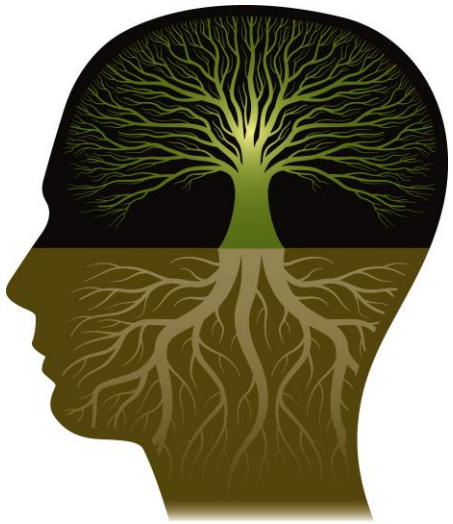


Knowledge Organisers

Year 9

Autumn Term

Name: _____

Instructions for how to use your Knowledge Organiser

After school, every day, you should learn knowledge from **TWO** subjects on your knowledge organiser each night. Your class teacher may set you specific tasks on Satchel One, linked to the knowledge that you will be expected to learn. The timetable below tells you which subjects you should focus on each night. It doesn't matter if you don't have that particular subject on that day, just follow the timetable for your home learning. You should spend **half an hour** on each subject. You may use your purple homework book to complete tasks neatly.

TIMETABLE OF SUBJECTS

Monday: English and Geography
Tuesday: Science and Art / DT / Food
Wednesday: Maths and History
Thursday: RE and Computer Science
Friday: MFL and Music / Drama

Reading at home

There is also an expectation that you should read a book of your choice for 30 minutes everyday. This should be signed off in your planner by a parent.

Take pride in your work!

- Each night, write the date and title and underline it neatly with a ruler.
- Label it Subject 1 and then rule off after the self-testing is completed. Then Subject 2 and self-test.
- Use a black or blue pen for your self-testing.
- These notes will then form your revision when you prepare for assessments, so you need to be able to read them!

How to learn knowledge from my knowledge organiser:

- Look at the work, cover it over, write it out again and check it.
- Look. Cover. Write. Check.
- Ask someone to test you and ask you questions about the topic
- Create mind maps on the topic
- Create flashcards on the topic
- Try writing out the key words or new vocabulary into new sentences
- Create a mnemonic
- Draw a diagram of the process
- Read further around the subject

English Year 9 Autumn Term: Frankenstein by Mary Shelley

Mary Shelley:

Shelley published her most famous novel *Frankenstein* in 1818 when she was just twenty years old. She generated the idea for the novel on a summer trip to Lake Geneva in Switzerland with her husband (also a very famous Romantic writer) Percy Bysshe Shelley and their friends. Amongst this group was another famous writer, Lord Byron, who suggested they have a competition to see who could write the best ghost story. The story of *Frankenstein* then came to her in a nightmare.

Context:

Shelley wrote Frankenstein during an age where scientific advances were exploding rapidly; throughout the 19th century as a whole, science was a point of avid intrigue. For example the discovery of such concepts as electricity had the power to effectively shake the foundations of previously established constructs and truths about the natural world.

Luigi Galvani was an Italian physician, physicist, biologist and philosopher who, in 1780, discovered that the muscles of dead frog's legs twitched when struck by an electrical spark. In 1803, his nephew, Giovanni Aldini, followed in his uncle's footsteps and experimented on the corpse of executed criminal George Forster by adding electrical current to his body and watched the muscles move.

Another consequence of this interest in science was the act of body snatching; William Burke and William Hare are infamous for their role in this. Selling the bodies to scientists, Burke and Hare originally began grave robbing, digging up fresh corpses from the ground. But when they realised that they could earn significant money, chose to murder innocent people and sell their bodies to anatomists.

The subtitle of Frankenstein is 'The Modern Prometheus'. Prometheus is a figure from Greek mythology who is known for shaping man out of clay and going against the order by stealing fire for man and teaching them the skill of metalwork. Consequently, his ambitions left him punished when Zeus ensured that everyday an eagle ate the liver of Prometheus who was helplessly chained to a rock.

Glossary:

Revenge – seeking to harm someone in return for harm suffered at their hands

Epistolary – a text written in the form of letters

Grotesque – repulsively ugly; disfigured; distorted

Creator – a person that brings something into existence

Charnel house – a building in which corpses or bones are piled

Benevolence – the quality of being moral and kind; "all good

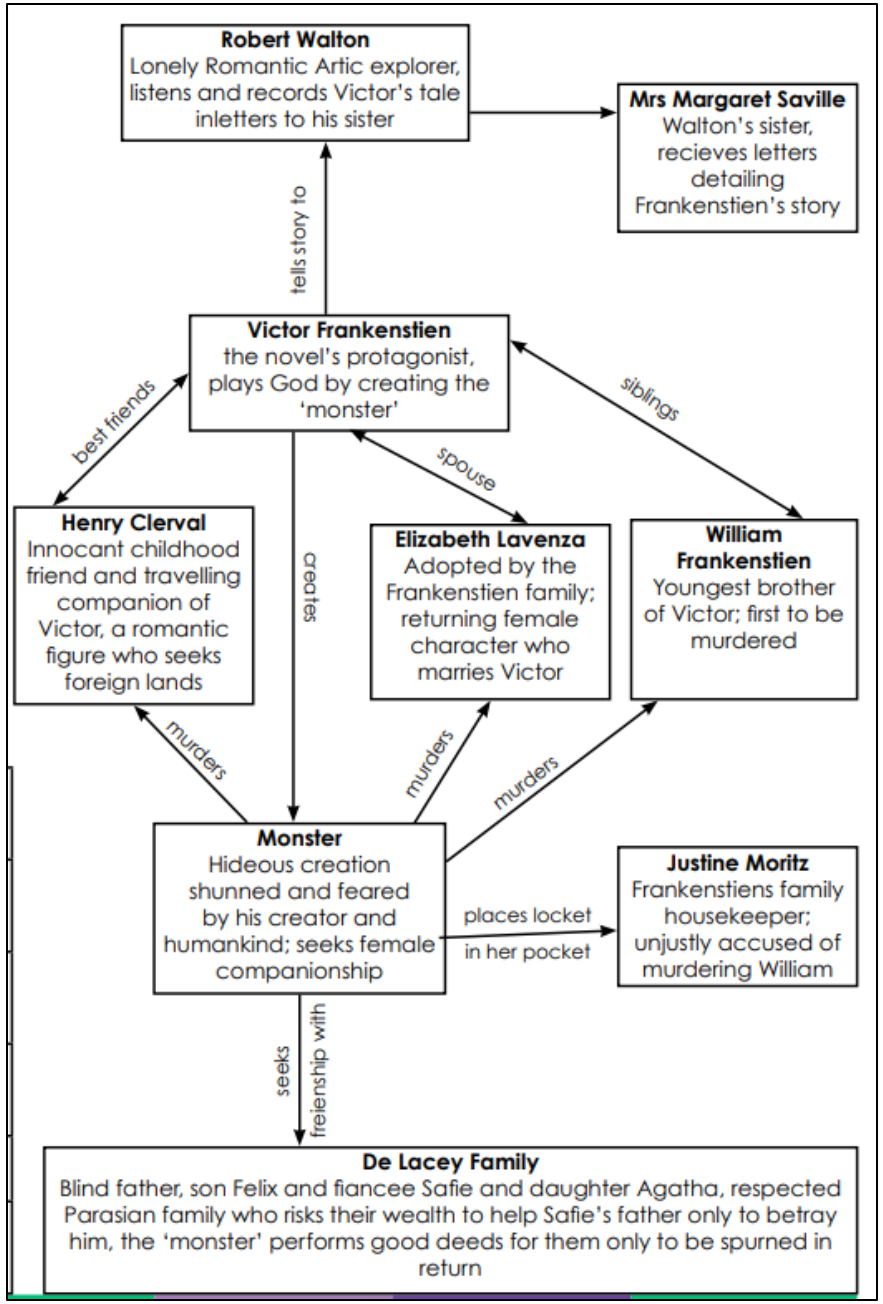
Sublime – of great beauty; perfection; magnificent

Chimera – a thing that is hoped for but is illusory, fundamentally impossible to achieve

Frame narrative – a story in which another story is embedded

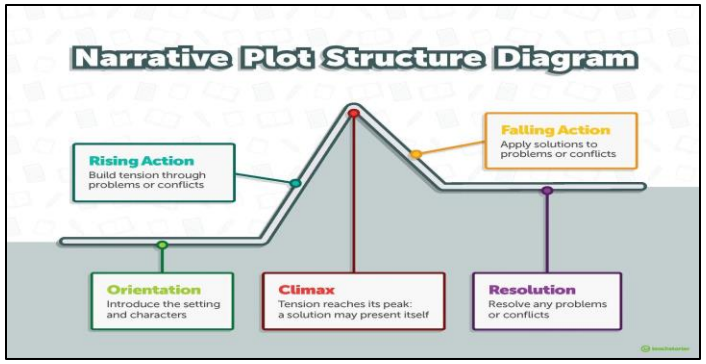
Nature vs Nurture – the debate which discusses to what extent our biology or our environment determine our character.

Obsession/addiction	Family/love	Death
Science vs Nature	Nature vs Nurture	Innocence vs guilt



English Year 9 Autumn Term 2 Writing an epistolary narrative

Gothic genre: Haunted houses, shadowy corridors, windswept moors, supernatural suspicions and the beast within. Gothic fiction is rooted in blending the old with the new, hence its undeniable popularity in the 19th century. The strange pairing of ancient settings and modern science create a bizarre and uncanny uneasiness in the reader.



Epistolary: a literary work in the form of letters

Narrative perspective: whose point of view the narrative is being told from and the way they tell the story.

Tone: reflects the speaker's attitudes towards the subject matter.

Register: level of formality of language

Characterisation: a description of the distinctive nature of a character, helping the reader to understand that character.

Model extract from *Frankenstein* by Mary Shelley – The Creature's Narrative

'Frankenstein! you belong then to my enemy—to him towards whom I have sworn eternal revenge; you shall be my first victim.'

The child still struggled and loaded me with epithets which carried despair to my heart; I grasped his throat to silence him, and in a moment he lay dead at my feet. I gazed on my victim, and my heart swelled with exultation and hellish triumph; clapping my hands, I exclaimed, 'I too can create desolation; my enemy is not invulnerable; this death will carry despair to him, and a thousand other miseries shall torment and destroy him.'

As I fixed my eyes on the child, I saw something glittering on his breast. I took it; it was a portrait of a most lovely woman. In spite of my malignity, it softened and attracted me. For a few moments I gazed with delight on her dark eyes, fringed by deep lashes, and her lovely lips; but presently my rage returned; I remembered that I was forever deprived of the delights that such beautiful creatures could bestow and that she whose resemblance I contemplated would, in regarding me, have changed that air of divine benignity to one expressive of disgust and affright.

Can you wonder that such thoughts transported me with rage? I only wonder that at that moment, instead of venting my sensations in exclamations and agony, I did not rush among mankind and perish in the attempt to destroy them.

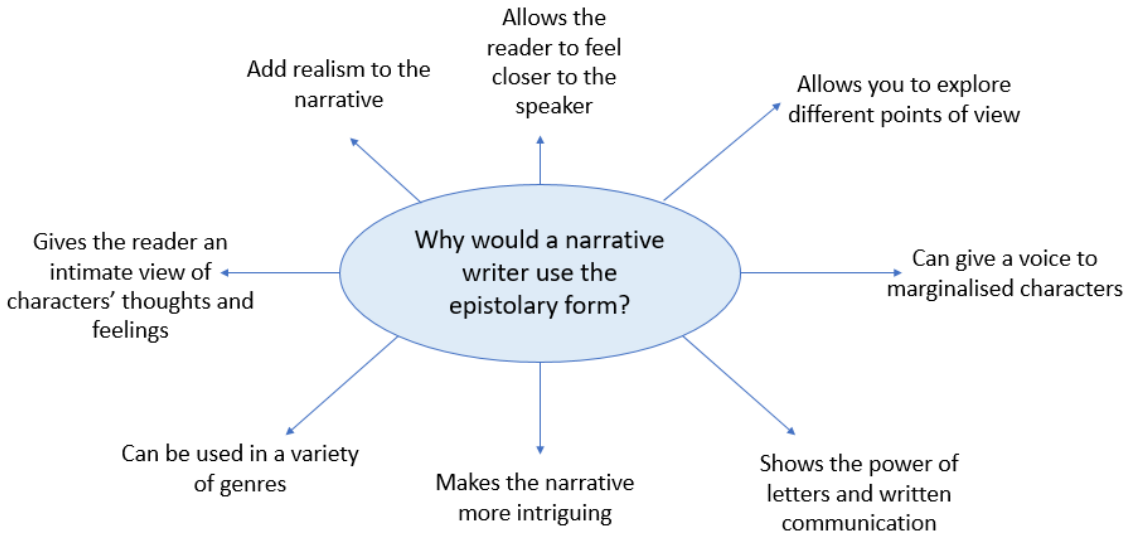
While I was overcome by these feelings, I left the spot where I had committed the murder, and seeking a more secluded hiding-place, I entered a barn which had appeared to me to be empty. A woman was sleeping on some straw; she was young, not indeed so beautiful as her whose portrait I held, but of an agreeable aspect and blooming in the loveliness of youth and health. Here, I thought, is one of those whose joy-imparting smiles are bestowed on all but me. And then I bent over her and whispered, 'Awake, fairest, thy lover is near—he who would give his life but to obtain one look of affection from thine eyes; my beloved, awake!'

