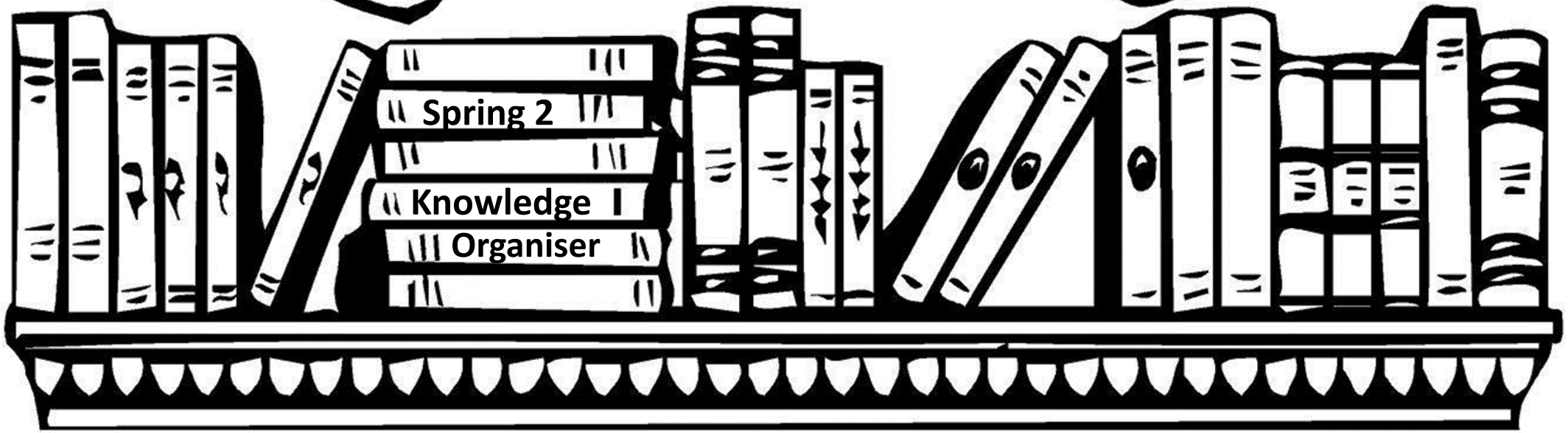
# Knowledge



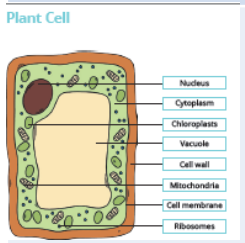
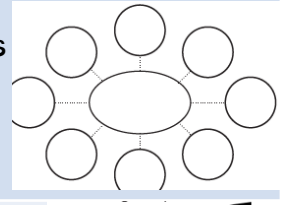
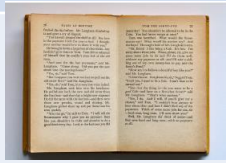

# is power

Just reading through your books or a knowledge organiser is not always an effective way to revise. Instead, you should do something with the information. Choose an example of the revision methods on the pages or see if you can come up with another method.

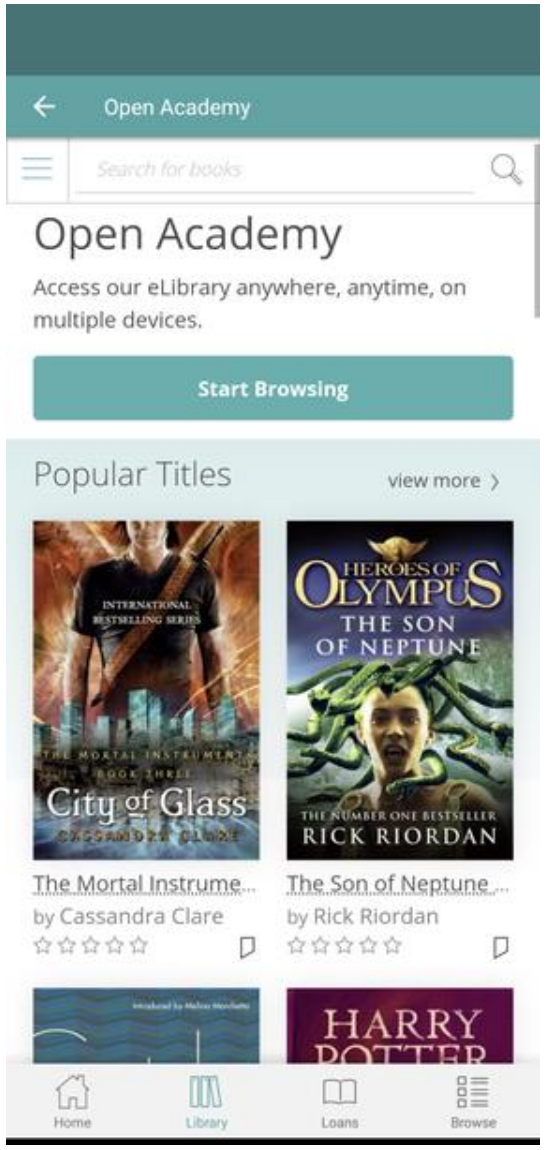
The knowledge is evolutionary not revolutionary. Approximately half the knowledge is new and half helps you revise. Many of the activities are changing. We hope you enjoy them.

In SKL you will be continuing to think about making choices leading to your options. You will also move into a topic that relates to maths. What is a personal budget and how will I manage my finances? It is great opportunity to play monopoly and Game of Life at home.



| Idea | Explanation |
|---|---|
| Make some flash cards or PowerPoint slides. Make top trumps.  | Write down key words, quotation, questions or equations on one side of a card. On the other side, write the definition or answer. Use them to test yourself. |
|   Make a poster. | Turn your notes into posters with lots of colour and illustrations. Summarising the key information in a different way is an effective way of learning and your brain will remember the colours more easily. Do the title last! |
| Draw spider diagrams, or for the adventurous mind maps.  | Write the topic/keyword in the centre of your page. Add everything you know in subtopics. Then explore each subtopic in turn adding more ideas. Colour/pictures help you recall. |
| Write a song or a rap.  | Are there songs that stick your head. Change the lyrics to the information you want to learn. If you record and listen back it will be a more fun way of revising. |
|  Plan a lesson | If you teach something to someone else the chance of recalling it is really high. This has been found to be the most effective way of learning something for the long term. |
| Write a story or comic strip.  | Take the keywords or facts that you need to learn and turn them into a story or a cartoon. The sillier the story the more likely you are to remember it. |
| Write a quiz.<br>Design a game.  | Playing is how we learn as young children and it is a very powerful way of learning throughout life. If we enjoy the game it helps us remember. |

# READING AT HOME

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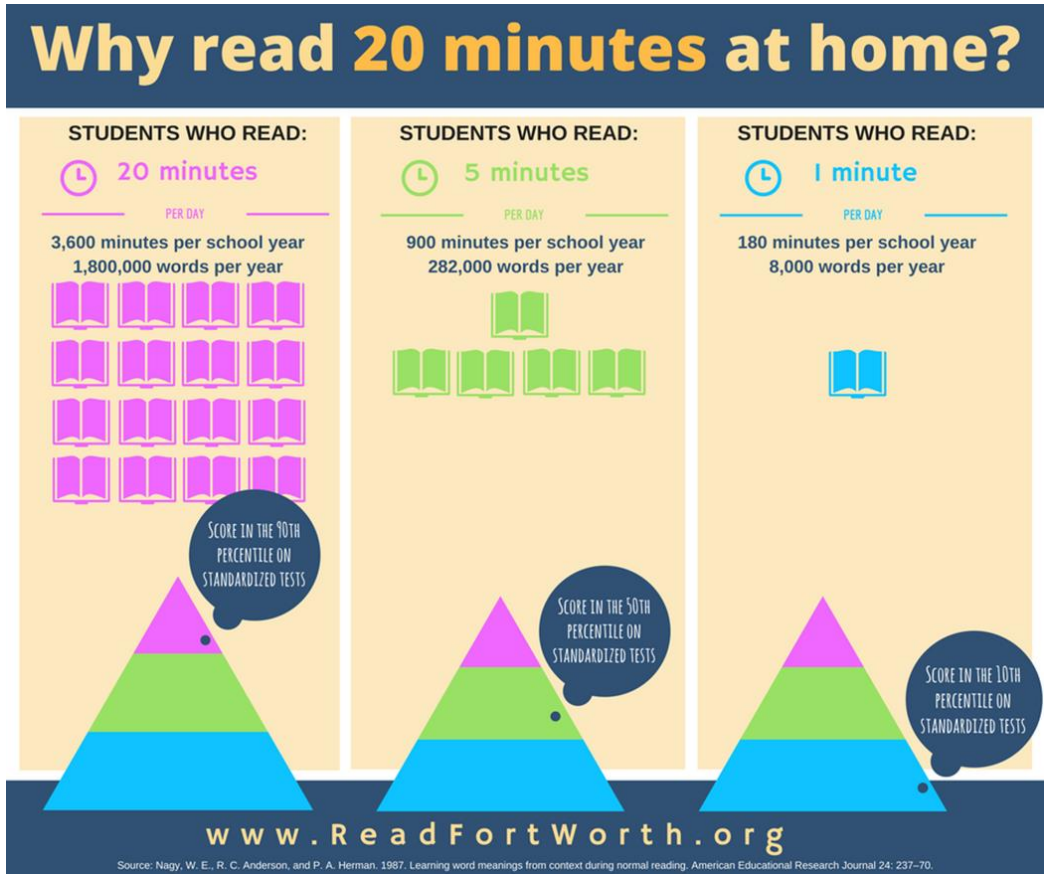
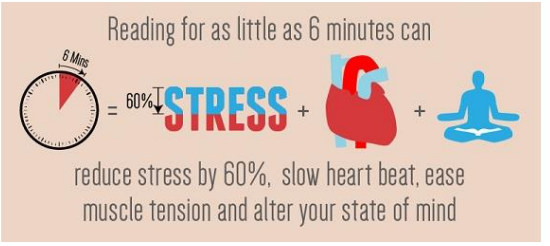



**Reading has a number of benefits:**

- Success at school
- Mental health & wellbeing
- Better sleep
- Develop empathy
- Escapism (books can take you anywhere)

...and more!



# ReadFit

A workout for your brain!

Read More ● Build Reading Stamina ● Make Reading a Daily Habit

To be a good reader, much like a marathon runner, you need to put in time and practice to be successful. Runners train over time, gradually increasing the difficulty by increasing the amount of time they run, the distance they run and the speed at which they run.

You can apply a similar idea to reading. To train to be a great reader, you can start by reading easier books, for a short period of time, and by breaking your book into small chunks (i.e. a few pages at a time). As you continue your reading training, you can gradually build up to reading more difficult texts, reading for longer and reading bigger sections of your book in one go.

ReadFit is a programme designed to help you on your reading journey. With beginner and hero challenges, each week there will be daily "reading workouts" to help you read more and reach 20 minutes of daily reading. Complete the "workouts" to unlock digital badges and rewards.

## WEEK 1 ReadFit LOG

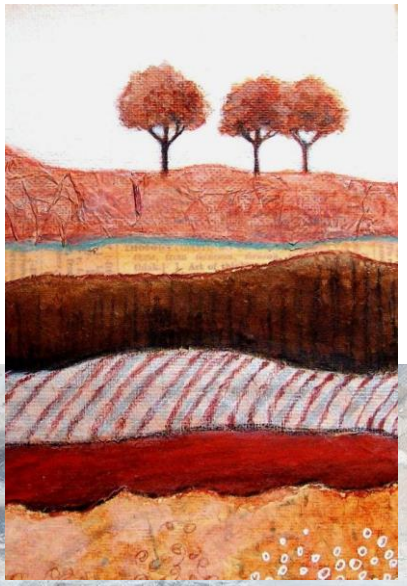
Title of the book I am reading:

| | | | |
|---|---|---|---|
| Day 1 Page to | Day 2 Page to | Day 3 Page to | |
| Day 4 Page to | Day 5 Page to | Main characters | Tricky words |
| I thought the book was (what are you enjoying or disliking about the book, share your thoughts here): | | I found the book: Easy Okay Hard Very Difficult<br>I would recommend this book to others: Yes No | |

View the weekly challenges in Teams, or scan the QR code to take part




Students learn about Layering paint on top of Each other to create Deeper tones.

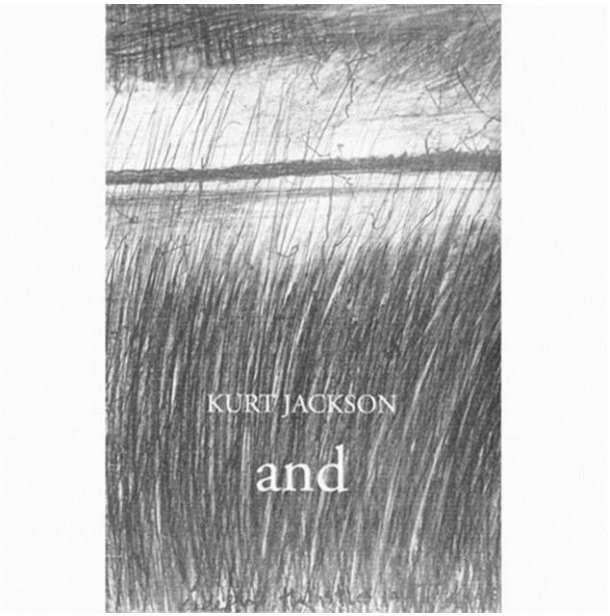


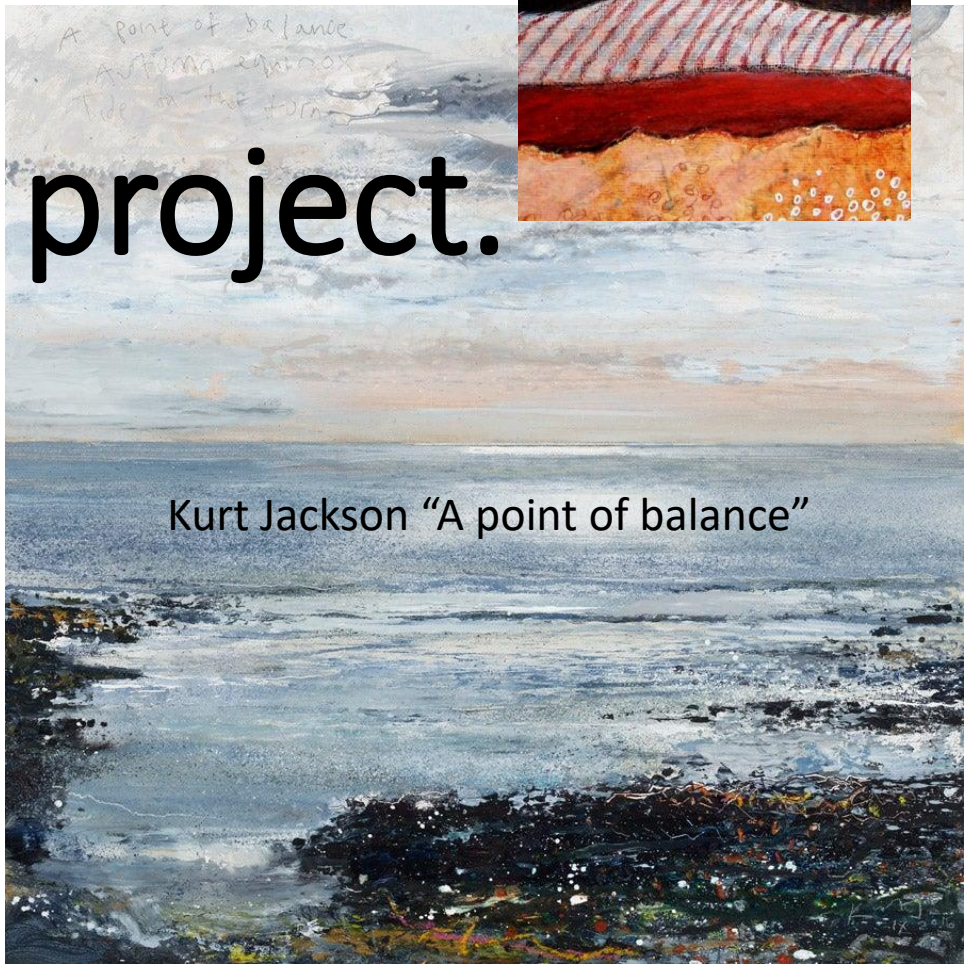
# Norfolk Beaches project.

