but not the chemistry of how this atom will react.
- To calculate the relative atomic mass you must know the **relative abundance** of each isotope of the element e.g. Cl has 2 common isotopes –  $^{35}\text{Cl}$  with 75% abundance and  $^{37}\text{Cl}$  with 25% abundance.

$$A_r = \frac{(\text{mass 1} \times \text{abundance 1}) + (\text{mass 2} \times \text{abundance 2}) \dots}{100} = \frac{(35 \times 75) + (37 \times 25)}{100} = 35.5$$

## Electronic structures

- The electrons in an atom will occupy the shells closest to the nucleus. These shells are arranged around the nucleus and can hold a maximum number of electrons. The 1<sup>st</sup> shell can hold **2 electrons**, the 2<sup>nd</sup> shell can hold **8 electrons** and the 3<sup>rd</sup> shell can hold **8 electrons**. You can represent the electrons in an atom or ion as an image (shown below) or as an **electronic configuration** which is shown as numbers e.g. Na has an electron configuration of 2.8.1. It has 2 electrons in its 1<sup>st</sup> shell, 8 in its 2<sup>nd</sup> shell and 1 in its outer shell.

Key words

proton neutron electron  
atomic number atomic mass nucleus  
relative abundance fractional distillation  
chromatography filtration crystallisation

# C2

## The periodic table Knowledge organiser

### The periodic table

- The periodic table is organised in **periods** (rows) and **groups** (columns) and are ordered by **atomic number** from the top left to bottom right of the periodic table. Elements with similar properties are in the same group. They have the same number of **outer electrons** and therefore react in a similar way to one another. The period an element is in tells us how many shells of electrons that element has.

### Development of the periodic table

- The early ideas of how to order the elements involved doing so by **atomic mass**. As not all elements had been discovered then, many of the groupings of elements weren't done so by their properties.
- Mendeleev** developed the periodic table and grouped elements with similar properties together, this meant changing the order of some of the elements. He also left gaps, predicting that undiscovered elements would fit the missing places.



### Metals and non-metals

- Metals are found on the left hand side of the periodic table and form **positive ions**.
- Non-metals are found on the top right hand side of the periodic table and form **negative ions**.
- Metals generally **conduct electricity and heat**, have **high melting and boiling points**, are **solid** at room temperature and are **hard**. They have a **high density** and the transition metals will form **coloured compounds**

#### Key words

atomic number	ion	atomic mass
Mendeleev	conduction	density
noble gas	halogen	alkali metal

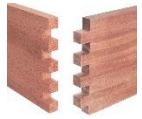
### Group 0, 1 and 7

- Group 0** non-metal elements are on the far right of the periodic table. They are called the **noble gases**. Their name comes from the fact that they have a **full outer shell of electrons** and are therefore considered to be **very stable**. For a noble gas to react, the conditions must be very extreme. The boiling points of noble gases increase as you go down the group.
- Group 1** metals are on the far left of the periodic table. They are called the **alkali metals** because when they react with water they produce an aqueous alkaline solution. They have **1 outer shell electron**. This makes them **very reactive** as they can easily lose this electron. Their reactivity **increases down the group**.
- When they **react with water** they produce a **metal hydroxide** and **hydrogen gas**, the metal will **move along the surface of the water** due to its low density, some **bubbling** will occur as hydrogen gas is produced and a **flame** occurs with sodium (orange flame) and potassium (lilac flame). The pH of the end solution is great than 7 turning the universal indicator blue or purple. **The reaction gets more vigorous down the group** e.g.  $2\text{Na}_{(s)} + 2\text{H}_2\text{O}_{(l)} \rightarrow 2\text{NaOH}_{(aq)} + \text{H}_{2(g)}$
- When they **react with chlorine** they will produce chlorides which are white solids. They will dissolve in water to make a neutral solution e.g.  $2\text{Na}_{(s)} + \text{Cl}_{2(g)} \rightarrow 2\text{NaCl}_{(s)}$  Again, the reaction will get more vigorous going down the group.
- When they **react with oxygen** they will burn in air and form solid oxides. Sodium will produce an orange flame and potassium will produce a lilac flame e.g.  $4\text{Na}_{(s)} + \text{O}_{2(g)} \rightarrow 2\text{Na}_2\text{O}_{(s)}$
- Group 7** non-metals are on the right hand side of the periodic table. They are called the **halogens**. They have **7 outer shell electrons**. They exist as **diatomic molecules** (a pair e.g.  $\text{Cl}_2$  not Cl). Their reactivity **decreases down the group**. Their **melting and boiling point increase down the group** as their relative molecular mass increases.
- When they react with metals and non-metals they produce halides e.g. sodium reacting with chlorine would product sodium chloride.
- The more reactive halogen can **displace** the less reactive halogen in an aqueous salt solution e.g.  $2\text{KI} + \text{Br}_2 \rightarrow 2\text{KBr} + \text{I}_2$

### Properties of transition metals (TRIPLE ONLY)

- The transition metals are found in the middle block of the periodic table. They have slightly different properties to the Group 1 alkali metals. In comparison they have the following properties:
  - Higher melting and boiling points
  - Harder and denser solids
  - Produce coloured compounds
- Whereas, the group 1 metals will float on water because they are less dense, they can be cut easily because they are soft and they produce white compounds.

## Year 9 Resistant Materials Knowledge Organiser



Finger joint

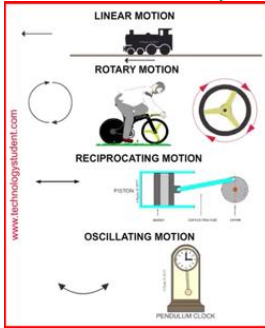
MDF is made from small timber fibres that are mixed with wax and **resin**. They are heated and **compressed** so that a flat, usable sheet is produced.



