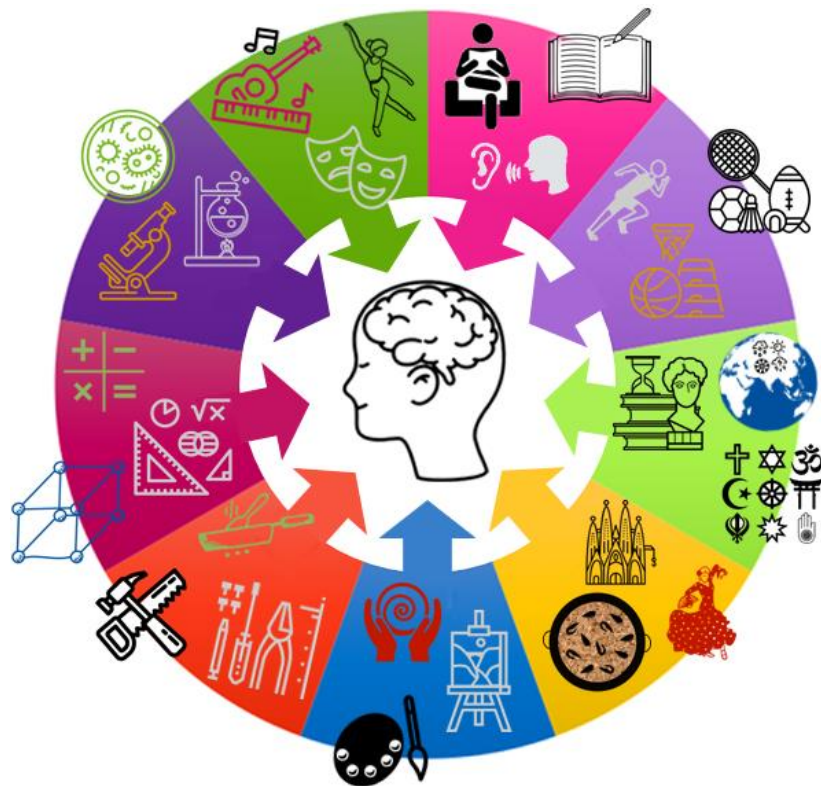


100% book - Year 9 Grammar

Aim to memorise 100% of the knowledge on these Knowledge Organisers



Term 2

Swindon Academy 2024-25

Name:	
Tutor Group:	
Tutor & Room:	

"If you are not willing to learn, no one can help you.

If you are determined to learn, no one can stop you."

Using your Knowledge Organiser and Quizzable Knowledge Organiser

Knowledge Organisers

Year 7 Term 1 Science/Chemistry - Topic: TOP Particles

What are we learning this term:
 A. Particle model
 B. Changing states
 C. Mixtures
 D. Investigating mixtures

5 Key Words for this term:
 1. Matter
 2. Particles
 3. Diffusion
 4. Melting
 5. Freezing
 6. Condensation
 7. Expansion
 8. Solids
 9. Liquids
 10. Gases

A. What is particle theory?
 The theory that all matter is made up of particles.

A. Describe the properties of the three states of matter.

solid	liquid	gas
• Particles are packed closely together in a regular pattern.	• Particles are close together but can move past each other.	• Particles are far apart and move randomly.
• Particles vibrate in fixed positions.	• Particles can slide past each other.	• Particles move in all directions.

B. What happens to the temperature of a substance when it changes state?
 During the change of state, the temperature will stay the same until the change of state is complete.

A. What is the law of conservation of mass?
 The Law of Conservation of Mass states that mass cannot be created or destroyed.

B. What are the different changes of state?

Melting	change of state from solid to liquid
Freezing	change of state from liquid to solid
Evaporation	change of state from liquid to gas
Condensation	change of state from gas to liquid

C. What is the difference between a pure and an impure substance?

Pure	Impure
A material that is made up of only one type of particle.	A material that is made up of more than one type of particle.

