

Knowledge Organiser

Year 9

Term 1

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BIG QUESTIONS

What was life like in Soviet Russia?

How is old Major introduced?

How does a writer create a powerful character?

What does 'Beasts of England' present?

What role might the other animals play in the novella?

How do Napoleon and Snowball differ to old Major?

What do the Seven Commandments represent?

How is the revolution presented positively?

How are the pigs treated differently to other animals?

What is the impact of the rebellion?

Why is the Battle of the Cowshed presented significantly?

Context

Animal Farm by George Orwell is an allegory of the events of the Russian Revolution of 1917. It deals with the ideas of freedom, rebellion and the corrupting nature of power. Orwell shows that the animals have the power to challenge Mr Jones' control and take over the farm - using power in a positive way. He then explores how the pigs use rhetoric and propaganda to establish themselves in power and take control of the farm. It is interesting that the working animals, especially Boxer the horse, have great physical power but they don't use it to break free from the control of the pigs.

Old Major is partly based on Karl Marx and Vladimir Lenin. Karl Marx, was a German philosopher who lived during the 19th-century. His ideas formed the basis of communism - his ideas are collectively known as 'Marxism', like 'Animalism' in the novel. He developed theories on how power structures in society keep people under control. Vladimir Lenin was a Russian revolutionary who established a form of 'Marxism' in Russia in the early 20th-century.

Orwell explores the idea of power leading to corruption. Many of the characters in the novel are eventually corrupted by the power they have, particularly the pigs, as they manipulate their position of leadership to exploit other animals.

Plot

Chapter 1 Old Major, the prize boar, calls a secret meeting of all the farm animals on Manor Farm and inspires the animals to rebel against their master, Farmer Jones. He points out that their lives are difficult, full of hardship and that they live in slavery because of the way Farmer Jones treats them. According to Old Major 'All men are enemies. All animals are equal' and one day there will be a rebellion. He then teaches the animals a song called 'Beasts of England'. The song is about animals overthrowing man and being free.

Chapter 2 Old Major dies three nights later and three pigs, Snowball, Napoleon and Squealer take Old Major's teaching and turn it into a way of thinking called 'Animalism'. The animals rebel when Mr Jones forgets to feed the animals and a fed-up cow pushes her way into the store-shed to look for food. The rest of the animals go in to help themselves and Mr Jones and his men try to get the animals back in line but the animals chase them off the farm - it belongs to them now. The animals rejoice in their victory. They change the name of the farm to 'Animal Farm' and decide on seven commandments to live by that focus on animal equality and avoiding behaving like Jones. There is hope for a better future.

Chapter 3 Life is good after the rebellion and the animals are happy; they work well together and more efficiently than Mr Jones ever did. Boxer the horse always makes a huge effort, his motto is 'I will work harder!'. Two pigs, Snowball and Napoleon, often argue during the meetings. Snowball is focused on education, reading and writing. He reduces 'Animalism' to one idea for the simpler animals - 'four legs good, two legs bad' - and the sheep regularly chant it. Napoleon however, thinks educating the old animals is a waste of time, he focuses on the youngsters; in particular a litter of nine puppies that he takes away from their mother to educate them himself. The pigs start to order the other animals around and take more food than they should. Some animals complain but Squealer persuades them that if the pigs don't get the extra food they need, Jones might return. This is enough to make the other animals agree with him. The inequality between the pigs and the others begins here.

Chapter 4 The animals bravely fight off a human attempt to retake the farm, this becomes known as 'The Battle of the Cowshed'. Jones and his men try to retake the farm but the animals fight against the invasion. The fight becomes known as 'The Battle of the Cowshed'. Awards are given for bravery to Snowball and Boxer.

Chapter 5 Snowball suggests building a windmill. Napoleon thinks they should spend their time building up food stores instead. As the animals are about to vote on the matter, Napoleon calls his dogs into the barn. They are now fully grown and they chase Snowball away.

Key Quotations

1. "Man is the only creature that consumes without producing."
2. "The work of teaching and organizing the others fell naturally upon the pigs, who were generally recognized as being the cleverest of the animals."
3. "The pigs did not actually work, but directed and supervised the others. With their superior knowledge it was natural that they should assume the leadership."
4. "With the worthless parasitical human beings gone, there was more for everyone to eat."
5. "Squealer was sent to make the necessary explanations to the others. 'Comrades!' he cried. 'You do not imagine, I hope, that we pigs are doing this in a spirit of selfishness and privilege? Many of us actually dislike milk and apples.'"
6. "So it was agreed without further argument that the milk and the windfall apples ... should be reserved for the pigs alone."
7. "This had long been expected, and all preparations had been made. Snowball, who had studied an old book of Julius Caesar's campaigns which he had found in the farmhouse, was in charge of the defensive operations. He gave his orders quickly, and in a couple of minutes every animal was at his post."
8. "War is war. The only good human being is a dead one.' 'I have no wish to take life, not even human life,' repeated Boxer, and his eyes were full of tears."
9. "Animal Hero, First Class', which was conferred there and then on Snowball and Boxer."

Key Vocabulary

Revolution the overthrow of a government or social order

Tsar title given to the Russian King

Communism A classless society where all property is owned publicly.

Dictatorship A country ruled by someone who has complete authority.

Propaganda Information, often biased or misleading, designed to persuade people to adopt a particular point of view.

Tyrant A cruel and oppressive ruler.

Exile When someone is away from their home country and is refused permission to return.

Rhetoric linguistic techniques used as part of persuasive speaking or writing.

The Seven Commandments

1. Whatever goes upon two legs is an enemy.
2. Whatever goes upon four legs, or has wings, is a friend.
3. No animal shall wear clothes.
4. No animal shall sleep in a bed.
5. No animal shall drink alcohol.
6. No animal shall kill any other animal.
7. All animals are equal.

Homework Links

Your homework this term will be creative writing, based loosely around the novella.

Check out BBC Bitesize for writing skills to help you with this: <https://www.bbc.co.uk/bitesize/topics/zpyg6fr>



Sentence Structures

1. **Independent Clause:** A clause that can stand alone as a sentence. E.g. *The cat sat on the mat.* Contains a subject and a verb.
2. **Subordinate Clause:** A clause that depends on an independent clause to make sense. E.g. *Without turning around,* the cat sat on the mat.
3. **Simple Sentence:** Contains just one clause (subject + verb) E.g. *Tom went to the shops.*
4. **Compound Sentence:** Independent Clause + Conjunction (**FANBOYS**) + Independent Clause (**For, And, Nor, But, Yet, So**) E.g. *Tom went to the shops and he bought some bread.*
5. **Complex Sentence:** Contains one main clause and one or more subordinate clause/s. E.g. *Although it looked difficult, they still pushed on with the challenge.*
6. **Exclamatory:** A sentence that shows great emotions. E.g. *I am appalled by your behaviour!*
7. **Imperative:** A sentence that gives commands. E.g. *Get out!*
8. **Interrogative:** A sentence that asks a question (not rhetorical questions). E.g. *How much is that dress in the window?*
9. **Declarative:** A sentence that makes a declaration. E.g. *She sells sea-shells.*

Paragraphs

Ti P To P

Ti...you move to a new period of time
P ... you move to a different place/location
To ... you move from one topic to another
P ... you bring a new person into your writing, or change from one person to another - including dialogue (speech)

Sentence Openers		
Opener	Definition	Examples
Prepositional Phrase	describes relationship between nouns	under beside
Words Ending in -ly	adverbs that modify nouns	happily angrily
Action Words Ending in -ed -ing	verbs with an -ed or an -ing at the end	played playing
Words Describing 'What Happened'	words that add meaning to sentence	when as if
Very Short Sentences	sentences with only 2-5 words	We jumped! It was scary.
Transitional Words	tell time, sequence, cause/effect, closing	immediately since

Homophones: words that sound the same but have different meanings

1. **Their** - means it belongs to them.

E.g. I ate *their* sweets.

2. **They're** - short for they are.

E.g. They are going to be cross.

3. **There** - refers to a place.

E. g. I'm going to hide over *there*.

4. **Your** - refers to something that belongs to you.

E.g. *Your* bag.

5. **You're** - contraction of 'you are.'

E.g. *You're* going to win.



Punctuation

- **Full stop:** remember to use a full stop at the end of every sentence.
- **Capital Letters :** make sure every name of something has a capital letter. *E.g. California has a capital letter. Also, make sure every new sentence starts with a capital letter.*
- **Apostrophes:** you can use apostrophes to connect certain words together. *E.g. It is = It's OR to express belonging or property = John's phone*
- **Exclamation mark:** used to end a sentence to show a strong feeling of emotion like surprise, anger, or shock. *E.g. I'm so frightened!*
- **Ellipses:** used to show an omission of words, a pause in thought or to create suspense. *E.g. Suddenly, there it was ... his worst nightmare.*
- **Colon:** used to precede lists or explanations. *E.g. I went to the store and bought a lot of fruit: peaches, apples, oranges and pears. Sarah wrote a story: The Hungry Fish.*
- **Semi Colon:** used to join two related independent clauses. *E.g. We made too many mistakes; we lost the game. Also, use a semi-colon instead of a comma, usually in a list. E.g. You will need many backpacking items: a sleeping bag; torch ; tent ; and pillow.*
- **Hyphens:** you can use hyphens for a number of reasons.
 - To separate sentences with added information e.g. *I enjoy English – as well as Maths.*
 - To indicate periods of time. *E.g. 2000-2006.*
 - To form hyphenated words. *E.g. self-respect.*
 - To create emphasis. *E.g. Mum loves seafood – she absolutely adores seafood.*
- **Brackets:** use brackets to indicate added information. The sentence should still make sense when removed. *E.g. I did my homework, (it took me twenty minutes) and brought it in early.*

The 7 Main Commas Rules

- 1.) Use a comma before a conjunction, (and, but, nor, yet, or, so), to connect two independent clauses.
E.g. I had an English test last night, so I revised.
- 2.) Use a comma to set off an opening phrase.
E.g. As such, I feel there is much I can learn.
- 3.) Use a comma when using quotes to separate the quote from the rest of the sentence.
E.g. Like Bob Johnson said, "It's a great day for hockey".
- 4.) Use a comma to separate subordinate adjectives. If an *and* or a *but* can be put between the adjectives, a comma probably belongs there.
E.g. As such, I feel there is much I can learn.
- 5.) Use a comma to separate three or more things in a series.
E.g. Of Charles Dickens' novels, I have read "A Christmas Carol", "Oliver Twist", and "Great Expectations".
- 6.) Use a comma with phrases that present a contrast.
E.g. Learning about Hemmingway can be highly advantageous for students, not only in their secondary school studies, but also in their future careers.
- 7.) Use a comma to set off a parenthetical element (added information that can be taken out without changing the meaning of the sentence).
E.g. Now, many years after their time, we as a country are faced at the starting ground where these men once were.



Subject: Mathematics

Topic: Recall Knowledge

Year / Group: GCSE F/H
Term: 1-6

Areas

Rectangle = $l \times w$	
Parallelogram = $b \times h$	
Triangle = $\frac{1}{2} b \times h$	
Trapezium = $\frac{1}{2} (a + b)h$	

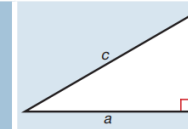
Volumes

Cuboid = $l \times w \times h$	
Prism = area of cross section \times length	
Cylinder = $\pi r^2 h$	
Volume of pyramid = $\frac{1}{3} \times$ area of base $\times h$	

Pythagoras

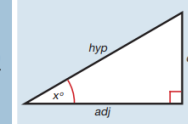
Pythagoras' Theorem

For a right-angled triangle,
 $a^2 + b^2 = c^2$



Trigonometric ratios (new to F)

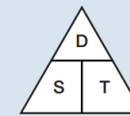
$\sin x^\circ = \frac{\text{opp}}{\text{hyp}}$, $\cos x^\circ = \frac{\text{adj}}{\text{hyp}}$, $\tan x^\circ = \frac{\text{opp}}{\text{adj}}$



Compound measures

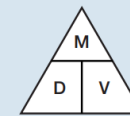
Speed

speed = $\frac{\text{distance}}{\text{time}}$



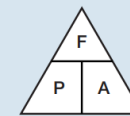
Density

density = $\frac{\text{mass}}{\text{volume}}$



Pressure

pressure = $\frac{\text{force}}{\text{area}}$

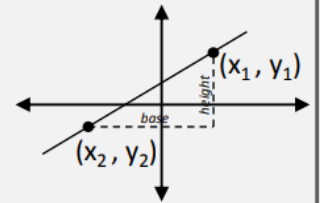


Gradient of a Line

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

or

$$m = \frac{\text{height}}{\text{base}}$$



Midpoint of two points

between (x_1, y_1) and (x_2, y_2) $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

Compound Growth & Decay

The amount after n years (or days, etc.) is:

$$\text{starting amount} \times \left(1 \pm \frac{r}{100} \right)^n$$

where r is the rate of change.

The \pm means + for growth and - for decay

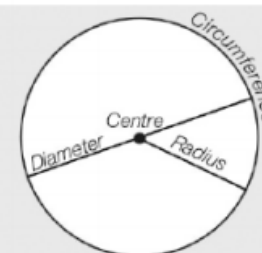
Literacy In Maths	Command Words
Evaluate ...	Work out and write your answer
Work out ...	Working out is required
Calculate ...	Working out is required. A calculator may be needed.
Solve ...	Work out the values
Prove ...	All working must be shown in steps to link reasons and values.
Expand...	Multiply out of the brackets
Draw...	Draw accurately with a pencil and equipment.
Explain ...	Use words to give reasons
Factorise	The reverse process of expanding brackets. Remove the HCF.
Estimate	Work out an approximate answer using rounded values.

Circles

Circumference = $\pi \times \text{diameter}$, $C = \pi d$

Circumference = $2 \times \pi \times \text{radius}$, $C = 2\pi r$

Area of a circle = $\pi \times \text{radius squared}$, $A = \pi r^2$



Area of a Sector

$$A = \frac{\theta}{360^\circ} \times \pi r^2$$

Length of an Arc

$$A = \frac{\theta}{360^\circ} \times \pi d$$

Set Notation

$A \cup B$

Union: in A or B (or both)

$A \cap B$

Intersection: in both A and B

$$P(A \text{ or } B) = P(A) + P(B)$$

$$P(A \text{ and } B) = P(A) \times P(B)$$

BIG QUESTIONS

How do you calculate with ANY number?

How and why do we estimate?

How do you use primes and powers?

Sparx Maths

U965, U298,
U480, U751
U250, U529,
U235, U330,
U534, U417

Higher only

M719, M678
U633, U338,
U872

Calculations & Estimating

Digits are the individual components of a number.

Integers are whole numbers.

Rounding rules:

A next digit of 5 to 9 rounds the number up.

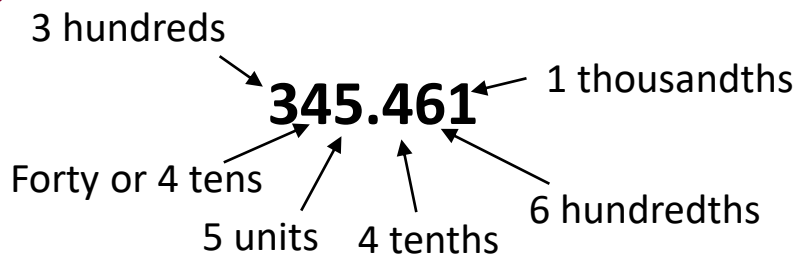
A next digit of 0 to 4 keeps the number the same.

Place value:

Th H T U . t h th

When adding and subtracting decimals we must ensure the decimal places are underneath each other when setting up.

When multiplying decimals, calculate without the decimal point and use estimation to help replace it.