During this half term year 9 have been working on a seascape project inspired by the artwork of Kurt Jackson.

They have studied Norfolk beach paintings and tried to recreate one learning about effective blending of watercolours and other materials.

This links directly to GCSE work in year 10 where they study landscape painters



Kurt Jackson “A point of balance”

# YEAR 9 – REASONING WITH GEOMETRY...

# Deduction

## What do I need to be able to do?

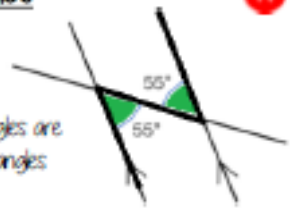
By the end of this unit you should be able to:

- Identify angles in parallel lines
- Solve angle problems
- Make conjectures with angles
- Make conjectures with shapes

## Keywords

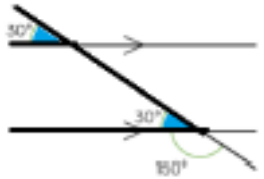
**Parallel**: two straight lines that never meet with the same gradient
**Perpendicular**: two straight lines that meet at 90°
**Transversal**: a line that crosses at least two other lines
**Sum**: the result of adding two or more numbers
**Conjecture**: a statement that might be true but is not proven
**Equation**: a statement that says two things are equal
**Polygon**: a 2D shape made from straight edges
**Counterexample**: an example that disproves a statement

## Alternate angles



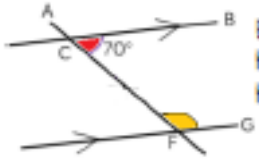

Because alternate angles are equal the highlighted angles are the same size

## Corresponding angles




Because corresponding angles are equal the highlighted angles are the same size

## Co-interior angles




Because co-interior angles have a sum of 180° the highlighted angle is 110°

As angles on a line add up to 180° co-interior angles can also be calculated from applying alternate/ corresponding rules first

## Solving angle problems

**Angles on a straight Line**
180°

**Vertically opposite angles**
Equal

**Angles around a point**
360 °

**Link angle facts to algebra**


**Form an equation**

$2x + 4x = 180°$

**State the reason**

The sum of angles on a straight line is 180 °

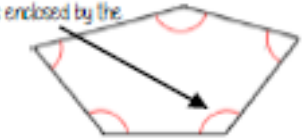
**Solve**

$2x + 4x = 180°$
$6x = 180°$
$x = 30°$


**Triangles**
Sum of angles is 180 °

Isosceles have the same base angles

**Interior Angles**
The angles enclosed by the polygon



(number of sides – 2) x 180

Angle Facts

Triangles

Angles in Parallel Angles

Angles in Polygons

# Making conjectures with angles

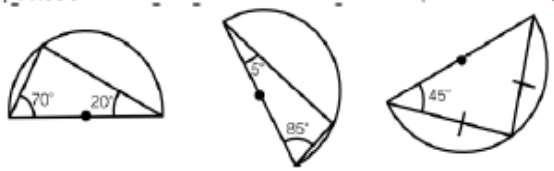
True | Always | Never | False | Sometimes

## Proving a conjecture

A pattern is noticed for many cases

## Disproving a conjecture

Only one counterexample is needed to disprove a conjecture




**Apply the angle rules**

The sum of angles in a triangle is 180°

**Test the theory**

$180 - 70 - 20 = 90$

$180 - 85 - 5 = 90$

$180 - 45 - 45 = 90$

**Make conjecture**

The angle that meets the circumference in a semi circle is 90°

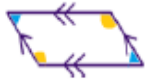
# Making conjectures with shapes

**Keywords and facts to recall with shape**

Area: the amount of space inside a shape
Perimeter: the length around a shape
Regular Polygons: All sides and angles are equal

**Quadrilateral Facts**

**Square**
All sides equal size
All angles 90°
Opposite sides are parallel



**Parallelogram**
Opposite sides are parallel
Opposite angles are equal
Co-interior angles

**Rectangle**
All angles 90°
Opposite sides are parallel

**Rhombus**
All sides equal size
Opposite angles are equal

**Kite**
No parallel lines
Equal lengths on top sides
Equal lengths on bottom sides
One pair of equal angles

Types of Quadrilateral

Angles in Quadrilaterals

Polygons

## A job involving geometry: A surveyor

A surveyor uses mathematical calculations, like elevations, shapes and dimensions with tools and equipment to take measurements of land for private, government and public developments. Other job duties include visiting various job sites to take measurements, measuring angles and distances on different properties to determine legal construction boundaries, using calculations to confirm measurements and analysing data found on maps, charts, software systems and plans.

# YEAR 9 – REASONING WITH GEOMETRY... Rotation & Translation

## What do I need to be able to do?

By the end of this unit you should be able to:

- Identify the order of rotational symmetry
- Rotate a shape about a point on the shape
- Rotate a shape about a point not on a shape
- Translate by a given vector
- Compare rotations and reflections

## Keywords

**Rotate**: a rotation is a circular movement
**Symmetry**: when two or more parts are identical after a transformation
**Regular**: a regular shape has angles and sides of equal lengths
**Invariant**: a point that does not move after a transformation
**Vertex**: a point two edges meet
**Horizontal**: from side to side
**Vertical**: from up to down

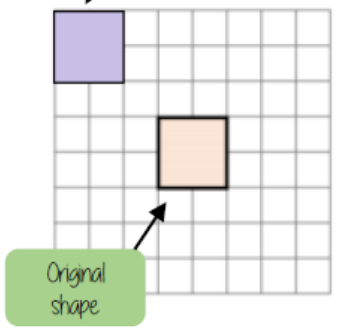
## Translation and vector notation

Vector Notation → $\begin{pmatrix} 1 \\ -2 \end{pmatrix}$

How far left or right to move
Negative value (left)
Positive value (right)

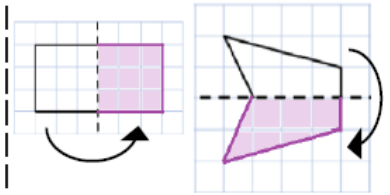
How far up or down to move
Negative value (down)
Positive value (up)

Translation $\begin{pmatrix} -3 \\ 3 \end{pmatrix}$




Every vertex has been translated by the same amount

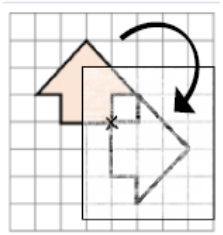
## Compare rotations and reflections



R

Reflections are a mirror image of the original shape.

Information needed to perform a reflection:
- Line of reflection (Mirror line)



Rotations are the movement of a shape in a circular motion

Information needed to perform a rotation:
- Point of rotation
- Direction of rotation
- Degrees of rotation

Translations

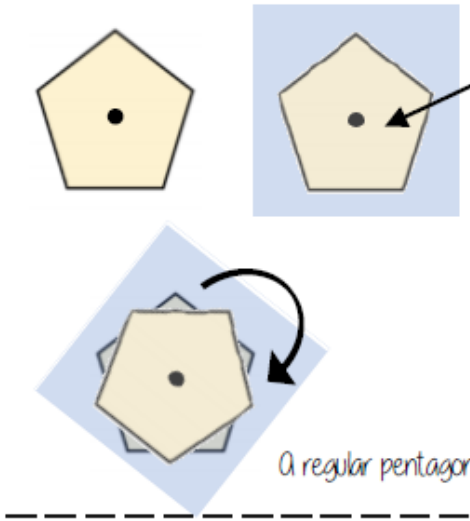
Rotations

Reflections

Rotational Symmetry

## Rotational Symmetry

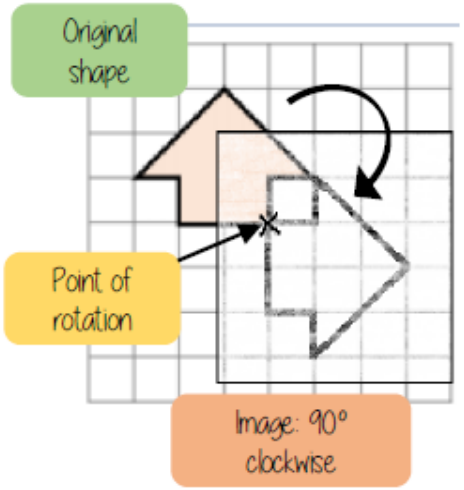
Tracing paper helps check rotational symmetry



1. Trace your shape (mark the centre point)
2. Rotate your tracing paper on top of the original through 360°
3. Count the times it fits back into itself

A regular pentagon has rotational symmetry of order 5

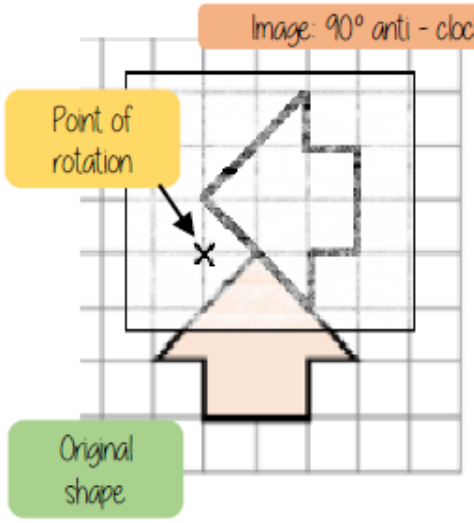
## Rotate from a point (in a shape)




1. Trace the original shape (mark the point of rotation)
2. Keep the point in the same place and turn the tracing paper
3. Draw the new shape

Clockwise  Anti-Clockwise

## Rotate from a point (outside a shape)



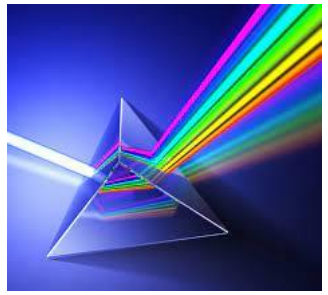

1. Trace the original shape (mark the point of rotation)
2. Keep the point in the same place and turn the tracing paper
3. Draw the new shape

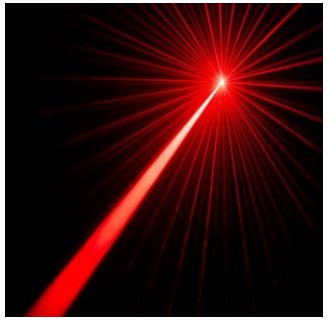
A job involving geometry:

## An Optical Physicist

**Optical physicists** have developed products that reflect light rays to enhance the luminosity of objects, such as road signs and light sources.

They design surfaces covered with microscopic structures—tiny bumps, ridges, indentations, and furrows—that bend and reflect light. Optical physicists use their knowledge of geometry to determine the angle that light is reflected off a microstructure or the angle that light is bent when it passes through the structure.





# YEAR 9 – REASONING WITH GEOMETRY... Pythagoras' theorem

## What do I need to be able to do?

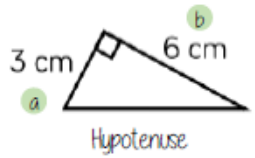
By the end of this unit you should be able to:

- Use square and cube roots
- Identify the hypotenuse
- Calculate the hypotenuse
- Find a missing side in a Right angled triangle
- Use Pythagoras' theorem on axes
- Explore proofs of Pythagoras' theorem

## Keywords

**Square number**: the output of a number multiplied by itself
**Square root**: a value that can be multiplied by itself to give a square number
**Hypotenuse**: the largest side on a right angled triangle. Always opposite the right angle.
**Opposite**: the side opposite the angle of interest
**Adjacent**: the side next to the angle of interest

## Calculate the hypotenuse




Either of the short sides can be labelled a or b

$a^2 + b^2 = \text{hypotenuse}^2$

1. Substitute in the values for a and b

$3^2+6^2 = \text{hypotenuse}^2$

$9 + 36 = \text{hypotenuse}^2$

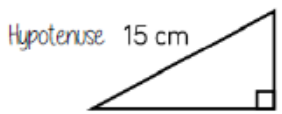
$45 = \text{hypotenuse}^2$

2. To find the hypotenuse square root the sum of the squares of the shorter sides

$\sqrt{45} = \text{hypotenuse}$

$6.71cm = \text{hypotenuse}$

## Calculate missing sides




Either of the short sides can be labelled a or b

$a^2 + b^2 = \text{hypotenuse}^2$

$12^2+b^2 = 15^2$

1. Substitute in the values you are given

$144 + b^2 = 225$

$-144 \quad -144$

Rearrange the equation by subtracting the shorter square from the hypotenuse squared

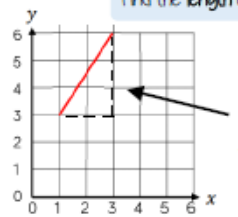
Square root to find the length of the side

$b^2 = 111$

$b = \sqrt{111} = 10.54\ cm$

## Pythagoras' theorem on a coordinate axis

Find the **length** of the line segment




The segment can be made into a right-angled triangle by adding the sides on the diagram

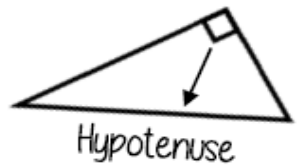
The line segment is the **hypotenuse**

$a^2 + b^2 = \text{hypotenuse}^2$

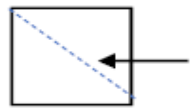
The lengths of a and b are the sides of the triangle.

Be careful to check the scale on the axes

## Identify the hypotenuse

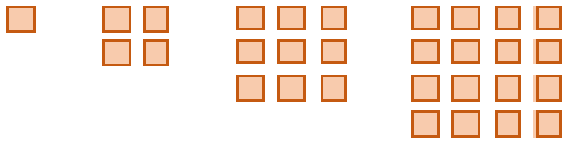



The hypotenuse is always the longest side on a triangle because it is opposite the biggest angle.



Polygons can still have a hypotenuse if it is split up into triangles and opposite a right angle

# Squares and square roots



This can also be written as: $6^2$

$\sqrt{\ }$ is the square root symbol

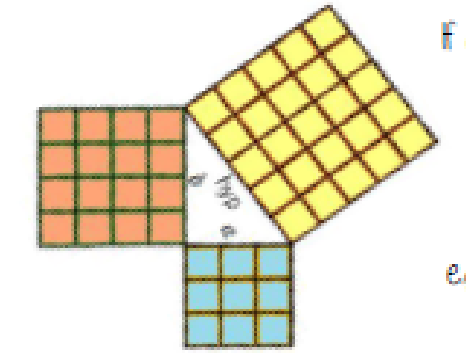
e.g. $\sqrt{64} = 8$

Because $8 \times 8 = 64$

| $1 \times 1$ | $2 \times 2$ | $3 \times 3$ | $4 \times 4$ | $5 \times 5$ | $6 \times 6$ | $7 \times 7$ | $8 \times 8$ | $9 \times 9$ | $10 \times 10$ |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 9 | 16 | 25 | 36 | 49 | 64 | 81 | 100 |

Square numbers

# Determine if a triangle is right-angled



$a = 3$ $b = 4$ $c = 5$

If a triangle is right-angled, the sum of the squares of the shorter sides will equal the square of the hypotenuse.

$$a^2 + b^2 = \text{hypotenuse}^2$$

e.g. $a^2 + b^2 = hypotenuse^2$

$3^2 + 4^2 = 5^2$

$9 + 16 = 25$

Substituting the numbers into the theorem shows that this is a right-angled triangle.