Quizzable Knowledge Organisers

A. What is particle theory?

A. What is the law of conservation of mass?

A. Describe the arrangement and movement of particles in the three states of matter.

Solid	
Liquid	
Gas	

B. What are the different changes of state?

Melting	
Freezing	
Evaporation	
Condensation	

C. What is the difference between a pure and an impure substance?

Pure	Impure

Diagram: A phase change diagram showing solid, liquid, and gas states with arrows indicating transitions: melting, freezing, evaporation, condensation, sublimation, and deposition.

Expectations for Prep and for using your Knowledge Organisers

1. Complete all prep work set in your subject prep book.
2. Bring your prep book to every lesson and ensure that you have completed all work by the deadline.
3. Take pride in your prep book – keep it neat and tidy.
4. Present work in your prep book to the same standard you are expected to do in class.
5. Ensure that your use of SPAG is accurate.
6. Write in blue or black pen and sketch in pencil.
7. Ensure every piece of work has a title and date.
8. Use a ruler for straight lines.
9. If you are unsure about the prep, speak to your teacher.
10. Review your prep work in green pen using the mark scheme.

Knowledge Organisers contain the essential knowledge that you **MUST** know in order to be successful this year and in all subsequent years.

They will help you learn, revise and retain what you have learnt in lessons in order to move the knowledge from your short-term memory to long-term memory.

These are designed to help you quiz yourself on the essential Knowledge.

Use them to test yourself or get someone else to test you, until you are confident you can recall the information from memory.

Top Tip

Don't write on your Quizzable Knowledge Organisers! Quiz yourself by writing the missing words in your prep book. That way you can quiz yourself again and again!

How do I complete Knowledge Organiser Prep?

Step 1

Check Epraise and identify what words /definitions/facts you have been asked to learn. Find the Knowledge Organiser you need to use.

The image shows the epraise website interface. On the left is a 'Planner' with a grid for subjects like English, Science, and History. On the right is a 'New! Year 10 Knowledge Organiser: What is Particle Theory?' which includes sections for 'What is particle theory?', 'Describe the arrangement and movement of particles in the three states of matter', and 'What is the law of conservation of mass?'.

Step 2

Write today's date and the title from your Knowledge Organiser in your Prep Book.

This image shows a printed knowledge organiser page with handwritten notes. The date '29th May 2020' and the title 'Particle theory' are written at the top. A diagram at the bottom shows three states of matter: Solid (particles in a regular pattern), Liquid (particles touching but moving), and Gas (particles far apart). Arrows indicate energy changes: 'Gaining energy' for melting and evaporation, and 'Losing energy' for freezing and condensation.

Step 3

Write out the keywords/definitions/facts from your Knowledge Organiser in FULL.

Handwritten notes in a prep book. The date '29th May 2020' is written at the top. The title 'Properties of the states of matter' is underlined. The notes define particle theory as 'all matter is made of particles'. It then describes the three states: Solid (regular pattern, particles vibrate in fixed position), Liquid (particles arranged randomly but still touching, can slide past each other and move around), and Gas (particles far apart, arranged randomly, carry a lot of energy).

Step 4

Read the keywords/definitions/facts out loud to yourself again and again and write the keywords/definitions/facts at least 3 times.

Handwritten notes showing the definition of 'Solid' repeated three times: 'Solid = regular pattern particles vibrate in fixed position'.

Step 5

Open your quizzable Knowledge Organiser. Write the missing words from your quizzable Knowledge organiser in your prep book.

A screenshot of a quizzable knowledge organiser. The questions are: 'What is the law of conservation of mass?', 'What are the different changes of state?', and 'Describe the arrangement and movement of particles in the three states of matter.' Handwritten answers include 'Self quizzing', 'Arrangement/movement of matter', and definitions for Solid, Liquid, and Gas.

Step 6

Check your answers using your Knowledge Organiser. Repeat Steps 3 to 5 with any questions you got wrong until you are confident.

Handwritten notes with corrections. The definitions from Step 3 are repeated, but with checkmarks and corrections. For example, 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy' has a checkmark and 'far apart' is written above 'are far apart'.