Order the following numbers (smallest first)

0.067 0.6 0.56 0.65 0.605

Rewrite 0.067, 0.600, 0.560, 0.650, 0.605

0.067 0.56 0.6 0.605 0.65

Round 3.527 to:

a) 1 decimal place 3.5 2 7 → 3.5

b) 2 decimal places 3.5 2 7 → 3.53

c) 1 significant figure 3. 5 2 7 → 4

Examples

$$42.8 + 5.32$$

$$42.80$$

$$+ 5.32$$

$$48.12$$

$$42.8 - 5.32$$

$$42.80$$

$$- 5.32$$

$$37.48$$

$$2.34$$

$$\times 1.2$$

$$2.808$$

2 decimal places

+ 1 decimal place

3 decimal places

Estimated answer $2 \times 1 = 2$

Estimate the answer to the following calculation:

$$\frac{46.2 - 9.85}{\sqrt{16.3 + 5.42}} = \frac{50 - 10}{\sqrt{20 + 5}} = \frac{40}{5} = 8$$

Primes & Powers

Prime factor decomposition

Breaking down a number into its prime factors

Highest common factor

Finding the largest number which divides into all numbers given

Lowest common multiple

Finding the smallest number which both numbers divide into

Prime Factor Decomposition of 40

2	40
2	20
2	10
5	5
1	

$$40 = 2 \times 2 \times 2 \times 5 \\ = 2^3 \times 5$$

$$\text{HCF: } 2 \times 2 \times 3 = 12$$

2	24	36
2	12	18
3	6	9
	2	3

$$\text{LCM: } 2 \times 2 \times 3 \times 2 \times 3 = 72$$

HCF and LCM

Find the HCF and LCM of 24 and 36 using Repeated Division

Index Laws

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

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

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

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

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

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

Standard Form (H)

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

Must be $1 \leq a < 10$ b is an integer

$$a \times 10^b$$

$$1) \quad 4580000 = 4.58 \times 10^6$$

$$2) \quad 0.0006 = 6 \times 10^{-4}$$

Surds (H)

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:

$$\sqrt{20} = \sqrt{4} \times \sqrt{5} = 2\sqrt{5}$$

$$3\sqrt{40} \div \sqrt{2} = 3\sqrt{40 \div 2} \\ = 3\sqrt{20} = 3\sqrt{4}\sqrt{5} \\ = 6\sqrt{5}$$

Homework Links

Sparx Maths

MathsGenie.co.uk/GCSE

Corbettmaths.com/contents

bbc.co.uk/bite size/subjects

Key Vocabulary

Estimate

Significant

Surd

Prime

Factor

Multiple

Irrational

Rational

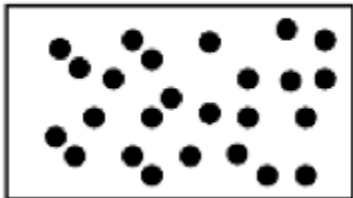
Denominator

Venn

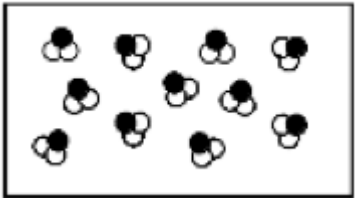
Chemistry 1 (C1): Atomic Structure and the Periodic Table Knowledge Organiser

A) Atoms, Elements, Compounds and Mixtures

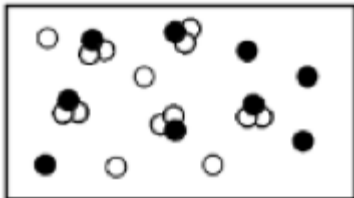
Element



Compound



Mixture



Key term/question	Definition/answer
1. Atom	Smallest particle of an element that can exist
2. Element	Made of one type of atom
3. Compound	Two or more different elements chemically bonded
4. Mixture	Two or more elements that are not chemically combined
5. Three subatomic particles	Protons, neutrons and electrons
6. Proton mass, charge and location (3)	<u>1.</u> Mass = 1 <u>2.</u> Charge = +1 (positive) <u>3.</u> Location = nucleus
7. Neutron mass, charge and location (3)	<u>1.</u> Mass = 1 <u>2.</u> Charge = 0 (neutral) <u>3.</u> Location = nucleus
8. Electron mass, charge and location (3)	<u>1.</u> Mass = 0 <u>2.</u> Charge = -1 (negative) <u>3.</u> Location = shells that orbit the nucleus
9. Radius of atom	1 x 10 ⁻¹⁰ metres (equivalent to 0.1 nanometres)
10. Why is the overall charge of an atom neutral?	Number of electrons equals number of protons
11. The mass number =	Number of protons and neutrons (Big number)
12. The atomic number =	Number of protons and therefore number of electrons (Small number)
13. Electron configuration (3)	<u>1.</u> First shell = 2 electrons <u>2.</u> Second shell = 8 electrons <u>3.</u> Third shell = 8 electrons
14. What is an isotope?	Same element with the same number of protons but different numbers of neutrons .
15. What is an ion?	Atoms that have gained or lost electrons
16. What is ionic bonding?	Metals react with non-metals. Metals give their electrons to non-metals to form a compound.
17. What is covalent bonding?	Reaction between non-metals. Electrons are shared.

B) Rules for Naming Compounds

Key term/question	Definition/answer
18. Seven Diatomic elements	Hydrogen (H ₂), Nitrogen (N ₂), Fluorine (F ₂), Oxygen (O ₂), Iodine (I ₂), Chlorine (Cl ₂), Bromine (Br ₂)
19. Naming compounds with two elements	Compound ends in ide
20. Naming compounds with two elements example	Sodium + chlorine → Sodium chloride
21. Naming compounds with three elements, including oxygen and hydrogen	Compound ends in hydroxide
22. Naming compounds with three elements, including oxygen and hydrogen example	Potassium + oxygen + hydrogen → potassium hydroxide
23. Naming compounds with three elements including oxygen	Compound ends in ate
24. Naming compounds with three elements including oxygen example	Calcium + carbon + oxygen → calcium carbonate

C) Methods for Separating Mixtures

Key term/question	Definition/answer
25. Methods used to separate substances in a mixture (5)	<u>1.</u> Chromatography <u>2.</u> Filtration <u>3.</u> Evaporation <u>4.</u> Crystallisation <u>5.</u> Distillation
26. Chromatography	Separates mixtures by how quickly they move through a stationary phase
27. Filtration	Separates an insoluble solid from a liquid
28. Evaporation	Separates a soluble solid from a liquid
29. Crystallisation	Solid crystals form as water evaporates from a solution
30. Simple Distillation	Separates a liquid from a mixture when their boiling points are greatly different
31. Fractional distillation	Separates a mixture of many different liquids <u>when</u> their boiling points are very close together

Physics – P1: Energy Knowledge Organiser

A) <u>Equations and units of measure for energy</u>	
Key term/question	Definition/answer
1. Formula linking kinetic energy, mass and speed	kinetic energy = $0.5 \times \text{mass} \times \text{speed}^2$ $E_k = 1/2 mv^2$
2. Formula linking elastic potential, spring constant and extension	Elastic potential energy = $0.5 \times \text{spring constant} \times \text{extension}^2$ $E_e = 1/2 ke^2$
3. Formula linking gravitational potential energy, mass and height	Gravitational potential energy = $\text{mass} \times \text{gravitational field strength} \times \text{height}$ $E_p = mgh$
4. Formula linking change in thermal energy, mass, specific heat capacity and temperature change	Change in thermal energy = $\text{mass} \times \text{specific heat capacity} \times \text{temperature change}$ $\Delta E = mc\Delta\theta$
5. Formula for linking energy transferred, power and time	Energy transferred = $\text{Power} \times \text{time}$ $E = Pt$
6. Formula for linking work done, power and time	work done = $\text{power} \times \text{time}$ $W = Pt$
7. Formula for calculating efficiency using energy	Efficiency = $\text{useful output energy transfer} \div \text{total input energy transfer}$
8. Formula for calculating efficiency using power	Efficiency = $\text{useful output power} \div \text{total input power}$
9. Unit of energy	J = Joules
10. Unit of mass	Kg = Kilograms
11. Unit of speed	m/s = Metres per second
12. Unit of spring constant	N/m= Newtons per meter
13. Unit of extension	m = Metres
14. Unit of gravitational field strength	N/kg = Newtons per kilogram
15. Unit of height	m = Metres
16. Unit of temperature	°C = degrees Celsius
17. Unit of specific heat capacity	J/kg°C
18. Unit of power	W = Watts
19. Unit of time	s = seconds

B) <u>Energy stores and transfers</u>	
Key term/question	Definition/answer
20. Kinetic energy store	Anything moving. Fills: Accelerating. Empties: Decelerating
21. Thermal energy store	Any object. Fills: Heating. Empties: Cooling
22. Chemical energy store	Anything that releases energy via chemical reaction e.g. fuels, batteries and food.
23. Gravitational potential energy (GPE) store	Anything with a mass and in a gravitational field. Fills: Raising. Empties: Lowering
24. Elastic potential energy store	Anything stretched/compressed. Fills: Stretching or compressing. Empties: Returning to original shape
25. Electrostatic energy store	Anything with electrical charge
26. Magnetic energy store	Anything magnetic interacting with another magnet
27. Nuclear energy store	Anything in atomic nuclei
28. Closed system	Systems (Objects) where neither matter nor energy can enter or leave
29. Types of energy transfer (4)	Mechanically (applying a force), Electrically, Heating, Radiation (Light or sounds waves)
30. Work done	Energy transferred
31. Law of conservation of energy	Energy can be transferred usefully, stored, or dissipated, but can never be created or destroyed
32. Power definition	Rate of energy transfer
33. Conduction	Process by which vibrating particles transfer energy to neighbouring particles
34. Thermal conductivity	How quickly energy is transferred through a material
35. Convection	Movement of particles from hotter to cooler regions

Physics – P1: Energy Knowledge Organiser

B) Energy Stores and Transfers

Key term/question	Definition/answer
36. Thermal insulation definition	Poor thermal conductors (keep heat in)
37. Examples of thermal insulation in the home (6)	Cavity walls, loft insulation, double glazing, draught proofing, hot water tank jacket, thick curtains
38. Use of lubricants	Reduce friction meaning less energy lost to thermal store
39. Is it possible to achieve 100% efficiency?	Only when appliance use is for heating

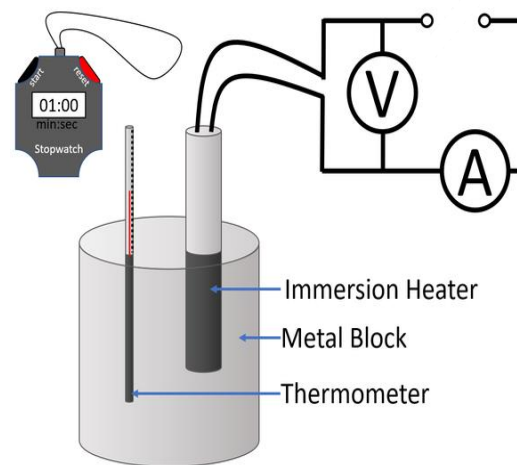
C) Energy Resources

Key term/question	Definition/answer
40. Non-renewable definition	Cannot be replenished. Limited supply.
41. Non-renewable energy sources (4)	Coal, Natural gas, Oil, Nuclear fuels (uranium, plutonium)
42. Renewable definition	Can be replenished as it is used. Unlimited supply.
43. Renewable energy sources (7)	Wind, Tidal, Solar, Biofuel, Water, Hydroelectricity, Geothermal
44. Uses of energy resources (3)	Transport, heating, electricity
45. Arguments for renewable energy resources	Less damaging to environment, unlimited supply,
46. Arguments against renewable energy resources	Produce less energy than non-renewables, can be unreliable due to being location specific or dependent on weather conditions, expensive.

D) Specific Heat Capacity Required Practical

Method for measuring the specific heat capacity of a metal block

- Using a balance measure the mass of the block, then wrap the block in insulation.
- Use a pipette to put a small volume of water in the smaller hole.
- Put the thermometer in this hole and measure the starting temperature of the block.
- Place a heater in the larger hole in the block.
- Connect the ammeter, power pack and heater in series.
- Connect the voltmeter across the power pack in parallel.
- Switch the powerpack on and record the ammeter and voltmeter readings.
- Calculate the power by using the equation $P = I \times V$
- Record the temperature every minute for 10 minutes.
- Calculate the temperature change for each result.
- Calculate the energy transferred to the block by using the equation $E = P \times t$
- Calculate the specific heat capacity by using the equation $\text{specific heat capacity} = \text{energy} / (\text{mass} \times \text{temperature change})$

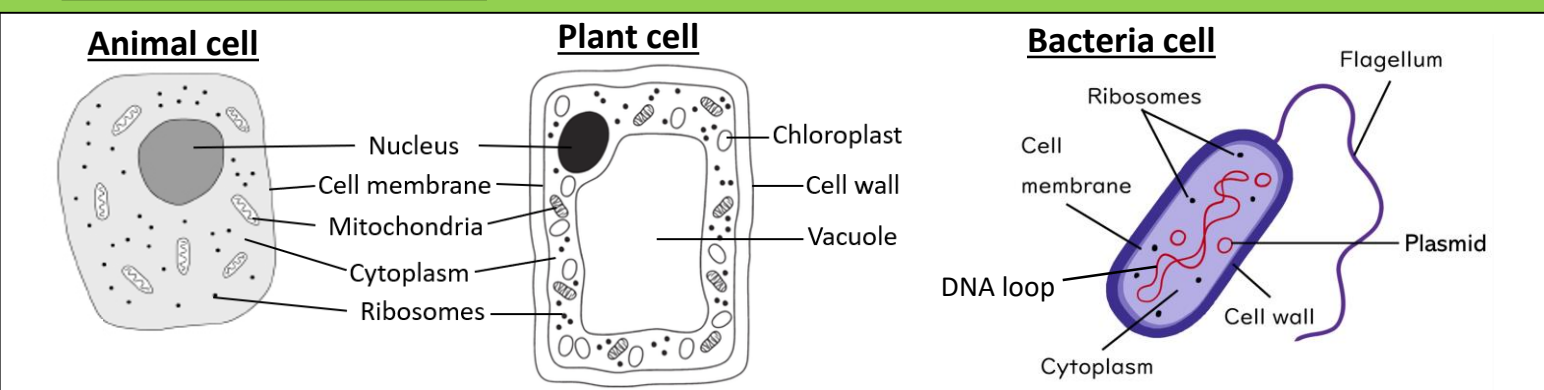


Key term/question	Definition/answer
47. Specific heat capacity (SHC) definition	Amount of energy needed to raise the temperature of 1kg of a substance by 1°C
48. SHC equation	$\text{specific heat capacity} = \text{energy} / (\text{mass} \times \text{temperature change})$
49. Investigating SHC equipment	Power supply, thermometer, block of material, insulation, ammeter, voltmeter, stopwatch