Dowel joint



Lap Joint



### Impact of plastic

Animals can become caught in pieces of plastic or mistakenly see it as food. If they cannot digest it then the animal may become ill and die.

Over time, plastic can be broken into smaller and smaller pieces. These tiny particles of plastic, known as microplastics, are eaten by fish and other sea creatures. The chemicals from the plastic are passed along the food chain and can ultimately end up in the food we eat.



## The 6Rs



Whenever environmental impact is to be reduced, 'the 6 Rs' can be addressed to ensure an in-depth analysis has been done. The 6 Rs can be considered by the designer, the and the to reduce that negative impact on the environment.

The term 'the 6 Rs' can be applied to the design of new products or when a product is finished with, used up or no longer wanted. Here are some questions to prompt 6 Rs thinking:

- Think of a package that was bought recently. Could any part of the packaging be reduced?
- Rather than disposing of a package once you have opened it, could it not be reused?
- **Recycle** - Many papers and boards are made from material that is fully or partly recyclable. Can the paper or board be disposed of correctly so that it can be recycled?
- Rethink how actions contribute to damaging the environment. Rather than buying a coffee that is served in a disposable, laminated card cup, why not buy a cup that can be refilled?
- Consumers have a huge amount of power when it comes to the choices they make when buying, including refusing to buy a product if they believe it is bad for the environment. Could a material that is sustainable be used instead?
- Many products are designed to be after a given period. When a product is broken, can it be repaired rather than discarded? If a repair can be carried out on the product, it could remain out of a landfill site for much longer.

Name	Use	Material	Image
Tenon saw	A brass back saw used for precision cuts such as woodwork joints	wood	
Coping Saw	A saw that is used to cut on the back stroke to cut details and curves	Plastic and wood	
Hack saw/ Junior hack saw	A fine blade saw that has replaceable blades	Metal / plastic / wood	
File	An abrasive hand tool the removes and shapes materials	Metal / plastic / wood	
Rasp	Similar to a file but with bigger teeth. They are rough tool that requires more finishing work	wood	
Bevel chisel	Has tapered angles that break away excess material away and give access tight corners	wood	
Surform	Has a surface similar to a food grater. They can quickly shape wood but produce a rough surface	wood	

**Product analysis** - Looking at products that already exist can help improve further designs by pinpointing issues to improve designs and **prototypes**.

### Modelling

**Modelling** ideas in card, paper, clay or other materials can create a cheap and quick way to do initial trials with a product. Using an easy to modify material provides a good way of seeing how a product looks and works, eg checking handles are in the right place or parts fit together well. Taking photographs or video throughout this can show development.

**Personal protective equipment (PPE)** must be worn where recommended:

Eye protection must be worn

Ear protection must be worn

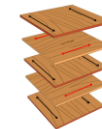
### Examples of using PPE:

- protective gloves and aprons for work with heat, eg *brazing* metals
- goggles where there may be splashing or splinters, eg chemical use or using machinery
- ear protection when using or working around noisy equipment
- dust mask when spray painting or *routing* wood



### Reinforced materials and methods include

- Corrugated cardboard
- lamination of timber ( plywood)
- lamination of paper
- Reinforced concrete



# KS3 Athletics

Using the tables, keep a record of what level you are at for each event you try in PE. Put your own scores in the appropriate box on the left

## Girls Results

STAGE PROGRESSIONS	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9
<b>SPRINTS</b>	<b>1 Star</b>	<b>2 Star</b>	<b>3 Star</b>	<b>Bronze</b>	<b>Silver</b>	<b>Gold</b>	<b>Platinum</b>	<b>Elite</b>	<b>Podium</b>
50m Standards	14.8s	12.2s	10.6s	9.9s	9.2s	8.6s	8.1s	7.7s	7.3s
75m Standards	21.0s	17.3s	15.3s	13.8s	12.8s	12.1s	11.5s	11.0s	10.5s
100m Standards	23.0s	19.0s	17.0s	15.5s	15.0s	14.6s	14.2s	13.9s	13.7s
200m Standards	-	-	-	31.7s	30.8s	30.5s	29.7s	29.2s	28.5s
300m Standards	-	-	-	55.0s	53.5s	52.0s	50.0s	48.5s	46.0s
<b>HURDLES</b>	<b>1 Star</b>	<b>2 Star</b>	<b>3 Star</b>	<b>Bronze</b>	<b>Silver</b>	<b>Gold</b>	<b>Platinum</b>	<b>Elite</b>	<b>Podium</b>
60m Standards	25.0s	19.3s	16.0s	14.0s	12.5s	11.5s	11.0s	10.5s	10.1s
70m Standards	24.0s	21.0s	18.9s	17.3s	15.9s	14.6s	13.7s	13.1s	12.7s
75m Standards	23.0s	21.0s	18.5s	17.0s	16.0s	15.0s	14.0s	13.7s	13.4s
80m Standards	-	-	-	-	-	15.0s	14.2s	13.9s	13.6s
<b>ENDURANCE</b>	<b>1 Star</b>	<b>2 Star</b>	<b>3 Star</b>	<b>Bronze</b>	<b>Silver</b>	<b>Gold</b>	<b>Platinum</b>	<b>Elite</b>	<b>Podium</b>
400m Standards	3m 20s	2m 30s	2m 10s	1m 55s	1m 40s	1m 25s	1m 15s	1m 10s	1m 05s
600m Standards	6m 00s	4m 30s	3m 30s	3m 00s	2m 40s	2m 30s	2m 20s	2m 10s	2m 00s
800m Standards	5m 00s	4m 45s	4m 30s	4m 10s	3m 45s	3m 20s	2m 55s	2m 45s	2m 35s
1500m Standards	7m 20s	7m 00s	6m 44s	6m 30s	6m 17s	6m 06s	5m 55s	5m 42s	5m 24s
<b>JUMPS</b>	<b>1 Star</b>	<b>2 Star</b>	<b>3 Star</b>	<b>Bronze</b>	<b>Silver</b>	<b>Gold</b>	<b>Platinum</b>	<b>Elite</b>	<b>Podium</b>
Standing Long Jump	0.35m	0.90m	1.35m	1.55m	1.70m	1.90m	2.20m	2.40m	2.60m
Long Jump	1.00m	1.80m	2.30m	2.80m	3.10m	3.40m	3.70m	4.00m	4.30m
Standing Triple Jump	1.00m	2.40m	3.60m	4.40m	4.80m	5.20m	-	-	-
High Jump	0.20m	0.50m	0.75m	0.90m	1.00m	1.10m	1.20m	1.28m	1.36m
<b>THROWS</b>	<b>1 Star</b>	<b>2 Star</b>	<b>3 Star</b>	<b>Bronze</b>	<b>Silver</b>	<b>Gold</b>	<b>Platinum</b>	<b>Elite</b>	<b>Podium</b>
Shot Put	1.00m	2.00m	3.00m	4.25m	5.25m	6.00m	6.50m	7.00m	8.00m
Javelin	1.00m	5.00m	7.00m	9.00m	12.00m	15.00m	18.00m	21.00m	24.00m
Discus	1.00m	3.00m	5.00m	7.00m	9.00m	13.00m	17.00m	19.00m	21.00m