Make sure you bring in your completed Prep notes to demonstrate that you have completed your prep.



Chapter breakdown of Jane Eyre

1	On a bitter day, Jane is curled up with a book when her cousin, John Reed, discovers her and hits her. She fights back and is sent to the red-room.
2	Jane is locked in the red-room. She sits in turmoil until she hears and sees something odd. She begs to be let out. She faints.
3	Jane wakes up in the nursery. Bessie and Mr Lloyd are there. Jane is miserable. Mr Lloyd talks to Jane about going to school.
4	Jane is visited by Mr Brocklehurst, the headteacher at Lowood School. After his visit, Jane and Mrs Reed argue. Jane says she will never call her 'aunt' again.
5	Jane travels to Lowood School. She meets Miss Temple, the kind teacher, and Helen Burns, another pupil.
6	Helen is thrashed for having dirty hands. Later, she talks with Jane and explains that it is better to forgive and be patient than to get angry and seek revenge.
7	Mr Brocklehurst visits Lowood School. He calls Jane to the front of the classroom and calls her a liar in front of all the teachers and pupils. Helen smiles at Jane, bringing Jane hope.
8	Afterwards, Jane and Helen visit Miss Temple. Miss Temple says she believes that Jane is not a liar. Jane listens to Miss Temple and Helen's fascinating conversations. Miss Temple hears from Mr Lloyd that Jane is not a liar and tells the school.
9	Jane enjoys the area around Lowood in the spring. Typhus breaks out at Lowood School. Lots of girls get sick. Many die. Helen Burns dies of tuberculosis.
10	Eight years pass. Jane has become a teacher at Lowood School. Mr Brocklehurst had his power removed when his treatment at the school was discovered. Jane applies to be a governess for a family at Milcote.

The Big Ideas:

1	Social Class: Jane is an orphan and dependent on the charity of her extended family. Jane is poor and of low class – powerless. She suffers abuse by John Reed, her 'master' Lowood is harsh and corrupt – religious hypocrisy.
2	Growth: Jane is constantly growing and maturing. She is an adult reflecting back on her childhood in the novel. She learns to manage her emotions. Her relationships with others help her grow .
3	Oppression: Oppression of women. Jane's abusive childhood is a form of oppression. Adults oppressing children in a huge theme in the novel. Religion as a form of oppression. In the novel.
4	Role of women in society: Jane is angry at her place in society. Lowood is an all-girls' school. Women as governesses, teachers, servants. Low class women are powerless.

Locations in the first 10 chapters

Gateshead Hall Home of Mrs Reed, John, Georgiana, and Eliza Reed. Jane grows up here. Jane is locked in the red-room.
Lowood School Jane is sent to Lowood by Mrs Reed. Mr Brocklehurst is the headteacher. Conditions are harsh and strict. The girls receive brutal punishments and are fed poorly. A typhus outbreak kills many of the girls.

Terminology: Key words

thesis – the main idea that you want to discuss throughout an essay.
juxtaposition – a literary technique where a writer places very different things or people close to each other. This helps to show how the things are similar or different.

Characters in Jane Eyre

Jane Eyre The main character. A young, intelligent, and passionate orphan. "You think I have no feelings, and that I can do without one bit of love or kindness; but I cannot live so"
Mrs Reed – Jane's aunt She neglects and abuses Jane and is glad to send her away to Lowood School. "Guard against her worst fault, a tendency to deceit"
Mr Brocklehurst – The governor of Lowood school A cruel and hypocritical Christian. He believes in driving evil from children through harsh discipline. "Punish her body to save her soul"
Helen Burns – Jane's friend A kind and forgiving Christian. She inspires Jane to be more patient and accepting. She dies of tuberculosis at 14. "Love your enemies; bless them that curse you; do good to them that hate you and despitefully use you."
Miss Temple The kind and understanding teacher at Lowood. Offers care and affection to Jane and Helen. "You shall be publicly cleared from every imputation: to me, Jane, you are clear now."