Square Numbers

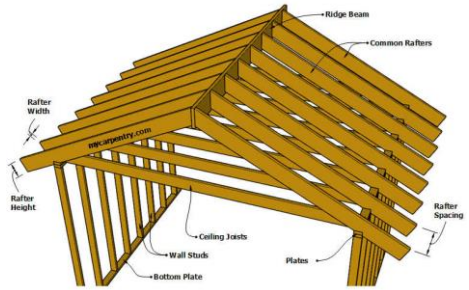
Square Roots

Pythagoras' Theorem

3D Pythagoras'

A job involving Pythagoras:

**Construction**




Pythagoras' is frequently used in architecture, woodworking, or other physical construction projects. For instance, say you are building a sloped roof. If you know the height of the roof and the length for it to cover, you can use the Pythagorean Theorem to find the diagonal length of the roof's slope. You can use this information to cut properly sized beams to support the roof, or calculate the area of the roof that you would need to shingle.

# Year 9 – Spring 2 – War & Conflict

**War & Conflict Overview**

- In this unit of work you will engage with a variety of fiction and non-fiction extracts linked to the theme of War & Conflict, some of these extracts will be modern and some will be from the beginning of the 20th Century.
- The theme of War and Conflict examines texts that have been written for different purposes, some to try and force change and others to try and make sense of the chaos of war and as a form of therapy. In each text we will explore the perspectives of the writers and the historical and social contexts in which they were written.

**Types of text to study:**

- Speeches
- Diary Entries
- Letters
- Poetry

**Key Terminology**

**Propaganda** – information put out by an organization or government to promote a policy, idea, or cause (sometimes misleading).

**Metaphor** – describing something by saying it IS/WAS something else

**Rhythm** – the measured flow of words and phrases in verse or prose as determined by the relation of long and short or stressed and unstressed syllables

**Rhyme** – correspondence of sound between words or the endings of words, especially when these are used at the ends of lines of poetry

**Symbolism** – stand for or represent something e.g. Piggy's glasses in Lord of the Flies

**Semantic Field** – a set of words which can be grouped together by related items

**Naturalism** - a literary movement that emphasises observation and the scientific method in the fictional portrayal of reality

**Themes**

War poetry is not necessarily 'anti-war'. It is, however, about the very large questions of life: **identity, innocence, guilt, loyalty, courage, compassion, humanity, duty, desire, death**. Its response to these questions, and its relation of immediate personal experience to moments of national and international crisis, gives war poetry an extra-literary importance. Owen wrote that even Shakespeare seems 'vapid' after Sassoon: 'not of course because Sassoon is a greater artist, but because of the subjects'.

https://warpoets.org/2021/02/what-is-war-poetry-an-introduction-by-paul-oprey/#:~:text=War%20poetry%20is%20not%20necessarily,%2C%20duty%2C%20desire%2C%20death

# Year 8 – Spring 2 – War & Conflict

**War Photography**

War photography involves photographing armed conflict and its effects on people and places. Photographers who participate in this genre may find themselves placed in harm's way, and are sometimes killed trying to get their pictures out of the war arena.

Ernest Brooks was a British photographer who became famous for his images capturing the First World War. He was the first official photographer who was appointed by the British military.

Other world renowned war photographers are: Roger Fenton, Nick Ut, Margaret Bourke-White, Philip Jones-Griffiths and Denis Sinyakov

**The Open Values in War & Conflict:**

Courage Service Leadership Teamwork

The brave men and women who have ever fought or actively participated in war have demonstrated all of our Open Values, The ones above are values that would have had to be demonstrated almost constantly.

**Careers** https://www.prospects.ac.uk/careers-advice/what-can-i-do-with-my-degree/english

**Ambitious Vocabulary**

**Corruption** - dishonest or fraudulent conduct by those in power, typically involving bribery

**Duty** - something that somebody is obliged to do for moral, legal, or religious reasons

**Fate** – the development of events outside a person's control, regarded as predetermined by a supernatural power

**Foreboding** - a sense that something bad is going to happen

**Humility** - the quality of having a modest or low view of one's importance

**Injustice** – lack of fairness or justice

**Opposition** - resistance or dissent, expressed in action or argument

**Patriotism** - in support of your country

**Reverence** - deep respect for someone or something

**Tyranny** - cruel and oppressive government or rule

**Vivid** – producing powerful feelings or strong, clear images in the mind

# Year 9 – Spring 2 – War & Conflict – Task Sheet

**Genre Overview**

1. Write your own definitions of these two words.

War is… Conflict means…

You can use a dictionary for conflict if you have not used or heard this word before.

2. Why do you think people turned to writing poetry as a way to try and make sense of what they were experiencing?

**Different types of texts:**

1. Write a letter to the Prime Minister explaining your views on the UK holding nuclear weapons.
2. Create a propaganda poster encouraging young men to join the war effort.
3. Write a poem from the perspective of a WW1 soldier in the trenches.

**Key Terminology**

1. Create a metaphor which describes the conditions in the trenches.
2. Think of the pun *"Haddock of Mass Destruction"*. Why do you think poets use humour when highlighting very serious issues and ideas?
3. Why could a poet choose to use regular rhythm and rhyme in a poem?

**Retrieval:** write definitions for the following words we have studied in class:

Evaluation:

Summary:

Extent:

Ego:

Super Ego:

Id:

Perspective:

# Year 9 – Rise of the Nazis, life in Nazi Germany and the Holocaust

| Key words | |
|---|---|
| **National Socialism** | A political system in which a strong government rules a country and protects the interest of one racial group. |
| **Adolf Hitler** | An Austrian politician who became leader of the Nazi Party in 1921 and led them to power by 1933. Hitler shot himself in 1945. |
| **The SA** | Abbreviation of 'Sturmabteilung' or 'Storm Division'. Known as the brown shirts, they were an armed wing of the Nazi Party in its early years |
| **The SS** | Abbreviation of 'Schutzstaffel' or 'Protection Squadron'. Known as the black shirts, they took over from the SA as the Nazis' most loyal and committed soldiers. Oversaw much of the Holocaust. |
| **Hitler Youth** | A series of youth organisations in Nazi Germany, where young boys would learn practical and military skills and girls would learn how to be 'good' mothers and wives |
| **Anti-Semitism** | Hatred of discrimination of Jews. This had existed for centuries but was particularly important in Nazi Germany. |
| **The Holocaust** | General term given to the treatment of Jews and other 'undesirables' by the Nazis between about 1938 and 1945. |
| **Eugenics** | The belief that it is possible and desirable to improve the human race by selective breeding and by eradicating undesirable elements or 'genetic' traits. |

## Why did people support the Nazis?

Although the Nazi Party never won an election in Germany, they did have a lot of support in some sections of society. Some historians say that the Nazis won support through 'negative cohesion', which means that their supporters did not always agree with each other, but supported the Nazis because shared a fear of hatred of something/someone else. Some reasons for supporting the Nazis are as follows:

- **The Great Depression of 1929** – led to a lot of unemployment and poverty in Germany. The Nazis promised to end unemployment and also provided aid to many who could not afford food.
- **Fear/hatred of Communism** – Many middle and upper class people saw that if the communists took power they would lose their wealth. The Nazis were one of the most active and vocal groups against communism.
- **Appeal to traditional values** – The Nazis promised a return to 'traditional' German values which many people thought had been forgotten in the 1920s.
- **Propaganda and anti-Semitism** – The Nazis put the blame for many of Germany's problems on the Jews. For desperate people looking for someone to blame this idea could easily become attractive.

### The Carrot:

For those who did as they were told and matched the Nazi ideal, there were many benefits for living in Nazi Germany. Propaganda also promised people happiness if they supported the Nazi regime.

### The stick:

The Nazis made it very clear that anyone who disobeyed their rules would be punished. This meant prison and execution for many. They also set up 'work and education' camps in Germany.

The Nazis controlled society through the 'carrot and stick method'

The Nazis promised the German people that they would create a 'Third Reich' and bring all true Germans to glory. Although there were some advantages for certain people, they ultimately failed to meet most of their promises and when WWII began they ended many of their policies aimed at helping the German people. On the right are some examples of people did and did not benefit from Nazi rule.

**The Holocaust**

Although there is historical debate around when the Holocaust started, the word is usually used to describe the mistreatment and murder of over 6 million Jews and millions of others by the Nazis, either because of their race, religion, sexuality, ability or lifestyle.

The Holocaust did not begin suddenly but was a process that arguably begun in 1933 and continued until the Nazis were defeated in 1945.

The most well-known feature of the Holocaust is the concentration and death camp, where prisoners were systematically murdered, overseen by the SS.

| Social group | Advantages | Disadvantages |
|---|---|---|
| Women | Women were rewarded for marrying and having children through loans and medals. They were also praised in Nazi propaganda. | Women lost many of the freedoms they had enjoyed in the 1920s. They were now pressured into becoming housewives and mothers, and many lost their jobs under the Nazis. |
| Workers | Unemployment dropped dramatically under the Nazis and workers were usually able to find work. They were also given benefits such as cheaper holidays, cars and activities. | Wages did not rise as much as much as promised, and the employment figures covered up the fact that many were working in conscripted (compulsory) work for very little money. As the war began many of the previous benefits for workers ended. |
| Young people | Hitler Youth organisations were set up for boys and girls. These were mostly fun and offered opportunities for adventure. | Young people were targeted for propaganda, particularly through school where they learnt national socialist ideas. Any young people who had fun in the 'wrong' way were punished, often being put in camps. |
| 'Undesirables' | There were virtually no advantages to fitting into this category. | Referred to as the 'untermenschen', Jews, eastern Europeans, homosexuals, people with disabilities, Roma/Sinti people, criminals and Jehovah's Witnesses were put in camps and often killed or worked to death. |

**1933** – The Nazis call for Jewish businesses to be boycotted, Jewish books are banned and Jews are banned from some jobs

→

**1935** – Homosexuals can now be arrested, and the Nuremburg Laws make Jewish people non-citizens.

→

**1938** – In an event known as 'Kristallnacht' thousands of Jewish businesses, homes and synagogues are looted. 91 Jews are killed.

→

1940 – Auschwitz, the largest concentration camp, is built in Poland.

→

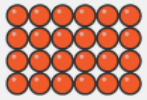
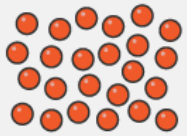
1941 – Mass killing of Jewish and Eastern European people begins

→

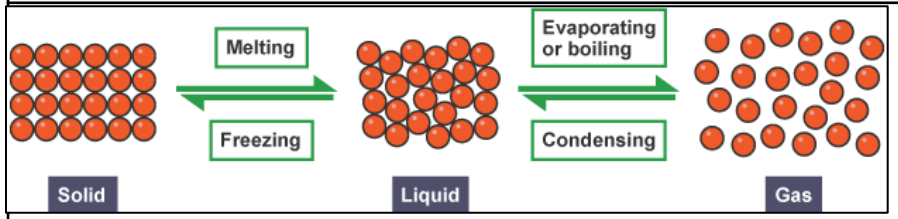
1942–45 – Jews from all over Europe are taken to death camps and systematically murdered

# PARTICLES

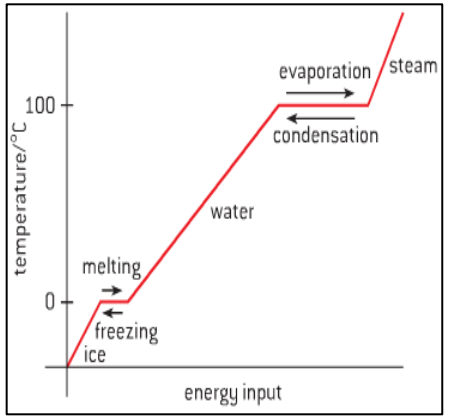
## Key knowledge – Particle theory, states of matter, changes of state, diffusion, density

| State | Solid | Liquid | Gas |
|---|---|---|---|
| Diagram |  |  |  |
| Arrangement of particles | Regular arrangement | Randomly arranged | Randomly arranged |
| Movement of particles | Vibrate about a fixed position | Move around each other | Move quickly in all directions |
| Closeness of particles | Very close | Close | Far apart |

The particles should be the same in all 3 diagrams.




As a substance is heated it gains **energy**.
When the particles gain enough energy They overcome the **forces** between them.
Whilst a **change of state** is happening the **temperature** of the substance does not change. (flat line on graph)




### Density

1 kg of a gas has a larger volume than 1 kg of a solid.
There is empty space between particles in a gas, but in a solid, they are tightly packed together.

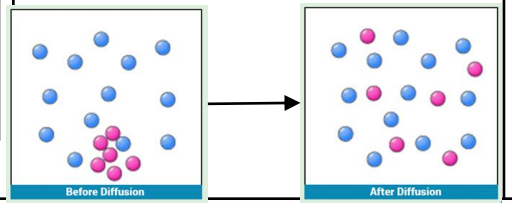
**Density = Mass / Volume**

... so the density of the gas is much smaller than the density of the solid.

### Diffusion

Particles in a liquid or a gas **spread** out from an area of **high concentration** to an area of **low concentration** until the concentrations are equal.

The **higher** the concentration **gradient** the **faster** the net diffusion.
The **higher** the **temperature** the **faster** the net diffusion.
If the particles that are spreading are **water** molecules we call this process **osmosis**.




### How Science works

**Risk Assessment**

| Hazard | Risk | Level of risk | Control measure |
|---|---|---|---|
| What could cause harm? e.g. electricity | What harm could it cause? e.g. electrical shock, burns to the skin | How likely is it to happen and how bad would it be? Low, medium or high risk? | What safety precautions will be taken? e.g. wear safety goggles, ensure all wires and equipment is tested, fused, earthed and insulated. Do not use near water. |

**The independent variable** – The one factor that can be changed in an investigation

**The dependent variable** – The one thing that needs to be measured in an investigation

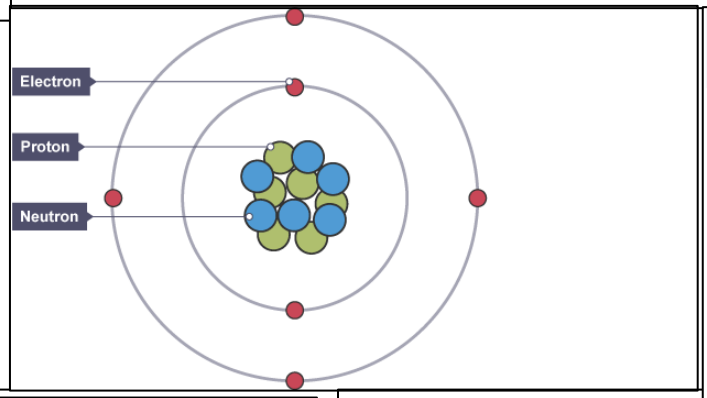
**Control variable** – all the factors that need to be kept the same to ensure the investigation is fair

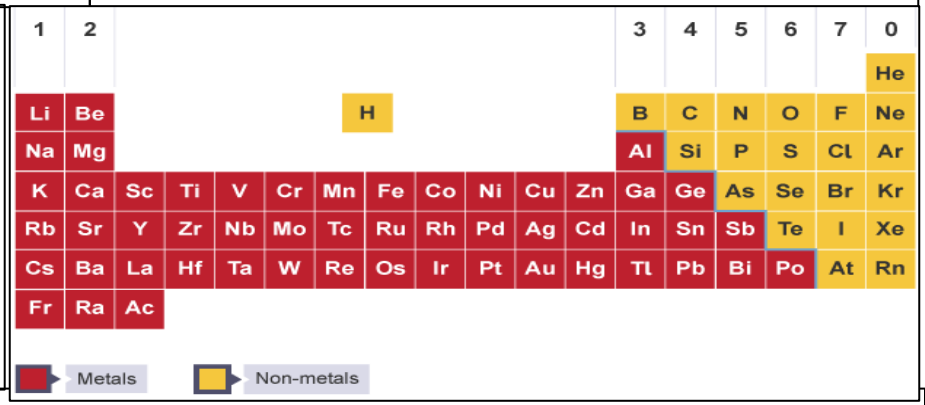
# Mendeleev's beard 1

All the different elements are arranged in a chart called the periodic table. A Russian scientist called Dmitri Mendeleev produced one of the first practical periodic tables in the 19th century. The modern periodic table is based closely on the ideas he used:

## Structure of the Atom

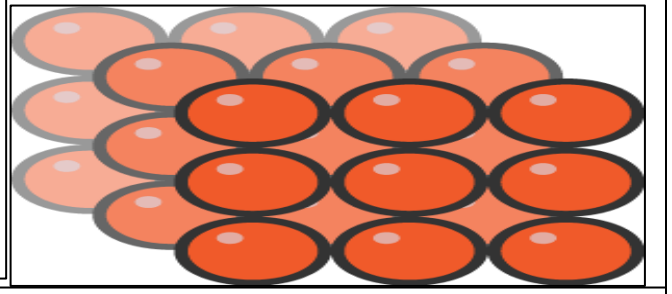
An atom is made up of three subatomic particles: protons, electrons and neutrons.
Protons and neutrons are found in the nucleus of the atom (in the centre).
Electrons are found orbiting the nucleus in shells (also known as *energy levels*).
Protons have a positive charge.
Electrons have a negative charge.
Neutrons have a no charge.