## Boys Results

STAGE PROGRESSIONS	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9
<b>SPRINTS</b>	<b>1 Star</b>	<b>2 Star</b>	<b>3 Star</b>	<b>Bronze</b>	<b>Silver</b>	<b>Gold</b>	<b>Platinum</b>	<b>Elite</b>	<b>Podium</b>
50m Standards	14.8s	12.0s	10.3s	9.6s	8.9s	8.3s	7.8s	7.4s	7.0s
75m Standards	21.0s	17.0s	15.0s	13.5s	12.5s	11.5s	10.7s	10.0s	9.5s
100m Standards	23.0s	18.7s	16.7s	14.6s	14.2s	13.8s	13.4s	13.0s	12.7s
200m Standards	-	-	-	30.3s	29.3s	28.8s	27.6s	27.0s	26.0s
300m Standards	-	-	-	56.5s	54.0s	51.5s	48.5s	45.0s	42.5s
<b>HURDLES</b>	<b>1 Star</b>	<b>2 Star</b>	<b>3 Star</b>	<b>Bronze</b>	<b>Silver</b>	<b>Gold</b>	<b>Platinum</b>	<b>Elite</b>	<b>Podium</b>
60m Standards	25.0s	19.0s	15.5s	13.5s	12.0s	11.0s	10.5s	10.1s	9.7s
70m Standards	24.0s	20.4s	17.3s	15.8s	14.5s	13.6s	13.0s	12.5s	12.2s
75m Standards	23.0s	21.0s	18.0s	16.5s	15.3s	14.5s	13.8s	13.5s	13.2s
80m Standards	-	-	-	-	-	15.2s	14.4s	14.0s	13.4s
<b>ENDURANCE</b>	<b>1 Star</b>	<b>2 Star</b>	<b>3 Star</b>	<b>Bronze</b>	<b>Silver</b>	<b>Gold</b>	<b>Platinum</b>	<b>Elite</b>	<b>Podium</b>
400m Standards	3m 20s	2m 30s	2m 05s	1m 45s	1m 35s	1m 20s	1m 10s	1m 05s	1m 00s
600m Standards	6m 00s	4m 30s	3m 20s	2m 50s	2m 30s	2m 15s	2m 05s	2m 00s	1m 50s
800m Standards	4m 00s	3m 40s	3m 20s	3m 00s	2m 50s	2m 41s	2m 33s	2m 27s	2m 20s
1500m Standards	6m 20s	6m 05s	5m 50s	5m 38s	5m 28s	5m 19s	5m 10s	4m 59s	4m 46s
<b>JUMPS</b>	<b>1 Star</b>	<b>2 Star</b>	<b>3 Star</b>	<b>Bronze</b>	<b>Silver</b>	<b>Gold</b>	<b>Platinum</b>	<b>Elite</b>	<b>Podium</b>
Standing Long Jump	0.35m	0.90m	1.40m	1.60m	1.80m	2.00m	2.30m	2.60m	2.80m
Long Jump	1.00m	1.80m	2.40m	3.00m	3.50m	4.00m	4.40m	4.70m	5.05m
Standing Triple Jump	1.00m	2.40m	4.00m	4.60m	5.10m	5.60m	-	-	-
Triple Jump	-	-	-	-	-	6.40m	8.50m	9.70m	10.60m
High Jump	0.20m	0.50m	0.80m	1.00m	1.10m	1.20m	1.30m	1.40m	1.50m
<b>THROWS</b>	<b>1 Star</b>	<b>2 Star</b>	<b>3 Star</b>	<b>Bronze</b>	<b>Silver</b>	<b>Gold</b>	<b>Platinum</b>	<b>Elite</b>	<b>Podium</b>
Shot Put	1.00m	2.00m	3.25m	4.80m	5.80m	6.80m	8.00m	9.40m	10.15m
Javelin	1.00m	5.00m	10.00m	12.00m	15.00m	19.00m	26.00m	30.00m	33.50m
Discus	1.00m	5.00m	8.00m	10.00m	12.00m	17.00m	22.00m	24.00m	26.00m

# ¿Adónde fuiste de vacaciones?

(where did you go on holiday?)