Biology - B1: Cell Biology Knowledge Organiser

B) Cell Differentiation and Specialisation

A) Eukaryotic and Prokaryotic Cells



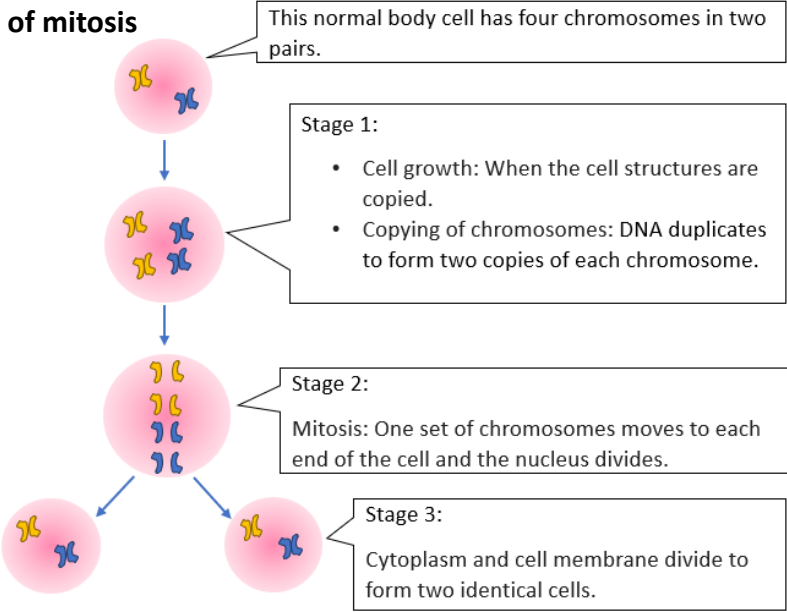
Key term/question	Definition/answer
1. What are Eukaryotic cells?	Cells with DNA contained inside a nucleus
2. What are prokaryotic cells?	Cells with a single strand of DNA floating free in cytoplasm
3. Examples of eukaryotes (2)	<u>1.</u> Plant cells <u>2.</u> Animal cells
4. Example of a prokaryote	Bacteria
5. Nucleus	Contains DNA that controls cellular activity
6. Cytoplasm	Site of chemical reactions
7. Cell membrane	Semi-permeable so controls what enters and exits the cell
8. Mitochondria	Site of respiration to release energy
9. Ribosomes	Site of protein synthesis
10. Cell wall	Supports and strengthens the cell
11. Vacuole	Contains cell sap to keep the cell turgid
12. Chloroplast	Site of photosynthesis
13. Plasmid	Small loop of DNA containing genes for antibiotic resistance
14. Flagellum	Rotates to make the cell move
15. Cell structures unique to plants (3)	<u>1.</u> Cell wall <u>2.</u> Vacuole <u>3.</u> Chloroplasts
16. Cell structure unique to bacteria	Plasmid

Key term/question	Definition/answer
17. Specialised cell	A cell which performs a specific function
18. Cell differentiation	The process by which a cell becomes specialised for its job
19. Examples of animal specialised cells (3)	<u>1.</u> Sperm cell <u>2.</u> Nerve cell (neurone) <u>3.</u> Muscle cell
20. Examples of plant specialised cells (3)	<u>1.</u> Root hair cell <u>2.</u> Phloem cell <u>3.</u> Xylem cell
21. Function of sperm cell	To swim to egg, so the male DNA can join with the female DNA
22. Adaptations of sperm cell (4)	<u>1.</u> Streamlined <u>2.</u> Long tail <u>3.</u> Lots of mitochondria <u>4.</u> Enzymes in head to digest the egg cell membrane
23. Function of neurone	To send electrical impulses around the body
24. Adaptations of neurone (2)	<u>1.</u> Long to cover more distance <u>2.</u> Have branch like connections
25. Function of muscle cell	To contract quickly
26. Adaptations of muscle cell (2)	<u>1.</u> Long for space to contract <u>2.</u> Lots of mitochondria to release energy
27. Function of root hair cell	To absorb water and minerals from soil
28. Adaptations of root hair cell (2)	<u>1.</u> Have a large surface area <u>2.</u> Lots of mitochondria for active transport
29. Function of phloem cell	Transports sugars and amino acids around the plant.
30. Adaptation of phloem cell (2)	<u>1.</u> Have pores to allow cell sap to flow <u>2.</u> Long and joined end to end
31. Function of xylem cell	Transports water and minerals up the plant
32. Adaptation of xylem cell	Hollow in the centre and tubes are joined end to end

Biology - B1: Cell Biology Knowledge Organiser

C) Chromosome and mitosis

Stages of mitosis



Key term/question	Definition/answer
33. Chromosome	A long molecule of coiled DNA
34. DNA	A polymer made of two strands forming a double helix
35. Genes	Short sections of DNA coding for a sequence of amino acids
36. Number of chromosomes in human body cells	46 individual (23 pairs)
37. Number of chromosomes in sex cells (sperm and egg cell) ?	23 individual
38. Mitosis	A type of cell division which produces two identical cells
39. Purpose of mitosis	For growth and repair

D) Stem cells

Key term/question	Definition/answer
40. Human embryonic stem cells	Undifferentiated cells that can become any type of cell
41. Adult stem cells	Found in bone marrow that can only turn into certain cells (e.g. blood cells)
42. Clones of stem cells	Genetically identical cells that are grown in laboratory's
43. Uses of stem cells (3)	<u>1.</u> Replacing faulty blood cells <u>2.</u> Making insulin producing cells <u>3.</u> Replacing faulty nerve cells
44. Therapeutic cloning	An embryo with the same genetic information as the patient
45. Argument for therapeutic cloning	Won't be rejected by the patient's body
46. Argument against therapeutic cloning	May transfer a viral infection to the patient
47. Arguments for using embryonic stem cells (2)	<u>1.</u> Curing people who are suffering is more important than rights of the embryos. <u>2.</u> Unused embryos from fertility clinics are destroyed anyway.
48. Arguments against using embryonic stem cells (2)	<u>1.</u> Embryos are a potential life <u>2.</u> Embryos should have their own rights
Stem cells in plants	
49. Meristems	Differentiate throughout the plant's entire life
50. Uses of meristems (2)	<u>1.</u> Rare species can be cloned to protect from extinction. <u>2.</u> Disease resistant plants can be cloned

E) Transport: diffusion, osmosis and active transport

Key term/question	Definition/answer
51. Diffusion	Spreading out of particles from an area of higher concentration to an area of lower concentration
52. Small molecules that diffuse across cell membranes	Oxygen, carbon dioxide, amino acids, glucose
53. How does temperature affect the rate of diffusion?	The higher the temperature, the faster the rate of diffusion due to particles gaining kinetic energy
54. How does concentration affect the rate of diffusion?	The larger the difference in concentration, the faster the rate of diffusion
55. How does surface area affect the rate of diffusion?	The larger the surface area, the faster the rate of diffusion
56. Osmosis (type of diffusion)	Movement of water from an area of higher water concentration to an area of lower concentration, across a semi-permeable membrane
57. Semi – permeable / partially membrane	A membrane which only allows some substances to pass through
58. Active transport	The movement of particles from a low concentration to high concentration which requires energy from respiration

Medieval Medicine (1250-1500)

BIG QUESTIONS

What was Medicine like in the Middle Ages?

What Supernatural Explanations were there for the causes of disease?

What natural causes of disease were there? Who was Galen and what were his ideas?

Classical Thinking in the Middle Ages – why did nothing change?

What were the religious and humoral treatments in the medieval period?

How did people try to prevent disease in the medieval period and where would you go if you were sick?

Where would you be treated if you were sick in the medieval period?

What were the Symptoms and Causes of the Black Death?

How did people try and treat and prevent the Black Death?

SUMMARY OF THE PERIOD

Very few scientific advances in this period. People believed disease was sent from God as a punishment for sin and it was not possible to question these teachings. The Church used ancient texts by Hippocrates and Galen to explain illness. These put forward the theory of the four humours. People also looked to astrology and urine charts to diagnose illness. Physicians would give patients a personalised diagnosis, but treatment was often given by midwives and barber surgeons. People would also go to apothecaries for herbal remedies. The invention of the printing press was perhaps the most significant innovation of this period as it would encourage the spread of new ideas.

Key Individuals / Events

Hippocrates - Ancient Greek physician, created the theory of the four humours.

Galen - Physician in ancient Rome who developed Hippocrates' theories further and wrote more than 350 books about medicine. His teachings were promoted by the Church because they fitted with Christian ideology.

Outbreak of the **Black Death** (1348)

Ideas about the cause of disease and illness

The belief that illness was a **punishment from God**.

The use of **astrology** in the diagnosis and treatment of illness, representing a new development in this time period.

The Theory of the **Four Humours**, created by Hippocrates in Ancient Greece and developed by Galen in Ancient Rome; promoted by the Church and used widely by doctors.

Miasma: the idea of disease being caused by bad air and foul smells

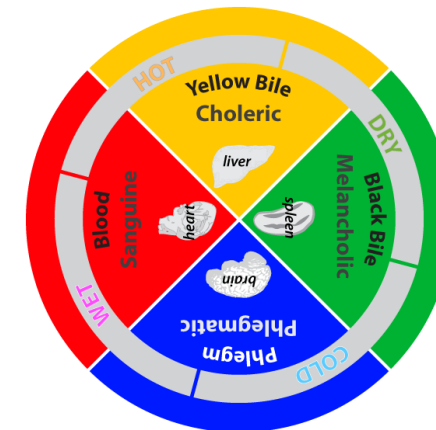


Diagram –
The Four Humours Theory

The Classical Period

Galen remained very popular during this period for the following reasons:

- The influence of the church
- The importance of book learning
- The lack of alternative ideas

Medieval - Approaches to prevention and treatment

Religious actions included prayer and flagellation.

The use of the Theory of Opposites, bleeding and purging to treat illness, based on the idea of the Four Humours.

Herbal remedies from the apothecary or mixed at home – most common form of treatment.

Hospitals provided by the Church as centres for recuperation rather than for the sick.

Treatment and care for most sick people at home by the women of the household.

Availability of physicians only for the rich.

Apothecaries and barber surgeons: provided herbal remedies and carried out small surgeries, such as the treatment of haemorrhoids.



Flagellant – To subject yourself to flogging for religious purposes (to be forgiven of sins)



Black Death Case Study

Religious methods of prevention included fasting, prayers, pilgrimage, donations to the Church and flagellation.

Religious ideas about treatment included prayers and offerings to the Church.

A very broad spread of other treatments, including charms, potions and sitting in sewers to drive away the miasma.

Some rudimentary attempts at quarantine (not often successful).

Exam Source Skills

Source A

A picture of a Medieval hospital, from 1482. Some of the patients are sharing beds, which was normal at this time.

What contextual knowledge could you add? What do you know about medieval hospitals?

Study Source A...

How useful is Source A for an enquiry into Medieval treatments? **8 Marks**

Nature

Origin

Purpose

Reliability?

Term 1 Homework

Week 2

Revise for Week 3 assessment

Week 4/5

Research the work of John Bradbury. Searching 'Henry V arrowhead removal' on youtube may be a good start

What did he do to become so famous?

Is such innovation typical of the medieval period? Explain your answer!

What risks would there be in this operation that couldn't be resolved in the Medieval period? Explain



Useful links to support your understanding of the topic

<https://www.bbc.co.uk/bitesize/guides/zgdfityc/revision/1>

(a number of pages from BBC Bitesize summarising key developments during the Middle Ages)

<https://www.youtube.com/watch?v=nJV8iEAm88> (a great BBC teach video summarizing key developments during the Middle Ages)

[Traditional treatments in the medieval era - Attempts to treat and cure illness and disease – WJEC - GCSE History Revision - WJEC - BBC Bitesize](#)

BIG QUESTIONS

- Who is eating all the food, drinking all the water and using all the energy?
- What are resources and why might they run out?
- The more developed a country is, the more resources it uses. Why?
- Suggest ways to get water from areas of surplus to areas of deficit in the UK
- How has energy use changed over time and what might it look like in the future?
- Explain why there is a growing demand for organic and locally sourced food.
- What are food miles and how are they impacting the environment?

Resource challenges

Resources are things that humans require for life or to make our lives easier. Humans are becoming increasingly dependent on exploiting these resources, and as a result they are in high demand.

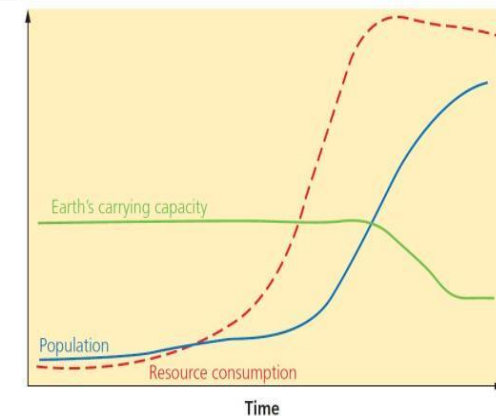
Resources such as food, energy and water are what is needed for basic human development.

FOOD	WATER	ENERGY
Without enough nutritious food, people can become malnourished . This can make them ill. This can prevent people working or receiving education.	People need a supply of clean and safe water for drinking, cooking and washing. Water is also needed for food, clothes and other products.	A good supply of energy is needed for a basic standard of living. People need light and heat for cooking or to stay warm. It is also needed for industry.

Demand outstripping supply

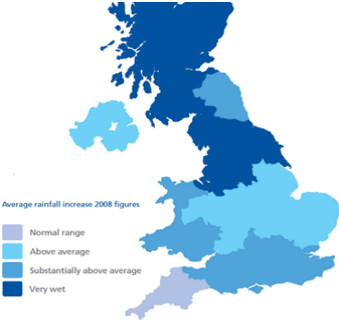
The demand for resources is rising so quickly that supply cannot always keep up. Importantly, access to these resources varies dramatically in different locations

Population growth	Economic development
<ul style="list-style-type: none"> Currently the global population is 7.7 billion. Global population has risen exponentially this century. Global population is expected to reach 9-10 billion by 2050. With more people, the demand for food, water, energy, jobs and space will increase. 	<ul style="list-style-type: none"> As LICs and NEEs develop further, they require more energy for industry. LICs and NEEs want similar lifestyles to HICs, therefore they will need to consume more resources. More water is required for food production as diets improve.



Homework

Revise and take test: [Resources - food, energy and water - Distribution of resources - AQA - GCSE Geography Revision - AQA - BBC Bitesize](#)
Food Production: [Home Page - Thanet Earth](#)
Challenge Notes: [Food Production - THE GEOGRAPHER ONLINE](#)

Water in the UK		Food in the UK	
Growing demand	Deficit and surplus	Growing demand	Impact of demand
<p>The average water used per household has risen by 70%. This is due to:</p> <ul style="list-style-type: none"> A growing UK population. Water-intensive appliances. Showers and baths taken. Industrial and leisure use. Watering greenhouses. 	<p>The north and west have a water surplus (more water than is required). The south and east have a water deficit (more water needed than is actually available). More than half of England is experiencing water stress (where demand exceeds supply).</p>	<ul style="list-style-type: none"> The UK imports about 40% of its food. This increases people's carbon footprint. There is growing demand for greater choice of exotic foods needed all year round. Foods from abroad are more affordable. Many food types are unsuitable to be grown in the UK. 	<p>Foods can travel long distances (food miles). Importing food adds to our carbon footprint.</p> <p>+ Supports workers with an income + Supports families in LICs. + Taxes from farmers' incomes contribute to local services. - Less land for locals to grow their own food. - Farmers exposed to chemicals.</p>
Pollution and quality	Water stress in the UK	Agribusiness	Sustainable foods
<ul style="list-style-type: none"> Chemical run-off from farmland can destroy habitats and kills animals. Oil from boats and ships poisons wildlife. Untreated waste from industries creates unsafe drinking water. Sewage containing bacteria spreads infectious diseases. 	 <p>Average rainfall increase 2008 figures</p> <ul style="list-style-type: none"> Normal range Above average Substantially above average Very wet 	<p>Farming is being treated like a large industrial business. This is increasing food production.</p> <p>+ Intensive farming maximises the amount of food produced. + Using machinery which increases the farms efficiency. - Only employs a small number of workers. - Chemicals used on farms damages the habitats and wildlife.</p>	<p>Organic food and local food sourcing is also rising in popularity.</p> <ul style="list-style-type: none"> Reduces emissions by only eating food from the UK. Buying locally sourced food supports local shops and farms. A third of people grow their own food.
Energy in the UK			
Growing demand	Energy mix		
<p>The UK consumes less energy than compared to the 1970s despite a smaller population. This is due to the decline of industry.</p>	<p>The majority of UK's energy mix comes from fossil fuels. By 2020, the UK aims for 15% of its energy to come from renewable sources. These renewable sources do not contribute to climate change.</p>		

Key vocabulary

Agribusiness – farming conducted on commercial principles, for profit.