TASK:

Inspired by the writing style of Mary Shelley, write an epistolary narrative from the perspective of "the monster".

Success criteria:

- ❑ Establish a distinct narrative voice
- ❑ Use the epistolary form
- ❑ Utilise gothic tropes and conventions
- ❑ Include a range of figurative language devices (simile, metaphor, personification etc)
- ❑ Use ambitious vocabulary
- ❑ Use a range of punctuation ? ! ; : - () "



Maths Year 9 Autumn Term 1: Number

Glossary

- Estimation
- Factors, Multiples and Primes
- Indices
- Standard Form
- Surds

Surds are irrational numbers that cannot be simplified to an integer from a root.

Examples of a surd:
$\sqrt{3}, \sqrt{5}, 2\sqrt{6}$

Simplify:

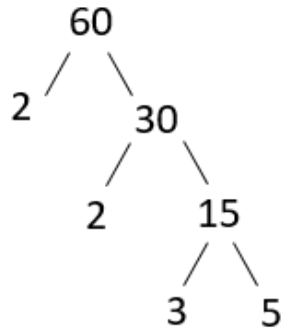
$$4\sqrt{20} \times 2\sqrt{3} = 8\sqrt{20 \times 3}$$
$$= 8\sqrt{60}$$
$$= 8\sqrt{4}\sqrt{15}$$
$$= 16\sqrt{15}$$

Key words

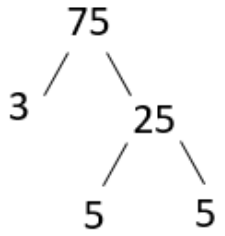
Integer, number, digit, negative, decimal, addition, subtraction, multiplication, division, remainder, operation, estimate, power, roots, factor, multiple, primes, square, cube, even, odd, surd, rational, irrational standard form, simplify

Examples

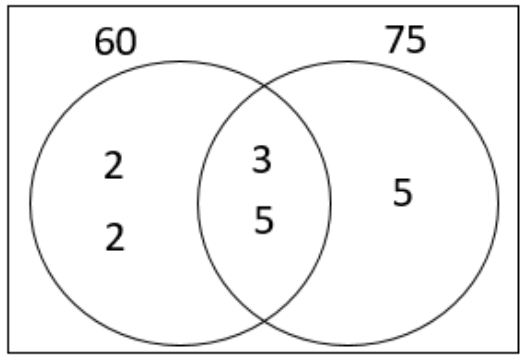
Find the **highest common factor** and **lowest common multiple** of 60 and 75:



$2 \times 2 \times 3 \times 5$
$2^2 \times 3 \times 5$

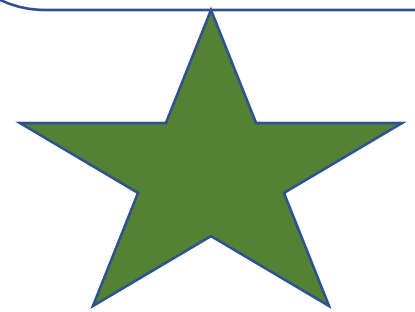


$3 \times 5 \times 5$
3×5^2



HCF – Mulitiply all numbers in the intersection
$= 3 \times 5 = 15$

LCM – Multiply all numbers in the Venn diagram
$= 2 \times 2 \times 3 \times 5 \times 5 = 300$



Maths Year 9 Autumn Term 1: Number

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Key Concepts

$a^m \times a^n = a^{m+n}$

$a^m \div a^n = a^{m-n}$

$(a^m)^n = a^{mn}$

$a^{-m} = \frac{1}{a^m}$

$a^{\frac{m}{n}} = \sqrt[n]{a^m}$

$a^{-\frac{m}{n}} = \frac{1}{\sqrt[n]{a^m}}$

Examples

Simplify each of the following:

1) $a^6 \times a^4 = a^{6+4}$
$= a^{10}$

2) $a^6 \div a^4 = a^{6-4}$
$= a^2$

3) $(a^6)^4 = a^{6\times4}$
$= a^{24}$

4) $(3a^4)^3 = 3^3a^{4\times3}$
$= 27a^{12}$

5) $a^{-3} = \frac{1}{a^3}$

6) $2a^{-4} = \frac{2}{a^4}$

7) $a^{\frac{1}{2}} = \sqrt[2]{a^1} = \sqrt{a}$

8) $a^{-\frac{1}{2}} = \frac{1}{a^{\frac{1}{2}}} = \frac{1}{\sqrt{a}}$

9) $\left(\frac{25}{16}\right)^{-\frac{1}{2}} = \left(\frac{16}{25}\right)^{\frac{1}{2}}$
$= \sqrt{\frac{16}{25}}$
$= \frac{4}{5}$

Mathswatch Videos

- Estimation 91
- Factors, Multiples and Primes 28
- Indices 29/82/154/188
- Standard Form
- Surds 207a/207b/207c

Key Concepts

We use standard form to write a very large or a very small number in scientific form.

Must be $\times 10$
b is an integer

$a \times 10^b$

Must be $1 \leq a < 10$

Examples

Write the following in **standard form**:

1) 3000 = 3×10^3

2) 4580000 = 4.58×10^6

3) 0.0006 = 6×10^{-4}

4) 0.00845 = 8.45×10^{-3}

Calculate the following, write your answer in **standard form**:

1) $(3 \times 10^3) \times (5 \times 10^2)$

$3 \times 5 = 15$
$10^3 \times 10^2 = 10^5$
15×10^5
$= 1.5 \times 10^6$

2) $(8 \times 10^7) \div (16 \times 10^3)$

$8 \div 16 = 0.5$
$10^7 \div 10^3 = 10^4$
0.5×10^4
$= 5 \times 10^3$

Maths Year 9 Autumn Term 2: Simplifying Expressions and Substitution

Key Concepts

When collecting like terms involving addition or subtraction, add/subtract the numbers in front of the letters.

If the like terms are multiplied, multiply the numbers in front of the letters and put the letters next to each other.

If the like terms are divided, divide the numbers in front of the letters.

Examples

Simplify the following expressions:

1) $4p + 6t + p - 2t = 5p + 4t$
2) $3 + 2t + p - t + 2 = 5 + t + p$
3) $f + 3g - 4f = 3g - 3g$
4) $f^2 + 4f^2 - 2f^2 = 3f^2$
5) **$6a \times 3b \times 2c = 36abc$**
6) $\frac{9b}{3} = 3b$
7) $C = \frac{5(F-32)}{9}$ is a formula (involves more than on letter and includes an equal sign)

5) Find the value of $3x + 2$ when $x = 5$

$(3 \times 5) + 2 = 17$

6) Where $A = b^2 + c$, find A when b = 2 and c = 3

$A = 2^2 + 3$

$A = 4 + 3$

$A = 7$

Mathswatch clips

A6, 95

Key Words

Simplify
Term
Collect
Formulae
Substitution

Questions

Simplify:

1) $7p + 3q + p - 3q$
2) $5 + 4t + 3p - 2t + 7$
3) $m - 8g - 5m$
4) $b^2 - 7b^2 + 2b^2$
5) $2a \times 5b \times 4c$
6) $8m \times 3n \times 2m$
7) $\frac{36p}{12}$
8) $\frac{6t}{18}$
9) Find the value of $5x - 7$ when $x = 3$
10) Where $A = d^2 + e$, find A when d = 5 and e = 2

5) 40abc 6) $48m^2n$ 7) 3p 8) $\frac{t}{3}$ 9) 8
10) A = 27

Maths Year 9 Autumn Term 2: Expand and factorise

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Key Concepts

Expanding brackets
Single: Where each term inside the bracket is multiplied by the term on the outside of the bracket.
Double: Where each term in the first bracket is multiplied by all terms in the second bracket.

Factorising expressions
Putting an expression back into brackets. To "factorise fully" means take out the HCF.

Difference of two squares
When two brackets are repeated with the exception of a sign change. All numbers in the original expression will be square numbers.

Examples

Linear expressions

Expand and simplify where appropriate

1) $7(3 + a) = 21 + 7a$

2) $2(5 + a) + 3(2 + a) = 10 + 2a + 6 + 3a$

$5a + 16$

3) Factorise $9x + 18 = 9(x + 2)$

4) Factorise $6e^2 - 3e = 3e(2e - 1)$

Quadratic expressions

Expand and simplify:

1) $(p + 2)(2p - 1)$

$= 2p^2 + 4p - p - 2$

$= 2p^2 + 3p - 2$

2) $(p + 2)^2$

$(p + 2)(p + 2)$

$= p^2 + 2p + 2p + 4$

$= p^2 + 4p + 4$

Factorise:

3) $x^2 - 2x - 3$

$= (x - 3)(x + 1)$

Factorise and solve:

4) $x^2 + 4x - 5 = 0$

$(x - 1)(x + 5) = 0$

Therefore the solutions are:

Either $x - 1 = 0$

$x = 1$

Or $x + 5 = 0$

$x = -5$

Mathswatch clips 93, 94, 134a, 134b, 157

Key Words
Expand
Factorise
Simplify
Product
Solve

1) Expand and simplify (a) $3(2 - 7f)$ (b) $5(m - 2) + 6$ (c) $3(4 + t) + 2(5 + t)$

2) Factorise (a) $6m + 12t$ (b) $9t - 3p$ (c) $4d^2 - 2d$

3) Expand $(5g - 4)(2g + 1)$

4) (a) **Factorise** $x^2 - 8x + 15$ **(b) Factorise and solve** $x^2 + 7x + 10 = 0$

ANSWERS: 1) (a) $6 - 21f$ (b) $5m - 4$ (c) $22 + 5t$ 2) (a) $6(m + 2t)$ (b) $3(3t - p)$ (c) $2d(2d - 1)$ 3) $10g^2 - 3g - 4$ 4) (a) $(x - 3)(x - 5)$ (b) $x = -2$ or $x = -5$

Maths Year 9 Autumn Term 2: Solving Equations and Rearranging Formulae

Key Concepts

Solving equations:
Working with inverse operations to find the value of a variable.

Rearranging an equation:
Working with inverse operations to isolate a highlighted variable.

In solving and rearranging we **undo the operations** starting from the last one.

For each step in solving an equation we must do the **inverse** operation

Solve:

$12 = 3x - 18$

$+18 \quad +18$

$30 = 3x$

$\div 3 \quad \div 3$

$x = 10$

Solve:

$5(x - 3) = 20$

Expand

$5x - 15 = 20$

$+15 \quad +15$

$5x = 35$

$\div 5 \quad \div 5$

$x = 7$

Solve:

$7p - 5 = 3p + 3$

$-3p \quad -3p$

$4p - 5 = 3$

$+5 \quad +5$

$4p = 8$

$\div 2 \quad \div 2$

$p = 2$

Examples

Rearrange to make r the subject of the formulae :

$$Q = \frac{2r - 7}{3}$$

$\times 3$

$\times 3$

$$3Q = 2r - 7$$

$+7 \quad +7$

$$3Q + 7 = 2r$$

$\div 2 \quad \div 2$

$$\frac{3Q + 7}{2} = r$$

Key Words
Solve
Rearrange
Term
Inverse operation

Mathswatch clips

135a, 135b, 146

1) Solve $7(x + 2) = 35$
2) Solve $4x - 12 = 28$
3) Solve $4x - 12 = 2x + 20$

4) Rearrange to make x the subject:

$$y = \frac{3x + 4}{2}$$

ANSWERS: 1) $x = 3$ 2) $x = 10$ 3) $x = 16$ 4) $x = \frac{2y - 4}{3}$

Maths Year 9 Autumn Term 2: Forming and Solving Equations

Key Concepts

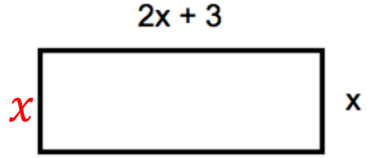
Algebra can be used to support us to find unknowns in a **contextual problem**.

We can always apply a letter to an unknown quantity, to then **set up an equation**.

It will often be used in area and perimeter problems and angle problems in geometry.

Solve to find the value of x when the perimeter is 42cm.