Vocabulary: Key words

protagonist – the main character
dependent – someone who relies on another person to support them financially. Jane is a dependent because she relies on Mrs Reed to feed, clothe and house her.
oppress (vb.) – to treat a group of people in an unfair way, often by limiting their freedom.
solitude – state or situation of being alone
sombre – serious or sad
conventional – normal or accepted way
obedience – submission to another's authority
ominous – something bad that is going to happen
clandestine – something that is done in secret
humiliate (vb.) – to make someone feel stupid or ashamed. If something makes you feel stupid or ashamed, you could describe it as humiliating .
hypocrite – someone who says one thing but does the opposite at another time.
comeuppance – when a villain receives some form of punishment for what they did.

Victorian attitudes to childhood

1	A child is a blank slate and can be trained to develop into a rational being.
2	A child is born completely innocent and pure . They are only contaminated by contact with corrupt forces.
3	The child is born evil and must therefore be controlled and punished in order to submit to the rules of God and society.

Biographical information

1	'Jane Eyre' written in 1847 by Charlotte Brontë.
2	Parts of 'Jane Eyre' were influenced by Brontë's experiences at school and as a young woman.
3	'Jane Eyre' was unusual when it was published because it is written in the first-person from a female perspective.



Chapter breakdown of Jane Eyre

1	On a bitter day, Jane is curled up with a book when her cousin, John _____, discovers her and hits her. She _____ back and is sent to the _____.
2	Jane is locked in the _____ - _____. She sits in turmoil until she hears and sees something odd. She begs to be let out. She _____.
3	Jane wakes up in the nursery. _____ and Mr _____ are there. Jane is _____. Mr _____ talks to Jane about going to school.
4	Jane is visited by Mr _____, the _____ at _____. After his visit, _____ and Mrs _____ Jane says she will _____ call her ' _____ ' again.
5	Jane travels to _____ School. She meets Miss _____, the kind _____, and Helen _____, another _____.
6	_____ is thrashed for having _____ hands. Later, she talks with Jane and explains that it is better to _____ and be _____ than to get _____ and seek _____.
7	Mr Brocklehurst visits Lowood School. He calls Jane to the front of the classroom and calls her a _____ in front of all the _____ and _____. Helen smiles at Jane, bringing Jane _____.
8	Afterwards, _____ and _____ visit Miss Temple. Miss Temple says she believes that Jane is _____ a _____. Jane listens to Miss Temple and Helen's _____. Miss Temple hears from Mr _____ that Jane is not a _____ and tells the _____.
9	Jane _____ the area _____ in the _____. _____ breaks out at Lowood School. Lots of girls get _____. Many _____, Helen Burns _____ of _____.
10	_____ pass. Jane has become a _____ at _____. Mr _____ had his _____ when his _____ at the school was _____. Jane applies to be a governess for a family at Milcote.

The Big Ideas:

1	Social Class: Jane is an _____ and _____ on the _____ of her extended family. Jane is _____ and of _____ class – _____. She suffers _____ by John Reed, her 'master'. Lowood is harsh and _____ – religious _____.
2	Growth: Jane is constantly _____ and _____. She is an adult _____ back on her _____ in the novel. She learns to manage her _____. Her _____ with _____ help her _____.
3	Oppression: Oppression of _____. Jane's _____ childhood is a form of oppression. Adults oppressing _____ in a huge theme in the novel. _____ as a form of oppression in the novel.
4	Role of women in society: Jane is _____ at her place in _____. Lowood is an all-girls' school. Women as governesses, teachers, servants. Low class women as _____.

Locations in the first 10 chapters

Gateshead Hall Home of _____, _____ and _____ grows up here. _____ is locked in the _____ - _____.
Lowood School _____ is sent to _____ by Mrs _____. Mr _____ is the _____. Conditions are _____ and _____. The girls receive brutal _____ and are fed _____. A _____ outbreak _____ many of the girls.