Carbon footprint – a measure of the amount of carbon dioxide in the atmosphere as a result of human activity.

Energy mix – the combination of fossil fuels, nuclear power and renewable sources of energy that is used to meet domestic and industrial energy needs.

Food miles – how far a food item has travelled from producer to consumer.

Fossil fuel – the natural fuel derived from coal, oil and gas (remains of organisms formed in the geological past).

Insecurity – the condition of not having sufficient access to a resource.

Local food sourcing – food that is produced within a short distance to where it is consumed.

Organic produce – the product produced without man-made fertilisers or chemicals.

Security – sufficient access to a resource.

Renewable energy – an energy from a source that will not be depleted.

Water deficit – Inadequate or insufficient access to water.

Water scarcity – an areas demand outpaces supply, leading to lack of resource.

Water stress – demand for water exceeds the available amount in an area.

Water surplus – water supply exceeds demand.

BIG QUESTIONS

How do artists use printmaking?

Exploit ways to record ideas for printmaking

Describe a situation where positive and negative space could be used.

Define the term relief printmaking.

Demonstrate the reduction printing process.

List the materials and equipment needed to make a lino print.

Describe 3 types of printmaking techniques.



Overarching Big Question

Broaden printmaking skills learned in Year 8, through experimenting with a range of printmaking techniques.

Investigate how artists make use of printmaking techniques and processes in their work. Select and develop ideas appropriate for printmaking.



Key Skills

RECORD

I will learn to record...

- images and information appropriate for printmaking
- using drawing and printmaking techniques
- building on my knowledge and understanding of how artists use printmaking techniques to create meaningful work
- ideas for a print

DEVELOP

I will learn how to develop...

- and broaden my knowledge and understanding of printmaking
- a range of compositions suitable for printmaking
- alternative ideas in response to a given theme, linking to artists work.
- my higher order thinking skills

REFINE

I will learn how to...

- use images and information to create ideas for printmaking
- experiment with a range of printmaking techniques e.g. Relief, Mono and Collagraph.
- select ideas to adapt and improve into a final idea

EVALUATE

I will learn how to...

- analyse and reflect on the development of my own work
- make connections between my own and abstract artists' work
- suggest ways I could improve
- evaluate artists using analytical writing skills and forming opinions

PRESENT OUTCOMES

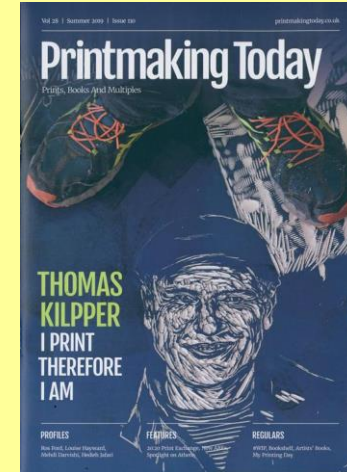
I will learn how to...

produce a finished outcomes in print.



Homework Links

Homework- tasks linked to 'Drawing and Printmaking' (2 hours per cycle)



Key Vocabulary

I will learn the meaning of...

*Relief/Repeat/
Texture/Sequence/
Reduction/Pattern/
Line/Positive and Negative
space within the context of
printmaking.*

EVALUATING ARTISTS' WORK

1. Describe the piece of art you are looking at
2. What is the name of the artist or type of art?
3. What art movement or culture does the art link to?
4. Research and list 5 or more things about the artist or culture?
5. What important things have happened in the country that the art comes from?
6. What has influenced the art E.g. other artists, people, personal experiences, society, culture, politics, gender, colour, pattern, movement, religion, travel, places, objects etc.
7. Describe the materials used to make the art
8. How has the art been produced?
9. What is being communicated through the art?
10. Which of these words best describes the mood of the picture? EMOTIONAL/POWERFUL/BUSY/SLOW/PEACEFUL/WARM/COLD/HAPPY/SAD/CALM/INTENSE/SCARY can you think of any other words?
11. What do you like or dislike about the picture? Explain your reasons...

ANNOTATING YOUR OWN WORK

- In this artwork I was trying to...
- The artist/culture that has influenced my work is...
- The source I have used is...
- I found the source I used at...
- In this artwork I used the technique of...
- The media I have used is...
- I like/dislike this piece because...
- My idea links to the theme because...
- I can improve this piece by...
- I could develop this work further by...

Annotate means to explain your own creations

Artist evaluation is when you write about the artist

Project evaluation is written about the whole project at the end

END OF PROJECT EVALUATION

1. Describe each stage of the project from start to finish
2. What media did you use to produce your work? E.g. Paint/Pencil/Clay etc.
3. Describe how you used different techniques in your project? E.g. painting/drawing/modelling with clay etc.
4. Which artist's culture have you looked at?
5. Write down 2 or more similarities between your work and the artist's work.
6. Which piece of your work best shows the Artist's style or the influence of another culture and why?
7. Describe some of your own ideas...
8. Have you used a primary or a secondary source?
9. Have you included the secondary source in your work? Where did you find it?
10. Imagine your final piece was displayed in a public place.... Describe the effect looking at your work might have on people and society. E.g. relax them, make them feel sad, curious, happy, angry, thoughtful, surprised, confused, nostalgic etc. explain why e.g. because of your use of colour, images, content, arrangement? etc.
11. Explain any other influences on your work e.g. personalities (*including your own*), places, memories, objects, politics, events, activities, religion, fact, fiction etc.
12. Describe how your work links to the project theme?
13. Explain what you have done well...
14. Explain how you could improve...
15. What would you do differently, if you were to repeat any part of this project?

Big Questions:

- § Can you attempt/complete a variety of fitness tests?
- § Can you name the relevant components of fitness?
- § Can you perform bodyweight exercises with the correct technique?
- § Can re-test your fitness and compare to your results from Part 1?

Key Principles of Circuit Training:

- A method training which enables you train muscular strength, muscular endurance, power or aerobic endurance.
- Participants rotate around a series of exercises (stations), including a set period of time for work and rest.
- Benefits of circuit training; working all muscle groups and components in alternate system of stations allowing recovery of muscles and capacity to exert maximum effort; facilitates anaerobic energy system.
- Can function as a skills or fitness enhancing method with use of stations.



Fitness:

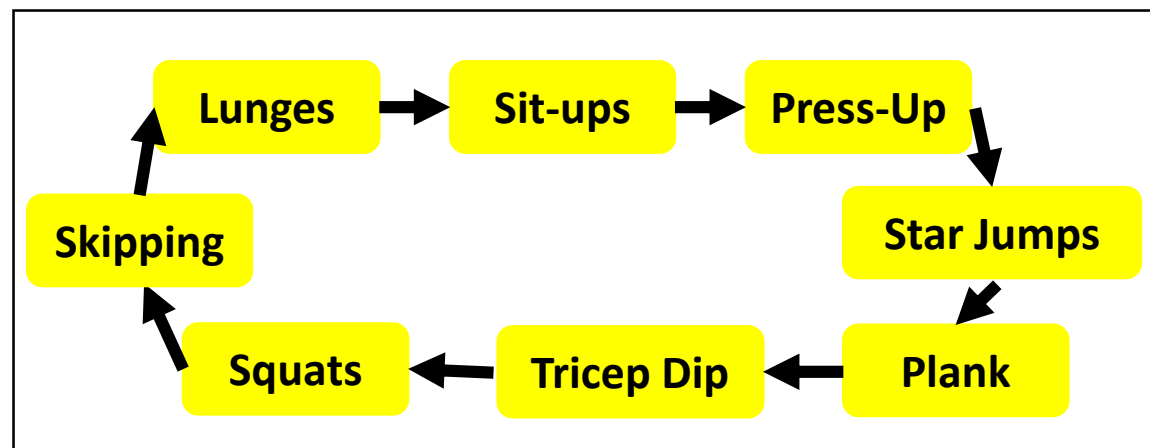
- Shows effort in exercise.
- Can conduct simple fitness tests.
- Know how to record and interpret fitness results against normative data.
- Perform exercises safely.

Knowledge:

- Identify the basic muscles and demonstrate a stretch for each.
- Know the difference between static and dynamic stretches.
- Can identify and describe the key components of fitness and demonstrate suitable exercise to improve each.

Leadership and Coaching:

- Can run a three part warm up.
- Devise and run a small circuit.
- Encourages and motivates others to work effectively.
- Good organisation and communication skills.
- Confident in different roles: Fitness Instructor, measurer, motivator.



Big Questions:

Can you make an accurate pass while running with the ball?

Can you safely and effectively make a tackle?

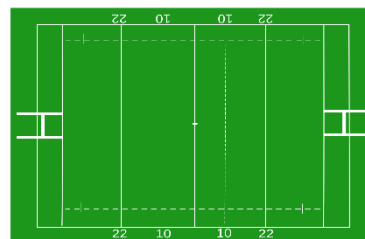
Can you safely and effectively create a ruck?

Can you use tactics to create space to attack?



Key Skills:

- Tackling: Socket to Pocket, Ring of Steel, Hit Low and Hard, Release when player is down.
- Passing: Soft Hands, Hands Up (W), Pass across Chest, Follow through to Target.
- Scrum: Used to restart the game after a knock on. Front Row (Prop-Hooker-Prop) Second Row (4-5), Flankers (Open Side - Number 8 - Blindside)
- Ruck: Contest for the ball after a tackle is made. Must come through the gate, hands out.
- Line Out: Used to restart the game if the ball goes off the field. Hooker throws the ball down the middle of the two teams lines (Forwards).



Teamwork and Respect:

- Sets an example for others to follow.
- Very fair in competition.
- Always gracious in defeat and humble in victory.
- Works well in a team and supports their peers.
- Never argues with the referee.

Key Rules in Rugby:

- High Tackle: All tackles must be below the shoulder and you must attempt to wrap your arms around player, NO shoulder barges.
- Knock On: If you drop the ball it has to bounce backwards. Any knock on will result in a scrum.
- Pass Backwards: All passes have to go backwards. If you make a forward pass, it will result in a scrum.
- Off Side: Defenders need to make sure they are On Side, which is behind the "Gain Line".

Leadership and Coaching:

- Can run a three part warm up.
- Devise and run a small skill practice
- Encourages others
- Good organisation skills
- Good communication skills
- Confident in different roles: Coach, Referee, Scorer.



Big Questions:

- § Can I consistently rally with a partner (overhead clear)?
- § Can I serve accurately (backhand, underarm)?
- § Can I effectively play an attacking shot (drop, smash)?
- § Can apply rules and tactics effectively to score points?



Key Skills:

Overhead Clear: Force opponent to rear of court, hit at highest point, follow through and stand side on.

Smash: Aim to skim net, hit at highest point in downwards direction and transfer body weight.

Drop Shot: Stand side on, skim net and land just beyond, light tap.

Backhand Shot: Backhand grip, aim for back of court, strong follow through and stand side on

Long Serve: Drop and swing at same time, aim for back of court, stand side on and start with racket at waist height.

Short Serve: Short back swing, aim to skim net, racket in front with backhand grip.

Leadership and Coaching:

- Can compare performance using key terminology and teaching points for a variety of sports and skills
- Can use ICT to compare performance
- Know how to gain others attention



Key Rules in Badminton:

- Singles: Court long and narrow
- Doubles: Court short and wide for serving, whole court thereafter
- You can't touch or cross the net
- Can only hit the shuttle once when returning
- Games are played to 21 points
- Points are scored on every serve



Teamwork and Respect:

- Set examples to others in lessons and competitive games
- Show fair in competition
- Respect officials' decisions
- Be gracious in defeat e.g. shake hands with each other

Big Questions:

Year 7:

Can I "travel" using different techniques?

Can I work with another individual to create a balance?

Can I combine balances, jumps and travelling into a mini routine?

Can I create a routine with a peer?

Year 8:

Can I correctly take off when using the springboards?

Can I confidently take off and land correctly when vaulting?

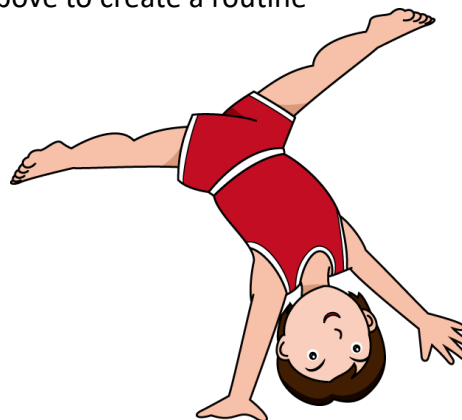
Can I generate height to land on equipment?

Can I create a routine, which includes a jump, roll and balance?



Key Skills:

- Travelling: Moving around the hall using a variety of different, rolls, steps, slides and jumps.
- Balance: Balancing on different body parts, the amount of body parts and performing partner balances with 2 or 3 peers.
- Flight: Travelling through the air, using springboards as an aid.
- Routine: Combining these skills mentioned above to create a routine



Leadership and Coaching:

- Can run a three part warm up.
- Devise and run a small skill practice
- Encourages others
- Good organisation skills
- Good communication skills
- Confident in different coaching roles.

Key Safety Rules:

- Bare feet only
- Ensure equipment is safe and correctly put out before use
- Only 1 person at any one time on a piece of equipment
- Ensure you are confident and have the right out of support before attempting any jumps, rolls and balances.

Teamwork and Respect:

- Sets an example for others to follow.
- Very fair in competition.
- Always respect others whilst they are demonstrating their routine
- Works well in a team and supports their peers.



Big Questions:

Can you effectively dribble the ball?

Can you use a bounce/ chest or shoulder pass?

Can you effectively perform the set shot /lay-up shot?

Can you use key defensive /attacking tactics effectively?



Key Skills

- **Shooting:** Set shot: Shoot with one hand only. Bend your knees and flick your wrist. BEEF (Balance/Elbow/Eye/Follow-through). Jump shot: Release the ball at the top of your jump. Lay-up: Use the top right/left hand side of the backboard. Drive up off your right or left leg.
- **Passing:** Chest/Bounce/Javelin: Step into your pass. Always have your hands up and ready to receive the ball.
- **Dribbling:** Controlled dribble/Cross-Over/Speed/Spin: Bounce between hip and knee height. Keep the ball under control & look up.
- **Defending:** Stay between your opponent and your own basket. Move your feet. Do not reach in.



Teamwork and Respect

- Honest/Fair
- Compassionate
- Inspires others
- Speaks to peers/teacher with respect
- Demonstrates good sportsmanship

Key Rules

- Double dribble
- Jump ball
- Traveling
- Time violations
- Out of court
- Tip off
- Back court violation
- Contact fouls
- Free throws
- Side and base line ball

Coaching and Leadership

- Knowledge of rules and regulations
- Organisational skills
- Interpersonal communication skills
- Vision
- Creativity
- Humility
- Confidence



Can you research these common rules to find out more specific details?

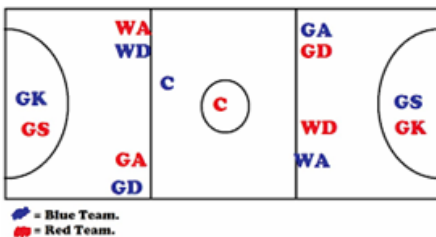
Big Questions:

Can you perform the correct footwork technique in netball?

Can you accurately pass a netball using different techniques?

Can you demonstrate good shooting technique?

Can you apply different strategies to get free from your opponent and tactics in a game?



Key Skills:

- Chest pass: W grip/ Step/Chest to chest/Follow through/ short distance
- Bounce pass: W grip/ Step/Chest to chest/Follow through/ Bounce before player/ short distance
- Shoulder pass: sideways on/elevation/ shoulder to shoulder/ step/ follow through/arch/ long distance
- Footwork: -Landing on alternate feet- first foot to land is the static pivoting foot - Landing on simultaneous feet – either foot can become static pivoting foot -On the move – release ball before third step
- Getting free from their marker e.g. sprint into a space, sprint and feint
- Marking a player and a player with the ball
- Shooting: balance/height/line and aim/ flick and follow/ knee extension.