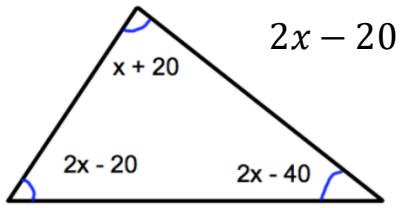
HINT: Write on all of the lengths of the sides.



We know the perimeter is 42cm

$$2x + 3 + 2x + 3 + x + x = 42$$
$$9x + 6 = 42$$
$$6x = 36$$
$$x = 6$$

Angles in a triangle sum to 180°



$$2x - 20 + x + 20 + 2x - 40 = 180$$
$$5x - 40 = 180$$
$$5x = 220$$
$$x = 45$$

Examples

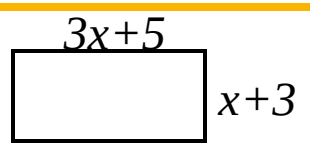
Jane is 4 years older than Tom.
David is twice as old as Jane.
The sum of their ages is 60.
Using algebra, find the age of each person.

Tom = x → 12
Jane = $x + 4$ → $12 + 4 = 16$
David = $2x + 8$ → $(2 \times 12) + 8 = 32$

$$x + x + 4 + 2x + 8 = 60$$
$$4x + 12 = 60$$
$$4x = 48$$
$$x = 12$$

Mathswatch clips 137

Key Words
Solve
Term
Inverse operation



1) If the perimeter is 40cm. What is the length of the longest side?

2) Jane is 12 years older than Jack.
Sarah is 3 years younger than Jack.
The sum of their ages is 36.
Using algebra, find the age of each person.

ANSWERS: 1) $x = 3$ therefore the longest length is 14cm 2) Jack = 9, $Jane = 21$, $Sarah = 6$

Maths Year 9 Autumn Term 2: Sequences

Key Concepts

Arithmetic or linear sequences increase or decrease by a common amount each time.

Geometric series has a common multiple between each term.

Quadratic sequences include an n^2. It has a common second difference.

Fibonacci sequences are where you add the two previous terms to find the next term.

Linear/arithmetic sequence:

-3 +3 +3 +3 +3

+1 4 7 10 13 16.....

a) State the nth term

$3n + 1$

Difference — The 0th term

b) What is the 100th term in the sequence?

$3n + 1$

$3 \times 100 + 1 = 301$

c) Is 100 in this sequence?

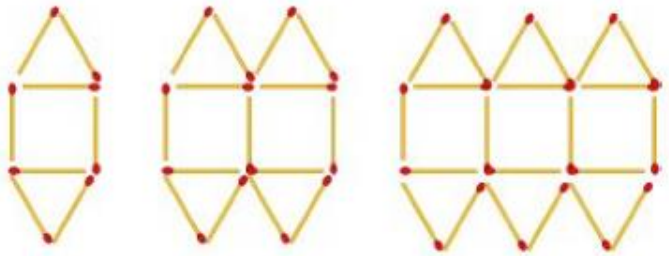
$3n + 1 = 100$

$3n = 99$

$n = 33$

Yes as 33 is an integer.

Pattern 1 Pattern 2 Pattern 3



Hint: Firstly write down the number of matchsticks in each image:

$7n + 1$

Examples

Linear sequences with a picture:

State the nth term.

Pattern 1	Pattern 2	Pattern 3
8	15	22

+1 -7 +7 +7

Geometric sequence e.g. ×3 ×3 ×3

4 12 36 108...

Quadratic sequence e.g. $n^2 + 4$ Find the first 3 numbers in the sequence

First term: $1^2 + 4 = 5$ Third term: $3^2 + 4 = 13$

Second term: $2^2 + 4 = 8$

Mathswatch

37, 102, 104

Key Words

Linear
Arithmetic
Geometric
Sequence
Nth term

1) 1, 8, 15, 22, ...

a) Find the nth term b) Calculate the 50th term c) Is 120 in the sequence?

2) $n^2 - 5$ Find the first 4 terms in this sequence

ANSWERS: 1a) $7n - 6$ b) 344 c) 18 so yes as n is an integer 2) -4, -1, 4, 11

Science Year 9 Autumn Term 1

Atomic Chemistry and The Periodic Table

GLOSSARY:
Atomic Chemistry and Periodic Table:

CHEMICAL SYMBOL: The letters on the periodic table that give the name of each element. Every element has its own chemical symbol.

NUCLEUS: The centre part of an atom that contains the protons and neutrons.

PROTON: Sub-atomic particle that makes up the nucleus of an atom. Has a mass of 1 a.m.u. and a charge of +1.

NEUTRON: Sub-atomic particle that makes up the nucleus of an atom. Has a mass of 1 a.m.u. and a charge of 0.

ELECTRON: Sub-atomic particle found orbiting the nucleus in an electron shell. Has a mass of almost 0 and a charge of -1.

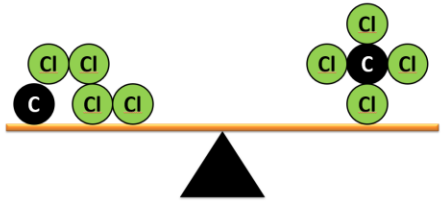
ELECTRONIC STRUCTURE: A diagram showing how the electrons are arranged in the electron shells. The 1st shell can have a maximum of 2 electrons, the others can hold up to 8 electrons.

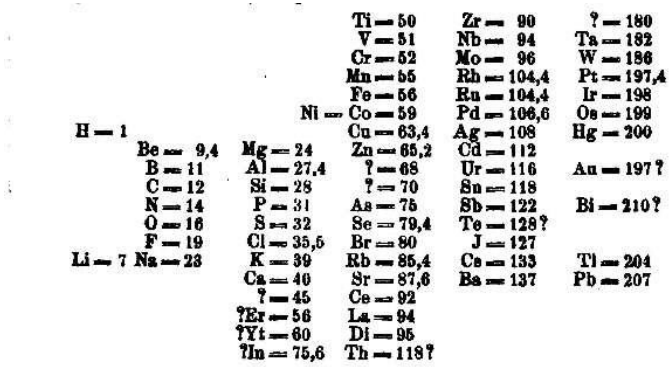
GROUP: The columns of the periodic table represent different groups of elements. Elements with similar properties are in the same group

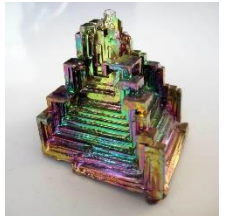
ISOTOPE: Atoms of the same element with the same number of protons but a different number of neutrons.

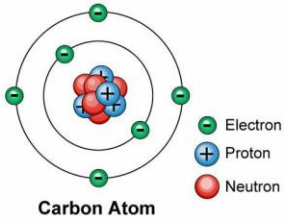
PERIODIC TABLE: Table of elements arranged in order of atomic number and such that elements with similar properties are in the same column (group).

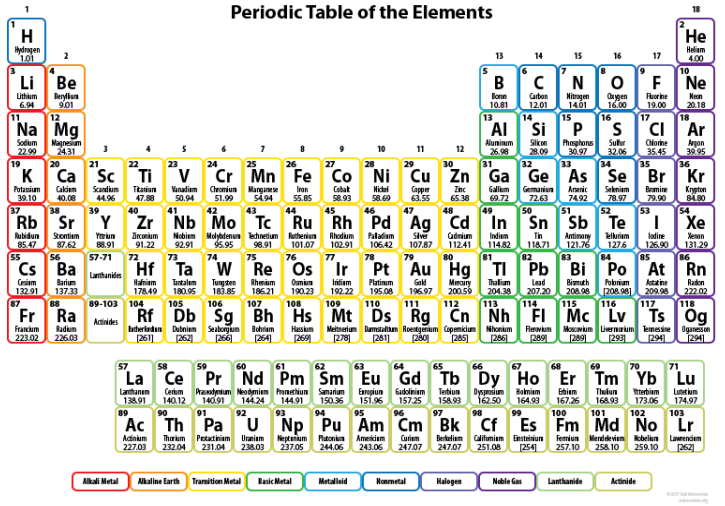
$C + 2Cl_2 \rightarrow CCl_4$



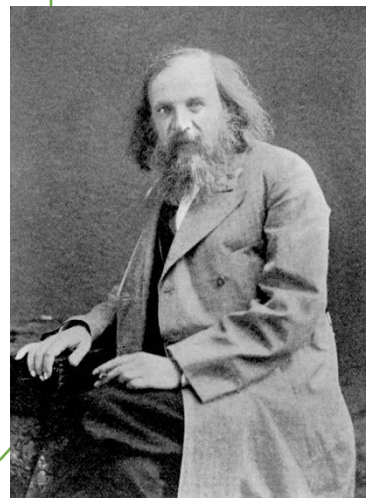


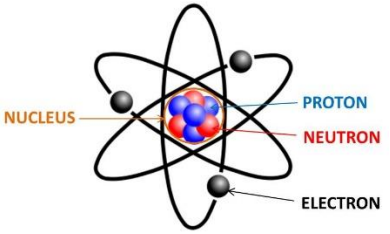


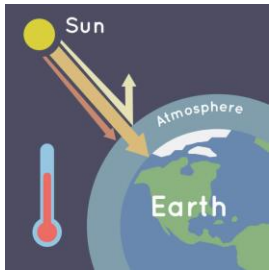


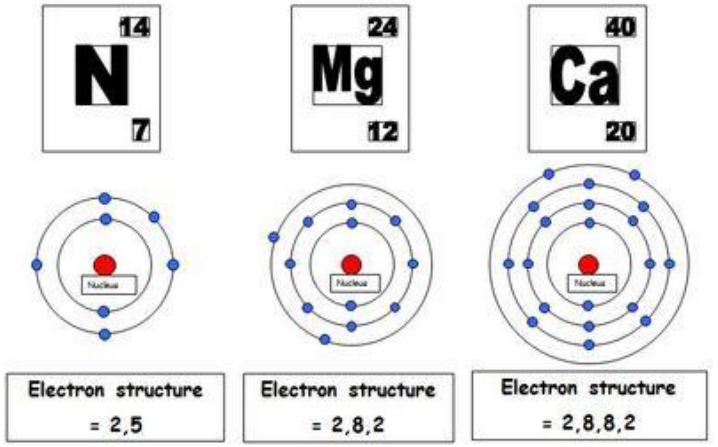


Dmitri Mendeleev was a Russian Scientist responsible for the first, modern Periodic Table – in 1869! He studied at St. Petersburg University









Science: Year 9 Autumn 2 :Force and Motion

Glossary

Force - A force is a push or a pull that acts on an object due to the interaction with another object.

Resultant Force - The overall force acting on an object

Newton - The unit of force. One newton is the force needed to accelerate 1kg by 1m/s^2

Balanced – If the forces on an object are balanced, there is no resultant force.

Unbalanced – If the forces on an object are unbalanced then there is a resultant force acting on the object.

Instantaneous Speed – The speed of an object at the very instant of being measured

Average Speed – the speed of an object measured over the whole journey

Velocity – Speed in a particular direction> Measure in Metres per second (m/s)

Terminal Velocity – When an object reaches terminal velocity it will move at a steady speed in a constant direction because the resultant force is 0.

Mass – A measure of how much matter there is in an object, measured in Kilograms (Kg).

Weight – A force due to the pull of gravity. Measured in Newtons (N).

Density – Mass per unit volume of an object. Measured in Kg m^{-3}

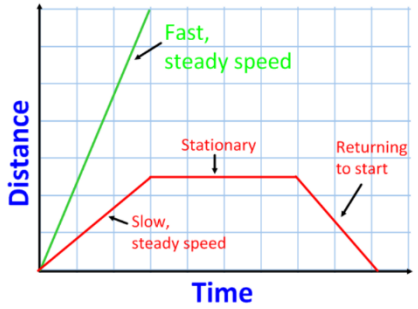
Pressure - A measure of how much force is acting on an area. Measured in Pascals (Pa)

Resultant Forces

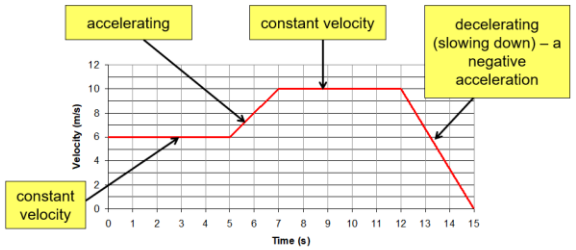
This object will either remain at rest, or continue to travel in the same direction at the same speed as there is no resultant force.

$$\text{Speed (m/s)} = \frac{\text{Distance (m)}}{\text{Time (s)}}$$

Distance Time Graph

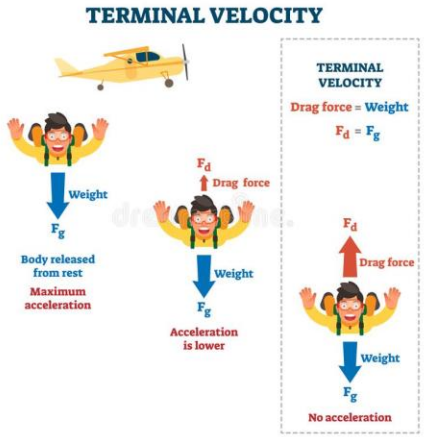


Velocity Time Graph



Terminal Velocity

As the velocity of a falling object increases due to weight, the air resistance increases. Eventually the drag becomes equal to the weight of the object, and it's velocity does not increase anymore.