### Atoms

Everything is made from atoms, including you. Atoms are tiny particles that are far too small to see, even with a microscope. If people were the same size as atoms, the entire population of the world would fit into a box about a thousandth of a millimetre across.



### Chemical reactions

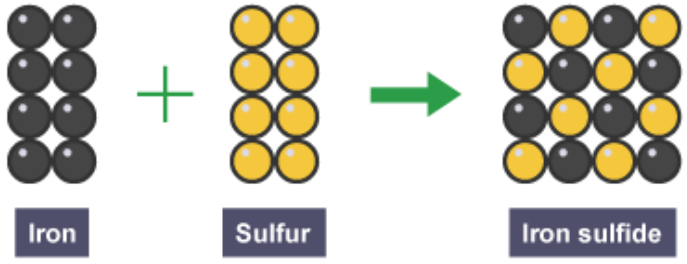
Atoms are rearranged in a chemical reaction. The substances that:
react together are called the **reactants**
are formed in the reaction are called the **products**
No atoms are created or destroyed in a chemical reaction. This means that the total mass of the reactants is the same as the total mass of the products. We say that **mass is conserved** in a chemical reaction.

### Chemical equations

The changes in chemical reactions can be modelled using equations. In general, you write:
**reactants → products**
The reactants are shown on the left of the arrow, and the products are shown on the right of the arrow. Do not write an equals sign instead of an arrow. If there is more than one reactant or product, they are separated by a plus sign.

### Word equations

A **word equation** shows the names of each substance involved in a reaction, and must not include any chemical symbols or formulae. For example:
iron + sulphur → iron sulphide
In this reaction, iron and sulphur are the reactants, and iron sulphide is the product.




Iron sulfide, the compound formed in the reaction, has different properties to the elements from what it is made.

### Compounds

A **compound** is a substance that contains atoms of two or more different elements, and these atoms are chemically joined together. For example, water is a compound of hydrogen and oxygen. Each of its molecules contains two hydrogen atoms and one oxygen atom. There are very many different compounds.

# Chemical reactions 2

**Chemical Reactions**
Chemical reactions occur when particles collide with enough **ENERGY**. The minimum amount of energy particles need to react when colliding is called the **ACTIVATION ENERGY**.

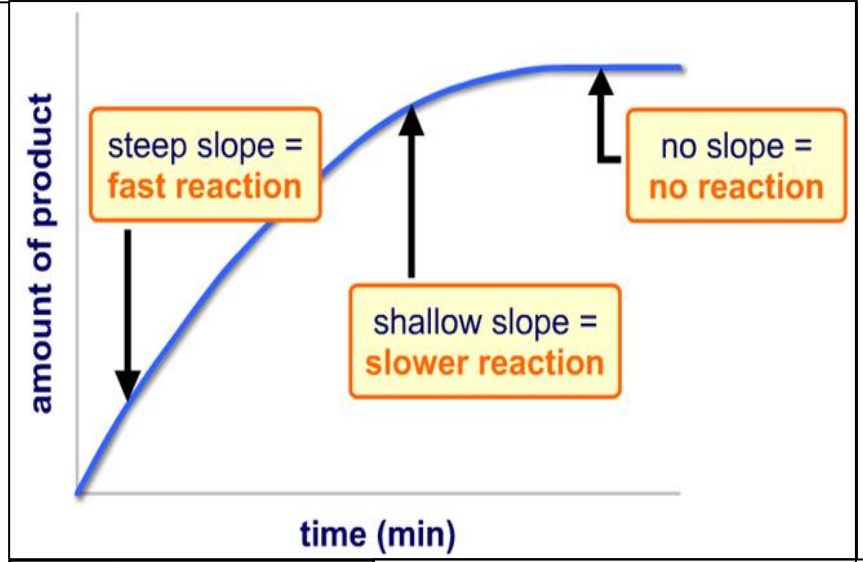
Increasing temperature increases the **speed** of the particles (because they gain kinetic energy) so they **collide successfully more often** and **with more energy**. This increases the rate of reaction.

Increasing the pressure of gases brings the particles closer together so they **collide successfully more often**. This increases the rate of reaction.

Increasing the concentration of reactants increases the number of particles, so they **collide successfully more often**. This increases the rate of reaction.

Increasing the surface area of a **SOLID** (you cannot change the surface area of a liquid or gas) **increases the number of successful collisions**. This increases the rate of reaction.

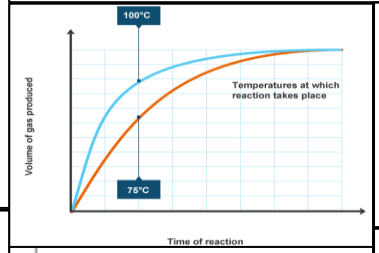
| Factors affecting the rate of reaction | |
|---|---|
| Temperature | The higher the temperature, the quicker the rate of reaction. |
| Concentration | The higher the concentration, the quicker the rate of reaction. |
| Surface area | The larger the surface area of a reactant solid, the quicker the rate of reaction. |
| Pressure (of gases) | When gases react, the higher the pressure upon them, the quicker the rate of reaction. |



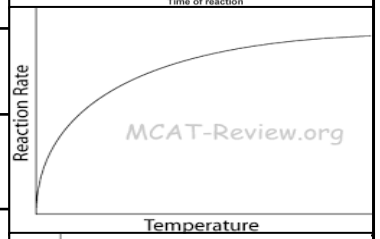

**Collision Theory:** chemical reactions occur when reactant particles **collide** with a certain amount of **energy.**

The rate of a reaction depends on two things:
the **frequency** of collisions between particles. The more often particles collide, the more likely they are to react.

the **energy** with which particles collide. If particles collide with less energy than the activation energy, they will not react.

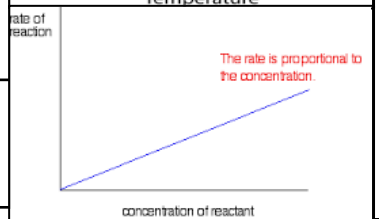



You may be presented with graphs like these ones.You need to be able to describe what they show. 'Describe' means say what you see. If numbers are given in the graph—quote them where appropriate.




As temperature increases so does rate of reaction. This means that reactions finish faster at higher temperatures, as the graph shows—the reactant is used up faster at 100o**C**, so it levels off sooner.

As temperature increases, rate of reaction increases very quickly.
As temperature continues to increase the rate of reaction increases more slowly.
Eventually the rate of reaction **levels-off.**




Rate of reaction and concentration are **directly proportional**—as one doubles, the other doubles

# ENERGY

| Key Terms | Definitions |
|---|---|
| Energy | Energy is a quantity that is stored in many objects and situations. Anything storing energy can do **work**. |
| Work | Work is done when energy changes from one store to another. |
| Potential energy | Potential energy is energy stored in objects that don't seem to be doing anything. See the examples. |
| Chemical potential energy | Energy stored in fuels (like wood, or the gas we run Bunsen burners on) is called chemical potential energy. |
| Elastic potential energy | Elastic objects, like springs or rubber bands, store elastic potential energy when they are stretched. |
| Gravitational potential energy | Any object that is not on the ground has gravitational potential energy. This is because they are lifted up in a gravitational field, and could fall down! |
| Kinetic energy | Movement energy. Any moving object stores kinetic energy. |
| Thermal energy | Also known as heat energy. All objects store some thermal energy, because the particles are moving. The higher the temperature of an object, the more thermal energy it stores. |
| Conservation of energy | The law that says energy cannot be created or destroyed. It can only change how it is stored. |

## Energy Transfer

Energy is transferred, so it changes store, in loads of situations. Examples to know:

- When a fuel is burned, the chemical potential energy in the fuel ends up stored as **thermal energy** in the surroundings;
- When an object falls off a shelf, the **gravitational potential energy** it stores is transferred (changed) to kinetic energy while it is falling.
- When the object hits the floor, all the gravitational potential energy it had to start with ends up stored as **thermal energy** in the surroundings.
- When a spring that's been stretched is released, the **elastic potential energy** it stored is transferred to kinetic energy then to thermal energy

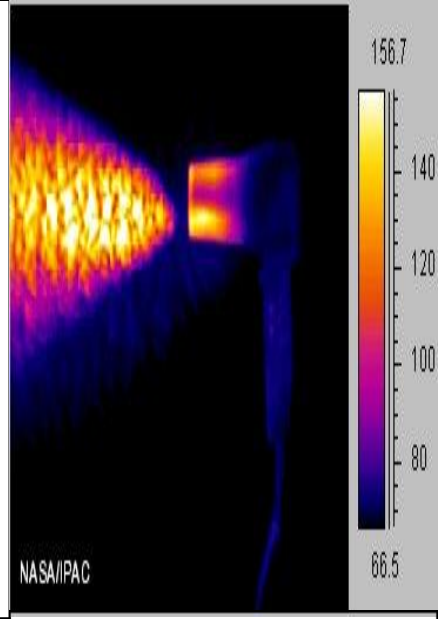
## Energy Stores

Energy can be stored in objects, or when objects are doing something. It is a quantity measured in joules (J). Examples to know:

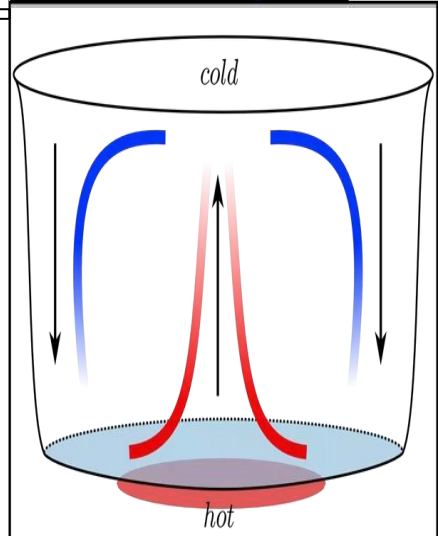
Energy is stored in fuels as **chemical potential energy**
Energy is stored in anything elastic when it is stretched, as **elastic potential energy**
Energy is stored in any object that has been lifted up, because the object stores **gravitational potential energy**
Energy is stored in moving objects as **kinetic energy**.
Energy is stored in any object as **heat energy**. (obviously, if it is cold, it doesn't store much heat energy!) This is also known as *thermal energy*.

## Thermal energy transfer by radiation

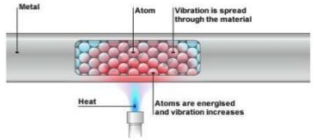
All objects give out some infra red radiation, but the hotter they are the more radiation they give out. All objects can also absorb infra red radiation: when they do, they heat up. Radiation can travel through empty space – so this is how the Sun heats up the Earth. The objects don't have to be touching, unlike in conduction, and there are no particles involved.




**Convection**
Heat can be transferred from one place to another by convection.
**Fluids**
Liquids and gases are fluids because they can be made to flow. The particles in these fluids can move from place to place.
Convection occurs when particles with a lot of heat energy in a liquid or gas move and take the place of particles with less heat energy.
Liquids and gases **expand** when they are heated.
This is because the particles in liquids and gases move faster when they are heated than they do when they are cold.




Conduction

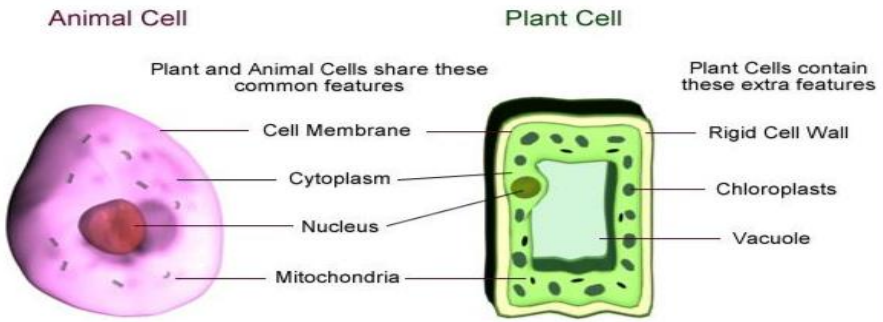



Heat energy is conducted through the solid in this way. As the atoms of the solid gain kinetic energy the temperature of the solid increases.

## Thermal energy transfer by conduction

Hot materials can transfer thermal energy to other materials that they are touching. This is called **conduction** of thermal energy. As the diagram shows, the particles that are heated increase in kinetic energy when they are heated. They bump into neighbouring particles and pass on (transfer) thermal energy. This is why a table feels warm after a hot cup of tea is lifted from it, and the reason why thermal energy can pass through the bottom of a saucepan to cook your dinner.

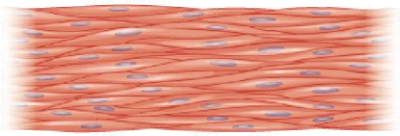
# CELLS AND REPRODUCTION 1



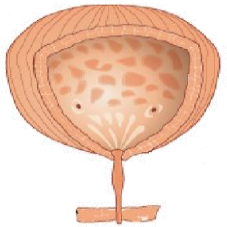

| Key Terms | Definition |
|---|---|
| Cell wall | Made of cellulose, which supports the cell |
| Cell membrane | Controls movement of substances into and out of the cell |
| Cytoplasm | Jelly-like substance, where chemical reactions happen |
| Nucleus | Contains genetic information (chromosomes) made of DNA. Controls what happens inside the cell |
| Vacuole | Contains a liquid called cell sap, which keeps the cell firm |
| Mitochondria | Where most respiration reactions happen |
| Chloroplast | Where photosynthesis happens |

**Body organization**
All living organisms are made up of one or more cells. **Unicellular organisms**, like amoebas, consist of only a single cell. **Multicellular organisms**, like people, are made up of many cells. Cells are considered the fundamental units of life.
The cells in complex multicellular organisms like people are organized into **tissues**, groups of similar cells that work together on a specific task. **Organs** are structures made up of two or more tissues organized to carry out a particular function, and groups of organs with related functions make up the different **organ systems.**

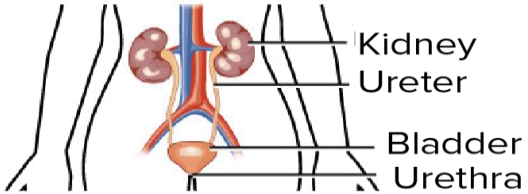
Muscle cell



Muscle tissue



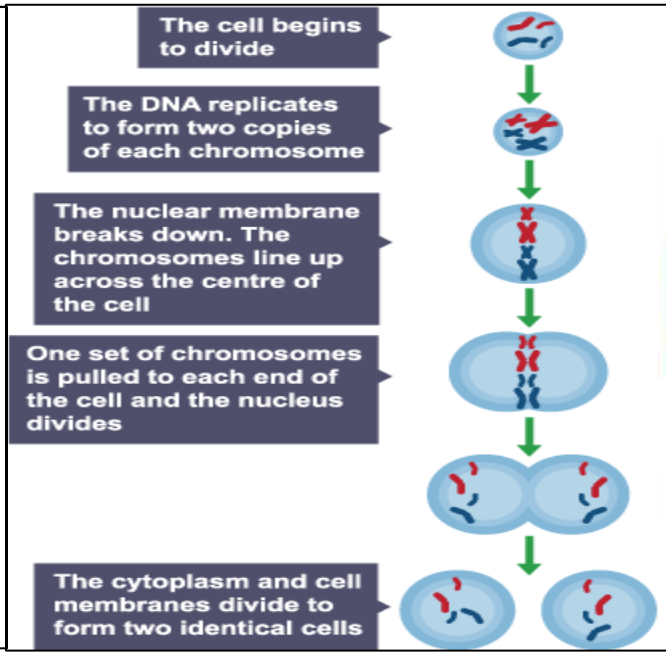
Organ (bladder)

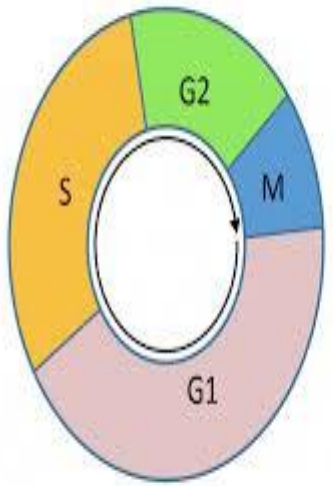



Organ system

The human cell nucleus contains 46 chromosomes or 23 pairs. They are ultimately long strands of coiled up DNA.