Leadership and Coaching:

- To run a three part warm-up
- To show good communication skills
- To take the lead in practices
- To have the opportunity to take on different roles e.g. player, coach, scorer, umpire

Key Rules in Netball:

- Netball is a 7 a side game.
- Players are given certain positions and areas they are allowed e.g. GA, GD, C, WA, WD, GS, GK.
- The netball is not allowed to go over a third without it being touched.
- To score a goal the GA or GS must be within the semi-circle to shoot.
- You are not allowed to walk with the ball.
- You should be a metre away when defending a player with the ball.
- A centre pass is taken when a goal has been scored, it is alternated between the two teams.

Teamwork and Respect:

- Follows guidance from others
- Works well in a team
- Does not argue with the netball umpire
- Motivates others
- Fair in competition



Big Questions:

Can you effectively dribble the ball?

Can you successfully make a short, side-footed pass, and a long-lofted pass?

Can you shoot accurately and with power?

Can you use effective attacking and defensive tactics?



Key Skills:

- Passing: Use the side of your foot to give you accuracy and control of the ball.
- Dribbling: Dribble the ball close to your body to keep more control.
- Shooting: Try to keep shots low and aim for the corners. Power and accuracy are key.
- Defending: Nearest person to the ball should apply pressure on the ball by moving into a position within 2-3 yards of their opponent to close them down. Don't jump in. Communication is key



Leadership and Coaching:

- Encourage and motivate others
- Be creative
- Display knowledge and understanding of the rules
- Show compassion towards others
- Inspire others to perform better
- Be a good role model

Key Rules in Football:

- Throw-in
- Offside
- Corner kick
- Goal kick
- Kick off
- Foul play
- Free kick
- Penalty
- Handball

Can you research these common rules to find out more specific details?

Teamwork and Respect:

- Sets an example for others to follow.
- Very fair in competition.
- Honest
- Always gracious in defeat and humble in victory.
- Works well in a team and supports their peers.
- Never argues with the referee.



Big Questions:

- Can you solve a problem as a team?
- Can you orientate a map?
- Can you take on the role of leader?
- Can you communicate effectively to help your team solve a problem?
- Can you effectively Plan, Do, and Review to overcome a problem?



Key Skills:

- To take on the principle of 'Plan, do, review' in problem solving activities
- To refine ideas and try different approaches to solving problems
- To orientate a map of the school field
- To use grid references to place markers out and to find codes
- To work as a team member
- Verbal and non-verbal communication skills



Leadership and Coaching:

- To run a warm-up appropriate for OAA
- To show good communication skills
- To consider the safety of self and others in the tasks set
- To take on a variety of roles e.g. leading, organising, managing

Key Rules in OAA:

- To follow the rules of orienteering and problem solving
- To follow the safety aspects of the tasks set



Teamwork and Respect:

- To listen to each others opinion and discuss ideas
- To motivate others to succeed
- To cooperate with others in solving problems
- To be fair in competition



Big Questions

- 1) How do different extrinsic factors influence the risk and severity of injury?
- 2) How do different intrinsic factors influence the risk and severity of injury?
- 3) What are the key components of a warm up?
- 4) What are the physiological and psychological benefits of a warm up?
- 5) What are the key components and physiological benefits of a cool down?
- 6) What are the types and causes of acute injuries?
- 7) What are the types and causes of chronic injuries?
- 8) How can you reduce the risk and severity of an injury or medical condition?
- 9) What are common responses and treatments to medical conditions?
- 10) What are the common causes, symptoms and treatments of medical conditions?

Topic Area 1: Different factors which influence the risk and severity of injury

Key Terms:

- ✓ **Extrinsic factors** – where the factor or risk of injury comes from outside the body
- ✓ **Intrinsic factors** – where the factor or risk of injury comes from within the body
- ✓ **Contact sports** – sports where physical contact between performers is an accepted part of play
- ✓ **Non-contact sports** – sports where participants compete alternately, or are physically separated, or the rules detail no contact.
- ✓ **Hypothermia** – a dangerous drop in body temperature below 35°C.
- ✓ **Veterans** – performers above a certain age that is specific to the sport.
- ✓ **Psychological factors** – mental factors that affect a performer.
- ✓ **Motivation** – the drive to do something.
- ✓ **Arousal** – level of activation or excitement.
- ✓ **Anxiety** – negative emotional state due to nervousness.
- ✓ **Stress** – the feelings we get when we find it difficult to cope with the demands placed on us.
- ✓ **Confidence** – belief in your own ability to master a situation.
- ✓ **Aggression** – Intention to cause harm.
- ✓ **Mental rehearsal** – going over a skill in the mind before performance.

Topic Area 2: Warm up and cool down routines

Key Terms:

- ✓ **Warm up** - exercises to prepare the body for exercise so that the chances of injury or ill effects are reduced.
- ✓ **Dynamic stretches** – active stretching exercises.
- ✓ **Adrenaline** - hormone that prepares the body for exercise.
- ✓ Lactic Acid - waste product of anaerobic exercise; it causes fatigue.
- ✓ **Anaerobic** – without oxygen; oxygen is not used to produce energy during high-intensity, short-duration anaerobic exercise.
- ✓ **Cool down** - easy exercise done after a more intense activity to allow the body to gradually move to a resting condition.
- ✓ **Maintenance stretches** - stretches designed to just maintain flexibility.
- ✓ **Static stretches** – stretches where the stretched position is held for many seconds in an attempt to improve flexibility.
- ✓ **Proprioceptive neuromuscular facilitation (PNF)** - advanced form of flexibility training, involving both the stretching and contracting of the muscles being targeted.
- ✓ **Delayed onset muscle soreness** – muscle pain that starts a day or two after an exercise workout.

Topic Area 3: Different types and causes of sports injuries

Key Terms:

- ✓ **Acute injuries** – injuries caused by impacts or collisions.
- ✓ **Chronic injuries** - injuries caused by continuous stress.
- ✓ **Soft tissue injuries** - injuries to muscles, tendons or ligaments.
- ✓ **Hard tissue injuries** – injuries to part of the skeletal system, such as fractures or dislocations.
- ✓ **Strains** - injuries to muscles.
- ✓ **Sprains** - injuries to ligaments.
- ✓ **Ligaments** - tissue that connects bone to bone and strengthens joints.
- ✓ **Abrasion** - surface damage to the skin; grazes.
- ✓ **Cut** - skin wound where the tissues of the skin become separated.
- ✓ **Laceration** - a torn or jagged wound caused by a sharp object.
- ✓ **Contusion** - bruise caused by blood leaking into the surrounding area.
- ✓ **Blister** - bubble on the skin caused by friction.
- ✓ **Fracture** - partial or complete break in a bone.
- ✓ **Dislocation** - when a bone is dislodged from its position in a joint.
- ✓ **Concussion** - head injury in which the brain is shaken inside the skull.
- ✓ **Tendonitis** - inflammation of the tendons.
- ✓ **Epicondylitis** - inflammation of an epicondyle of a bone.
- ✓ **Stress fracture** – tiny cracks in a bone caused by repetitive force, often from overuse.

Big Questions

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- 3) What are the key components of a warm up?
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- 9) What are common responses and treatments to medical conditions?
- 10) What are the common causes, symptoms and treatments of medical conditions?

Topic Area 4: Reducing risk, treatment and rehabilitation of sports injuries and medical conditions

Key Terms:

- ✓ **Hazard** - something that can cause harm.
- ✓ **Risk** - the likelihood of danger.
- ✓ **Risk assessment** – careful examination of what, in relation to a sports activity, could cause harm to people.
- ✓ **Electrocardiogram (ECG)** - technology used to detect the rhythm and electrical activity within the heart.
- ✓ **Emergency action plan (EAP)** - written document identifying what action to take in the event of an emergency at a sporting event.
- ✓ **SALTAPS** - acronym for see, ask, look, touch, active, passive, strength.
- ✓ **DRABC** - acronym for danger, response, airway, breathing and circulation.
- ✓ **Recovery position** – position for an unconscious person that keeps their airway clear and open.
- ✓ **PRICE** - acronym for protection, rest, ice, compression, elevation.
- ✓ **Ultrasound** - use of high frequency sound waves to diagnose and treat injuries.
- ✓ **Electrotherapy** - use of electrical energy to treat injuries.
- ✓ **Hydrotherapy** - use of water to improve blood circulation, relieve pain and relax muscles.
- ✓ **Cryotherapy** - use of cold temperatures to treat injuries.
- ✓ **Contrast therapy** – use of quickly changing temperatures from hot to cold and back again to treat injuries.
- ✓ **Analgesics** – medication used to relieve pain.
- ✓ **Cast** - hard fibreglass or plaster casing designed to prevent broken bones from moving.
- ✓ **Splint** - plastic or fibreglass support for a limb injury.
- ✓ **Sling** - support, usually of folded cloth, designed to immobilise and rest the arm.

Topic Area 5: Causes, symptoms and treatment of medical conditions

Key Terms:

- ✓ **Asthma** - a condition in which the airways narrow and swell, which can make breathing difficult.
- ✓ **Inhaler** - device that allows medicine to be breathed in.
- ✓ **Nebuliser** - machine that allows medicine to be breathed in.
- ✓ **Glucose** - simple sugar found in blood used as an energy source.
- ✓ **Insulin** - a hormone that lowers blood glucose levels.
- ✓ **Diabetes** - condition in which blood sugar levels are not regulated by the body effectively.
- ✓ **Ketones** – chemicals produced by the liver during fat breakdown.
- ✓ **Diabetic ketoacidosis (DKA)** - a condition caused by excess ketones in the blood.
- ✓ **Insulin-dependent** - another name for Type 1 diabetes.
- ✓ **Insulin-resistant** – another name for Type 2 diabetes.
- ✓ **Hypoglycaemia** - low blood sugar level.
- ✓ **Hyperglycaemia** – high blood sugar level.
- ✓ **Epilepsy** – abnormal brain activity that causes recurring seizures.
- ✓ **Seizures** - bursts of electrical activity that temporarily affect how the brain works.
- ✓ **Triggers** - things that make epileptic seizures more likely.
- ✓ **Fatigue** - a feeling of overwhelming tiredness.
- ✓ **Anti-epileptic drugs (AEDs)** - medicine taken to help control seizures.
- ✓ **Ketogenic diet** - a diet high in fats and low in carbohydrates and proteins.
- ✓ **Sudden cardiac arrest (SCA)** - a condition in which the heart suddenly and unexpectedly stops beating.
- ✓ **Commotio cordis** – a sudden trauma, such as a blow to the chest directly over the heart at certain points in the heartbeat cycle, that can cause sudden cardiac arrest.
- ✓ **Electrolytes** – minerals found in blood, urine and sweat that carry an electric charge when dissolved in water.

Big Questions

- 1) How are components of fitness relevant to different sports?
- 2) Can you justify why different components of fitness are relevant for different sports?
- 3) What fitness tests are used for each component of fitness?
- 4) Can you apply the components of fitness to a skilled performance?
- 5) What are the principles of training?
- 6) What are SMART goals?
- 7) What are methods of training and their advantages/disadvantages?
- 8) What factors should you consider when designing a fitness training programme?
- 9) How do you apply the principles of training to a fitness training programme?
- 10) How do you plan a fitness training programme?
- 11) How do you record your results from a fitness training programme?
- 12) What are the strengths and areas for improvement for your fitness training programme?

Topic Area 1: Components of fitness applied in sport**Key Terms:**

- ✓ **Cardiovascular endurance** - the ability of the heart and lungs to get oxygen to the working muscles for use by the body.
- ✓ **Muscular endurance** - the ability of a muscle to sustain repeated contractions.
- ✓ **Aerobic** - with oxygen; oxygen is used to produce energy during low intensity, long-duration aerobic exercise.
- ✓ **Speed** - the maximum rate at which an individual is able to perform a movement.
- ✓ **Strength** - the extent to which a muscle or muscle group can contract against resistance.
- ✓ **Power** - the exertion of rapid muscular strength; it can be remembered as strength × speed.
- ✓ **Agility** - the ability to move and change direction quickly while maintaining control.
- ✓ **Balance** - the ability to maintain a position; this involves maintaining the centre of mass over the base of support.
- ✓ **Flexibility** - the range of movement possible at a joint.
- ✓ **Co-ordination** - the ability to use two or more body parts together (simultaneously) smoothly and efficiently.
- ✓ **Reaction time** - the time taken from the onset of a stimulus to the start of the reactive movement.
- ✓ **Maximum oxygen uptake (VO₂ Max)** – maximum volume of oxygen that can be consumed per minute / unit of time.
- ✓ **Protocol** - the accepted or established procedure for conducting a test.
- ✓ **Validity** - refers to how well a fitness test measures the component of fitness that it aims to test.
- ✓ **Reliability** - a fitness test is reliable if it can be repeated and gives similar results each time.
- ✓ **Maximal tests** – fitness tests that require maximal effort in order to produce a valid, comparable result.
- ✓ **Sub-maximal tests** - fitness tests that do not require maximal exertion.
- ✓ **PAR-Q** - physical activity readiness questionnaire.

Topic Area 2: Principles of training in sport**Key Terms:**

- ✓ **SPOR** - principles of training: specificity, progression, overload and reversibility.
- ✓ **Specificity** - making training specific to the movements, skills and muscles that are used in the activity.
- ✓ **Progression** – gradually making training harder as it becomes too easy.
- ✓ **Overload** - working harder than normal.
- ✓ **Reversibility** – ‘use it or lose it’. If you stop training, you will lose fitness.
- ✓ **FITT** - principles of overload: frequency, intensity, time and type.
- ✓ **SMART** - principles of goal setting: specific, measurable, achievable, realistic and time bound.
- ✓ **Continuous training** - any activity or exercise that can be continuously repeated without suffering undue fatigue.
- ✓ **Aerobic training zone** – the optimal zone of training to make aerobic gains in the body to improve cardiovascular endurance and stamina.
- ✓ **Fartlek training** - ‘speed play’, which generally involves running, combining continuous and interval training with varying speed and intensity.
- ✓ **Interval training** – any training that involves periods of work and rest.
- ✓ **Circuit training** - a series of exercises performed at work stations with periods of work and rest.
- ✓ **Plyometric training** - repeated exercises such as bounding, hopping or jumping over hurdles, which are designed to create fast, powerful movements.
- ✓ **Eccentric contraction** - when a muscle contracts and lengthens.
- ✓ **Concentric contraction** - when a muscle contracts and shortens in length.
- ✓ **Resistance training** - training that involves working against some kind of force that ‘resists’ the movement.
- ✓ **Hypertrophy** - an increase in muscle size as a result of training.
- ✓ **High-intensity interval training (HIIT)** – training that involves periods of very high-intensity work and rest.

Big Questions

- 1) How are components of fitness relevant to different sports?
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- 11) How do you record your results from a fitness training programme?
- 12) What are the strengths and areas for improvement for your fitness training programme?

Topic Area 3: Organising and planning a fitness training programme**Key Terms:**

- ✓ **One rep max** – the maximum weight that can be lifted once (one repetition).
- ✓ **Adaptability** - flexibility to adapt a programme if, for any reason, the session being performed cannot be followed precisely.
- ✓ **Objective measures** – facts that provide figures/ numbers, which can allow a performer to monitor improvement.