El año pasado Last year	fui I went	a España	To Spain	¡Qué (How)	bien!	good
		a Italia	To Italy		bonito!	pretty
		a Francia	To France		guay!	cool
		a Escocia	To Scotland		divertido!	Fun
		a Gales	To Wales		aburrido!	Boring
El verano pasado Last summer	fuiste you (1) went	a Grecia	To Greece	suerte!	Lucky	
		a Alemania	To Germany	rollo!	Annoying	
Hace <u>dos</u> años <u>Two</u> years ago	fue he/she went	con mi familia	With my family	su/sus = his/her	divertido	Fun
		con mi clase	With my class		estupendo	Stupendous
		con mis amigos	With my friends		fenomenal	Phenomenal
		con mis padres	With my parents		flipante	Amazing
Recientemente Recently	fueron they went	en autocar	By coach	Fue (It was)	genial	Great
		en avion	By plane		guay	Cool
		en tren	By train		regular	OK
		en coche	By car		un desastre	Disaster
		en barco	By boat		horroroso	Horrific
		en metro	By subway/underground		raro	Strange

# ¿Qué hiciste?

(what did you do?)

<p><b>El primer día</b> The first day</p> <p><b>Luego</b> Then</p> <p><b>Más tarde</b> Later</p> <p><b>Finalmente</b> Finally</p> <p><b>Otro día</b> Another day</p> <p><b>El último día</b> The last day</p>	<p><b>AR VERBS</b></p> <p><b>ER/IR VERBS</b></p>	<p>Visitar monumentos</p> <p><i>To visit monuments</i></p>	<p><b>AR VERB ENDINGS</b> Take off AR and add the correct ending</p> <p><b>-AR verb endings</b></p> <table border="1"> <tr> <td>-é</td> <td>-amos</td> </tr> <tr> <td>-aste</td> <td>-asteis</td> </tr> <tr> <td>-ó</td> <td>-aron</td> </tr> </table> <p>Remember some verbs are irregular* and may not follow the same pattern.</p> <p><b>ER/IR VERB ENDINGS</b> Take off ER/IR and add the correct ending</p> <p><b>-ER <u>and</u> -IR verb endings</b></p> <table border="1"> <tr> <td>-í</td> <td>-imos</td> </tr> <tr> <td>-iste</td> <td>-isteis</td> </tr> <tr> <td>-ió</td> <td>-ieron</td> </tr> </table>	-é	-amos	-aste	-asteis	-ó	-aron	-í	-imos	-iste	-isteis	-ió	-ieron
		-é		-amos											
		-aste		-asteis											
		-ó		-aron											
		-í		-imos											
		-iste		-isteis											
		-ió		-ieron											
		<p>Montar en bici</p> <p><i>To ride a bike</i></p>													
		<p>Descansar en la playa</p> <p><i>To relax on the beach</i></p>													
<p>Tomar el sol</p> <p><i>To sunbathe</i></p>															
<p>Comprar una camiseta</p> <p><i>To buy a t-shirt</i></p>															
<p>Mandar SMS</p> <p><i>To send texts</i></p>															
<p>Bailar</p> <p><i>To dance</i></p>															
<p>Nadar en el mar</p> <p><i>To swim in the sea</i></p>															
<p>Sacar* fotos</p> <p><i>To take photos</i></p>															
<p>Beber limonada</p> <p><i>To drink lemonade</i></p>															
<p>Comer paella</p> <p><i>To eat paella</i></p>															
<p>Conocer un chico guapo/ una chica guapa</p> <p><i>To get to know a good looking boy/good looking girl</i></p>															
<p>Ver un castillo interesante</p> <p><i>To see an interesting castle</i></p>															
<p>Salir con mi hermano/a</p> <p><i>To go out with my brother/sister</i></p>															
<p>Escribir un postal</p> <p><i>To write a postcard</i></p>															

## UNIT 8: Describing a typical day at school

<b>J'arrive au collège</b> [ <i>I arrive at school</i> ] <b>Je fais des activités périscolaires</b> [ <i>I do after school activities</i> ] <b>Je fais mes devoirs dans la bibliothèque</b> [ <i>I do my homework in the library</i> ] <b>La récréation est</b> [ <i>Breaktime is</i> ] <b>Le déjeuner est</b> [ <i>Lunchtime is</i> ] <b>Les cours commencent</b> [ <i>Lessons start</i> ] <b>Les cours finissent</b> [ <i>Lessons end</i> ] <b>Je sors du collège</b> [ <i>I leave school</i> ] <b>Je vais au club d'échecs</b> [ <i>I go to chess club</i> ]		à [at]	sept huit neuf dix onze	heures	du matin [ <i>in the morning</i> ]
			midi [ <i>midday</i> ]		
			deux trois quatre cinq	heures	de l'après-midi [ <i>in the afternoon</i> ]
<b>J'ai</b> [ <i>I have</i> ]	<b>cours de maths</b> [ <i>maths class</i> ] <b>mon premier cours</b> [ <i>my first class</i> ] <b>mon troisième cours</b> [ <i>my third class</i> ] <b>mon dernier cours</b> [ <i>my last class</i> ]				

<b>Dans mon collègue</b> [ <i>In my school</i> ]	<b>on doit</b> [ <i>one must</i> ] <b>on ne doit pas</b> [ <i>one must not</i> ] <b>on peut</b> [ <i>one can</i> ] <b>on ne peut pas</b> [ <i>one cannot</i> ]	<b>manger dans les salles de classe</b> [ <i>eat in the classrooms</i> ] <b>fumer</b> [ <i>smoke</i> ] <b>faire la queue à la cantine</b> [ <i>queue up in the canteen</i> ] <b>aller aux toilettes pendant les leçons</b> [ <i>go to the toilet during lessons</i> ] <b>lever la main avant de parler</b> [ <i>raise the hand before speaking</i> ] <b>mâcher du chewing gum</b> [ <i>chew chewing gum</i> ] <b>utiliser le portable</b> [ <i>use the mobile phone</i> ]	
	<b>je (ne) dois (pas)</b> [ <i>I must - not-</i> ]  <b>je (ne) peux (pas)</b> [ <i>I can - not-</i> ]	<b>porter</b> [ <i>wear</i> ]	<b>de(s) jupes courtes</b> [ <i>short skirts</i> ] <b>de(s) jupes longues</b> [ <i>long skirts</i> ] <b>du maquillage</b> [ <i>make-up</i> ] <b>de(s) boucles d'oreilles</b> [ <i>earrings</i> ] <b>l'uniforme scolaire</b> [ <i>uniform</i> ]