Terminology: Key words

thesis –
juxtaposition –

Characters in Jane Eyre

Jane Eyre
Mrs Reed – Jane's aunt

Mr Brocklehurst – The governor of Lowood school
--

Helen Burns – Jane's friend

Miss Temple

Vocabulary: Key words

protagonist –
dependent –
oppress (vb.) –
solitude –
sombre –
conventional –
obedience –
ominous –
clandestine –
humiliate (vb.) –
hypocrite –
comeuppance –

Victorian attitudes to childhood

1	A child is a blank slate...
2	A child is born completely innocent and pure ...
3	The child is born evil...

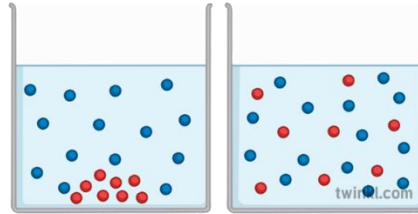
Biographical information

1	'Jane Eyre' written in _____ by Charlotte _____.
2	Parts of 'Jane Eyre' were influenced by Brontë's experiences at _____ and as a young _____.
3	'Jane Eyre' was unusual when it was published because it is written in the _____.

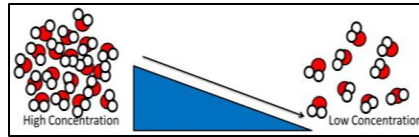
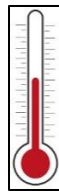
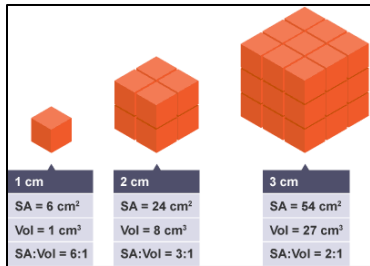
B1 – Cell Biology

Diffusion

- Substances move a higher concentration of that substance (red particles pictured) to where there is a lower concentration of that substance. (High → Low)
- This happens because of the random movement of the particles in a fluid (liquid or gas).



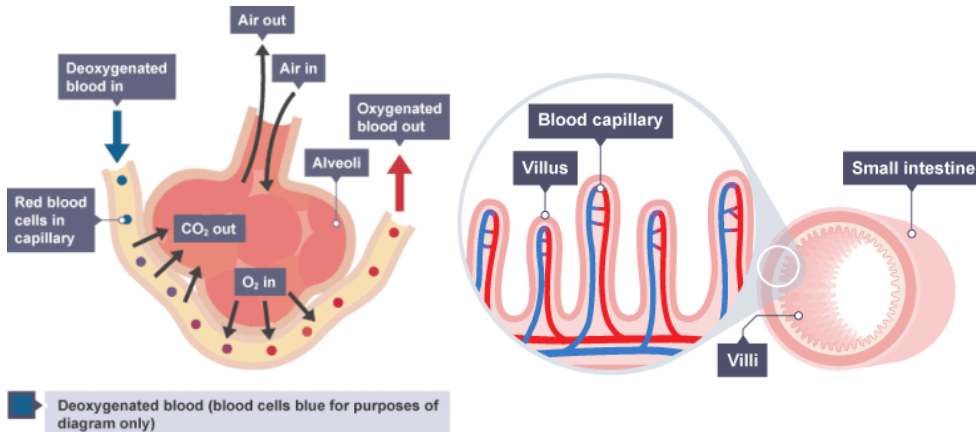
- There are ways the rate of diffusion can be changed:
 - the difference in concentrations (concentration gradient)
 - the temperature
 - the surface area of the membrane



Examples

Alveoli in the lungs and villi in the small intestine are both structured in similar ways so diffusion can happen at a high rate (fast).