Weight

Weight (N) = mass (kg) x gravity (N/kg)

Density

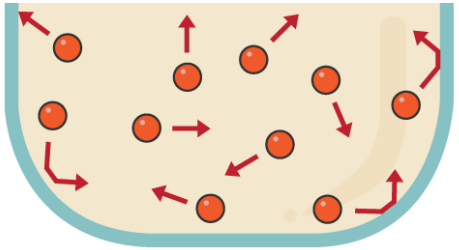
$$\text{Density (kg/m}^3\text{)} = \frac{\text{mass(kg)}}{\text{Volume (m}^3\text{)}}$$

Pressure

$$\text{Pressure (Pa)} = \frac{\text{force (N)}}{\text{area(m2)}}$$

Pressure in Gases

Gas pressure is caused when gas particles hit the walls of their container. The more often the particles hit the walls, and the faster they are moving when they do this, the higher the pressure.



Pressure in Liquids

The pressure in a liquid is different at different depths. Pressure increases as the depth increases. The pressure in a liquid is due to the weight of the column of water above. Since the partides in a liquid are tightly packed, this pressure acts in all directions.

For more information on forces and motion follow this link

RE Year 9 Autumn Topic 1: Judaism Beliefs and Teachings

Key Words:
Covenant: A promise between God and man
Talmud and Tenakh: Jewish scripture
Shema: Jewish prayer
Synagogue: Jewish place of Worship
Torah Jewish Holy Scripture
Rabbi: Jewish religious leader
Yahweh: Jewish word for God

The Torah

What is it?

- It is made up of the first 5 books of Moses: Genesis, Exodus, Leviticus, Numbers and Deuteronomy.
- These books contain the early history of the Jews, from the creation of the world to the death of Moses.

Why is it important?

- Describes creation of the universe.
- Explains how God chose the Jews as his special people.
- Contains the Ten Commandments and other important laws.
- Describes Jewish history and events.

SOA

'Hear O Israel, the Lord is our God, the Lord is One.' Shema

What is the Synagogue?

- It is the Jewish place of worship.
- There are differences between Orthodox and Reform Synagogues.
- It is often a centre for education and other activities such as charity events and youth clubs

Features of a Synagogue

	**Bimah:** This is the focus point. The Torah is placed on here
	**Menorah**: This a special candle holder
	**Yad:** This is a pointer used to read the Torah
	**Ner Tamid:** This a permeant light above the Ark to show God's presence
	**Ark:** This is a special place where the Torah scrolls are kept.

Abraham and Isaac

What is the Story about?

- Abraham and his wife were unable to have children.
- God promised them a son and gave them one when Abraham was an old man.
- To test his faith, God asked Abraham to offer his son Isaac as a sacrifice.
- Just as he was about to this, God intervened and rewarded Abraham

Why is Abraham important?

- **Abraham was the founder of the Jewish faith and every Jew is a descendent of him.**
- **God made a covenant with Abraham promising him a great nation and the land of Canaan in return for all males to be circumcised and all Jews to worship God alone**

Shema

The Shema is a special Prayer, it describe what Jewish people believe about God, It says that there is only one God

Mezuzah

The Mezuzah which is a wooden box with the words of the Shema
It is nailed to the right side of each doorpost.

SOA

'A multiple of people is a king's glory' Proverbs 14:28

Do not worship any other Gods	Do not commit adultery
Do not make idols	Do not murder
Do not misuse God's name	Do not steal
Keep Sabbath day Holy	Do not lie
Honour father and Mother	Do not covert

What is the Sabbath?

- **Sabbath is the Jewish holy day were the celebrate the creation of the world. It's a time were families gather, meals are eaten, prayers are said and there are strict rule to rest and worship.**
- **It starts on Friday eve and ends on Saturday evening.**

- What happens on Sabbath?
- On Friday eve, where the food is already prepared, the table set, the house clean and two loaves of bread called Challah are placed on the table covered with a special cloth called a Challah Decke.
- Just before Shabbat begins, the mother of the house lights the candles and, covering her eyes, says a blessing
- The Father of the house fills the Kiddush cup with wine. He lifts the cup and says an ancient prayer of blessing called the Kiddush.
- On Saturday, the family attend the Synagogue where he Torah is read
- When Shabbat is over. There is a ceremony called Havdalah.

Moses

Who was Moses?

- **He was brought up believing he was the son of the Pharaoh. Hhe helped the Hebrews escape because God sent plagues and by separating the sea.**
- **God spoke to Moses on Mount Sinai and gave him the 10 commandments Moses (and every Jew ever to be born) entered a Covenant with God to obey the rules and worship God**

Why is was this important?

- **God chose him, spoke to him and helped him perform miracles.**
- **God trusted him enough to give him the 10 commandments**

RE Year 9 Topic 2:
Judaism Festivals and Rites of Passage

Key Words:

Covenant: A promise between God and man

Talmud and Tenakh: Jewish scripture

Shema: Jewish prayer

Synagogue: Jewish place of Worship

Torah Jewish Holy Scripture

Rabbi: Jewish religious leader

Yahweh: Jewish word for God

Passover

- Reminds them of the Angel of Death passing over during their time of slavery in Egypt. (Ten plagues)
- Reminds them of their covenant with God
- Eat unleavened bread – doesn't rise – shows the hurry of the Jews leaving slavery.
- Sedar meal – everything is symbolic e.g. bitter herbs – to symbolise the bitterness of slavery.
- Sedar wine is drunk to remember God's four promises to Moses.

Rosh Hashanah

- Jewish New Year
- On this day God writes down his judgement on each person
- They reflect on their past year and making peace with others.
- Eat apples dipped in honey to symbolise a sweet new year.
- Shofar (ram's horn) is blown to remind Jews that God will judge them.
- Tashlikh: Jews empty their pockets to symbolise getting rid of sin.

Yom Kippur

- Day of Atonement
- Holiest day of the year, 10 days after Rosh Hashanah
- God makes his final judgement on whether they have been good/bad.
- Confessing wrongdoing is very important.
- Fast (don't eat or drink) for 25 hours.
- Wear white to show purity.
- Avoid make-up/perfume and bathing.
- Pray a lot of the day in the synagogue.

Why are festivals important?

- Helps bring the community together
- Strengthens their faith,
- Brings them closer to God
- Time to remember key parts of history
- Orthodox = continuing tradition is vital

'Live in booths for seven days.'

'Do not eat bread with yeast in'

'See I have set before you this day life and good, death and evil…choose life"

Birth and Brit Milah

- A baby girl is given her names in the synagogue after her father has performed a special reading from the Torah. Boys are names after eight days, during the circumcision.
- **BRIT MILAH**: symbolises the covenant made by Abraham.
- The baby boy has his foreskin removed at eight days old buy a specifically trained Mohel.
- One of the most observed mitzvot, ancient ritual.
- Shows God their loyalty and faith.

'Abraham circumcised his son Isaac at the age of eight days as God had commanded him.' ***Genesis 21:4***

Bar/Bat Mitzvah

- Boys have a Bar Mitzvah at 13, girls a Bat Mitzvah at 12
- They are then responsible for their own actions and religious path.
- Boys can now lead a synagogue service, included in a minyan or read from the Torah. REFORM = girls also can do this.
- Boys must study and prepare a passage from the Torah to read during the ceremony. This means they must learn Hebrew. Girls must spend more time learning how to prepare for Shabbat, as well as learning a prayer to recite.
- After the service a special meal is eaten and shared, with big celebrations and parties for families and friends.

Marriage

- During the ceremony the couple stand underneath a canopy called a Chuppah, representing a new home.
- The Rabbi talks and offers advice.
- Seven blessings are said and then the plain metal rung is placed on the bride's finger.
- Orthodox: must be witnessed by two men. Reform: Men or women.
- After the contract is signed the groom stamps on a glass as a reminder of the destruction of the temple.
- The couple then have some time together before the meal and party.

'Then Jacob tore his clothes, out on sackcloth and mourned for his son for many days.' ***Genesis 37:34***

Funerals and Mourning

- Traditionally the bodies are buried. Reform may use cremation.
- Use a simple wooden coffin/white cloth.
- Should take place within 24 hours of death and the body should never be left alone.
- Family and friends pay respects, to the body covered in a shroud and tallit for the men.
- Can take place in a synagogue, at home or the cemetery.
- Services include readings, singing psalms and a eulogy.
- Everyone washes their hands in a ritual outside, symbolising leaving death behind.
- After the funeral there is a meal of consolation.
- Stones are left instead of flowers, because stones are permanent.
- The seven days after are an intense mourning period, where they stay at home, reject luxuries and fun activities and may wear a torn black ribbon or cut tie to show sorrow.

History Year 9 Autumn Term 1: Why was the twentieth century so significant?

Key Vocabulary
Militarism- The belief that strong countries should have the biggest and strongest army and navy possible.
Alliances- Agreements between countries to work together
Imperialism- The belief that a strong country must have a large empire
Nationalism- Being extremely loyal to and proud of your country
Assassination of Franz Ferdinand- Took place on July 24th in Sarajevo. Started a chain of events that start the First World War
Treaty of Versailles- A treaty signed in 1919 to end WW1. It was very harsh on Germany and wanted to punish them.
Operation Dynamo-Code name for the evacuation of the troops at Dunkirk.

Militarism

Alliance System

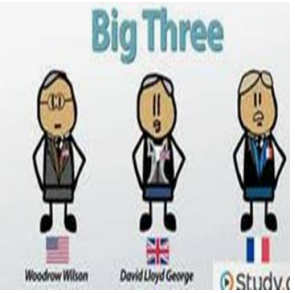
Imperialism

Nationalism

Long Term Causes of WWI
The Great Powers divided themselves into two rival alliances, Triple Alliance (Germany, Austria-Hungary and Italy) and Triple Entente (France, Russia and Britain). They competed to have the biggest empires, navies and armies. As they built up their armies and navies they became powerful and dangerous rivals.

The Short term causes of WWI
The assassination of Archduke Franz Ferdinand by the Black Hand Gang.
Alliances triggered – Russia mobilises troops and Germany declares war.
Germany activated the Schlieffen Plan and invades neutral Belgium.
France and Britain mobilised their troops. Within six weeks the Great powers and their empires were at war.

Nazis used Blitzkrieg (Lightning War) in the opening months of the war with great success. By May 1940, most of Europe was under Nazi control.
Nazi troops almost cut off and captured the British army.
The British narrowly escaped after a nine day evacuation from Dunkirk. The government only believed only 25% of the army could be saved but after a coordinated evacuation involving the RAF, British navy and civilian boats, 338, 000 troops were rescued.
Within days France was defeated and was now occupied by German troops.



significance

Etymology (origins of the word)

Sign: Latin – 'a mark.'

Terms of the Treaty of Versailles

G uilt. Germany and Germany alone was blamed for the war
A rmed forces reduced. Army of 100,000, no tanks, no subs, no planes, a navy of six battleships
R eparations. Germany was expected to pay for the damage caused by the war. The figure was later set at £6600million
G ermany lost land. Alsace Lorraine was returned to France, Germany was split in two by the Polish Corridor, Germany lost all its colonies.
Le ague of Nations. This was set up to avoid future wars. Nations would meet to avoid war by discussion of problems but the Allies were in no mood to compromise.

To determine how significant something or someone is, think about, is it;
Remarkable – include the scale, numbers involved
Resulted in change – include what changes or developments occurred at the time and over time
Revealed – include what attitudes were at the time
Remembered – Include how do we remember today
Relevant – how does the event/person/development affect people today, what lessons can be learnt

History Year 9 Autumn Term 2: The Cold War- When is a war not a war?

Key Vocabulary

Atomic Bomb- The belief that strong countries should have the biggest and strongest army and navy possible.
Hiroshima and Nagasaki
Communism- Agreements between countries to work together
Capitalism- The belief that a strong country must have a large empire
Cold War- Being extremely loyal to and proud of your country
Arms Race-Took place on July 24th in Sarajevo. Started a chain of events that start the First World War

August 1945 at 8.15am, an American bomber plane dropped the world's first atomic bomb on the Japanese city of Hiroshima. 80,000 people died as a direct result of the blast, and another 35,000 were injured. Even after this devastation, Japan did not surrender.
Three days later, another nuclear bomb was dropped by the Americans on the Japanese city of Nagasaki. At least 74,000 people died in the Nagasaki blast or from subsequent injuries.