Cells are continually lost or made. All cells have a life cycle known as the cell cycle To make new cells the body carries out cell division in a process known as mitosis



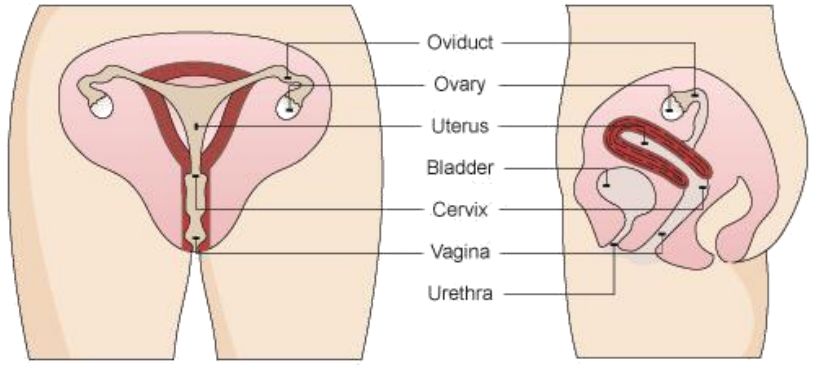

G1 - Growth

S - DNA synthesis

G2 - Growth and preparation for mitosis

M - Mitosis (cell division)

# CELLS AND REPRODUCTION 2




The two **ovaries** (one of them is called an ovary) contain hundreds of undeveloped female **gametes** (sex cells). These are called **ova** (one of them is called an ovum) or egg cells. Women have these cells in their bodies from birth, whereas men produce new sperm continually.

**Oviducts**

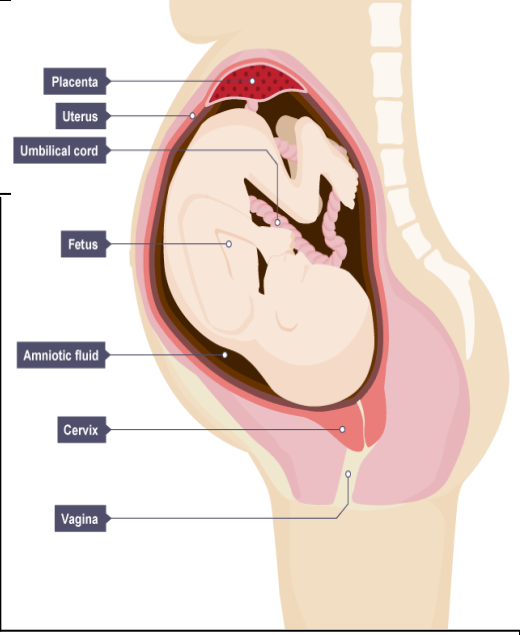
Each ovary is connected to the **uterus** by an **oviduct**. This is sometimes called a Fallopian tube or egg tube. The oviduct is lined with **cilia**, which are tiny hairs on cells. Every month, an egg develops, becomes mature and is released from an ovary. The cilia waft the egg along inside the oviduct and into the uterus.

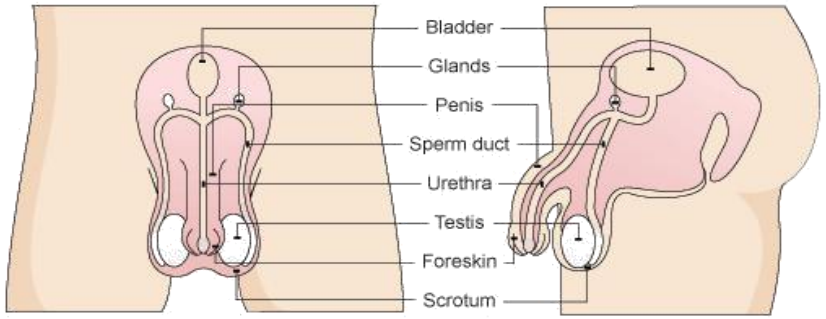
**Uterus and cervix**

The **uterus**, also called the womb, is a muscular bag with a soft lining. The uterus is where a baby develops until its birth.

The **cervix** is a ring of muscle at the lower end of the uterus. It keeps the baby in place while the woman is pregnant.

The **vagina** is a muscular tube that leads from the cervix to the outside of the woman's body. A man's penis goes into the woman's vagina during sexual intercourse.




**Testes**

The two **testes** (one of them is called a testis) are contained in a bag of skin called the **scrotum**. The testes have two functions:

- to produce millions of male **gametes** (sex cells) called **sperm**
- to make male sex **hormones**, which affect the way a man's body develops

**Sperm duct and glands**

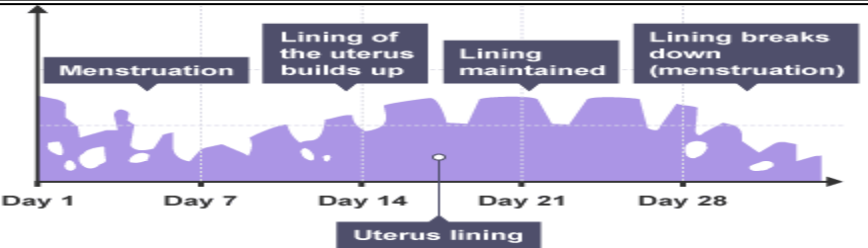
The sperm pass through the **sperm ducts**, and mix with fluids produced by the **glands**. The fluids provide the sperm cells with nutrients. The mixture of sperm and fluids is called semen.

**Penis and urethra**

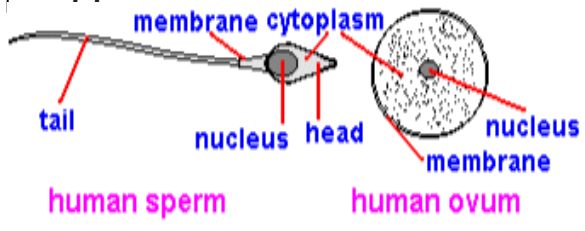
The **urethra** is the tube inside the penis that can carry urine or semen. A ring of muscle makes sure that there is no chance of urine and semen getting mixed up.

**The menstrual cycle**

The female reproductive system includes a cycle of events called the **menstrual cycle**. It lasts about 28 days, but it can be slightly less or more than this. The cycle stops while a woman is pregnant. These are the main features of the menstrual cycle:




**Fertilisation** happens if the egg cell meets and joins with a sperm cell in the oviduct. The fertilised egg attaches to the lining of the uterus. The woman becomes pregnant, the lining of the uterus does not break down and menstruation does not happen.



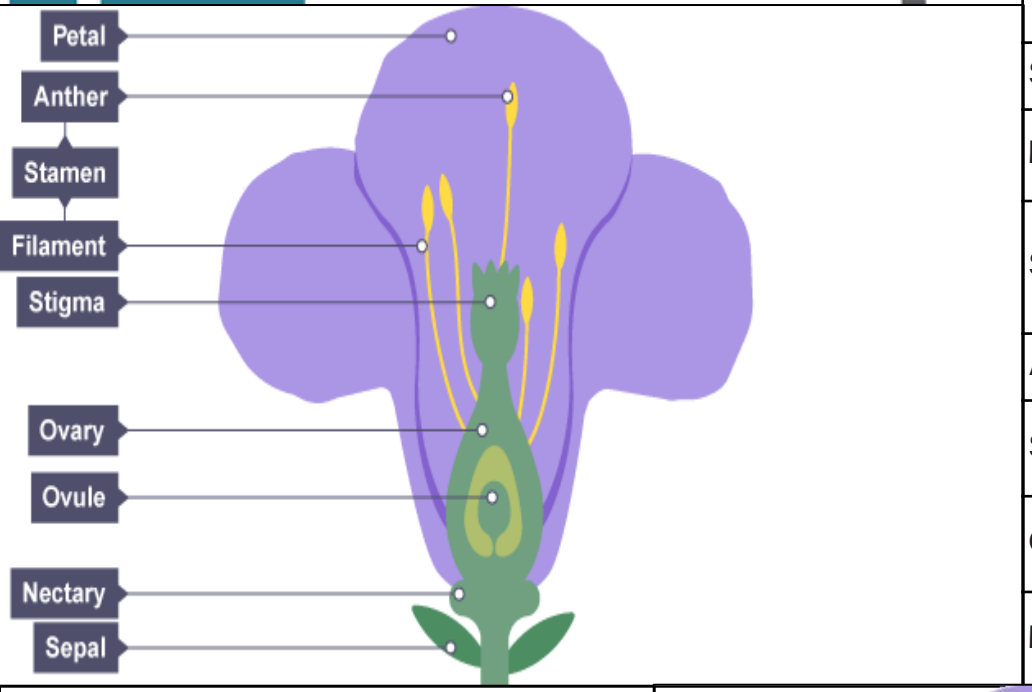

**Fetal development and birth**

The fertilised egg divides to form a ball of cells called an **embryo**. The embryo attaches to the lining of the uterus. It begins to develop into a **fetus** and finally into a baby.

The role of amniotic fluid, the placenta and the umbilical cord

# CELLS AND REPRODUCTION 3

# PLANT REPRODUCTION




| Structure | Function |
|---|---|
| Sepals | Protect the unopened flower |
| Petals | May be brightly coloured to attract insects |
| Stamens | The male parts of the flower (each consists of an anther held up on a filament) |
| Anthers | Produce male sex cells (pollen grains) |
| Stigma | The top of the female part of the flower which collects pollen grains |
| Ovary | Produces the female sex cells (contained in the ovules) |
| Nectary | Produce a sugary solution called nectar, which attracts insects |

## Seed dispersal

The plant spreads the seeds out – this is called seed dispersal – so

their offspring don't compete with them for light or soil nutrients.

Seeds can be dispersed in many ways:

Animals – they eat the fruit and release the seeds in their waste

Wind – for example sycamore seeds

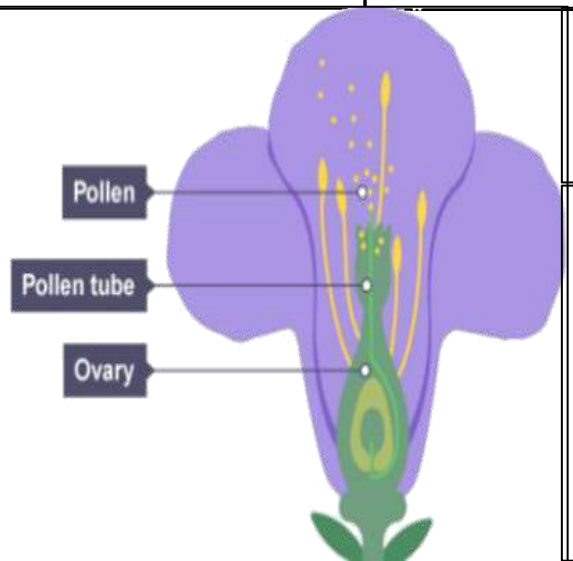
Water – for example coconuts

## Pollination

Pollination is the transfer of pollen from the anthers of one flower to the stigma of another flower (of the same species).

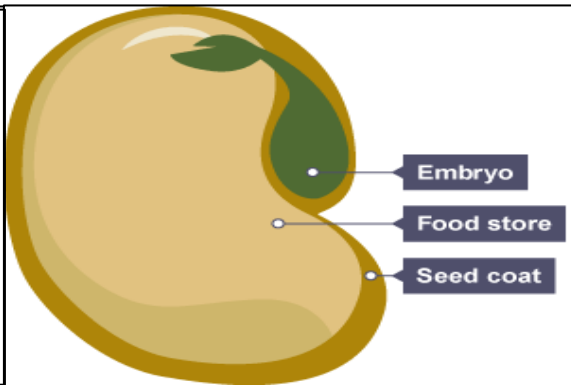
In wind pollination, the wind carries the pollen from the anthers of one flower to the stigma of another

In insect pollination, insects carry the pollen from anthers to stigmas. They go to flowers to get nectar for food (e.g. bees), and the pollen sticks to them so they carry it onwards




After fertilisation, the female parts of the flower develop into a fruit:
the ovules become seeds
the ovary wall becomes the rest of the fruit

**Seeds**
A seed has three main parts:
•embryo – the young root and shoot that will become the adult plant
•food store – starch for the young plant to use until it is able to carry out photosynthesis
•seed coat – a tough protective outer covering



# German Year 9 (Term 2)
## Module 1: Meine Ambitionan – My Ambitions

Here is the vocabulary you will need for Stimmt 3, Module 3 – term 2

| | | |
|---|---|---|
| 1 | discuss crazy things that I would/would not do | Ich würde nie mit Haifischen schwimmen! |
| | use adjectives to describe personality | Bist du abenteuerlustig oder ängstlich? |
| | use the qualifiers *nie*, *vielleicht* and *bestimmt* | Ich würde vielleicht Zorbing machen. |
| | use the conditional to say what I and others would do | Ich **würde** Kakerlaken **essen**.<br>Er **würde** den Mount Everest **besteigen**. |
| | use context and near-cognates to work out unknown words | |
| 2 | say what part-time job I do and where I work | Ich arbeite als Zeitungsausträger. |
| | give my opinion of my job | Ich finde den Job langweilig. |
| | use *weil* to give a variety of reasons | Ich mag den Job, **weil** er Spaß macht.<br>Ich mag den Job nicht, **weil** ich nicht viel Geld verdiene. |
| | use *man* with modal verbs to talk in general about a job | **Man muss** abwaschen. |
| | use *seit* to say how long I've been doing a job | Ich arbeite **seit** einer Woche in einem Café. |
| 3 | say what I would like to be or do in the future | Ich möchte Schauspieler(in) werden. |
| | use correct word order in longer sentences with sequencers | Ich möchte zuerst heiraten und später möchte ich Kinder haben. |
| | use my knowledge of key sounds to help with pronunciation | möchte  **Aus**land  |
| 4 | say what job I do in a ski resort | Wo arbeitest du?<br>Ich arbeite in der Skischule. |
| | use a range of language to describe future ambitions | Ich möchte später auf die Uni gehen und Sozialarbeiterin werden, aber ich würde nie in der Stadt arbeiten. |
| | use the prepositions *in* and *auf* with the dative | Ich arbeite **in der** Kinderkrippe. |
| 5 | understand and note numbers accurately | Null, zwo, null; dreißig, elf, vierundvierzig, einundsiebzig ➔ 020 30 11 44 71 |
| | use context and question prompts to predict the information I might hear | |
| | use my knowledge of verb structures to identify key tenses I hear | Ich werde nächsten Monat eine Geburtstagsparty im Hotel organisieren. ➔ Zukunft |
| | select key words that convey meaning | Haben Sie im Moment noch Zimmer frei? ➔ Zimmer frei? |
| 6 | understand the gist and detail of different styles of text about an artist and his/her work | |

In this Module you will learn how to:

- Discuss ambitions and the future
- Talk and write about things that **could happen**
- Talk and write about **jobs**
- Talk and write about **future** events
- Real life: talking about ski holidays

www.textivate.com
Username: openacademy
Password: in Teams in Class Materials
Go to 'my resources' to find your work.