## Describing a typical day in the present, past & near future

<b>PRESENT</b>						
<b>En général</b> <i>[In general]</i>	<b>pendant la semaine</b> <i>[during the week]</i>	<b>je range ma chambre</b> <i>[I tidy my room]</i> <b>j'aide mes parents</b> <i>[I help my parents]</i> <b>je mange au restaurant italien</b> <i>[I eat in the Italian restaurant]</i> <b>je fais mes devoirs</b> <i>[I do my homework]</i> <b>je joue à la PlayStation</b> <i>[I play on the PlayStation]</i> <b>je joue avec ma soeur</b> <i>[I play with my sister]</i> <b>je fais du vélo</b> <i>[I ride my bike]</i> <b>je sors avec mon/ma petit(e) ami(e)</b> <i>[I go out with my boyfriend/girlfriend]</i> <b>je vais au centre commercial</b> <i>[I go to the shopping centre]</i>				
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;"><b>je dois</b> <i>[I have to]</i></td> <td style="padding: 5px;"><b>aider mon frère</b> <i>[help my brother]</i> <b>faire mes devoirs</b> <i>[do my homework]</i></td> </tr> <tr> <td style="padding: 5px;"><b>je peux</b> <i>[I can]</i></td> <td style="padding: 5px;"><b>jouer avec mes amis</b> <i>[play with my friends]</i> <b>aller au parc</b> <i>[go to the park]</i> <b>sortir avec mes amis</b> <i>[go out with my friends]</i></td> </tr> </table>	<b>je dois</b> <i>[I have to]</i>	<b>aider mon frère</b> <i>[help my brother]</i> <b>faire mes devoirs</b> <i>[do my homework]</i>	<b>je peux</b> <i>[I can]</i>	<b>jouer avec mes amis</b> <i>[play with my friends]</i> <b>aller au parc</b> <i>[go to the park]</i> <b>sortir avec mes amis</b> <i>[go out with my friends]</i>
<b>je dois</b> <i>[I have to]</i>	<b>aider mon frère</b> <i>[help my brother]</i> <b>faire mes devoirs</b> <i>[do my homework]</i>					
<b>je peux</b> <i>[I can]</i>	<b>jouer avec mes amis</b> <i>[play with my friends]</i> <b>aller au parc</b> <i>[go to the park]</i> <b>sortir avec mes amis</b> <i>[go out with my friends]</i>					

<b>PAST (PERFECT TENSE)</b>		
<b>Hier</b> <i>[Yesterday]</i>		<b>j'ai rangé le salon</b> <i>[I tidied the living room]</i> <b>j'ai aidé mon frère</b> <i>[I helped my brother]</i> <b>j'ai mangé au restaurant chinois</b> <i>[I ate in the Chinese restaurant]</i> <b>j'ai fait du footing dans le parc</b> <i>[I went jogging in the park]</i> <b>j'ai joué de la guitare</b> <i>[I played guitar]</i>
<b>Vendredi dernier</b> <i>[Last Friday]</i>		<b>je suis sorti(e) avec ma meilleure amie</b> <i>[I went out with my best friend -f-]</i> <b>je suis allé(e) au stade</b> <i>[I went to the stadium]</i>
<b>La semaine dernière</b> <i>[Last week]</i>	<b>J'ai dû</b> <i>[I had to]</i> <b>J'ai pu</b> <i>[I was able to]</i> <b>Je n'ai pas pu</b> <i>[I wasn't able to]</i>	<b>faire du sport</b> <i>[do sport]</i> <b>faire les magasins</b> <i>[go shopping]</i> <b>jouer aux jeux vidéo</b> <i>[play videogames]</i> <b>promener le chien</b> <i>[take the dog for a walk]</i>

<b>FUTURE</b>		
<b>Le week-end prochain</b> <i>[Next weekend]</i>	<b>je (ne) veux (pas)</b> <i>[I -don't- want to]</i>	<b>ranger ma chambre</b> <i>[tidy my room]</i> <b>aider à la maison</b> <i>[help at home]</i>
<b>La semaine prochaine</b> <i>[Next week]</i>	<b>je (ne) dois (pas)</b> <i>[I -don't- have to]</i>	<b>faire mes devoirs</b> <i>[do my homework]</i> <b>aller au cinéma</b> <i>[go to the cinema]</i>
<b>demain</b> <i>[Tomorrow]</i>	<b>je (ne) vais (pas)</b> <i>[I'm -not- going to]</i>	<b>rencontrer mes amis</b> <i>[meet up with my friends]</i> <b>jouer du ukulélé</b> <i>[play the ukulele]</i>





## UNIT 11: Talking about a past holiday – where we went & where we stayed

<b>Je suis allé(e)</b> [ <i>I went</i> ] <b>Nous sommes allé(e)s</b> [ <i>we went</i> ]	<b>en vacances</b> [ <i>on holiday</i> ]	<b>l'année dernière</b> [ <i>last year</i> ] <b>l'été dernier</b> [ <i>last summer</i> ]	<b>Il y a deux semaines</b> [ <i>two weeks ago</i> ] <b>il y a un mois</b> [ <i>one month ago</i> ]
--	--	---	--

<b>Je suis allé(e) en</b> <b>Nous sommes allé(e)s en</b>	<b>Allemagne</b> [ <i>Germany</i> ] <b>Chine</b> [ <i>China</i> ] <b>Ecosse</b> [ <i>Scotland</i> ]	<b>Australie</b> [ <i>Australia</i> ] <b>Espagne</b> [ <i>Spain</i> ] <b>France</b> [ <i>France</i> ]	<b>Irlande</b> [ <i>Ireland</i> ] <b>Italie</b> [ <i>Italy</i> ] <b>Malaisie</b> [ <i>Malaysia</i> ]
---	---	---	--