Berlin Blockade

Stalin, in response to West uniting their sectors of Berlin, blockaded the city. This placed millions into potential starvation. In response, West launched airlift of supplies for eleven months.

Consequences

- First conflict of Cold War, no one knew how it would turn out. Would the planes be shot down, would this lead to war? Led to increased tension between the superpowers.
- NATO and Warsaw Pact set up afterwards. This meant a future war would now include members of both alliances.

Capitalism

- Low taxes, poor should work way out of poverty, accept society will be unequal.
- Private ownership of Land and businesses. Owners keep profits.
- Free elections/Press
- Tend to be popular with the rich/owners of industry

Communism

- Believe in an equal society, confiscate property of rich to share with poor, encourage revolution against 'capitalist' class (rich),
- Internationalist
- Dictatorship
- Control all media
- Lack of personal freedom

Berlin Wall

Reasons for the Wall

People living in West Berlin enjoyed a high standard of living.
For those living in East Berlin and East Germany life was hard and standard of living was poor. They were constantly reminded of their differences. Between 1945 – 60 it is thought that 3 million people crossed from East to West Berlin.

Consequences

- **Flow of refugees reduced to a trickle**
- **propaganda victory for the 'West' – they claimed Communist countries had to build a 45km wall to imprison people**

Cuban Missile Crisis

After the USA's failed attempt to overthrow the Cuban leader Castro, USSR's leader Khrushchev saw an opportunity to challenge the USA. He argued he wanted to install the missiles with nuclear war heads in Cuba to stop the US taking any action against Cuba. The USA also had similar missiles based in Turkey very close to the USSR. Kennedy believed the missiles were a direct threat to the USA as Cuba was only 90 miles off the US coast. It sparked a 13 day stand off that could have brought the world to nuclear annihilation.

Consequences

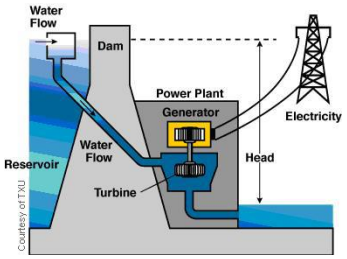
- The two sides sign The Nuclear Test Ban Treaty was signed. This banned testing of nuclear weapons above ground.
- A hotline was set up to allow direct communications between Washington DC to Moscow to avoid any future crises coming so close to a war
- Khrushchev was made to look weak in the eyes of the Russian people for removing the missiles
- Kennedy had stood up to the Soviet Union and forced the missiles to be removed

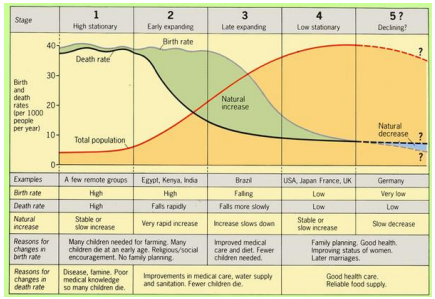
To determine how significant something or someone is, think about, is it;
Remarkable – include the scale, numbers involved
Resulted in change – include what changes or developments occurred at the time and later
Revealed – include what attitudes were at the time
Remembered – Include how do we remember today
Relevant – how does the event/person/development affect people today, what lessons can be learnt

Geography Year 9 Autumn 1 Why has the world not developed evenly?

Key Questions		
What are the twelve development indicators?	How does Africa's climate impact development in certain countries?	How are countries trying to overcome the lack of development in certain areas?
What is Water Aid? How do they help villages develop?	What is the Demographic Transition Model?	How is Fairtrade helping local residents in African countries?
What are the Common misconceptions of Africa?	What are large and small-scale development projects? Which is best?	Why do some countries develop at a faster pace than others?

Diagrams/Maps





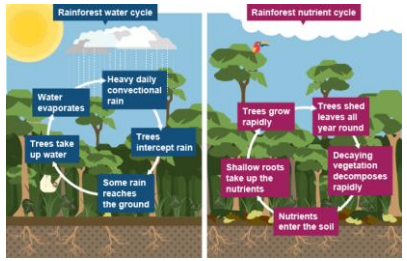
Keywords	
Development	How rich or poor a country is compared to others. Development measures how economically, socially, culturally or technologically advanced a country is.
Developed Country	A country with very high human development (VHHD)
Emerging Country	A country with high and medium development (HMHD)
Developing Country	A country with a low human development (LHD); a poor country. Less then US $1,025 GDP per capita.
Birth Rate	The number of births each year for every 1000 people.
Death Rate	The number of deaths each year for every 1000 people.
Natural Increase	The rate at which population is growing
Life Expectancy	The average age people are expected to live to
Development Gap	Is the difference in levels of social well being and economic development between the poorest and the richest people on the planet, it can occur within the same country.
Aid	Something that provides help, support, or relief, such as money or supplies:
Fairtrade	Is when a country seeks to protect its own industry by placing restrictions on the goods of foreign countries, using import taxes, quotas and subsidies

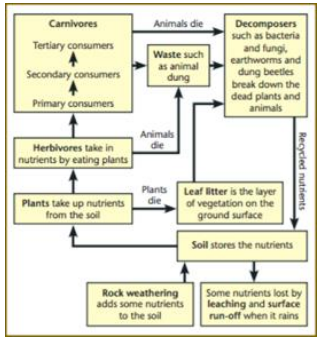
WaterAid

Geography Year 9 Autumn 2 – Why are Biomes Brilliant?

Key Questions		
Explain how the climate in the tropical rainforest influences the nutrient and water cycle.	What are the causes of deforestation in the TRF?	What are the effects of deforestation?
Explain how food chains can be impacted	Describe the location of biomes globally.	Explain how the climate in the Semi-arid grasslands influences the nutrient and water cycle.
What are the causes and effects of desertification?	How does the Great Green Wall stop desertification?	What are the local management strategies to stop desertification?

Diagrams





Key Words	
Biome	A biome is a very large ecosystem e.g. Tropical Rainforest.
Sustainable	Meeting the needs of people today and in the future, while limiting harm to the environment.
Desertification	The process by which fertile land becomes desert, typically as a result of drought, deforestation, or inappropriate agriculture.
Adapt	When someone or something adjusts themselves to different conditions or environments.
Decomposition	The breakdown of dead organic matter (plants and animals) by living organisms
Afforestation	The opposite of deforestation. If trees are cut down, they are replaced to maintain the canopy.
Abiotic	Non-Living items in an ecosystem such as rocks soil and water.
Biotic	The living parts of an ecosystem.
Mangroves	A shrub or tree that grows in coastal waters
Tundra	Treeless regions found in the Arctic and on the tops of mountains, where the climate is cold and windy, and there is little rainfall
Food chain	A series of organisms each dependent on the next as a source of food.

YEAR 9
FRENCH Term 1A
KNOWLEDGE ORGANISER

3 Pillars of Language Learning
- Vocabulary
- Grammar
- Phonics

I like	J'aime
I love	J'adore
I don't like	Je n'aime pas
I hate	Je déteste
I can (am able)	Je peux
I must (have to)	Je dois
I prefer	Je préfère
I would like	Je voudrais
I am going (I go)	Je vais
I want	Je veux
You like	Tu aimes
You love	Tu adores
You don't like	Tu n'aimes pas
You hate	Tu détestes
You can (am able)	Tu peux
You must (have to)	Tu dois
You prefer	Tu préfères

aller	to go
jouer	to play
manger	to eat
danser	to dance
chanter	to sing
visiter	to visit
regarder	to watch
écouter	to listen
étudier	to study
adorer	to love
aimer	to like
sortir	to go out
avoir	to have
finir	to finish
faire	to do
boire	to drink
travailler	to work
voyager	to travel
choisir	to choose

The Near Future Tense
Aller – to go + Infinitive

Je vais	I go, I am going
Tu vas	You go, you are going
Il va	He goes, he is going
Elle va	She goes, she is going
Nous allons	We go, we are going
Vous allez	You go, you are going
Ils vont	They go, they are going

+ infinitive
manger – to eat

The perfect tense

1. Take the relevant part of the verb AVOIR in the present tense.

J'ai	I have
Tu as	You have
Il /Elle a	He has/She has
Nous avons	We have
Vous avez	You have
Ils /Elles ont	They have

2. Take the past participle.

ER VERBS
To form the past participle of ER verbs take ER off the infinitive to create the stem:
Parler – Parl

Add é to the stem to create the past participle – Parlé

RE VERBS
To form the past participle of RE verbs take RE off the infinitive to create the stem:
Vendre – Vend

Add u to the stem to create the past participle – Vendu

IR VERBS
To form the past participle of IR verbs take IR off the infinitive to create the stem:
Finir– Fin

Add i to the stem to create the past participle – Fini

Art Year 9 Autumn Term Project 1: Self Expression Portraiture

GLOSSARY

Artists:
Franz Messerschmitt, Vince Low, Luke Dixon, Jenny Saville, Lucian Freud

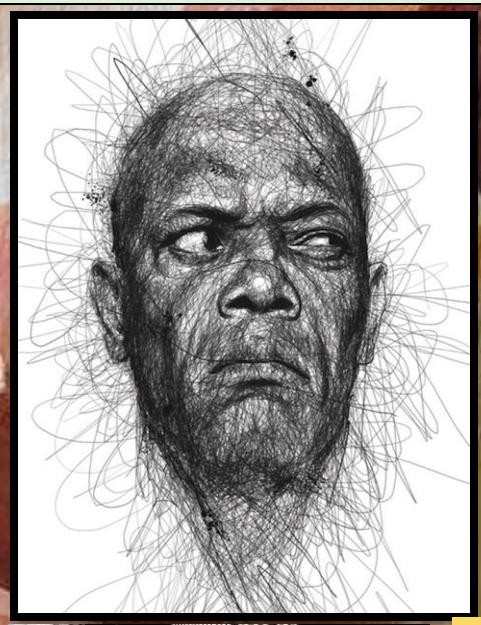
Flesh Tones - Colours which can be found on the human skin

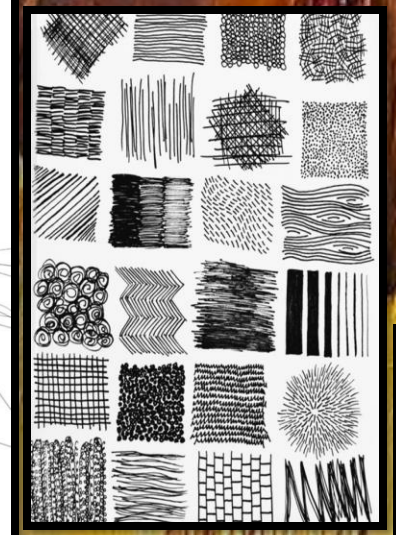
Emotion – A strong feeling from someone's circumstances, mood or relationship with others

Expression – The action of making known one's thoughts or feelings

Depict – Represent something from a drawing, painting or other Art form

Linear – Arrangement of something using lines





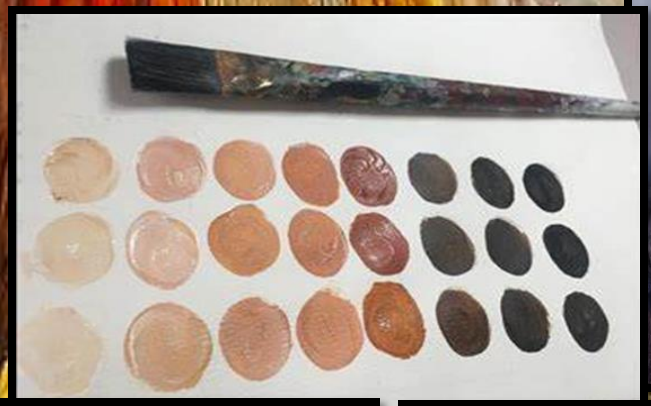
Helpful video links

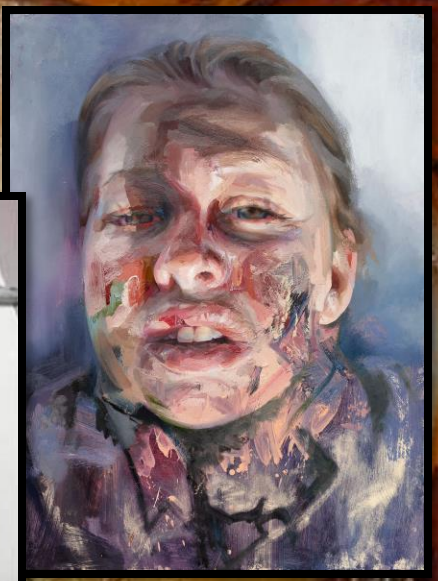
(58) Colour mixing - How to mix skin tones in acrylic paint - YouTube

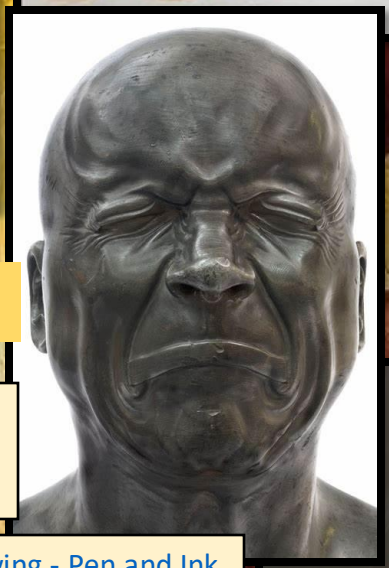
(58) Expressive Portrait Drawing - Pen and Ink Markmaking | Blvckink - YouTube

(58) Do's and Don'ts of Skin Tones Painting | How To Paint Skin - YouTube

(58) Mark making techniques for Texture - YouTube







DT Year 9 Unit 1: Health and Safety

Glossary

Health and Safety

NOUN *BRITISH*
•regulations and procedures intended to prevent accident or injury in workplaces or public environments.