Figure 2.36 One rep max refers to the maximum weight that can be lifted once

Topic Area 4: Evaluate own performance in planning and delivery of a fitness training programme

Figure 2.38 Stretching forms a vital part of warm up and cool down routines

Target area	Suitable activity
Cardiovascular endurance/stamina	Specific exercises: any aerobic activity, for example cycling, swimming, jogging, walking, rowing Overload intensity: 60–80 per cent of maximum heart rate (220 – age) Time: 20 minutes or more of activity, three to four times per week
Muscular strength	Specific exercises: use of high resistance, for example weights, resistance machines, body weight Overload intensity: 70 per cent or more of one rep max (maximum lift); three sets of six to eight repetitions Time: 30 minutes or more
Muscular endurance	Specific exercises: use of low resistance, for example weights, resistance machines, body weight Overload intensity: less than 70 per cent of one rep max (maximum lift); three to four sets of 10–15 repetitions Time: 30 minutes or more
Agility	Specific exercises: shuttles or circuits that involve speed work while changing direction, for example sprinting round cones, ladder running Overload intensity: work : rest ratio of 1 : 3 (30 seconds work with 90 seconds rest between different exercises) Time: 30 minute sessions, two or three times per week
Speed	Specific exercises: use speed ladders, sprints, interval sprints Overload intensity: work : rest ratio of 1 : 3 (30 seconds work with 90 seconds rest between different exercises) Time: 30 minutes or more
Power	Specific exercises: interval training – high-intensity, short sharp activities; acceleration sprint training; plyometric training, for example box jumping and hurdle jumps Overload intensity: for example, box jumps with three to six sets of 8–15 repetitions, depending upon the stress of the exercise being done; sprints with a work : rest ratio of 1 : 3 (30 seconds work with 90 seconds rest between sprints) Time: 30 minutes or more
Balance, flexibility, co-ordination or reaction time	Specific exercises: use of predesigned circuit to include flexibility stretches, co-ordination drills or balancing exercises Overload intensity: two to three sets of 12 reps with 30-second recovery intervals Time: 30 minutes or more

Big Questions

- 1) What is the function and role of the cardio-respiratory system?
- 2) How is technology used to inform us about the cardio-respiratory system?
- 3) What are the components and role of the musculo-skeletal system?
- 4) How is technology used to inform us about the musculo-skeletal system?
- 5) What are the short-term effects of exercise on the cardio-respiratory system?
- 6) What are the short-term effects of exercise on the musculo-skeletal system?
- 7) What are the long-term effects of exercise on the cardio-respiratory system?
- 8) What are the long-term effects of exercise on the musculo-skeletal system?

Topic Area 1: The cardio-respiratory system and how the use of technology supports different types of sports and their intensities**Key Terms:**

- ✓ **Atria** - upper chambers of the heart that collect blood from veins.
- ✓ **Ventricles** – lower chambers of the heart that pump blood out through arteries.
- ✓ **Valves** - prevent the backflow of blood.
- ✓ **Deoxygenated** – venous blood (in veins) that does not carry oxygen.
- ✓ **Oxygenated** - arterial blood (in arteries) that carries oxygen.
- ✓ **Arteries** - blood vessels that mainly carry oxygenated blood away from the heart.
- ✓ **Capillaries** - tiny, thin walled blood vessels that join arteries (which carry blood away from the heart) and veins (which carry blood back to the heart).
- ✓ **Alveoli** - tiny air sacs in the lungs.
- ✓ **Veins** - blood vessels that mainly carry deoxygenated blood back to the heart.
- ✓ **Trachea** - tube connecting the mouth and nose to the lungs.
- ✓ **Lungs** - large spongy organs in chest; used for gas exchange.
- ✓ **Bronchi** - airways that lead from the trachea into the lungs.
- ✓ **Bronchioles** - air passages inside the lungs that connect the bronchi to the alveoli.
- ✓ **Diaphragm** - dome-shaped muscle causing inhalation and exhalation.
- ✓ **Radial pulse** - heart rate that can be felt at the wrist.
- ✓ **Carotid pulse** - heart rate that can be felt at the neck.
- ✓ **Vasoconstriction** – reduction in the diameter of a blood vessel to reduce blood flow through that vessel.
- ✓ **Vasodilation** - widening in the diameter of a blood vessel to increase blood flow through that vessel.
- ✓ **Cardiac output** – the volume of blood that the heart is able to pump out in one minute.
- ✓ **Stroke volume** – the volume of blood that leaves the heart during each contraction.

Topic Area 2: The musculo-skeletal system and how the use of technology supports different types of sports and their movements**Key Terms:**

- ✓ **Clavicle** - the collarbone.
- ✓ **Scapula** - the shoulder blade.
- ✓ **Humerus** - bone in the upper arm.
- ✓ **Radius** - bone of the forearm; attaches to the thumb side of the wrist.
- ✓ **Ulna** - bone of the forearm; forms the point of the elbow.
- ✓ **Cranium** - skull bone, which surrounds the brain.
- ✓ **Ribs** - bones surrounding the heart and lungs, forming the chest cavity.
- ✓ **Sternum** - flat bone at the front of the chest, sometimes called the breastbone.
- ✓ **Vertebrae** - many single bones joined together to form the backbone.
- ✓ **Femur** - long bone of the thigh or upper leg, which extends from the hip to the knee.
- ✓ **Tibia** - the shin bone; forms knee joint with the femur.
- ✓ **Fibula** - bone in the lower leg that forms the ankle.
- ✓ **Patella** - the kneecap; covers the knee joint.
- ✓ **Deltoids** - muscles on shoulder joint that move the upper arm.
- ✓ **Trapezius** - muscle at the top of the back that moves the scapula and head.
- ✓ **Latissimus dorsi** – muscle at the side of back that moves the upper arm.
- ✓ **Pectorals** - muscles in the chest that move the upper arm.
- ✓ **Biceps** - muscles at the front of the upper arm.
- ✓ **Triceps** - muscles at the back of the upper arm.
- ✓ **Abdominals** – stomach muscles that protect internal organs.
- ✓ **Gluteals** - buttock muscles, which are used when running.
- ✓ **Hamstrings** - muscles at the back of the upper leg.
- ✓ **Quadriceps** - muscles at the front of the upper leg.
- ✓ **Gastrocnemius** - one of the calf muscles; used in walking.
- ✓ **Soleus** - one of the calf muscles; used in walking.

Big Questions

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- 3) What are the components and role of the musculo-skeletal system?
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- 8) What are the long-term effects of exercise on the musculo-skeletal system?

Key Terms (continued Topic 1):

- ✓ **Systolic blood pressure** - blood pressure when the heart is contracting.
- ✓ **Diastolic blood pressure** - blood pressure when the heart is relaxed.
- ✓ **Inhalation** - breathing in.
- ✓ **Exhalation** - breathing out.
- ✓ **Intercostal muscles** - muscles located between the ribs.
- ✓ **Diffusion** - the movement of a gas from an area of high concentration to an area of low concentration.
- ✓ **Wearable technology** - technology worn on the body during exercise to provide data.
- ✓ **Laboratory-based technology** - the use of technology inside a laboratory to provide data.
- ✓ **Field-based technology** - technology that can be used to provide data outside of a laboratory in the setting where sports take place, for example a football pitch.
- ✓ **Spirometer** - machine that produces a spirometry trace of breathing volumes.
- ✓ **Vital capacity** - amount of air expelled from your lungs when you take a deep breath and then exhale fully.
- ✓ **Pulse oximeter** - device used to measure how efficiently oxygen is being carried to the extremities by the heart (blood oxygen level).



Figure 3.18 Smartwatch

Topic Area 3: Short-term effects of exercise on the cardio-respiratory and musculo-skeletal systems
Key Terms:

- ✓ **Anticipatory rise** - slight increase in heart rate before exercise.
- ✓ **ROM** - range of movement.

Key Terms (continued Topic 2):

- ✓ **Synovial joint** - a freely moveable joint.
- ✓ **Ball and socket joint** - ball shaped end of bone fits into the socket of another, for example the hip.
- ✓ **Hinge joint** - end of bone fits against another bone allowing movement in only one direction, for example the knee.
- ✓ **Gliding joint** - one bone can slide over another, for example the carpals in the wrist.
- ✓ **Pivot joint** - rounded end of one bone fits into a ring formed by the other bone, for example the vertebrae of the neck, which allow head rotation.

Topic Area 4: Long-term effects of exercise on the cardio-respiratory and musculo-skeletal systems
Key Terms:

- ✓ **Fast twitch fibres** - muscle fibres that contract quickly and/or with high force; used during high-intensity work.
- ✓ **Slow twitch fibres** - muscle fibres that contract with a low force but do not fatigue quickly.
- ✓ **Bradycardia** - decrease in the resting heart rate because of training.
- ✓ **Goniometer** - device used to measure flexibility (range of movement at a joint).
- ✓ **Lung capacity** - the amount of air the lungs can hold.
- ✓ **Tidal volume** - the amount of air breathed in and out at rest.
- ✓ **Bone density** - the amount of bone mineral in bone tissue.
- ✓ **Capillarisation** - an increase in the number of capillaries as a result of endurance training.
- ✓ **Heart disease** - when the heart's blood supply is blocked or interrupted by a build-up of fatty substances in the coronary arteries that supply the heart with blood.
- ✓ **Heart attack** - medical emergency in which the supply of blood to the heart is suddenly blocked.

Big Questions

1. What is the nature of God?
2. Is the impossible possible for God?
3. Is empirical evidence the best form of evidence for faith?

What is the nature of God?

According to Christianity God is all of the following:

Omnipresent – God is everywhere all at the same time.

Omnibenevolent – God is all loving.

Omnipotent - God is all powerful.

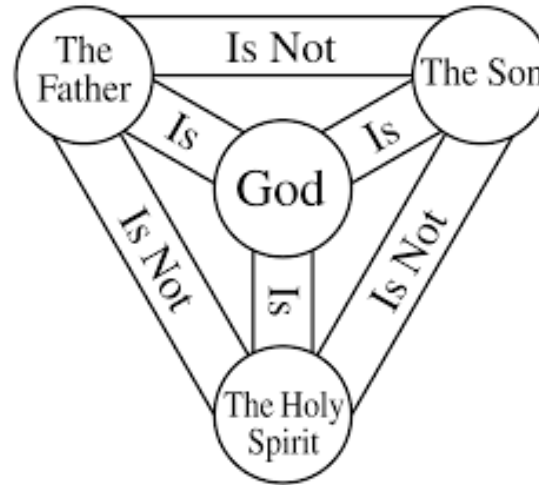
Omniscient – God is all knowing.

What is the problem of Evil?

If evil exists God cannot. God knows evil happens – he has the power to stop the evil, he should want to as he loves humans, he is everywhere and therefore can stop evil. But evil exists so either he doesn't love humans, doesn't care or he does not exist.

What is the Trinity?

The trinity are the three persons of God – God the father, God the holy spirit and God the son.



Genesis 1 the creation of the world

1. the first day - light was created
2. the second day - the sky was created
3. the third day - dry land, seas, plants and trees were created
4. the fourth day - the Sun, Moon and stars were created
5. the fifth day - creatures that live in the sea and creatures that fly were created
6. the sixth day - animals that live on the land and finally humans, made in the image of God were created
7. by day seven - God finished his work of creation and rested, making the seventh day a special holy day.

Key words:

Trinity – the trinity is the word used to describe the three persons of God.

Natural evil – is when suffering is caused by nature, for example earthquakes, floods etc.

Moral evil – moral evil is when suffering occurs due to humans. For example, murder, bullying, stealing etc.

Creation – Creation is the word used when describing how the world came into being.

Creationist – a creationist is someone who believes in the biblical account of creation in Genesis 1.

Quick facts!

Holy book – The Bible (500CE)

Age of religion 2027 years old (roughly)

Place of worship – Church

Name of followers – Christians

Number in the UK - 31,479,876

Big Questions

What are rehearsal techniques and why are they important?

How important is it to rehearse and learn your lines quickly?

What is characterisation?

What are the production elements and how can they enhance a performance?

What are the 5 justifiable points when creating and portraying a character?

What are the vocal performance skills?

What are the physical performance skills?

What is Thought Process and how can you use this to inform your planned movement?

Rehearsal Techniques

Once your group has explored the script, you need to focus on developing your characterisation.

There are several rehearsal techniques you can use to explore your character:

Hot Seating

a strategy in which a character or characters, played by the teacher or a student, are interviewed by the rest of the group. ... Before engaging in this strategy, prepare the person or people who will be in the **hot** seat to successfully take on their role.

Given Circumstances

This technique refers to the “who, where, what, when, why, and how” of the characters: Who are you? (Name, age, gender, nationality, physical health, mental health, etc. List as much information down as possible!

Storytelling/questioning

Ask a member of the group to stop your character during a scene and ask how you are feeling at this moment. This can help you consider how you can show this clearly to an audience, using your knowledge of skills

‘Say It Again’

This technique focuses on vocal skills. For key lines of dialogue, the actor playing the role must speak a line, the other group members will say ‘Say it again’ then the actor will say it in a different way, changing the way vocal skills are used. This is a good way of planning how to say specific lines!

Physical Performance Skills

Facial Expressions

Eye Contact

Gestures

Planned Movement

Levels

Space

Body Language

Vocal Performance Skills

Pitch

Pace

Pause

Emphasis

Projection

Accent

Intonation

KEY WORDS

Characterisation

Thought Process

Interaction

Reaction

Motivation

Relationships

Subtext

Personality

Situation

Communication

Production Elements

Consider how the following production elements could enhance your performance:

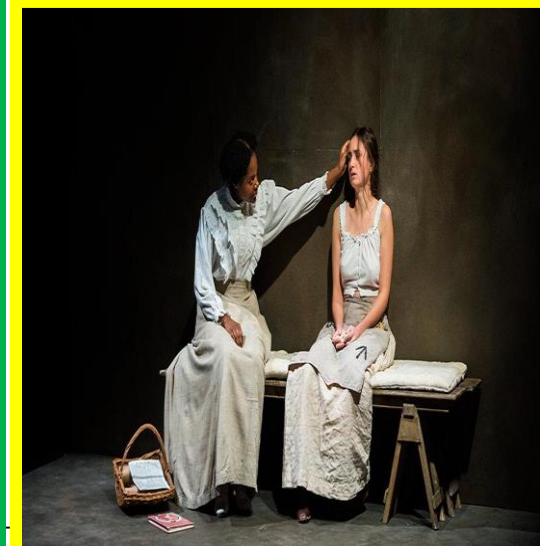
Lighting – create an atmosphere during key moments

Music – Atmosphere can also be created by music and sound

Costume – This can communicate meaning to an audience clearly

Set – Where does the scene take place? Set can communicate this to an audience

Style – Abstract? Naturalistic? Minimalist?



BIG QUESTIONS

Can you identify and offer specific movement examples of the 5 basic body actions?

How do expressive skills contribute to the overall performance of a piece of dance?

How do physical skills contribute to the overall performance of a piece of dance?

What is the difference between mental skills for process and mental skills for performance?

How might a dancer improve their expressive skills?

How can a physical skill be improved over time?

Physical Skills: aspects enabling effective performance

Posture – The way the body is held

Alignment – Correct placement of body parts in relation to each other

Balance - A steady or held position achieved by an even distribution of weight

Coordination – The efficient combination of body parts

Control – The ability to start and stop movement, change direction and hold a shape efficiently

Flexibility - The range of movement in the joints (involving muscles, tendons and ligaments)

Mobility – The range of movement in a joint; the ability to move fluently from action to action

Stamina – Ability to maintain physical and mental energy over periods of time

Extension – Lengthening of one or more muscles or limbs

Isolation: an independent movement of part of the body

Expressive Skills: aspects that contribute to performance artistry and that engage the audience.