www.memrise.com
https://app.memrise.com/course/6262551/stimmt-3/1/

Use your Memrise account to practise and learn the vocabulary in this unit and develop what you know **(as well as revise what you've done before)**

# German Term 2

## Wie bist du? • What are you like?

| | |
|---|---|
| abenteuerlustig | *adventurous* |
| kühn | *daring* |
| mutig | *brave* |
| ängstlich | *fearful* |
| feige | *cowardly* |
| verrückt | *mad/crazy* |
| vorsichtig | *cautious* |

## Würdest du ... ? • Would you ... ?

| | |
|---|---|
| Ich würde ... | *I would ...* |
| nie | *never* |
| vielleicht | *maybe* |
| bestimmt | *definitely* |
| mit Haifischen schwimmen | *swim with sharks* |
| Extrembügeln machen | *do extreme ironing* |
| zum Mond fliegen | *fly to the moon* |
| Kakerlaken essen | *eat cockroaches* |
| den Mount Everest besteigen | *climb Mount Everest* |
| Zorbing machen | *do zorbing* |
| Brennnesseln essen | *eat stinging nettles* |
| mit Krokodilen schwimmen | *swim with crocodiles* |
| zum Mars fliegen | *fly to Mars* |

## Hast du einen Job? • Do you have a job?

| | |
|---|---|
| Seit wann arbeitest du? | *How long have you been working?* |
| Ich arbeite ... | *I've been working ...* |
| seit einer Woche | *for a week* |
| seit sechs Monaten | *for six months* |
| Ich finde den Job ... | *I find the job ...* |
| toll | *great* |
| interessant | *interesting* |
| okay | *OK* |
| nicht schlecht | *not bad* |
| langweilig | *boring* |
| furchtbar | *awful* |
| Ich mag den Job, weil ... | *I like the job because ...* |
| er interessant ist | *it's interesting* |
| er Spaß macht | *it's fun* |
| ich viel Geld verdiene | *I earn a lot of money* |
| Ich mag den Job nicht, weil ... | *I don't like the job because ...* |
| er langweilig ist | *it's boring* |
| er keinen Spaß macht | *it's no fun* |
| ich nicht viel Geld verdiene | *I don't earn a lot of money* |
| Man muss ... | *You have to ...* |
| abwaschen | *wash up* |
| sauber machen | *clean* |
| Salate vorbereiten | *prepare salads* |
| Man kann ... | *You can ...* |
| mit den Hunden laufen | *run with the dogs* |
| mit einem Ball spielen | *play with a ball* |
| fit bleiben | *keep fit* |
| Man darf (nicht) ... | *You are (not) allowed to ...* |
| essen | *eat* |
| spielen | *play* |
| Ich habe keinen Job, aber ich will als ... arbeiten. | *I don't have a job, but I want to work as a ...* |

## Was für einen Job hast du? • What type of job have you got?

| | |
|---|---|
| Ich arbeite ... | *I work ...* |
| als Bademeister(in) | *as a lifeguard* |
| als Trainer(in) | *as a coach* |
| als Babysitter(in) | *as a babysitter* |
| als Hundeausführer(in) | *as a dog walker* |
| als Zeitungsausträger(in) | *as a newspaper boy (girl)* |
| in einem Café | *in a café* |
| in einem Restaurant | *in a restaurant* |
| in einem Supermarkt | *in a supermarket* |

## Grammatik

Page 68

The pronoun ***man*** is used to refer to people in general ('you').

| | *modal verb* | *infinitive at end of sentence* | |
|---|---|---|---|
| *man* | *muss* | *abwaschen* | you have to wash up |
| | *kann* | *laufen* | you can run |
| | *darf* | *spielen* | you are allowed to play |
| | *darf nicht* | *essen* | you're not allowed to eat |

# German Term 2

## Word order – verb in second position

In German, the verb is **always** the second idea in a sentence:

| 1st idea (subject) | 2nd idea (verb) | other details | |
|---|---|---|---|
| *Ich* | ***spiele*** | *Fußball.* | (I play football.) |

Sentences often begin with a sequencer (e.g. 'first of all', 'later') or a time expression (e.g. 'at the weekend'). The verb still has to be second, so it swaps with the subject:

| 1st idea | 2nd idea (verb) | subject | other details | |
|---|---|---|---|---|
| *Am Wochenende* | ***spiele*** | *ich* | *Fußball.* | (At the weekend I play football.) |

## Was möchtest du machen?
### • What would you like to do?

| | |
|---|---|
| Ich möchte ... | *I would like ...* |
| zuerst | *first of all* |
| später | *later* |
| dann | *then* |
| bei (BWW) arbeiten | *to work for (BMW)* |
| heiraten | *to get married* |
| Kinder haben | *to have children* |
| um die Welt reisen | *to travel round the world* |
| Fußballprofi werden | *to become a footballer* |
| Schauspieler(in) werden | *to become an actor (actress)* |
| Sänger(in) werden | *to become a singer* |
| auf die Uni gehen | *to go to university* |
| (Mathe) studieren | *to study (maths)* |
| im Ausland leben | *to live abroad* |

## Im Skiort • In the ski resort

| | |
|---|---|
| das Café(s) | *café* |
| das Restaurant(s) | *restaurant* |
| das Hotel(s) | *hotel* |
| die Skischule(n) | *ski school* |
| das Souvenirgeschäft(e) | *souvenir shop* |
| die Kinderkrippe(n) | *crèche* |
| der Berg(e) | *mountain* |
| die Piste(n) | *ski run* |
| der Wellnessbereich(e) | *spa* |
| Ich arbeite im Moment ... | *At the moment I work ...* |
| im Souvenirgeschäft | *in the souvenir shop* |
| als Küchenhilfe | *as a kitchen help* |
| Ich möchte später ... | *Later I would like to ...* |
| Sozialarbeiter(in) werden | *become a social worker* |
| ein Restaurant eröffnen | *open a restaurant* |
| Ich würde nie ... | *I would never ...* |
| in der Stadt leben | *live in the city* |
| auf dem Berg leben | *live on the mountain* |

## Oft benutzte Wörter
### • High-frequency words

| | |
|---|---|
| nie | *never* |
| vielleicht | *maybe* |
| bestimmt | *definitely* |
| zuerst | *first of all* |
| später | *later* |
| dann | *then* |
| seit | *since/for* |
| in | *in* |
| auf | *on* |
| extrem | *extremely* |
| in zwei Jahren | *in two years* |
| in fünf Jahren | *in five years* |

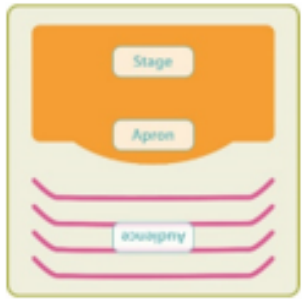
A **staging convention** is where the audience is positioned in relation to the performance space.

Different staging conventions can have different impacts on the audience. For example, having the audience **in the round,** can make them feel more involved in the action as the performers will often enter and exit through the audience.

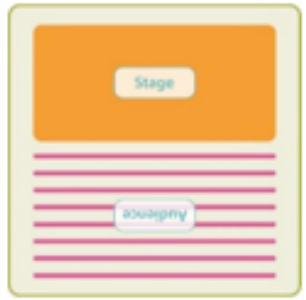
**Blocking** is the act of positioning the actors on stage for maximum impact.

**Theatre in Education** is a style of theatre which aims to educate the audience and has a strong moral message.

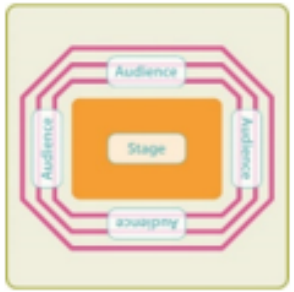
# STAGING CONVENTIONS



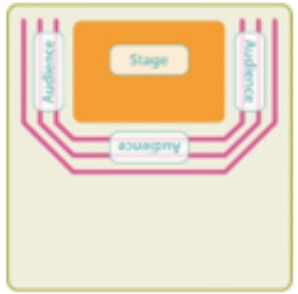

Proscenium Arch: traditionally found in older theatres, the actors perform on raised stages in a 'picture frame'.




End on: the stage is at the end of the space with the audience facing it.

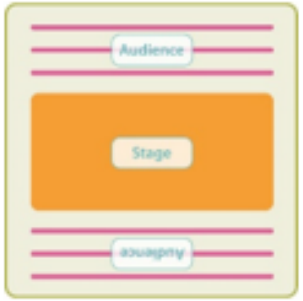



In the round: The audience surrounds the stage on all four sides.




Thrust: The stage juts out into the audience who surround it on three sides.


Black box: this type of performance space gives you a blank canvas as a performer and the audience can be placed anywhere.




Traverse: the audience sits facing each other either side of a corridor shaped performance space, a bit like a cat walk but not

# Knowledge Organiser: Year 9 Spring Term 1 Part 2 Textual Programming—Microsoft Small Basic

## Summary

**Programming** is writing computer code to create a program, in order to solve a problem. Programs consist of a series of instructions to tell a computer exactly what to do and how to do it.

An **algorithm** is a set of instructions that describes how to get something done. It is crucial that the steps in an algorithm are sequenced and performed in the right order - otherwise the algorithm will not work correctly. Algorithms can be designed using **pseudocode** and **flow charts**. They are written using **statements** and **expressions**. There are three basic building blocks (constructs) to use when designing algorithms: **sequencing**, **selection** and **iteration**. We create programs to **implement** algorithms. Algorithms consist of steps, where programs consist of statements.

In programming, iteration is often referred to as '**looping**', because when a program iterates it 'loops' to an earlier step. It is implemented using **FOR** and **WHILE** statements. Selection is implemented in programming

## Small Basic Language & Syntax

### Variable

**Computer programs use variables to store information.**

Variables could be used to store the score in a game, the number of cars in a car park or the cost of items on a till. They work in a similar way to algebra, where a letter in your code can stand for a number.

```
TextWindow.Write("Enter your Name: ")
name = TextWindow.Read()
TextWindow.Write("Hello " + name + ".  ")
TextWindow.WriteLine("How are you doing " + name + "?")
```

### Sequencing

**Sequencing is the specific order in which instructions are performed in an algorithm.**

Algorithms consist of instructions that are carried out

```
GraphicsWindow.Width = 200
GraphicsWindow.Height = 200
GraphicsWindow.PenColor = "Green"
GraphicsWindow.DrawLine(10, 10, 100, 100)
GraphicsWindow.PenColor = "Gold"
GraphicsWindow.DrawLine(10, 100, 100, 10)
```

### Selection

**Selection is a decision or question.**

At some point, a program may need to ask a question because it has reached a step where one or more options are available. Depending on the answer given, the program will follow a certain step and ignore the others.

```
If (Clock.Hour < 12) Then
  TextWindow.WriteLine("Good Morning World")
EndIf
If (Clock.Hour >= 12) Then
  TextWindow.WriteLine("Good Evening World")
EndIf
```

### Iteration

**Iteration is the process of repeating steps.**

Iteration allows us to simplify our algorithm by stating that we will repeat certain steps until told otherwise. This makes designing algorithms quicker and simpler because they don't have to include lots of unnecessary steps.

```
For i = 1 To 24
  TextWindow.WriteLine(i)
EndFor
```

Microsoft Small Basic

## Key Vocabulary

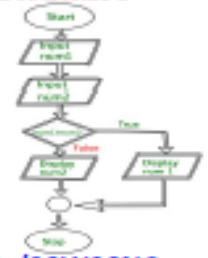
| | |
|---|---|
| **Assignment** | Setting the value of a variable in a computer program. |
| **Constant** | A value in computer programming that does not change. |
| **Data Type** | In computer programming, data is divided up and organised according to type, e.g. numbers, characters and Boolean. |
| **Debug** | The process of finding and correcting programming errors. |
| **Execute** | To run a computer program. |
| **High-level language** | A computer programming language used to write programs. They need to be translated into machine code through a compiler, interpreter or assembler. |
| **Machine code** | Also called object-code, this is low-level code that represents how computer hardware and CPUs understand instructions. It is represented by binary numbers. |
| **Runtime** | The period when a computer program is executing or running. |
| **Syntax** | Rules governing how to write statements in a programming language. |

## Algorithms

**Pseudocode**

```
WHILE NotSolved
   .. Instructions here ..
   FOR i ← 1 TO 5
      .. Instructions here ..
   ENDFOR
   .. Instructions here ..
ENDWHILE
```

**Flowchart**



http://bit.ly/33WS6NC

KEEP CALM AND GO PRACTICE

BBC Bitesize

# Year 9 RS: Can we put a price on Human Life?

| Key words | |
|---|---|
| **Capital Punishment** | The death penalty. |
| **Sanctity of Life** | The belief that life is God-given. It is holy and precious. |
| **Quality of life** | **The idea that life must have some benefits for it to be worth living** |
| **Justice** | Doing the right thing- rewarding the good and punishing the bad. |
| **Victim** | Someone who has been affected by a bad thing. |
| **Malicious** | Having or showing a desire to cause harm to someone |
| **Perpetrator** | A person who commits a crime |
| **Pacifism** | Not believing in violence. |
| Patriotism | A love for your country |

## Timothy John Evans

Timothy John Evans was one of the last people to be executed in the UK. He was convicted of murdering his daughter. During the trial Evans claimed that he was innocent and that his next door neighbour John Christie was the one who had murdered his daughter. Timothy Evans was executed by hanging in 1950.

Later on, John Christie was found to be a serial killer. Before his own execution in 1966, John Christie admitted to murdering Timothy Evans' daughter. Evans had been wrongly executed. People argue that the death sentence is too permanent a punishment and if you sentence the wrong person, there is no chance to apologise or rehabilitate the person.

## The Death Penalty.

**Capital Punishment:** The death penalty (or capital punishment), is the execution of a criminal by the government. In most countries this happens by lethal injection.

According to Amnesty international, in 2006, 1591 people were executed in 25 countries around the world.

**Should the following people be given the death penalty?**

### Anders Breivik

In 2011 Anders Breivik detonated bombs in Oslo and attacked a political youth camp with an assault rifle. In total, Breivik killed 77 people. He was working by himself.

He was found guilty by a Norwegian high court judge and was sentenced to 20 years in prison (The maximum sentence in Norway.) Many of the families whose relatives were killed by Breivik believe that 20 years in prison is not good enough. Breivik himself said in court 'You either have to kill me or let me go, the law in Norway is a joke!'

### Ian Huntley

On 4 August 2004, Ian Huntley persuaded two ten year old girls to come into his house where he murdered them. Huntley's girlfriend lied to the police about where he was.

Huntley was the caretaker at the girl's school. He abused the trust of the girls to persuade them to come into his home. Many people in the UK were disgusted with Huntley's sentence saying that his crime deserved more than a prison sentence. Ian Huntley is now 38 and 7 years into his prison sentence. He has tried to commit suicide twice.

## Muslim beliefs on the Death Penalty

Muslims follow Shari'ah law.
Everyone is subject to the law,
It is best to forgive a wrong and be charitable if it does not lose your honour. First reason

with wrongdoer.

Justice will always be carried out in public so that justice is seen to be done.
Islam accepts capital punishment, but the victim's family have the right to pardon the offender. Forgiveness is a strong theme in the Qur'an.
Sometimes monetary compensation is authorised instead of death.

### Christian Beliefs on the Death Penalty

Teachings of Jesus based on forgiveness and compassion
Many Christians feel that this is the ideal, not the reality.
They focus on reforming the criminal
Many Christian reformers have focussed on ensuring prisoners are treated fairly.

These vary widely, from the pacifist view of the Quakers to the acceptance of capital punishment as allowed by law.
Roman Catholic Church considers it 'lawful slaying'
Anglican Church is opposed to it.