Why do you think workshop Safety Rules are important?
If everyone follows workshop rules, everyone will be safe and learn how to use tools and equipment properly and efficiently.

[Health and Safety (technologystudent.com)]

1. **Always listen carefully to the teacher and follow instructions.**
2. **Do not run / rush in the workshop.**
3. **Know where the emergency stop buttons are positioned in the workshop.**
4. **Always wear an apron.**
5. **Wear good strong shoes. Trainers are not suitable.**
6. **When attempting practical work, all stools should be put away.**
7. **Bags should be stored away, during practical sessions in the workshop.**
8. **When learning how to use a machine, listen very carefully to all the instructions given by the teacher. Ask questions, especially if you do not fully understand.**
9. **Do not use a machine, if you have not been shown how to operate it safely, by your teacher.**
10. **Always be patient, never rush practical work.**
11. **Always use guards, when operating machines.**
12. **Keep hands / hair and clothing away from moving/rotating parts of machinery.**
13. **Use hand tools carefully, keeping both hands behind the cutting edge.**
14. **Report any damage / faults to machines/equipment. Damage or a faulty part, could cause an accident.**
15. **Keep your workbench tidy. When you have finished with a tool / piece of equipment, return it to its storage cupboard / rack.**
16. **Never distract another pupil, when they are working on a machine or using tools / equipment.**

DT Year 9 Unit 2: Sustainability and the 6R's

Glossary

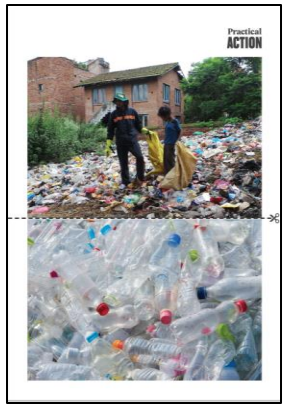
Sustainability
Is the avoidance of the depletion of natural resources in order to maintain an ecological balance: Eg: if a tree is cut down for paper, another tree is planted in its place.

Finite resources
Finite resources are non-renewable and will eventually run out. Metals, plastics and fossil fuels (coal, natural gas and oil) are all examples of finite resources.

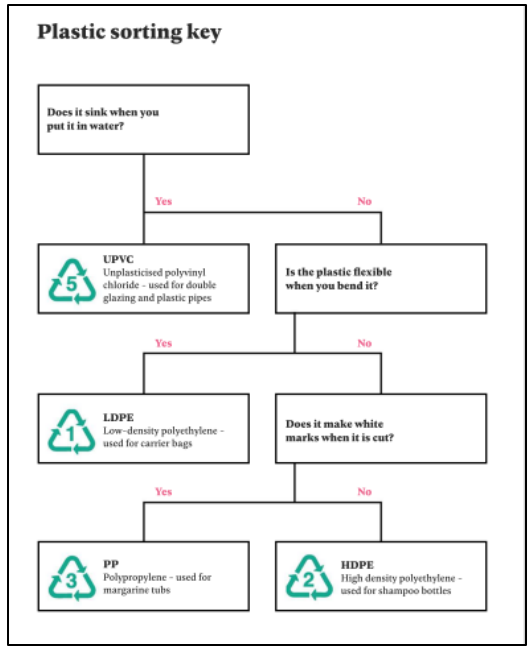
Non-Finite resources
Non-finite resources are found naturally and can be replaced. Examples include wood, cotton and renewable energy sources such as solar and wind.

6 R's
Rethink
Refuse
Repair
Reduce
Re-use
Recycle

Impact on sustainability
We now consider more the materials and energy we use are **sustainable**. This includes where the resources come from and how they are disposed of at the end of their life.



Waste disposal
Households are encouraged to recycle waste items where possible, including products made from various materials such as hard plastics, paper and steel. In 2016, the UK recycled 25 per cent of household waste, with the target of 50 per cent in 2020. All other waste goes to **landfill sites**, which release harmful gases that pollute the surrounding air and soil.



6Rs - Practical Action
Puma Clever Little Bag - fuseproject
Plastics challenge - Practical Action
9 Useful Things Made Entirly By Reusing Plastic Bottles (sadtohappyproject.com)
Impact on sustainability - New and emerging technologies - AQA - GCSE Design and Technology Revision - AQA - BBC Bitesize

DT Year 9 Unit 3: Technical Drawing

Glossary

Isometric Drawing
Isometric drawing is a form of 3D drawing, which is set out using 30-degree angles.

Orthographic drawing
Orthographic drawings include elevations, plans and sections, which are drawn in such a way that the view or picture frame is parallel to the object.. The three most common orthographic views in the schematic for a house are the top, front, and a side view.

One-point perspective
Is a system to assist in realistically rendering a three-dimensional scene on a two-dimensional surface by using lines which radiate from one point (known as a ***vanishing point***) on the ***horizon line***.

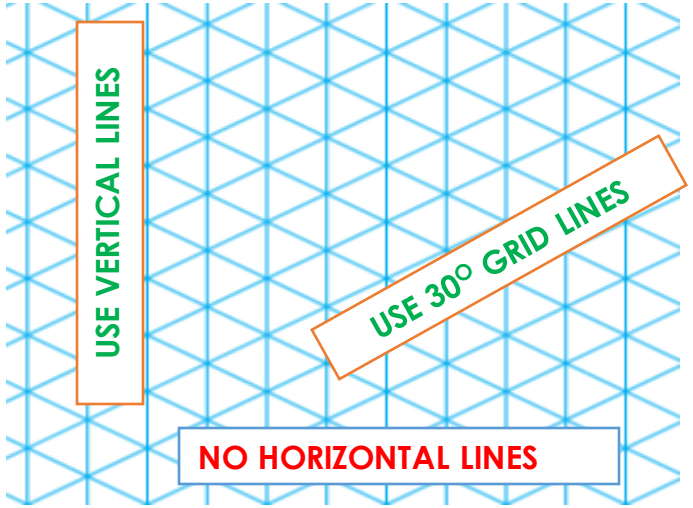
Two-point perspective
Is a system to draw a three-dimensional scene on a two- dimensional surface by using lines that radiate from two points.

Three-point perspective
Is a system to draw a three-dimensional scene on a two- dimensional surface by using lines that radiate from three points.

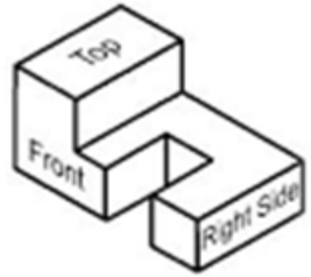
Vanishing point
In a linear perspective drawing, the vanishing point is the spot on the horizon line to which the receding parallel lines diminish.

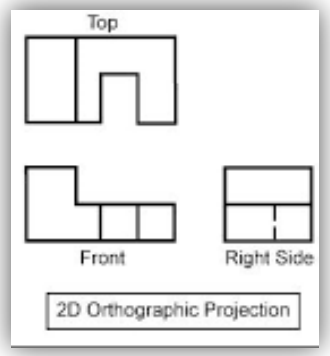
Horizon line
The horizon line in a perspective drawing is a horizontal line drawn across the picture. It can be a temporary pencil line or morph into a permanent line where sky and land meet. It is always at eye level - its placement determines where we seem to be looking from, whether that is from a high place or from close to the ground.

Isometric Drawing

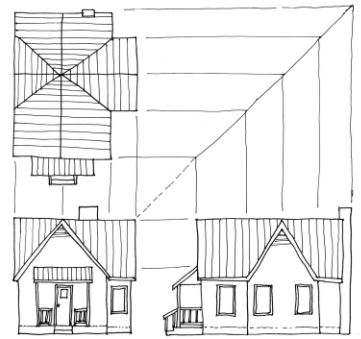


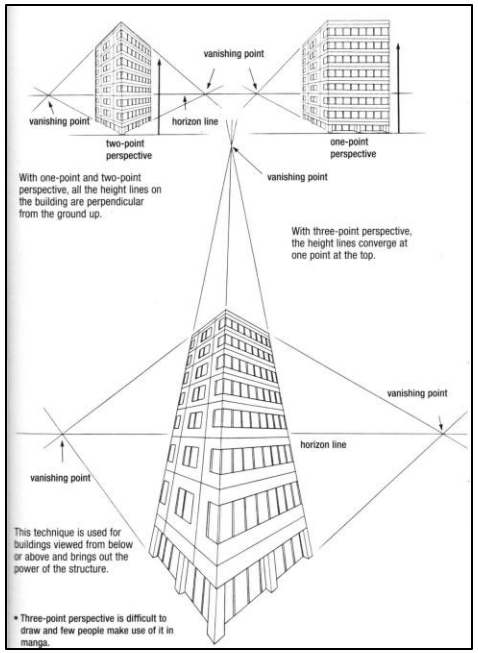
Orthographic Drawing

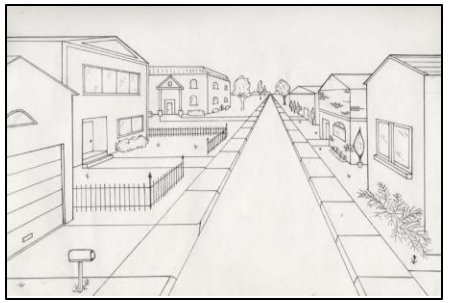




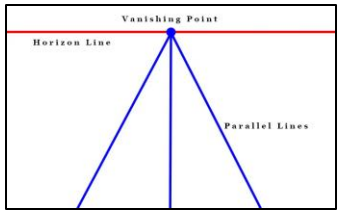
3D Representation

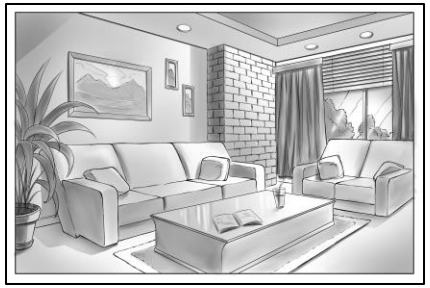




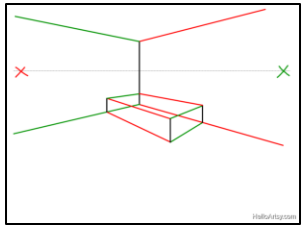


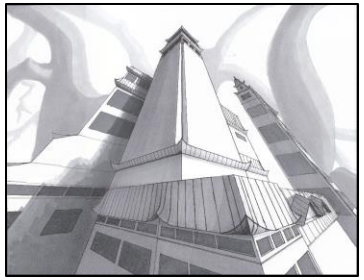
One-point perspective



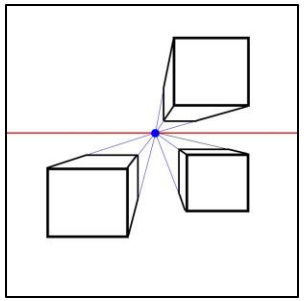


two-point perspective





three-point perspective



Introduction to Third Angle Orthographic Projection (technologystudent.com)

The Ultimate Guide To One Point Perspective (1 Point Perspective) (drawpaintacademy.com)

DT Year 9 Unit 4: Architecture

Glossary

Modular building
is a prefabricated building that consists of repeated sections called modules. Modularity involves constructing sections away from the building site, then delivering them to the intended site. Installation of the prefabricated sections is completed on site.

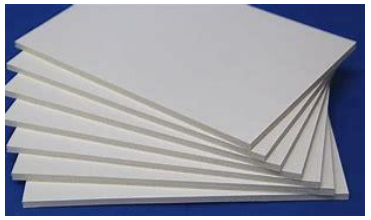
Floor plan
In architecture and building engineering, a floor plan is a technical drawing to scale, showing a view from above, of the relationships between rooms,

Scale model
Scale models are generally smaller than large prototypes such as vehicles, buildings, or people

Guy Builds a Modern Castle out of Shipping Containers (interestingengineering.com)

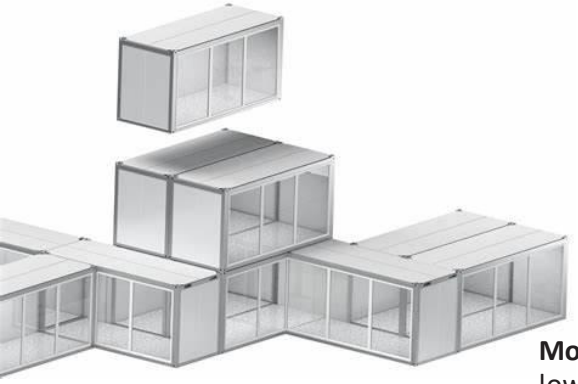
MEASURE TWICE, CUT ONCE!