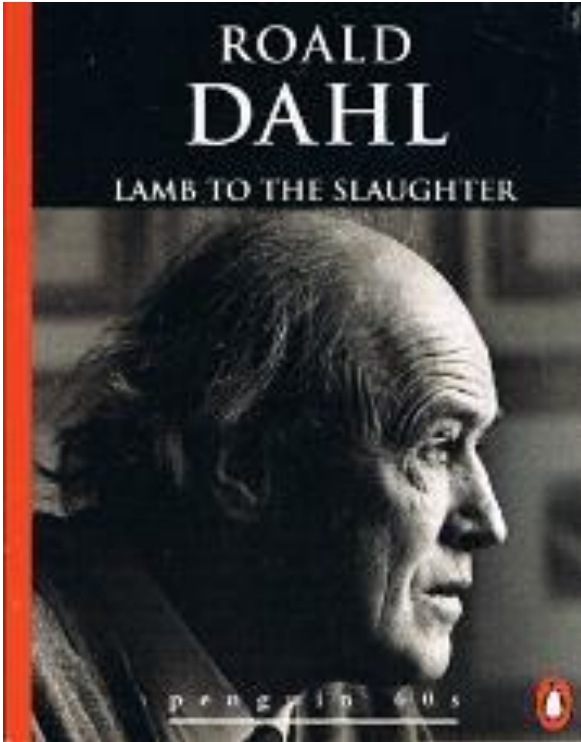
<b>J'ai voyagé</b> [ <i>I travelled</i> ] <b>Nous avons voyagé</b> [ <i>We travelled</i> ]	<b>en</b> [ <i>by</i> ]	<b>car</b> [ <i>coach</i> ] <b>avion</b> [ <i>plane</i> ] <b>bateau</b> [ <i>boat</i> ] <b>voiture</b> [ <i>car</i> ] <b>train</b> [ <i>train</i> ] <b>moto</b> [ <i>motorbike</i> ] <b>vélo</b> [ <i>bike</i> ]	<b>et le voyage</b> [ <i>and the trip</i> ]	<b>était confortable</b> [ <i>was comfy</i> ] <b>était amusant</b> [ <i>was fun</i> ] <b>était long</b> [ <i>was long</i> ] <b>était rapide</b> [ <i>was quick</i> ]
				<b>a duré</b> [ <i>took/lasted</i> ] <b>une heure</b> <b>deux heures</b>

<b>J'ai logé dans</b> [ <i>I stayed in</i> ] <b>Nous avons logé dans</b> [ <i>We stayed in</i> ]	<b>un appartement</b> <b>un camping</b> [ <i>campsite</i> ] <b>une ferme</b> [ <i>a farm</i> ]	<b>un hôtel bon marché</b> [ <i>a cheap hotel</i> ] <b>un hôtel de luxe</b> [ <i>a luxury hotel</i> ] <b>une auberge de jeunesse</b> [ <i>a youth hostel</i> ]
<b>Je suis resté(e)</b> [ <i>I stayed in</i> ] <b>Nous sommes resté(e)s</b> [ <i>We stayed in</i> ]	<b>chez mes grands-parents</b> [ <i>my grandparents' house</i> ]	

<b>J'ai aimé cela car</b> [ <i>I liked it because</i> ] <b>J'ai passé un bon moment car</b> [ <i>I had a great time because</i> ]	<b>l'hôtel était génial</b> [ <i>the hotel was great</i> ] <b>les gens étaient sympas</b> [ <i>the people were nice</i> ]	<b>il y avait beaucoup à faire</b> [ <i>there was a lot to do</i> ] <b>il y avait des plages magnifiques</b> [ <i>there were superb beaches</i> ]
<b>Dans l'hôtel</b> <b>il y avait</b> [ <i>there was/were</i> ]	<b>un gymnase</b> [ <i>a gym</i> ] <b>un parc aquatique</b> [ <i>an aqua park</i> ] <b>un restaurant</b> [ <i>a restaurant</i> ]	<b>un court de tennis</b> [ <i>a tennis court</i> ] <b>une salle de jeux pour les enfants</b> [ <i>a playroom for kids</i> ] <b>un espace spa pour les parents</b> [ <i>a spa area for my parents</i> ]



## YEAR 9 KNOWLEDGE ORGANISER – TERM 3



### VOCABULARY:

**A trifle**

to a small degree; somewhat

**Acquire**

come into the possession of something concrete or abstract

**Awfully**

in a terrible manner

**Awkwardly**

in a clumsy manner

**Belch**

expel gas from the stomach

**Bewilder**

cause to be confused emotionally

**Blissful**

completely happy and contented

**Blunt**

not sharp (used of a knife or other blade)

**Chink**

a narrow opening as e.g. between planks in a wall

**Clock on**

register one's arrival at work

**Congeval**

solidify, thicken, or come together

**Content**

satisfied or showing satisfaction with things as they are

**Lop**

cut off from a whole

**Mantle**

a sleeveless garment like a cloak but shorter

**Mutter**

talk indistinctly; usually in a low voice

**Parcel**

a wrapped package

**Peculiar**

beyond or deviating from the usual or expected

**Persuade**

cause somebody to adopt a certain position or belief

**Placid**

calm and free from disturbance

**Reject**

refuse to accept or acknowledge

**Ridiculous**

incongruous or absurd

**Shove**

come into rough contact with while moving

**Slam**

close violently

**Sledgehammer**

a heavy long-handled hammer used to drive stakes or wedges

"**Lamb to the Slaughter**" is a 1953 short story by Roald Dahl. It was initially rejected, along with four other stories, but was published in one publication in September 1953. It was adapted for a TV episode which was originally broadcast on April 13, 1958 and ranked #59 of the Top 100 Episodes by *TV Guide* in 2009. The story was adapted for a British TV and Dahl included it in his short story compilation, *Someone Like You*. The narrative element unfolds slowly, releasing key detail and building tension, adding an exciting and macabre twist at the end which you would not expect of Dahl. "Lamb to the Slaughter" demonstrates Dahl's fascination with horror (with elements of black comedy), which is seen in both his adult fiction and his stories for children. The story was suggested to Dahl by his friend Ian Fleming – the author of the James Bond franchise.