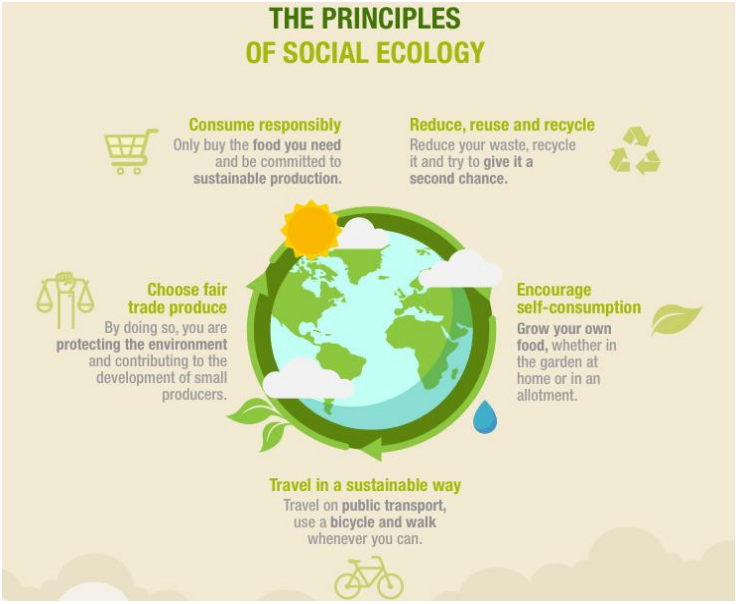
## Arguments FOR and Against the Death Penalty

| | |
|---|---|
| It permanently removes the worst criminals, **protecting** society and making it a safer place. | Only God is in control of life and death. The Bible says that all human lives are valuable. |
| There are alternatives to the death penalty that offer the opportunity for **reformation**. | The death penalty lowers the value of life in society. |
| Innocent people could be executed by mistake. What if it was manslaughter rather than murder? | If someone murders someone, it is just to do the same to them – they have given up their human rights. |
| Genesis 9:6: 'Whoever sheds a man's blood, by man shall his blood be shed.' – After the flood, God said that capital punishment should be used for murderers. | Fear of the death penalty is the best **deterrent**. In Singapore, where capital punishment is legal there is far less serious crime. |
| It is cheaper than imprisoning someone for the rest of their lives. | It gives the families of murder victim's true **retribution**. |
| Capital punishment is awful for the families of murderers to have to endure. | It is uncivilized and barbaric. |

# Year 9 Design and Technology



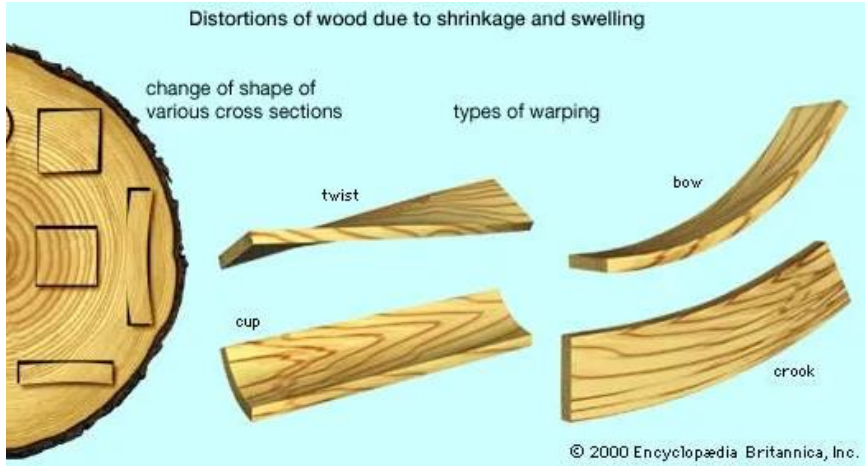





These are the key principles of design we will be looking at this term when working in the Workshop. The project is to design and make a RECYCLED palette planter.

Key Questions?

- What is the function of a planter? Will it have any extra practical design features?
- What key aesthetics do you need to consider when designing? Will using recycled materials have an impact on the appearance?
- How will planning and measuring ensure your product is durable enough to work in outside weather conditions?




•**Biodegradable materials** - this includes food scraps, cotton, wool, wood and biodegradable plastics. Carbon emissions are minimal in the production of biodegradable plastics, but there is a risk of contamination when they are recycled.

•**Less material or reduce waste** - techniques such as **nesting** can help to reduce waste, but it may not be possible to reduce or substitute materials and create a similar standard product

Word Bank

Material properties Aesthetics Measurements Template Product Analysis Recycling Selecting Refinement Surface Treatments

Belt Sander

Metal File

Tenon Saw

# Environmental Issues

## Seasonal produce

**Seasonality** of **food** refers to the times of year when the harvest or the flavour of a given type **food** is at its peak. This is usually the time when the item is the cheapest and the freshest on the market. The **food's** peak harvest time usually coincides with when its flavour is at its best.

## Advantages of local, seasonal foods foods

- Often cheaper as it is not imported and there is a larger quantity of the food available
- Fresher as it has taken less time to travel and less storage time.
- High in nutrients – fruit and vegetables lose nutrients over time after being picked. With less travel and storage time, they lose less nutrients.
- Tastes better as it is fresher and higher in nutrients.

## Disadvantages of local, seasonal foods

- There is a smaller range of foods available
- Not importing foods means not supporting farmers in developing countries.

## Advantages of importing foods

- A wide range of foods are available in our shops all year round e.g. strawberries at Christmas.
- Less energy is used growing certain crops in poorer countries as there is no need for heating glasshouses etc. (less damage to the environment)

## Disadvantages of importing foods

- Its harder to monitor food production standard and conditions for workers in countries far away.
- Taxes on imported foods means farmers in developing countries don't always receive a fair price for their foods.
- Food that has travelled a long distance is less fresh by the time it reaches the shelves
- People do not buy local produce as much so local UK farmers don't make as much money
- Increased road traffic as more food is being transported around the holiday
- There is increased used of fuel for the road transport plus the carbon dioxide emissions related
- The amount of food flown into the UK increases each year which means the UK is not self-sufficient
- Pressure to expand food production has led to the destruction of environments in some poorer countries
- Over 60% of household waste is a result of food packaging
- Fresh spinach looses over 90% of its vitamin C in the first 24 hours of harvest

## Examples of imported foods

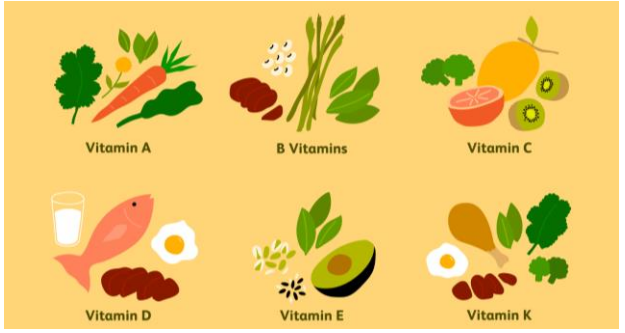
Pineapple, mango, tomatoes, celery, potatoes, bananas, nuts, sugar, chicken, lamb, beef, fish, oil, cocoa beans, grapes, tea, coffee, rice, soya bean, herbs, spices, olives, capers, avocado, cauliflower, broccoli

| Key word | Definition |
|---|---|
| Seasonal ingredients | Foods that are available at certain times of the year, e.g. British-grown asparagus is only available in May, June. |
| Sustainable | A sustainable process or material is one that can be used without causing permanent damage to the environment or using up finite resources. |
| Food Miles | The distance a food product travels from where it's produced or grown to where it's sold/ |
| Organic foods | A more natural method of farming e.g. growing crops without artificial pesticides and fertilisers. |
| Locally sourced foods | Items that have been purchased nearby from a farmer, fishmonger or any other fresh produce creator. |
| Food Waste | Food loss and waste is food that is not eaten. Overall, around 1/3 of the worlds food is thrown away. |

# Micronutrients

| | What are they? | Which vitamins? | Food examples… |
|---|---|---|---|
| Water soluble vitamins | Vitamins that are found in the watery parts of fruits, vegetables and grains. We wee them out eat day so it is important to eat them daily. | B1, B2, B3. B9. B12, Vitamin C | Bread, pasta, rice, peas, cheese, leafy green, wheat, nuts, fish, citrus fruits, potatoes |
| Fat soluble vitamins | Vitamins that are found in fatty foods. Any that aren't used are stored by the body so we need to be careful not to build up an excess of these vitamins. | A, D, E, K | Oily fish, eggs, margarine, sunlight, cereals, vegetable oils, meats, some dairy foods. |

**Antioxidants** are found in foods such as fruit and vegetables, they help protect our bodies from being damaged by free radicals.
**Free radicals** are chemicals that we encounter every day of our lives. They damage our bodies cells leading to diseases such as cancer and heart disease.
**Vitamins A, C and E are anti-oxidants.**





| | Function | Sources | Deficiency |
|---|---|---|---|
| Iron | Iron is important in making red blood cells, which carry oxygen around the body | Dark green leafy vegetables e.g. spinach, meat. | A lack of iron can lead to iron deficiency anaemia. This can cause tiredness, pale complexion, heart palpitations, headaches. |
| Calcium | Needed for strong bones and teeth, healthy nerves and muscles and blood clotting – growing children need calcium every day to help build strong bones and teeth. | Milk, cheese, tofu, green leafy vegetables, hard water, sesame seeds. | Too little during childhood can cause rickets, osteoporosis because bones become weaker. It can also slow down blood clotting. |

# Carrot Cake

Ingredients

75g margarine

1 carrot

100g sugar

1 large egg

100g plain flour

½ tsp. Mixed Spice

Nuts, raisins or chocolate are all great extras you can add too ☺

Equipment

Grater, measuring scales, mixing bowl, wooden spoon, sieve, sauce pan, jug, fork

Skills

Grating, melting, mixing, weighing

baking

Method

1. Heat the oven to 180degrees.
2. Grate the carrot into the bowl. Weigh out the sugar and add to the carrot.
3. Melt the margarine on the hob in a sauce pan and add to the carrots and sugar. Mix well.
4. Sift in the flour, mixed spice and baking powder.
5. Beat the eggs in a jug, and then add to the mixture.
6. Mix until all the ingredients are combined.
7. Transfer the mixture to a small tin or muffin cases (makes about 6 large muffins).
8. Bake for 15-20 minutes.

You are welcome to make any cake or tray bake of your choice but it must include fruit.

# Build your own Kebab

Ingredient choices:

Protein
Chicken
Beef
Lamb
Pork
Haloumi
Tofu

Carbohydrates
Pasta
Couscous
Rice
Bulgar Wheat
Quinoa

Vegetables (pick 3)
Mushrooms
Cherry Tomatoes
Onion
Courgette
Pepper

Marinade of your choice (we will also provide a range of marinades).

Equipment
Chopping board, knife, baking tray, baking paper, saucepan.

Skills
Developing and adapting a recipe, chopping, roasting, seasoning, boiling.

Method

1. Preparing the protein and the vegetables and marinating. These will be put onto skewers and roasted and served with your choice of carbohydrate.

You are welcome to adapt this recipe. You can also prepare a salad of your choice or bring in ingredients to add to your carbohydrate side. Be creative!

# Homemade chips and curry sauce

**Ingredients**

1 onion
1 garlic clove
2.5cm ginger
1 teaspoon soy sauce
100 - 200ml coconut milk
300ml water
1 tsp turmeric
2 tbsp curry powder
1 tbsp plain flour
1 stock cubes
1-2 large potatoes
Olive oil
Salt and pepper

**Equipment**

Chopping board
Knife
Frying pan
Wooden spoon
Sieve
Baking tray

Method

1. Prepare your vegetables: Cut your potato, skin on into wedges or fries, finely dice the onion, mince the garlic and ginger.

2. Put the potato wedges/fries onto a baking tray lined with baking paper. Drizzle with oil, salt and pepper and roast for 30 minutes, turning once.

3. Fry your onion, garlic and ginger  in 1 tbsp oil for 5 minutes.

4. Add the curry powder, turmeric and cook for a few more minutes.

5. Add the flour and mix. Add your stock cube and slowly add the water, constantly stirring. Then slowly add the coconut milk, constantly stirring.

6. Add 1tsp sugar and soy sauce, mix thoroughly.

7. Sieve your sauce before serving with your wedges/chips.

# Year 9 Knowledge organiser: Explore India

## Topics covered

- ✓ India facts/what we know
- ✓ India physical geography
- ✓ India human geography
- ✓ Climate and Monsoon
- ✓ Tourism in India
- ✓ India's changing population
- ✓ Development within India
- ✓ Welcome to Dharavi
- ✓ India and its environment
- ✓ Future India
- ✓ India Report

## Key Ideas:

1. I can describe the location of India and its unique character.
2. I can describe the physical landscape variety of India
3. I describe how cities of India have grown and their impacts
4. I can explain how development is changing India and its environment

## Skills

- ❑ To research amazing facts using ICT
- ❑ To use mapping to investigate features
- ❑ To understand different cultures and ways of living
- ❑ To draw/label line graphs
- ❑ To write an extended written account
- ❑ To use ICT to research information

## Places and Environments

- ❖ Ganges River
- ❖ Kashmir
- ❖ New Delhi
- ❖ Mumbai
- ❖ Goa
- ❖ Ghats
- ❖ Brahmaputra
- ❖ Kerala
- ❖ Thar Desert

## Key Terms Used in this Unit

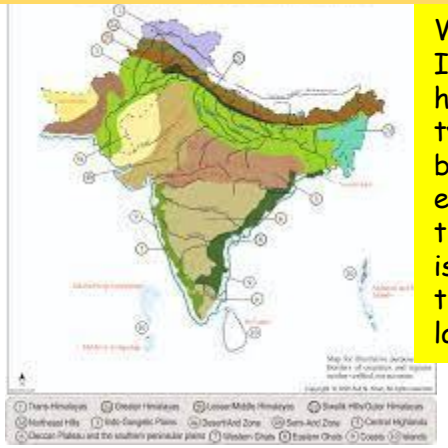
- States
- Colonialism
- Monsoon
- Hinduism
- Independence
- Bollywood
- Population
- Investment
- Aid
- Slums
- Disputes
- Resources
- Poverty
- Pollution
- Economic growth
- Standard of Living
- Exports
- Technology
- Space Race

# Year 9 Knowledge organiser: Explore India


India is located in the south of Asia - it is sometimes still referred to as the Indian 'sub-continent'

Can you name and locate the surrounding Countries? Try to produce a labelled map Or even a 'mind-map' to show these.

India is a vast land mass that contains several different biomes



Why does India have most types of biome even though it is a more tropical latitude?

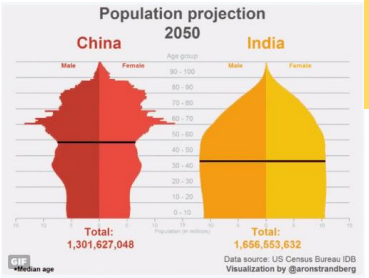
The monsoon in India is an annual event and a major feature of the climate in most areas


How does a monsoon affect peoples lives in India?

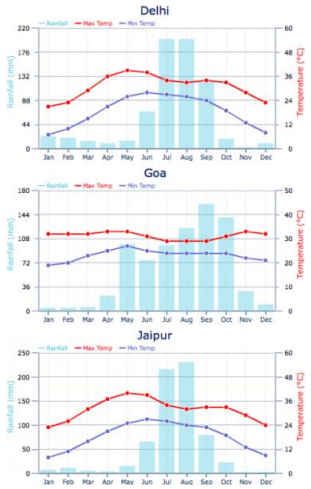
Indian culture is diverse and includes many different ethnic groups, religions and languages

What will India's population pyramid be like in the future?

India's population is changing as the country becomes more developed




India's climate is mostly tropical but varies in different regions.

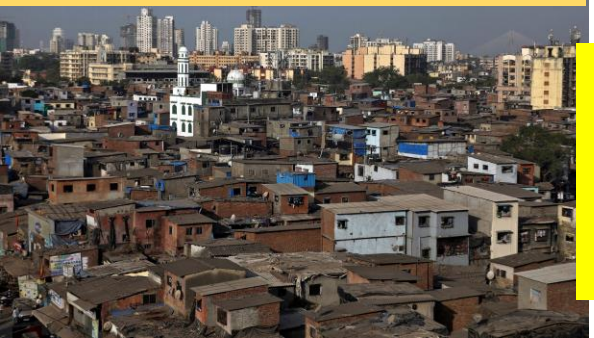



How does a monsoon climate compare to the UK?