Accuracy is key to the success of your product. Using a try square a rule will help you achieve accurate measurements.



Foam board is a **lightweight, versatile and durable type of board used in a range of arts and crafts purposes**. Foam board is available in black or white and in a range of sizes from A0 to 43 as well as differing levels of thickness.

Greyboard is made from 100% recycled materials and can be used in many craft construction projects to add extra strength and rigidity. This sturdy **greyboard** gives your craft constructions a stronger feel, either used as backing card or a protective outer layer.



What is Greyboard and what is it used for? (papermilldirect.co.uk)

Modular buildings can be erected quickly and at a low cost, and improvements in stock control mean less storage space is needed.

DT Year 9 Unit 5: Crazy Contraptions

Glossary

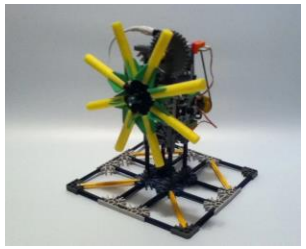
Crazy contraptions
A device or machine that looks awkward or old-fashioned, especially one that you do not know how to use.

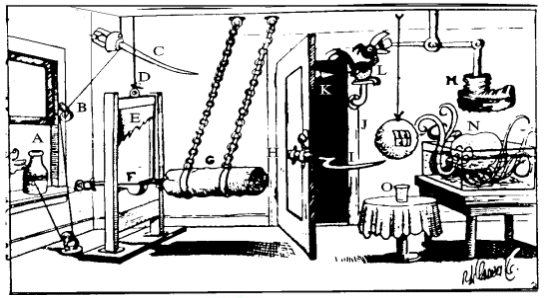
Kinetic Artist
Relating to or resulting from motion.

Winch
a hauling or lifting device consisting of a rope or chain winding round a horizontal rotating drum, turned typically by a crank or by motor.

Pulleys
a wheel with a grooved rim around which a cord passes, which acts to change the direction of a force applied to the cord and is used to raise heavy weights.

Chain reaction
a series of events, each caused by the previous one:

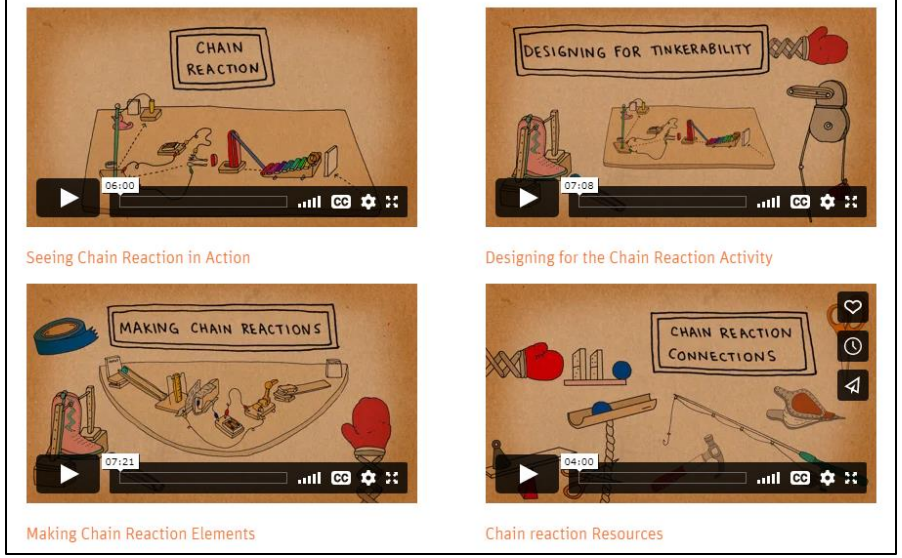




Joseph Herscher,
Kinetic designer

Can you solve problems?
What would you need to do to enable you to make your bed while you were in the bath? What sort of 'crazy contraption could you create'

Think of the 'Mouse Trap Game'. There is a system of tubes, steps and winches etc. that allow a mouse to be caught. How could you catch a mouse?



Chain Reaction Workshop Elements : 10 Steps - Instructables

Artist's crazy contraptions are guaranteed to make you smile (wework.com)

Tinkering Project: Chain Reaction | Exploratorium

Tinkering Project: Cranky Contraptions | Exploratorium

Food and Nutrition: Year 9 Autumn Term: World Cuisine and Food Science

- Seneca Online Learning - AQA Food and Nutrition - Class code: b797g0nf2i
- https://www.foodafactoflife.org.uk/
- BBC Food
- Food Standards Agency - https://www.food.gov.uk/food-safety
- https://www.ifst.org/lovefoodlovescience
- https://quizlet.com/240309265/gcse-food-preparation-nutrition-keywords-flash-cards/

Key Knowledge

Click to add text
Click to add text

- Cuisine relates to the established range of dishes and foods of a particular country or religion.
- Cuisine is also concerned with the use of distinctive ingredients and specific cooking and serving techniques.
- Cooking methods can achieve specific characteristics in food.
- Cooking food makes it safe, allows it to keep for longer and makes it more palatable.
- Heat is transferred by conduction, convection and radiation
- Dextrinisation is the term used to describe browning of starch caused by heat.
- Caramelisation is the browning of sugars caused by heat.

Quick Test (Use the internet to research your answers)

1. What religions traditionally do not eat pork?
2. Name two traditionally British dishes.
3. Explain the different factors that affect peoples food choices
4. Describe the various factors that influence a countries cuisine
5. Explain why Italian cuisine uses lots of fresh tomatoes, herbs and olive oil.
6. Name three types of heat transfer.
7. Why is food cooked?
8. What is the main heat transfer method when boiling food?
9. What sort of heat transfer commonly causes dextrinization?

Glossary of Keywords

Research the Key Words below and write an explanation for each

- **Cuisine**

_____
_____
_____
_____
_____

- **Climate**

_____
_____
_____

- **Conduction**

_____
_____
_____

- **Convection**

_____
_____
_____

- **Radiation**

_____
_____
_____

Read

Computing Year 9 Autumn Term 1: Business & ICT

Quiz

Market Research

There are two Types of Market Research Primary and Secondary.
Primary is doing it yourself e.g:
Survey
Focus Group
Secondary is someone else's' work
Internet Research
It's important as it tells businesses what people want to buy so you can ensure your selling what people want

Market Segmentation

There are different Market Segments:
Age
Gender
Lifestyle
Location
These are important because it lets the business target its products to the right people through advertising etc.

Key Terms

Market Research: This is carrying Out research of members of the public
Market Segmentation: Splitting Customers into target audience
Spreadsheet: Software designed To let you deal with numbers And calculations
Adobe Fireworks: Software to Let you do graphical work like Create a web page or poster
Web Design: Lets you design Website, can be done through Web authoring software or HTML
Word: Designed for typing and Formatting letters and other Documents that need to be Typed up

Spreadsheet

Spreadsheets are good as they allow you to carry out calculations quickly and accurately.

Formulas must start with = sign and use cell referencing- B4

1	/	Division	50	/	10	7.5
2	*	Multiplication	10	*	8	80
3	+	Addition	50	+	10	60
4	-	Subtraction	10	-	5	5

Fireworks

Adobe Fireworks has many tools Which can be used to change images:
-Remove Background
-Create Shapes
-Move parts of an image

HTML

This is the code used to create a website there is a 'tag' for instructions:
<img> means insert an image
<h1> means a main Heading
<P1> means a paragraph

ST TERESA of CALCUTTA Catholic Academy Trust

Read

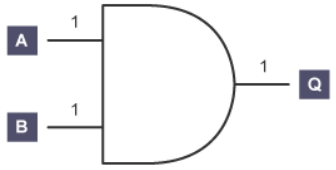
Computing Year 9 Autumn Term 2: Logic Gates

Quiz

Logic Gates

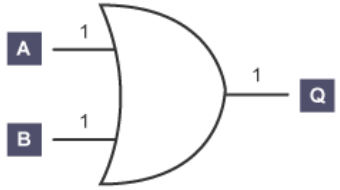
Logic Gates represent how a circuit Board within a computer works:

Truth Tables



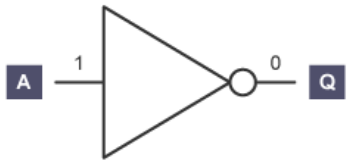
AND Gate

INPUT		OUTPUT
A	B	
0	0	0
1	0	0
0	1	0
1	1	1



OR Gate

INPUT		OUTPUT
A	B	
0	0	0
1	0	1
0	1	1
1	1	1



NOT Gate

INPUT	OUTPUT
A	
0	1
1	0

Key Terms

Binary: This is a number system that only uses two digits: 1 and 0. All information that is processed by a computer is in the form of a sequence of 1s and 0s.

Logic Gate: This is a circuit within a Computer

AND Gate: When both switches on the circuit are on the output will be on. Eg both light switches need to be on for the light to come on.

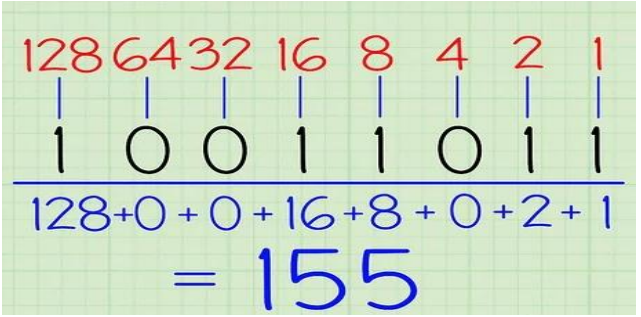
OR Gate: Only one switch needs to be on for the output to go on, eg in either a hall light switch or landing light switch is on the landing light will go on.

NOT Gate: This is the opposite, if the switch is on the light will be off and vice versa

Truth Table: This is a table which shows how the Logic Gate is working on is represented by 1 and 0 means it is off

Binary

Computers use something called binary code. Binary code is made up 1s and 0s.



Binary Addition

0 + 0 = 0

1 + 0 = 1

1 + 1 = 10

1 + 1 + 1 = 11

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Drama Year 9 Autumn Term: Lizzie Borden

Physical Skills

Posture	How someone stands and/or sits (slouched, upright)
Gesture	How someone uses their hands and arms when they are speaking
Facial expression	How the face is used to communicate feeling. (EG – open mouthed, scrunched eyes, pouted lips.)
Movement	How someone moves around the stage space. This also includes physical theatre movement (dance, unison movement.)
Gait	How someone walks (stride, leap, shuffle.)

Drama Techniques

Hot Seating: Answering key questions about your character/ storyline in role

Spontaneous Improvisation: Creating a piece of Drama, based on some prior knowledge, with little or no planning time.

Documentary-Drama: A style of Drama using re-enactments of real life events.

Vocal Skills

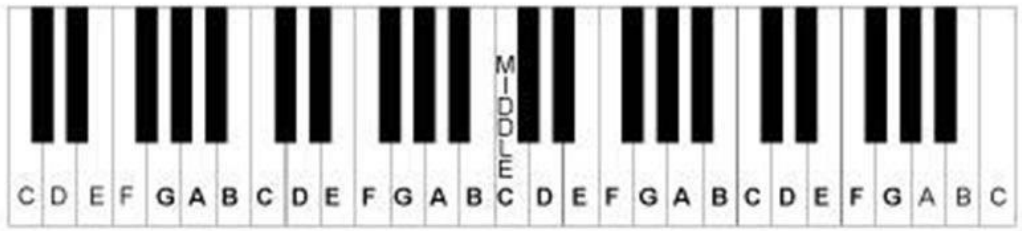
Accent	A way of pronouncing a language (country, area or social class)
Volume	How loud or quietly someone speaks
Pitch	How high or low someone speaks
Tone	How something is said – sarcastic tone, happy tone, sad tone
Timing	Use of pause or silence. The rhythm of the way you speak
Pace	How fast or slow someone speaks
Intonation	The rise and fall of the voice
Phrasing	How something is said for dramatic effect (pause, emphasise words)
Emotional range	Happy, sad, scared, shy, nervous (linked with tone)
Delivery of lines	Working with other actors (linked with timing) action - reaction

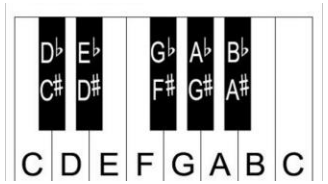
Dig Deeper Questions:

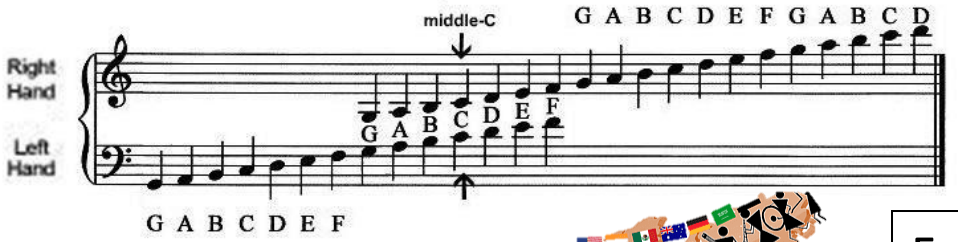
- What is a stimulus
- Can you give an example of a good stimulus for a piece of Drama.
- Why is a story like 'Lizzie Borden' a good stimulus for a piece of Drama?
- What is the difference between a 'motive' and a 'motif'?