# NARRATIVE WRITING - YEAR 9

## CREATIVE WRITING DEVICES

<b>Subversion</b>	Going against the natural order of things. In the context of literature, this means to create something which goes against the readers' expectation e.g. plot twist.
<b>Didactic</b>	Intended to teach an audience and deliver entertainment. In the context of literature, a didactic story would usually provide the character with a moral dilemma.
<b>Symbolism</b>	The use of symbols (names, people, locations, animals, weather) to represent something beyond the literal meaning. The symbol should not be taken literally but be used as a representative of something with a deeper meaning e.g. flying birds = freedom.
<b>Foreshadowing</b>	Occurs when an author drops different hints to the reader about what is to come e.g. "Marley was dead: to begin with".
<b>Show, not tell</b>	When language and structure are used to give clues to the reader about what is happening. This skill is a way of demonstrating creative techniques while avoiding making obvious statements.

## HIGH LEVEL PUNCTUATION

<b>Ellipsis ...</b>	Allows a reader to contemplate what you have written and create a sense of anticipation. For example: <i>You could probably imagine what I felt after that... complete embarrassment!</i>
<b>Semi-Colon ;</b>	Used to link two clauses instead of a comma. The sentence after the semi-colon usually does not make sense without the previous sentence. For example: <i>Joan likes eggs; Jennifer does not.</i>
<b>Colon :</b>	Consists of two equally sized dots placed one above the other on the same vertical line. A colon often comes before: an explanation, a list, a quotation, or a block quotation.
<b>Parenthesis ( )</b>	Allows a writer to include additional information to a sentence. Whatever is inside the parenthesis must not be integral to the original sentence. For example: <i>He finally answered (after five minutes of thinking) that he did not understand the question.</i>

## NARRATIVE WRITING HOOKS

<b>Direct Speech</b>	Opening a story with somebody talking, perhaps saying something that helps the reader to imagine what might happen in the story.
<b>Action</b>	Describing an action or something that has just happened, perhaps to the main character.
<b>Scene Setting</b>	Describing the setting of the story; perhaps where they are or when. It also might use imagery to describe the weather.
<b>Direct Address</b>	Opening a story where the narrator talks directly to the reader, often asking a question.

## STORY MOUNTAIN

<b>Exposition</b>	The start of the plot which introduces the characters, setting and outlines any relevant events that have taken place before the time of the story.
<b>Rising Action</b>	A series of relevant events/moments in the story that lead to the climax of the story. It will usually create interest, suspense and tension for the reader.
<b>Climax</b>	The most intense, important or exciting moment of a story.
<b>Falling Tension</b>	Events which happen immediately happen after the climax of the story. Usually address the consequences/after-effects of the climax.
<b>Resolution</b>	Where the story is finalised, and the main problem is usually resolved. Loose ends are often tied up and it is typically when the story ends.

# GCSE Spoken Language element.

Year 9 students will complete this component of the English Language GCSE in year 9; this is due to the immense amount of content needing to be delivered in KS4.

## Tasks

Candidates must undertake a prepared spoken presentation on a specific topic. As a guide, the duration of the whole assessment should be no more than ten minutes. The key requirements are:

- Presentations must be formal but may take a wide variety of forms, including talks, debates, speeches and dialogues.
- Candidates must identify the subject for their presentations in advance and agree it with their teacher.
- Presentations must be planned and organised. Candidates should be advised that lack of preparation is likely to prevent access to the criteria for the higher grades.
- Candidates may use pre-prepared notes, powerpoint etc. to assist them during their presentations but this is not a requirement.
- As part of, or following, the presentation, candidates must listen to and respond appropriately to questions and feedback.
- Where the audience is the teacher only, the presentation and dialogue must be designed in such a way that it could have a potentially wider audience than just one person (e.g. it replicates a television interview)

Students will be given time (in lesson) to prepare and practise their presentation before the day it is to be presented to their class. It has to be recorded on our internal system to provide the exam board with rationale (should they request it) as to how we have decided on a grade. Students must complete the task in front of the whole class and respond to questions; the more-thorough and expansive the answers along with the depth and sophistication of their presentation content is what they will be judged on. The grade generated by this task DOES NOT AFFECT THEIR GCSE GRADE AT ALL.

## General criteria





To be awarded a Pass, Merit or Distinction a Learner must –

- be audible, and
- use Spoken Standard English which, for the purposes of the spoken language assessment, means that a Learner must –
  - be intelligible, and
  - generally use language appropriate to the formal setting of the presentation.