Projection – The energy the dancer uses to connect with and draw the audience in

Focus – The use of the eyes to enhance performance or interpretative qualities

Spatial awareness – Consciousness of the surrounding space and its effective use

Facial expressions – use of the face to show mood, character or feeling

Phrasing – The way in which the energy is distributed in the execution of a movement phrase

Musicality – the ability to make the unique qualities of the accompaniment evident in performance

Sensitivity to other Dancers – Awareness of and connection to other dancers

Mental Skills: skills in preparation for a performance

Systematic repetition – repeating something in an ordered way

Mental rehearsal – thinking through or visualising the dance

Rehearsal discipline – attributes and skills required for refining a performance – effective use of a rehearsal and time

Planning of rehearsal – organisation of when to go over material

Response to feedback – implementing changes and making improvements based on feedback/opinion given to you

Capacity to improve – willing to make changes and better, relearn, implement or adapt to make something better

Mental Skills: skills needed during a performance

Movement memory – the automatic recall of learned movement material without conscious thought

Commitment – dedication to a performance

Concentration – the power to focus all of one's attention

Confidence – the feeling or belief that one can have in one's performance or work

Technical Skills: the accuracy of content

- **Action Content**; 5BBA, use of different body parts
- **Spatial Content**; size, direction, level, pathway
- **Dynamic Content**; flow, speed, force
- **Relationship Content**; lead and follow, mirroring, action and reaction, accumulation, complement and contrast, counterpoint, contact, formations
- **Timing Content**
- **Rhythmic Content**

The Five Basic Body Actions: 5BBA
Jump, Turn, Travel, Stillness and Gesture

Can you define each of the 5 basic body actions?

What is the overall impact of technical skills in a performance?

What is the acronym to remember physical skills/expressive skills/technical skills and mental skills?

Homework Links

<https://www.aqa.org.uk/resources/dance/gcse/dance/teach/subject-specific-vocabulary>

Key Vocabulary

You must be able to identify and define **ALL** vocabulary listed.

You must be able to distinguish what category each skill falls under

EG: strength is a physical skill NOT a mental skill

BIG QUESTIONS

- Can you explain what makes a good entrepreneur?
- Can you explain the difference between goods and services?
- Can you identify an innovative business?
- Can you select an idea and justify your choice of enterprise?
- Can you identify resources needed to start up an enterprise?
- Can you explain why a well-known entrepreneur has been successful?
- Can you identify the skills needed by a successful entrepreneur?
- Do you know how to develop entrepreneurial skills?
- Can you list the skills required to be an entrepreneur?
- Can you explain why each skill is crucial to the success of an enterprise?
- Can you explain why being innovative is important in business?

Key Definitions

Entrepreneur – A person who takes a number of risks to start-up their own business

Goods (products) – Tangible item that can be purchased by the consumer i.e. iPhone

Services – Work completed that does not involve the manufacturing of goods i.e. Carwash

Innovation – A new idea, method or device

Enterprise – A business or company

Financial Forecasts – Predicting how a business will perform financially

Skills/Characteristics of a successful entrepreneur

- Risk Taker
- Disciplined
- Creative
- Open Minded
- Independent
- Forward Thinker
- Motivated
- Innovative
- Resilient
- Persistent

Homework

Create a fact file of a famous entrepreneur. Make sure you include:

- What is their business?
- How did it start?
- What difficulties did they face?
- How did the business grow?
- What is the net worth of the business today?
- How many people does the business employ?
- Was their business/product innovative?

INNOVATION

It is important for new enterprises to be innovative so they stand out amongst the competition. A large number of new enterprises are built on an entrepreneur's idea for an innovation on an existing product, a product in a new market or a product in a new context (think glamping!).



Example of an innovative business.....

Snapchat brought photo sharing forward into the modern age and brought back a real interest in photos and communicating through photos. They were successful because they incorporated the social element and added ways to edit the pictures and add things to them that made it even more fun for their audience. They also brought the photo-sharing concept into the digital online age and made it interactive.

BIG QUESTIONS

- Can you define 'social enterprise'?
- Can you explain other purposes of business apart from making a profit?
- Can you explain why having a USP is so important?
- Can you explain the features and functions of the product or service for your chosen micro-enterprise?
- Can you explain why making sure costs are as low as possible is important?

What is a Social Enterprise?

- A social enterprise is a business with social objectives that serve its primary purpose.
 - Maximizing profits is not the primary goal of a social enterprise as is with a traditional business.
 - Unlike a charity, social enterprises pursue endeavours that generate revenues, which fund their social causes.
- Regarding employment, preference is given to job-seekers from at-risk communities.

USP (Unique Selling Point)

- This refers to a feature of a product that makes it different/stand-out from the competition.
- This allows for businesses to attract more customers and achieve larger market share
- McDonald's USP is providing a toy with every Happy Meal. This innovation allowed for them to attract young customers easily as they wanted a 'free' toy. McDonald's have since cleverly introduced toy collections which persuades customers to return to the business and increases loyalty.

Reasons For Starting a Business

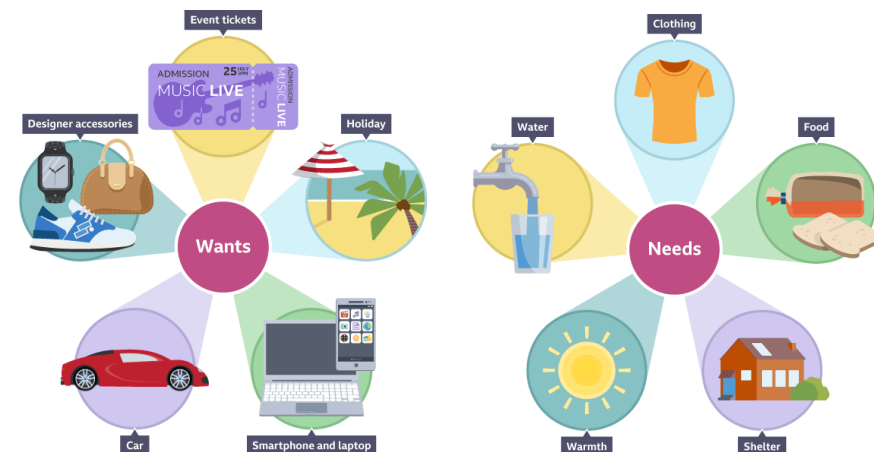
There are a number of reasons that an entrepreneur may start a business. These are:

- To produce a **good**, e.g. Coca-Cola and Cadbury
- To provide a **service**, e.g. Premier Inn and Talk Talk
- To distribute products, e.g. Tesco and Asda
- To benefit society, e.g. charities and social enterprises
- To fill a **gap in the market**, e.g. opening a hair salon in a village which has no other hairdresser
- To fulfil a business opportunity

Wants and needs

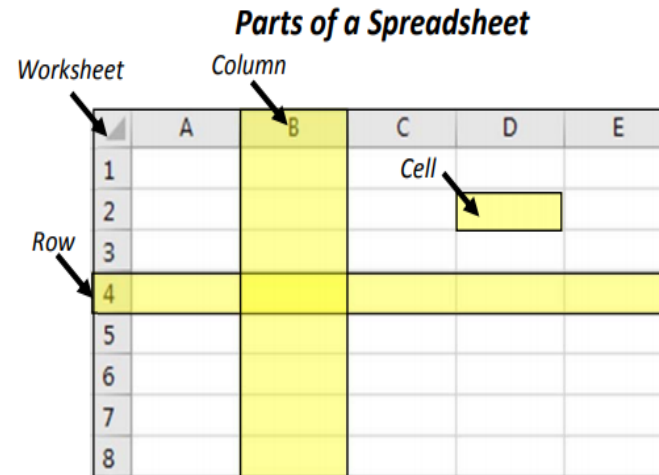
Wants are things that people would like to have but can survive without. Wants are unlimited, and might include event tickets, designer accessories, holidays, laptops, mobile phones and cars.

Needs are things required in order to survive. These life-essential things include clothing, food, shelter, warmth and water



BIG QUESTIONS

1. What is a spreadsheet?
2. Can you describe the features of a spreadsheet?
3. Can you describe the difference between primary and secondary data and collect data for a given scenario using these?
4. Can you explain the features of your data and what is meant by big data?
5. Can you use basic formulae within excel?
6. Can you describe the purpose of different decision-making functions?
7. Can you use different decision-making functions?



Cell references begin with a letter, and finish with a number. EG: **A1**












	A	B	C	D	E	F	G
1							
2							
3							
4							
5							

A range is a selection of cells. EG: **A2:F4**

	A	B	C	D	E	F	G
1							
2							
3							
4							
5							

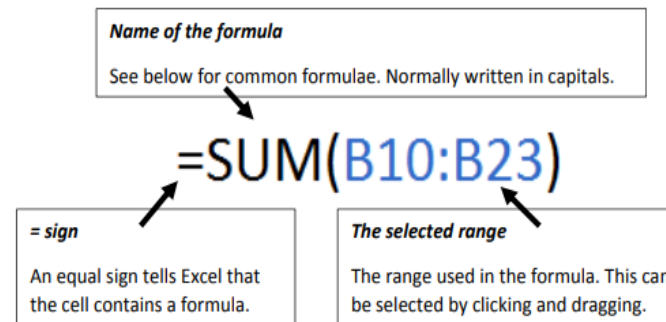
Spreadsheet vocab	
Spreadsheet	An electronic document in which data is arranged in the rows and columns of a grid and can be manipulated.
Excel	Software within the Microsoft Office package used to create spreadsheets.
Cell	A cell is a single unit of storage within a spreadsheet program.
Active Cell	The currently selected cell.
Row	A horizontal line of cells in a spreadsheet (numbers in Excel).
Column	A vertical line of cells in a spreadsheet (letters in Excel).
Cell reference	The specific location of a cell within a spreadsheet (e.g. D2)
Range	A cell reference which links to a group of connected cells (e.g., D2:F6)
Formula	An expression used in a spreadsheet to perform a calculation.
Data	Facts or information collected which has no meaning on its own (e.g., numbers or symbols)
Information	Data which has been put into context to provide meaning (e.g., a list of people's ages)
Sort	Organise data or information into order.
Ascending	Sorting data to get larger each time (A-Z and 1,2,3...)
Descending	Sorting data to get smaller each time (Z-A and 3,2,1...)
Search	Look through data or information to find results that meet a certain criteria.
Filter	Setting conditions so that only certain data is displayed.
Conditional Formatting	Changing the formatting of cells based on whether a formula is true or not.
Worksheet	An individual page within a spreadsheet document.
Workbook	A collection of worksheets that make up an spreadsheet document.



Spreadsheet formatting tools		
	Fill cell	Fills a cell with a selected colour.
	Font colour	Changes font colour to a selected colour.
	Alignment	Moves the text within a cell to the top, centre or bottom – or left, middle or right of a cell.
	Orientation	Rotates text either diagonally or vertically. Can be used for heading of columns.
	Wrap text	Wraps long lines of text into a cell, making the cell taller so that all text can be seen.
	Merge & Centre	Combines the contents of multiple selected cells and centres the content in the new cell.
	Accounting	Used to convert numbers into currency so that the data can be calculated as money .
	Percentage	Formats a number as a percentage .
	Change decimal	Changes the decimal places of a number so that the number is more/less accurate.
	Change data type	Changes the type of data contained in a cell.
	Format painter	Copies all of the formatting of a cell so it can be used in another.

Operators	
+	Adds two numbers / cells
-	Subtracts one cell or number from another
*	Multiplies two numbers/cells
/	Divides one number / cell from another one
<	Less than
>	Greater than
<=	Less than or equal to
>=	Greater than or equal to

Golden rule: every formula always starts with an =



Common formulae		
Formula name	Example (with range)	What it does
Sum	=SUM(A1:A10)	Adds together all numbers within the given range.
Count	=COUNT(B2:B14)	Counts up all of the cells within a range that have numbers in.
Average	=AVERAGE(A1:A10)	Finds the average number within a range.
Maximum	=MAX(A1:A10)	Finds the largest number within a range.
Minimum	=MIN(A1:A10)	Finds the smallest number within a range.

Homework Links

Links in Teams

Homework 1: IF & COUNTIF Functions

Homework 2: Modelling – Key Words

Homework 3: Spreadsheets in the real world

Key Vocabulary

Cell
Row
Column
Cell reference
Formula
Operators
What if
Functions
Formatting
Annotation

BIG QUESTIONS

- 1) What does your family do for work?
- 2) Do they like their job?
- 3) Where do they work?
- 4) How do I describe a photo?
- 5) What do you hope to do in the future?
- 6) Why would you like to do that job?
- 7) How do I write about work?

Talking about what people do for work

Mon père (My dad)	Mon frère cadet (My younger brother)	travaille comme (works as)	est (is)					dans (in)	un atelier (a workshop)	un hôtel (a hotel)
Mon beau-père (My step dad)	Mon demi-frère (My step brother)									
Mon grand-père (My grandad)	Mon oncle (My uncle)									
Mon frère (My brother)	Mon cousin (My cousin (m))									
Ma mère (My mum)	Ma soeur cadette (My younger sister)								un bureau (an office)	un magasin (a shop)
Ma belle-mère (My step mum)	Ma demi-soeur (My step sister)									
Ma grand-mère (My grandma)	Ma tante (My aunt)									
Ma soeur (My sister)	Ma cousine (My cousin (f))									
Quand je serai plus grand (When I am older)	je voudrais être (I would like to be)								un collège (a school)	un restaurant (a restaurant)
À l'avenir (In the future)										

Giving opinions

Il (He) Elle (She)	aime (likes) adore (loves)		cela (it)	actif (active)	divertissant (entertaining)	gratifiant (rewarding)
				amusant (fun)	facile (easy)	stimulant (stimulating)
	n'aime pas (doesn't like) déteste (hates)			barbant (boring)	difficile (difficult)	dur (hard) stressant (stressful)
Bien qu'il soit (Although it is)	barbant, (boring,) dur, (hard,) difficile, (difficult,) stressant, (stressful,)		c'est (it is)	actif (active) amusant (fun) divertissant (entertaining)	facile (easy) gratifiant (rewarding) stimulant (stimulating)	

How to: Describe a photo

Sur la photo (In the photo)	il y a (there is)		un homme (a man)		une groupe d'amis (a group of friends)
			une femme (a woman)		des jeunes (some young people)
			un garçon (a boy)		des enfants (some children)
			une fille (a girl)		des étudiants (some students)
Ils sont (They are)	au parc (at the park)	à la campagne (in the countryside)	où (where)	ils s'amuse (they are having fun)	ils étudient (they are studying)
	au centre commercial (at the shopping centre)	à la plage (at the beach)		ils se discutent (they are chatting)	ils travaillent (they are working)
	au collège (at school)	à la montagne (in the mountains)		ils mangent (they are eating)	ils regardent la télé (they are watching TV)
	au centre de loisirs (at the leisure centre)	à la maison (at home)		ils boivent (they are drinking)	ils utilisent leurs portables (they are using their phones)
	au bord de la mer (by the sea)	en ville (in town)		ils jouent (they are playing)	ils font les magasins (they are shopping)

High Impact Expressions

Use the vocabulary from the table below in writing and speaking to show off. These are phrases that will help you to achieve the highest marks!

French	English
Je dirais que	I would say that
Il / Elle dit que	He / She says that
Quand je serai plus grand	When I am older
J'espère être	I hope to be
Bien qu'il soit	Although it is
Je voudrais être	I would like to be
Ça serait	That would be

Example sentences:

Bien qu'il soit un travail difficile, c'est gratifiant.

Although it is a difficult job, it's rewarding.

Quand je serais plus grand, je voudrais être avocat. Ça serait stimulant.

When I am older, I would like to be a lawyer. That would be stimulating.

Mid-Term Assessment Prep – You will have 3 tasks:

- ☐ Dictation: Accurately write down 6 sentences that you hear
- ☐ Writing: Describe a photo on the topic of work

- ☐ Translation sentences – X10 sentences from English - French



HOMEWORK

Every week you will be set an assignment on sentence builders. My homework day is:

The website is:

www.sentencebuilders.com

You should have your log-in details stuck in your planner. If you forget these, you must email your teacher or ask in lesson time for these details.