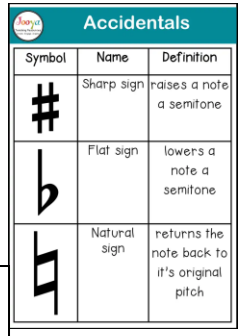
Communication **Cooperation** **Creativity** **Confidence**

Music Year 9 Autumn Term: Pop Songs



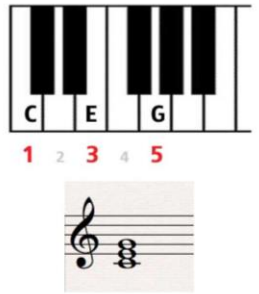




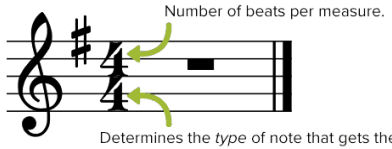


Chord: A group of 2 or more notes played together at the same time

Triad: A group of 3 notes played together to make a chord. It uses notes 1, 3 and 5



Time Signature: These numbers tell you how many beats are in a bar



GENRE: A style or category. There are thousands of different styles or genres and each style has it's own unique features

Fusion

- Fusion means to blend together
- Fusion music is a blend of 2 or more different styles or cultures
- Styles examples = Rock, Hip Hip, Classical, Soul
- Cultures examples = Chinese, Indian, Caribbean etc
- Fusion examples = Chinese Rock, Classical Indian, Caribbean Hip Hop etc
- Listen out for different types of instruments, different languages, different kinds of notes, different feelings, think of where it reminds you of, what is the music for – e.g. carnival

Musical Theatre

- The Music tells a story
- It often expresses an emotion, as we learn about the character
- The music is often catchy and in a popular style
- Musicals are a combination of singing, dancing and acting, all performed on a stage or in a film
- Other elements include, lights, scenery, costumes etc

Hip Hop

- Rapping (MC) – speaking in rhythm
- Scratching (using decks)
- Beat-boxing
- Uses samples of other songs and loops the samples and beats
- Break dancing/graffiti/fashion
- Started in 1970s New York – Bronx= rough areas with lots of hardship
- Lyrics often reflect the hardships of African-Americans

Rock

- Rock Band = electric guitar, electric bass, drums & vocals
- Guitars are amplified -= loud!
- Rock n Roll started in the 1950s and was loved by rebellious teenagers
- Lyrics are usually rebellious e.g. about doing what they want, anti-establishment/authority etc
- Vocals often have a rough, shouty sound

Tempo – the speed of music
Pitch – how high or low a note is
Rhythm – the pattern of long & short notes
Technique – how well you control your instrument
Fluency – how smoothly you can play the music
Accompaniment – music that provides a background for the main tune

Year 9 Physical Education:

Enhancing skills and applying strategies

- Expectations
- Standards
- Skill/technique recap

Health Related Fitness - Benefits of Physical Activity

- Fitness testing
- Planning a training programme
- Principles of Training
- Anatomy Vocabulary

Wider Curriculum Competitive Sports & Activities

- Extra Curricular
- Inter-form
- Sports Day
- Community Links
- School trips

Sports/Activities taught

Netball
Football
Hockey
Handball
Cricket
Rounders
Basketball
Table Tennis
Badminton

Strategies to overcome opponents in competitive sport (Games)

- Teamwork
- Rules & regulations
- Sport specific skills whilst moving
- Tactics to overcome opponents
- Application of technique

Develop techniques and improve performance in other competitive sport. (Individual)

- Athletics: Race strategies (Pace)
- Trampolining: Basic Combinations

Outdoor & Adventurous Activities

- Team building
- Problem solving
- Oracy & Communication Skills
- Intellectual challenge
- Physical Challenge

- Desire to Improve: assessments will demonstrate improvements to achieve your personal best. Evaluation of Performance. Influencing the outcome and end result of the performance. Influencing the outcome & end result of the activity.
- Commitment, Resilience & Respect across the learning journey.

PSHE: Year 9 Autumn Term: Sexuality and Gender Identity

Glossary

Asexual	A person who generally does not experience sexual attraction to any group of people
Androgyny	A gender expression that has elements of both masculinity and femininity
Biological Sex	The physical anatomy and gendered hormones one is born with.
Bisexual	A person who experiences sexual, romantic, physical, and/or spiritual attraction to people of their own gender as well as another gender
Cisgender	A description for a person whose gender identity, gender expression, and biological sex all align
LGBTQ+	Lesbian Gay Bisexual Trans Queer / Questioning + = Other
Sexuality	A persons sexual preference or orientation. Who they are attracted to.
Gender Dysphoria	Where a person experiences distress due to a mismatch of their biological sex and their gender identity.
Heterosexual	A medical definition for a person who is attracted to someone with the other gender.
Homosexual	A medical definition for a person who is attracted to someone with the same gender.
Transvestite	A person who dresses as the opposite gender expression for any one of many reasons, including relaxation, fun, and sexual gratification.
intersex	A person with a set of sexual anatomy that doesn't fit within the labels of female or male (e.g., XXY phenotype, uterus, and penis)
Pansexual	A person who experiences sexual, romantic, physical, and/or spiritual attraction for members of all gender identities/expressions
Transgender	A person whose gender identity is the binary opposite of their biological sex, who may undergo medical treatments to change their biological sex
Transsexual	A person whose gender identity is the binary opposite of their biological sex, who may undergo medical treatments to change their biological sex
: Gender Identity	Gender identity is a way to describe how you feel about your gender. You might identify your gender as a boy or a girl or something different. This is different from your sex, which is related to your physical body and biology.

Important legal changes that have affected LGBTQ+ people in the UK

- **2000: Government lifts the ban on lesbians and gay men serving in the Armed Forces.**
- **2001: Age of consent for gay/bi men is lowered to 16.**
- **2002: Equal rights are granted to same-sex couples applying for adoption.**
- **2003: Repeal of Section 28 - Section 28 was a law that made it illegal to talk positively about homosexuality in schools.**
- **2003: A new law comes into force protecting LGBT people from discrimination at work. Until 2003 employers could discriminate against LGBT people by not hiring them or not promoting them, just because of their sexual orientation or gender identity.**
- **2004: Civil Partnership Act is passed.**
- **2004: Gender Recognition Act is passed - This Act allowed trans people to change their legal gender. This means that they can get a new birth certificate that reflects who they really are, which helps for future legal processes like marriage.**
- **2007: It becomes illegal to discriminate against people because of their sexual orientation or gender identity when providing them with goods or services.**
- **2008: The Criminal Justice and Immigration Act makes 'incitement to homophobic hatred' a crime.**
- **2009: A new law gives better legal recognition to same-sex parents.**
- **2013: The Marriage (Same-Sex Couples) Act is passed.**

Trans Teens and Children

If a child is under 18 and thought to have gender dysphoria, they'll usually be referred to a specialist child and adolescent Gender Identity Clinic (GIC). Treatment is arranged with a multi-disciplinary team (MDT). This is a group may include specialists such as mental health professionals and paediatric endocrinologists. Most treatments offered at this stage are psychological, rather than medical or surgical.

If the child is diagnosed with gender dysphoria and they've reached puberty, they could be treated with gonadotrophin-releasing hormone (GnRH) analogues. These are synthetic hormones that suppress the hormones naturally produced by the body. They also suppress puberty and can help delay potentially distressing physical changes caused by the body becoming even more like that of the biological sex, until they're old enough for other treatment options. The effects of treatment with GnRH analogues are considered to be fully reversible, so treatment can usually be stopped at any time. Teenagers who are 17 years of age or older may be seen in an adult gender clinic. They are entitled to consent to their own treatment and follow the standard adult protocols.

Gender Reassignment surgery will not be considered until a person has reached 18 years of age.

Schools and LGBTQ+ Students

All Schools are required to have a policy relating to LGBTQ+ Students and how they are supported in schools. However each case will be dealt with on an individual basis as to what is best for the students. Discussions will be conducted with Safe guarding team, parents, wellbeing teams and appropriate external agencies involved in the students care.

Where to get more help and support

- Parents and trusted family members
- Teachers and School Staff including School Nurse and Wellbeing Team
- Your Doctor or Community Nurse
- NHS Online
- Young Stonewall: https://www.youngstonewall.org.uk/
- The Proud Trust – Local Support groups: https://www.theproudtrust.org
- Friends and Family of Lesbians and Gays: https://www.fflag.org.uk/

PSHE Year 9 E-Safety & Digital Citizenship

Glossary

E-Safety Strategies and systems to help people stay safe online.

Digital Citizenship Accepted ways on behaving whilst engaging in online activity.

Cyber Bullying The use of electronic communication to bully a person, typically by sending messages of an intimidating or threatening nature

Hacking Gaining access to systems and computers which you do not have permission to access. Can be for malicious purposes.

Grooming When someone uses the internet to trick, force or pressure a young person into doing something they wouldn't normally do, this could be sexual behaviour or radical beliefs.

Digital Footprint The information about a particular person that exists on the internet as a result of their online activity. It can not be deleted.

Where to get more help and support

- Parents and trusted family.
- School Staff and Wellbeing Team
- Directly to the police.
- Report any inappropriate behaviour to the website.
- NSPCC - https://www.nspcc.org.uk
- Childline - Helpline: 0800 1111(24 hours, every day) / https://www.childline.org.uk
- CEOPS - https://www.ceop.police.uk/safety-centre/

10 strategies for staying safe online

1. Don't post any personal information online – like your address, email address or mobile number.
2. Think carefully before posting pictures or videos of yourself. Once you've put a picture of yourself online most people can see it and may be able to download it, it's not just yours anymore.
3. Keep your privacy settings as high as possible.
4. Never give out your passwords.
5. Don't befriend people you don't know.
6. Don't meet up with people you've met online. Speak to your parent or carer about people suggesting you do.
7. Remember that not everyone online is who they say they are
8. Think carefully about what you say before you post something online.
9. Respect other people's views, even if you don't agree with someone else's views doesn't mean you need to be rude.
10. 10.If you see something online that makes you feel uncomfortable, unsafe or worried: leave the website, turn off your computer if you want to and tell a trusted adult immediately.

Digital Footprints and Online Behaviour

A person's digital footprint cannot be deleted and can be accessed at any time through a simple social media or search engine search. To promote a positive digital footprint there are 5 simple rules:

1. Would you want your grandmother to see it? Is that photo/video/comment appropriate for the wider public audience? Would you want a future partner or employer to see it? Once something is online it stays forever.
2. Do you really think that is private? Just because your privacy settings are high doesn't mean that someone else can't repost or screenshot what you have posted.
3. Would you say it to someone's face? If you wouldn't say it to someone face, don't say it online. Portray yourself in a positive way as this may be seen by future friends, partners or employers.
4. Is this your work to publish/use? Reposting or using someone else's work if fine if you credit the original owner creator. If you don't it is plagiarism.
5. Would you want someone to do it to you? How would you feel if someone posted a picture of you or made a comments about you that you didn't like or want online?

Online Behaviour and the Law

- **The Computer Misuse Act 1990 says you can't impersonate or steal someone else's identity online. This means that writing a status on social media pretending to be your friend is technically against the law as it creating fake profiles or websites.**
- **It is a criminal offence under the Communications Act 2003 to send messages using any public electronic communications network, such as Twitter or Facebook, which are grossly offensive or of an indecent, obscene or menacing character.**
- **It is a criminal offence under the Criminal Justice and Courts Act 2015 for someone to disclose private sexual images of you online or offline without your consent with the effect of causing you distress. This is more commonly known as 'revenge porn'.**
- **There are a range of other offences which the police can investigate including harassment, harassment when someone fears violence, and stalking under the Protection from Harassment Act 1997.**

Each case will be taken on an individual basis looking at context and evidence to determine if a crime has been committed. If you believe you have been the victim of a crime screen shot the evidence and speak to the police.