Pass	Merit	Distinction
<p>In addition to the general criteria, to be awarded a Pass a Learner's performance in his or her spoken language assessment must meet all of the following criteria –</p> <ul style="list-style-type: none"><li>• expresses straightforward ideas / information / feelings,</li><li>• makes an attempt to organise and structure his or her presentation,</li><li>• makes an attempt to meet the needs of the audience, and</li><li>• listens to questions / feedback and provides an appropriate response in a straight forward manner.</li></ul>	<p>In addition to the general criteria, to be awarded a Merit a Learner's performance in his or her spoken language assessment must meet all of the following criteria –</p> <ul style="list-style-type: none"><li>• expresses challenging ideas / information / feelings using a range of vocabulary,</li><li>• organises and structures his or her presentation clearly and appropriately to meet the needs of the audience,</li><li>• achieves the purpose of his or her presentation, and</li><li>• listens to questions / feedback responding formally and in some detail.</li></ul>	<p>In addition to the general criteria, to be awarded a Distinction a Learner's performance in his or her spoken language assessment must meet all of the following criteria –</p> <ul style="list-style-type: none"><li>• expresses sophisticated ideas / information / feelings using a sophisticated repertoire of vocabulary,</li><li>• organises and structures his or her presentation using an effective range of strategies to engage the audience,</li><li>• achieves the purpose of his or her presentation, and</li><li>• listens to questions / feedback, responds perceptively and if appropriate elaborates with further ideas and information.</li></ul>

# Y9 Art Weird and Wonderful

The four main areas in this project are:

-  **Developing Ideas**
-  **Refining Materials**
-  **Recording Ideas**
-  **Presenting Responses**

You will develop skills in:

- Artist Research and Response
- Developing original ideas
- Observational drawing skills
- Visual Elements and Composition

## JIM DINE

An artist who focuses on making objects look interesting.



## Artist Research

<https://www.steeven-salvat.com/>

# Steeven Salvat

An artist who combines animals and mechanical forms.

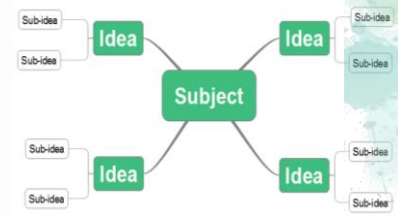



<https://wornandwound.com/mechanical-biological-steeven-salvat/>

- ## KEYWORDS
- Idea
  - Develop
  - Refine
  - Research
  - Create
  - Background
  - Foreground
  - Light
  - Dark
  - Detail
  - Proportion
  - Outline
  - Material
  - Original
  - Analysis
  - Evaluate
  - Express
  - Response
  - Inspire
  - Composition
  - Technique
  - Meaning
  - Style
  - Abstract
  - Realistic
  - Record

## Mind Mapping

Artists and Designers often start with a mind map of ideas when they begin a project as this helps them to plan for where the creative journey will take them.



# STEAMPUNK

“A retro-futuristic subgenre of science fiction or science fantasy that incorporates technology and aesthetic designs inspired by 19th-century industrial steam-powered machinery.”



### Media and Materials


Pencil	Watercolour	Collage	Fineliner
Pen	Oil Pastel	Monoprint	Polyprint
Mixed media	Coloured Pencil	Graphite	Digital

### Primary Sources

Photos that you take yourself to inspire your art work.


### Secondary Sources

Photos that you use to inspire your artwork but they are taken by someone else. E.g. internet / magazines / newspapers





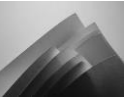
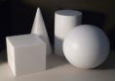

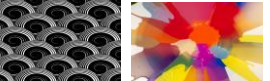
### Observational Drawing Tips:

- ✓ Draw from life where you can.
- ✓ Draw what you see, not what you think you see!
- ✓ Begin drawing the form lightly in pencil
- ✓ Use a soft sketchy line to get accurate shapes



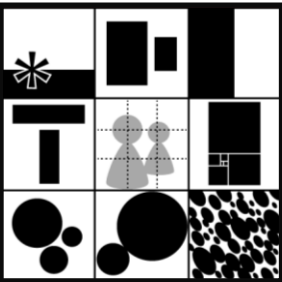
### Visual Elements

The components that make up a piece of art.

<b>LINE</b>		<b>SHAPE</b>		<b>TOPE</b>	
<b>FORM</b>		<b>TEXTURE</b>		<b>PATTERN</b>	

### Composition:

The arrangement of the visual elements in a piece of art.




# URBAN

## Year 9 Graphics

Brooklyn  
Harlem  
New York

### SHEPARD FAIREY

Activist, Political,  
propaganda, posters,  
blue and red, graphic  
design, mixed media



### BANKSY

Stencil, controversial,  
anonymous, Flower  
Thrower, Girl with Balloon,  
spray paint, street art



### DASHONE

Mixed media,  
monochromatic, bright  
colours, neon, celebrities,  
hip hop



Artist research  
Artist analysis  
Artist copy  
Artist response

Primary  
Secondary  
Harmonious  
Contrasting  
Monochromatic

### Cutting mat



Make sure it is always  
under your laminate  
when cutting

### Metal safety rule

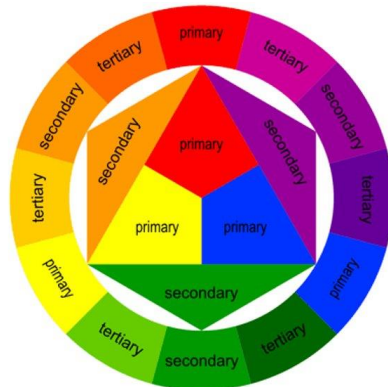


Keep hands away from  
the side when cutting.

### Craft knife



Keep hands away from  
blade. Do not  
have open on furthest  
setting. Close when  
not in use.



### TAG:

A tag is the most **basic writing** of an artist's name or nickname.



**Composition:** The arrangement of the visual elements in a piece of art.

### Artist Research:

Title  
Images  
Information  
Artist  
copy/response

### Stencilling Process:

1. Print and laminate your image
2. Place your laminated image on a cutting mat
3. Carefully cut away the black sections of your stencil
4. Masking tape your stencil onto paper making sure it is flat
5. Use a sponge and poster paint and dab it carefully over your stencil to create your print

### Key Words:

Mixed Media  
Stencil  
TAG  
Materials  
Sources  
Craft knife  
Taki 183  
Banksy  
Shepard Fairey  
Dashone  
Keith Haring  
Grid method  
Graphite transfer  
Research  
Analysis  
Composition  
Proportion  
Printing  
Style  
Technique  
Digital  
Manipulation