Your knowledge organiser has every answer that you will need to complete your homework. Have it open when you do your homework!



SentenceBuilders

BIG QUESTIONS

- 1) What does your family do for work?
- 2) Do they like their job?
- 3) Where do they work?
- 4) How do I describe a photo?
- 5) What do you hope to do in the future?
- 6) Why would you like to do that job?
- 7) How do I write about work?

Talking about what people do for work

Mi padre (My dad)	Mi hermano mayor (My older brother)	trabaja como (works as)	abogado (lawyer)	cantante (singer)	granjero (farmer)	obrero (labourer)	en (in)	el campo (the countryside)	una oficina (an office)
Mi padrastro (My step dad)	Mi hermanastro (My step brother)		actor (actor)	cocinero (chef)	hombre de negocios (businessman)	peluquero (hairdresser)		la ciudad (the city)	un restaurante (a restaurant)
Mi abuelo (My grandad)	Mi tío (My uncle)		amo de casa (house husband)	contable (accountant)	ingeniero (engineer)	policía (police officer)		un colegio (a school)	un supermercado (a supermarket)
Mi hermano menor (My younger brother)	Mi primo (My cousin (m))	es (is)	camarero (waiter)	dependiente (shop assistant)	mecánico (mechanic)	profesor (teacher)	en (in)	una empresa (a business)	un taller (a workshop)
Mi madre (My mum)	Mi hermana mayor (My older sister)	me gustaría ser (I would like to be)	actriz (actor)	cocinera (chef)	mujer de negocios (businessman)	peluquera (hairdresser)		un garaje (a garage)	un teatro (a theatre)
Mi madrastra (My step mum)	Mi hermanastra (My step sister)		ama de casa (house husband)	contable (accountant)	ingeniera (engineer)	policía (police officer)		una granja (a farm)	una tienda (a shop)
Mi abuela (My grandma)	Mi tía (My aunt)		camarera (waiter)	dependienta (shop assistant)	mecánica (mechanic)	profesora (teacher)	en (in)	un hotel (a hotel)	
Mi hermana menor (My younger sister)	Mi prima (My cousin (f))	me gustaría ser (I would like to be)	cartera (postman)	enfermera (nurse)	médica (doctor)	recepcionista (receptionist)			
Cuando sea mayor (When I am older)									

Giving opinions

Le gusta (S/He likes it)	Le encanta (S/He loves it)	porque es (because it is)	activo (active)	estimulante (stimulating)	gratificante (rewarding)
No le gusta (S/He doesn't like it)	Lo odia (S/He hates it)		divertido (fun)	fácil (easy)	interesante (interesting)
Aunque sea (Although it is)		aburrido, (boring,) difícil, (difficult,)	aburrido (boring)	difícil (difficult)	duro (hard)
			es (it is)	estimulante (stimulating)	interesante (interesting)

How to: Describe a photo

En la foto (In the photo)	hay (there is)		un hombre (a man)	un grupo de amigos (a group of friends)	
			una mujer (a woman)	unos jóvenes (some young people)	
			un chico (a boy)	unos niños (some children)	
			una chica (a girl)	unos estudiantes (some students)	
Están (They are)	en el parque (at the park)	en la ciudad (in the city)	donde (where)	se divierten (they are having fun)	estudian (they are studying)
	en el centro comercial (at the shopping centre)	en la costa (on the coast)		hablan (they are talking)	trabajan (they are working)
	en el colegio (at school)	en la playa (at the beach)		comen (they are eating)	tocan instrumentos (they are playing instruments)
	en el polideportivo (at the leisure centre)	en la montaña (in the mountains)		beben (they are drinking)	usan sus móviles (they are using their phones)
	en el campo (in the countryside)	en casa (at home)		juegan (they are playing)	van de compras (they are shopping)

High Impact Expressions

Use the vocabulary from the table below in writing and speaking to show off. These are phrases that will help you to achieve the highest marks!

Spanish	English
Diría que	I would say that
Dice que	He / She says that
Cuando sea mayor	When I am older
Espero que sea	I hope that it will
Aunque sea	Although it is
Me gustaría ser	I would like to be
Sería	It would be

Example sentences:

Aunque sea un trabajo difícil, me gusta mucho.

Although it is a difficult job, I like it a lot.

Cuando sea mayor, me gustaría ser abogado. Espero que sea gratificante.

When I am older, I would like to be a lawyer. I hope that it will be rewarding.

Mid-Term Assessment Prep – You will have 3 tasks:

- ☐ Dictation: Accurately write down 6 sentences that you hear
- ☐ Writing: Describe a photo on the topic of work

- ☐ Translation sentences – X10 sentences from English - Spanish



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SentenceBuilders

BIG QUESTIONS

To be able to understand -

- ✓ What are the factors that have influenced changes in the family structure?
- ✓ What is the meaning of family diversity?
- ✓ Why is it important to prepare for pregnancy?

Structure and Functioning of the Family

Family structures in Britain include:

Learners need to understand the different ways in which family is structured-

- **Nuclear family** - two parents and their children
- **Extended family** - a family that includes parents, children and any other family members e.g. grandparents
- **One parent family** - mum or dad and any children
- **Reconstituted family** - step family (a family in which one or both partners have children from previous relationships)
- **Same - sex family** - two gay or lesbian parents and children
- **Adoptive family** - a family that is made up of children living permanently with parents who are not their biological parents
- **Foster family** - children who have been placed temporarily with a family after being taken into local authority care.

What does a family need to function and what do we mean by diversity-

Learners need to identify the different basic needs of a family and how these support every day living.

Learners also need to understand why there is so much diversity when it comes to different families and the impact it can have.

Homework

- 1.1. Explain the type of family that you live in and why and how does it function?.



BIG QUESTIONS

To be able to understand -

- ✓ What is the meaning of family diversity?
- ✓ What are the factors that have influenced changes in the family structure?
- ✓ Why is it important to prepare for pregnancy?

The importance of responsibilities and procedures

Family or Not?

Learners need to identify why it is important to be responsible for a family and what they can do to prevent having one-

Method of contraception	Description It covers the cervix so sperm
Male condom	A thin sheath placed over the erect penis which forms a barrier against pregnancy and STIs
Female condom	Contraceptive device made of thin rubber, inserted into a woman's vagina before sexual intercourse
Diaphragm (cap)	A circular dome made of thin, soft silicone that's inserted into the vagina before sex. It covers the cervix so sperm is unable to enter the uterus.
Intrauterine device (coil)	a contraceptive device fitted inside the uterus and physically preventing the implantation of fertilized ova.
Combined pill	An oral contraceptive containing both an oestrogen and a progestogen. Preventing the ovaries from releasing eggs.

Homework

1.2. Research which of these types of contraception are used the most and why.

BIG QUESTIONS

To be able to understand -

- ✓ What are the factors that have influenced changes in the family structure?
- ✓ What is the meaning of family diversity?
- ✓ Why is it important to prepare for pregnancy?

Structure and Functioning of the Family

Pre conceptual care :

Learners need to understand the reasons as to why it is important to plan and prepare for a baby-

- **A healthy diet-** need to balance food intake to maintain a healthy baby
- **Regular exercise-** not too much, but enough to keep up blood flow and good heart rate
- **Folic acid** supplement-helping the body produce and maintain new cells. In particular, red blood cell formation is dependent upon adequate levels of this vitamin.

Homework

1.3 Use the links below to produce a fact sheet on the importance of folic acid in pregnancy.

- What is folic acid?
- Why should women hoping to get pregnant take folic acid tablets?
- What foods is folic acid found in?
- Explain the importance of folic acid in the diet for pregnant women.

<https://www.nhs.uk/common-health-questions/pregnancy/why-do-i-need-folic-acid-in-pregnancy/>

<https://www.nhs.uk/conditions/vitamins-and-minerals/vitamin-b/>

Homework Links

Research from the following websites-

- ✓ <https://www.nhs.uk/common-health-questions/pregnancy/why-do-i-need-folic-acid-in-pregnancy/>
- ✓ <https://www.nhs.uk/conditions/vitamins-and-minerals/vitamin-b/>

Key Terms


Pre-conceptual care - care a woman takes of herself before becoming pregnant

Diversity - a variety or range of things

Local authority - government at local level responsible for the provision of an extensive range of public services

Big Questions:

- What is health and social care?
- What is adult social care?
- Why are effective interpersonal skills important for HSC professionals?
- Why do you need to work as a team?
- How does effective communication enable good teamwork?



Health and social care integration

The difference between Health and Social Care services:

Health care - is the treatment, care or after-care associated with a disease, illness, injury or disability.

Social care - is the assistance of daily living, maintaining independence, social interaction and supported accommodation.

Table showing types of Health and Social Care Services

Health services	Social care services
GP surgery	Foster care
Dental surgery	Care homes
Mental health services	Domiciliary services
Hospitals	Probation services

The 6 C's

The 6 C's are a set of values for all health and social care staff. The 6 C's were introduced to help health and social care staff provide the best possible care. The 6 C's are -

- Care
- Compassion
- Competency
- Courage
- Commitment
- Communication



Team work-

Relaying instructions to others to develop effective communication skills

Why is it sometimes necessary for us to modify our behaviour to work effectively with people?

Reviewing performance to ensure good working relations

Key Terms:

Interpersonal skills - the ability to interact or communicate well with other people

Values - the ideas that lie behind and inform good health and social care practice

Communication - the exchange of information between people

Formal - polite, respectful or conventional

Informal - casual

Assertion - behaviour that helps you communicate clearly and firmly. It helps you to communicate your needs and feelings while respecting the opinions of others

BIG QUESTIONS

Describe the process of development in artists work.

Explain why primary sources are the richest form of research.

How can Secondary sources enrich the development of 3D ideas?

Show different ways of recording your observations

Why should you plan a wide range of ideas before selecting a final one?

How can the refining process help you to fully realise intentions?

Why is it important to evaluate?

What is a prototype?

Client Brief- Design and make a prototype chair for a new artist themed coffee shop consider practical table seating as well as comfort and artist influence.



Key Skills

RECORD

I will learn to record...

- images and information appropriate for the chair theme
- using 2D & 3D media
- Using technical drawing, modelling and photography
- building on my knowledge and understanding of how artists/designers use materials and imagery to create meaningful work
- ideas for a chair inspired by a chosen artist/designer

DEVELOP

I will learn how to develop...

- my observation and 3D skills using a range of media, techniques and processes.
- my knowledge and understanding of 3D styles and techniques
- my technical drawing and planning skills
- ideas in response to a given theme, linking to artists work.
- my higher order thinking skills

REFINE

I will learn how to...

- select and experiment with a range of 3D media and techniques
- select ideas to adapt and improve e.g. adjustments to size, colour and composition.
- develop a piece of work from one media into another

EVALUATE

I will learn how to...

- analyse and reflect on the development of my own work, through annotation making connections to artists and suggesting ways I could improve.
- evaluate artists using analytical writing skills and forming opinions

PRESENT OUTCOMES

I will learn how to...

Produce one or more finished prototypes in 3D



Homework Links

Tasks linked to the theme 'Chairs'
(2 hours per cycle)



Key Vocabulary

*Perspective/Isometric/
Orthographic/Shape/
Form/Balance/Scale/
Colour/Surface/Texture/
Primary source/
Secondary Source/
Prototype*

I will be expected to recall keywords learned in previous projects and use them in the appropriate context.

EVALUATING ARTISTS'/DESIGNERS' WORK

1. Describe the piece of art/design you are looking at
2. What is the name of the artist/designer or type of art/design?
3. What part of the world does the art/design come from?
4. Research and list 5 or more things about the artist/designer?
5. Describe the materials used to make the art/design
6. How has the artist/designer made the work?
7. What is being communicated through the art/design?
8. Which of these words best describes the mood of the picture/artefact?
EMOTIONAL/POWERFUL/HUMEROUS/USEFUL/SERIOUS/BUSY/SLOW/PEACEFUL/WARM/COLD/HAPPY/SAD/CALM/INTENSE/ SCARY can you think of any other words?
9. What do you like or dislike about the picture/artefact? Explain your reasons...

ANNOTATING YOUR OWN WORK

- In this piece of work I was trying to...
- The artist/designer that has influenced my work is...
- In my work I used the technique of...
- The source I have used is...
- The media I have used is...
- I like this piece because...
- My idea links to the brief because...
- I can improve this piece by...
- Next, I'm going to.....

Annotate means to explain your own creations

Artist evaluation is when you write about the artist

Project evaluation is written about the whole project at the end

END OF PROJECT EVALUATION

1. Describe each stage of the project from start to finish
2. What media/materials did you use to produce your work? E.g. Paint/Pencil/Clay etc.
3. Describe how you used different techniques in your project? E.g. painting/drawing/modelling with clay etc.
4. Which artist/designer/culture have you looked at?
5. Write down two or more similarities between your work and the artist/designers' work.
6. Which piece of your work best shows the Artist/Designers' style or the influence of another culture and why?
7. Describe some of your own ideas...
8. Have you used a primary or a secondary source?
9. Have you included the secondary source in your work? Where did you find it?
10. Imagine if your final piece was displayed in a public place.... Describe the effect looking at your work might have on people and society. E.g. relax them, make them feel sad, curious, happy, angry, thoughtful, surprised, confused, nostalgic etc. explain why e.g. because of your use of colour, images, content, arrangement? etc.
11. Explain any other influences on your work e.g. personalities (*including your own*), places, memories, objects, politics, events, activities, religion, fact, fiction etc.
12. Describe how your work links to the project brief?
13. Explain what you have done well...
14. Explain how you could improve...
15. What would you do differently, if you were to repeat any part of this project

Big Questions

PSHE

How do I make informed choices about relationships?

What do I need to know about sexual health?

What is a stable relationship?

WPD

What are British Values?
How does the UK democratic system work?
How do I prepare for life in modern Britain?

House news/competitions:

Write an article for the soon to be launched termly house newsletter.

The article would be your views on the environment / climate change and what we can do in order to make positive changes to how we live

Work to be submitted to Mrs Green via your tutor or email direct to kgreen@abbeyschoolfaversham.co.uk

Depending on the quality of submissions there may be more than one published!

All articles published will receive a golden ticket and the best one will get 20 house points, a certificate and a small prize.

Term	PSHE Personal, Social and Health Education		WPD Wider Personal Development		CAREERS
1	Relationships & RSE Building positive relationships <ul style="list-style-type: none"> Relationship choices Intimate relationships Sexual Health STIs – contraception recap KS3 Pregnancy, abortion and miscarriages Forming stable relationships including marriage/civil		Wider Personal Development Democracy: <ul style="list-style-type: none"> What are the British Values? How UK democratic system works Registering to vote/polling cards Local constituency and MP The Role of MPs Government services Democracy challenges Manifesto Preparing for life in modern Britain 		Careers Employability Skills Builder: Creativity Industry Focus – Marketing <ul style="list-style-type: none"> Skills builder online programme Creativity in wider life Developing ideas by mind mapping The marketing industry Why creativity is important in the marketing industry Marketing jobs

WHAT ARE BRITISH VALUES?



- *Democracy
- *The rule of law
- *Individual liberty
- *Mutual respect
- *Tolerance of those with different faiths and beliefs.



Careers:

Employability Focus during form time – Creativity
Careers Event – Careers Survey. You will complete a careers survey during form time so that the Careers Team know they type of jobs that you are interested in. We will then do our best to arrange employers giving classroom talks, attending our industry specific careers events, becoming business mentors and offering work experience.

PSHE GROUND RULES

Understand everyone has a right to a different opinion – listen with tolerance and respect.

Put your hand up if you wish to make a comment – await your turn.

Keep questions and comments general, not personal.

Respect what others say – no put-downs. We make sure everyone feels listened to.

We make sure everyone feels able to join in.

We use the correct vocabulary and check if unsure.

We know who to ask for help or advice – and if not we will ask!