The growing technology sector in India is centred around Bangalore

Why might India be the next 'China'?

India's cities have grown rapidly since 1950. Here vast densely populated slums can be seen.



What are the challenges that densely populated cities might have to deal with in India?


Aid organsiations work in many areas of India to install water sanitation

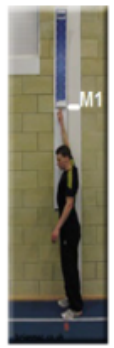
# COMPONENT OF FITNESS - POWER

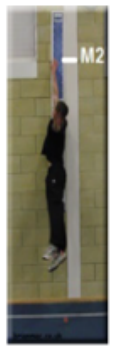
Power is the ability to exert maximum muscular contraction instantly in an explosive burst of movements.

The two components of power are strength and speed. (e.g. jumping or a sprint start)

## HOW TO MEASURE:

You can measure **POWER** using the vertical jump test.




To conduct this test, you will require:

- Wall
- Tape measure
- Step Ladder
- Chalk
- Assistant

- The athlete chalks the end of their fingertips.
- The athlete stands side onto the wall, keeping both feet remaining on the ground, reaches up as high as possible with one hand and marks the wall with the tips of the fingers.
- From a static position, the athlete jumps as high as possible and marks the wall with the chalk on his fingers.
- The assistant measures and records the distance between M1 and M2
- The athlete repeats the test 3 times.

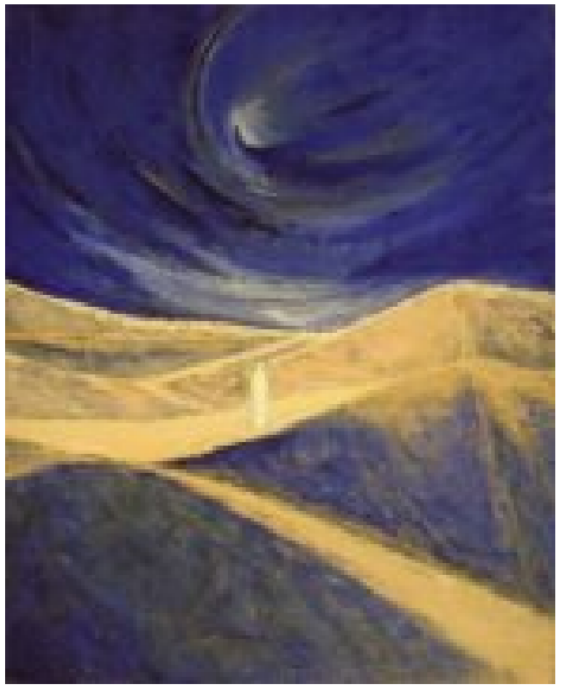
Something to think about….

Does our behaviour really matter? In JK Rowling's book: Harry Potter and the Goblet of Fire, Albus Dumbledore says **"We must all face the choice between what is right and what is easy."**

Lent offers Christians a time to reflect on their behaviour and the choices they have made for example if they have been selfish or if they have taken time to think of others. It is a time to prepare, and rethink. A time to seek reconciliation, a renewal of faith and a new direction. Lent enables Christians re-evaluate their conduct and relationships in all aspects of their life and to look at the direction life is leading them.

**Jesus is tested in the wilderness**: Matthew 4: 1-11 New Revised Standard Version

*Jesus in the Desert: Macha Chmakoff*



4 Then Jesus was led by the Spirit into the wilderness to be
tempted[a] by the devil. 2 After fasting for forty days and forty
nights, he was hungry. 3 The tempter came to him and said, 'If
you are the Son of God, tell these stones to become bread.'
4 Jesus answered, 'It is written: "Man shall not live on bread
alone, but on every word that comes from the mouth of
God."'[b] 5 Then the devil took him to the holy city and set him
on the highest point of the temple. 6 'If you are the Son of God,'
he said, 'throw yourself down.

For it is written: "'He will command his angels concerning you,
and they will lift you up in their hands,
so that you will not strike your foot against a stone."'[c]

7 Jesus answered him, 'It is also written: "Do not put the Lord
your God to the test."'[d] 8 Again, the devil took him to a very
high mountain and showed him all the kingdoms of the world
and their splendour. 9 'All this I will give you,' he said, 'if you will
bow down and worship me.' 10 Jesus said to him, 'Away from
me, Satan! For it is written: "Worship the Lord your God, and serve him only."'[e] 11 Then the devil left him,
and angels came and attended him.

Lent is a key Christian festival where people reflect on their lives. Jesus was tested in the wilderness. People often set themselves challenges ahead of Holy Week culminating in Easter Sunday. They try to be kinder or give something up.

The film Hail Caesar! follows a day in the life of Eddie Mannix, a Hollywood fixer for Capitol Pictures in the 1950s, who cleans up and solves problems for big names and stars in the industry. At times Eddie's life is filled with the dilemma of making the right choices and decisions:

https://www.youtube.com/watch?v=UILLd-uBMk4

Reflect/think about a time: In the clip the Eddie has gone to talk through things with a priest, his lifestyle choices and behaviour.

Why do you think Eddie felt the need to talks things through?

What impact had Eddies choices had on him?

When Eddie talks about a decision he has to make, the Priest talks about the inner voice and listen to the voice until you hear what is right.

Have you ever had an experience like Eddie's?

**EXPERIENCES that can help us ENCOUNTER:**

How might choices and random acts of kindness and generosity help us grow?
Watch this video clip from the film the Fight Within and hear how a chance decision to act generously to a stranger, leads to an unexpected exploration about making decisions and choices.

https://www.youtube.com/watch?v=fOzp6IplsNY

What do you think prompted the man to buy and share pizza? What other things were shared other than pizza? Who benefitted from the encounter?

In the Christian tradition the word stone or rock has many symbolic meanings. The word stone and rock are used over 400 times in the bible and signify strength, steadiness, protection and durability. 'So I will call you Peter, which means "a rock." On this rock I will build my church, and death itself will not have any power over it.' (Matthew 16:18) Peter had followed Jesus but he had not always behaved well or made good choices in his life. However, Peter was the first to recognise Jesus as the Messiah. Jesus knew that Peter would go onto betray him but did not give up on Peter. He could see how in the future, he could trust Peter and how Peter would ensure that the message of salvation for God's people would spread across the world. Read the account (Matthew 19:13-18)

Draw a stone and cut it out or find a small stone from the garden wash and dry it and use an indelible Sharpie) or glitter glue pen. Think about all the good habits, actions and behaviours you want to develop or improve e.g. kindness, selflessness, faithful generosity etc. Then place your 'stone'/'rock' somewhere in your room where you will see it every morning and evening as a reminder of your intention.

# Multi-disciplinary learning. Key Stage 3.

## What is a Fake News?

Some people believe in things that other people do not. Here are a couple of examples for which there is little evidence.

Bigfoot lives in the Northwest Pacific area of North America

There is a Plesiosaur (The Loch Ness Monster) living Loch Ness in Scotland

However, some people then believe that other people are covering it all up. This can lead to some surprising places.

Activity 1: If there was Bigfoot or a Plesiosaur as shown above then how difficult would it be to keep it a secret? Look up how big Lock Ness is and how many people visit it every year.

Activity 2: Think about these questions / discuss them in a video chat with friends: What happens to you when you believe that the entire sections of society are keeping secrets? How could all scientists or the entire government keep a secret? How difficult would it be for 1000s of people to keep a secret? Why do film makers like conspiracy theories for their movies?

Activity 3: Listen to this radio programme. It is available on BBC Sounds. https://www.bbc.co.uk/sounds/play/m000dfqn

How many conspiracy theories are mentioned? Which ones have you heard about?

Activity 4: Mr Ford once, for a joke spread the rumour that the canteen at his college was serving Weetabix that were so cheap, the box they came in had more nutritional value as at least it contained roughage in the cardboard box. he got into a lot of trouble and had to write an apology to be displayed at the college canteen till. Write a letter for Mr Ford, to try to explain that he now understands how serious disinformation can be, highlighting what might have gone wrong.

Activity 5: Craft a conspiracy theory about Mr Ford. Email him with it. How would you get people to believe it? How far could you stretch it? How could you stop it once people started believing it – even if it was you who made it up?

For those of you with access to Disney watch Lion Guard "Beware of the Zimwi" episode. How can belief cause panic?

Activity 6: Find out how anti-vaccination conspiracy theory has killed people.

https://www.iflscience.com/health-and-medicine/one-map-sums-damage-caused-anti-vaccination-movement/

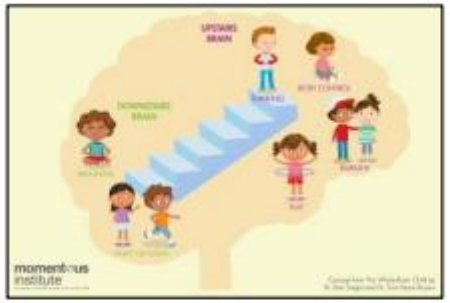
Activity 7: Challenge activity. Research one of the more popular myths and present a clear and referenced case to debunk it.

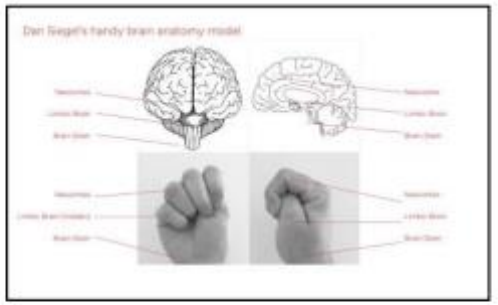
https://www.osce.org/odihr/441101?download=true

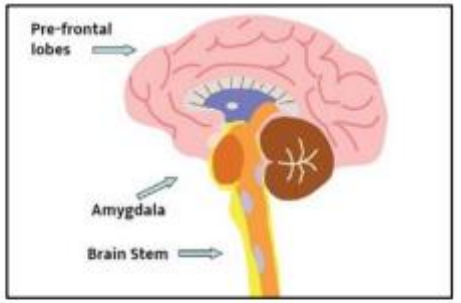
# KS3 Knowledge Organiser - Understanding and Training our Brain

## BRAIN STRUCTURE

*Be able to use the hand model and the upstairs/downstairs model to explain the brain.*
*Know the term amygdala.*

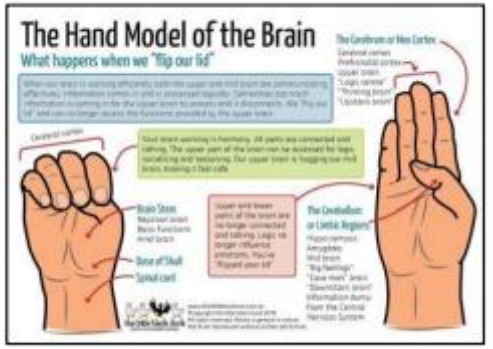





## WHEN OUR BODY PERCEIVES A THREAT

1. The amygdala floods our body with the hormones adrenaline and cortisol
2. This prompts us to either FIGHT, FLIGHT or FREEZE
3. Our heart rate and blood pressure increase
4. Our skin pales or flushes
5. Our ability to feel pain decreases
6. Our pupils dilate
7. Our memory might be affected
8. We might be trembling
9. Sometimes people lose control of their bladder!



## WHERE TO SEEK SUPPORT IF YOU NEED IT

- Shelf help books in the library or public library
- Parent or other adult at home
- Friends
- Older student
- Tutor or achievement leader
- Learning mentor
- Wellbeing team (Miss Neal, Mrs Freds, Mrs Dobell, Mrs Crissall, Mrs Horne)
- Mrs Whitcombe or another member of the leadership team
- School nurse drop in
- School nurse referral
- Kooth
- Emotional wellbeing hub
- Dr Hope
- Samaritans

## HOW TO HELP YOUR BRAIN LEARN

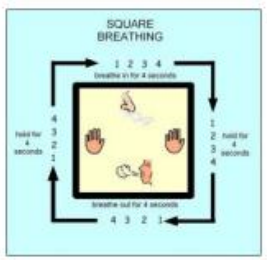
1. Challenge your brain
2. Be curious and imaginative
3. Deal with stress or anxiety first
4. Drink plenty of water
5. Eat a healthy diet
6. Get enough sleep
7. Take plenty of physical exercise
8. Break your learning into chunks
9. Take brain breaks regularly

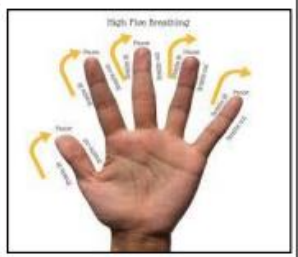
## FIVE WAYS TO WELLBEING

*Know the five; know what they mean; give examples*


## BREATHING

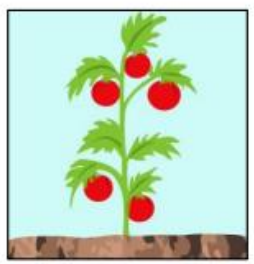
**4, 5, 6 breathing**
Breathe in for 4, hold for 5, breathe out for 6. Repeat as long as you need to.



## WHAT TO DO WHEN YOU WORRY TOO MUCH

- Stop your worries growing by paying less attention to them
- Fight your thoughts with logical answers
- Use planned worry time
- Imagine and deal with a worry monster
- Re-set your system with exercise
- Re-set your system with relaxation techniques



## GROUNDING

iPhone users

# Keeping everybody safe at open academy

Android users

We aim to keep everyone in our community safe. If you feel worried about yourself or someone else, please **speak to someone you trust as soon as you can**. Please find your trusted or an emotionally available adult in the academy who will be there to listen and support you. Our Designated Safeguarding Leads (DSL) are **Mr Davis, Mrs Milroy, Mr Ford, Mr Ward, Miss Wenlock, Mr Fisher, Mr Richardson, Mrs Molloy, Mrs Clayton and Mrs Hewitt-Coleman.**

What is abuse in safeguarding concerns?

**Physical Abuse** - Physical abuse is any way of intentionally causing physical harm to a person or purpose. This could result in injuries such as in bruises, broken bones, burns or scalds or bite marks.

**Emotional Abuse** - Emotional abuse is any type of abuse that involves the continual emotional mistreatment of a person. It's sometimes called psychological abuse. Emotional abuse can involve deliberately trying to scare, humiliate, isolate or ignore and stopping you from seeing friends or family.

**Sexual Abuse** - When a child or young person is sexually abused, they're forced or tricked into sexual activities without permission. This include being forced to look at images or videos. Sexual abuse can happen anywhere – and it can happen in person or online.

**Neglect** - Neglect can be a lot of different things. It is when you do not get enough help or care from someone who should be looking after you. This could include having a lack of food, clothing and attention and medical care.

**Bullying** is behaviour that hurts someone else. It includes name calling, hitting, pushing, spreading rumours, threatening or undermining someone. It can happen anywhere – at school, at home or online. Online bullying is called Cyber-bullying. It's usually repeated over a long period of time and can hurt a child both physically and emotionally.

**County Lines** is the police term for urban gangs exploiting young people into moving drugs from a hub, normally a large city, into other markets - suburban areas and market and coastal towns - using dedicated mobile phone lines or "deal lines". Children as young as 12 years old have been exploited into carrying drugs for gangs. This can involve children being trafficked away from their home area, staying in accommodation and selling and manufacturing drugs.

Someone who starts to believe in or supports extreme views linked to terrorism and forms of extremism leading to terrorism is linked to **Radicalisation**. Extremism can also be linked to this as extreme views, vocal or active opposition to fundamental British values, including democracy, the rule of law, mutual respect and tolerance of different faiths and beliefs.

**Where do I go for help and advice?**

Speak to any available adult in school. This could include your Head of Year, Mr Davis, Mrs Milroy, Mr Richardson or Mr Ford. Advice can be found by scanning the QR codes at the top.

**If you feel you need support or see or hear something that concerns you, report it!**
**We are here to help.**

Links to advice

| Childline – 0800 1111 | Advice on mental health. | Staying safe online | Advice on LGBT+ issues | Advice for young people |
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| www.childline.org.uk | www.youngminds.org.uk | www.childnet.com | www.theproudtrust.org | www.themix.org.uk |