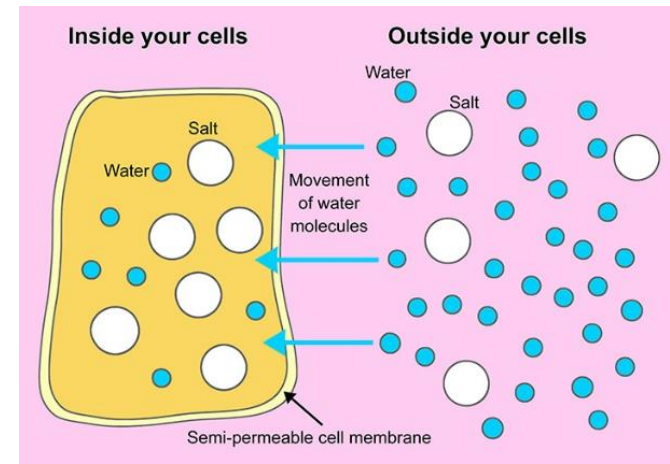
- having a large surface area
- a membrane that is thin, to provide a short diffusion path
- (in animals) having an efficient blood supply



Osmosis

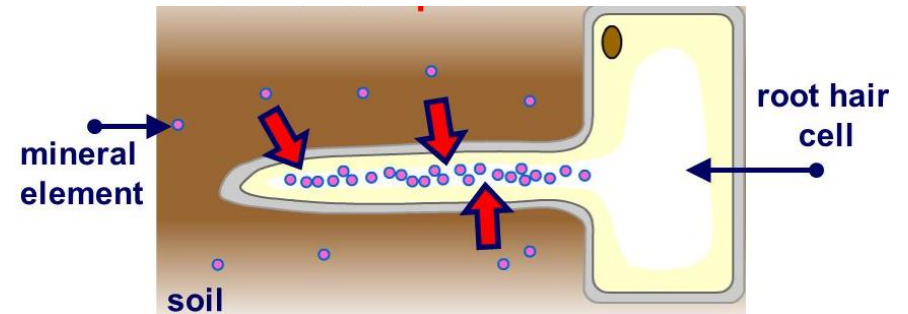
Water may move across cell membranes via osmosis.

Osmosis is the diffusion of water from a dilute solution to a concentrated solution through a partially permeable membrane (H → L).



Partially permeable means small molecules can move through but large molecules cannot.

Active Transport



- Active transport is moving substances against the concentration gradient (L → H) so requires energy. This energy comes from respiration.
- This means that cells that carry out a lot of active transport (root hair cells, epithelial cells on villi in the small intestine) contain a lot of mitochondria.

B1 – Cell Biology

1. What factors affect the rate of diffusion?
 -
 -
 -
2. Give an example in animals where diffusion would take place?
3. How are structures in organisms adapted for efficient diffusion?
 -
 -
 -
4. Do substances move from a low concentration to a high concentration?

1. What substance is being transported by osmosis?
2. What does partially permeable mean?

1. How is active transport different to diffusion?
2. Give an example of where active transport happens often in organisms.
3. Why do cells that carry out active transport often have a lot of mitochondria?

C2 – Bonding, structure, and the properties of matter

Formation of Ions

- **Ions** = a charged particle made when atoms lose or gain electrons
- **Positive ion** = atom has lost electrons
- **Negative ion** = atom has gained electrons.

Metals form **positive ions**

Non-metals form negative ions

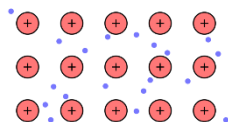
Group	Ions	Example
1	+1	$\text{Li} \rightarrow \text{Li}^+ + \text{e}^-$
2	+2	$\text{Ca} \rightarrow \text{Ca}^{2+} + 2\text{e}^-$
6	-2	$\text{O} + 2\text{e}^- \rightarrow \text{O}^{2-}$
7	-1	$\text{Br} + \text{e}^- \rightarrow \text{Br}^-$

Lost electrons

Gained electrons

Metallic Bonding

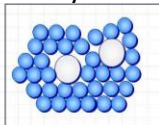
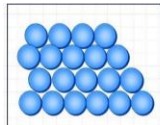
- Happens in **metals only**.
- Positive metal ions surrounded by **sea of delocalised electrons (can move)**.
- Ions tightly packed in rows.
- Strong **electrostatic forces of attraction** between positive ions and negative electrons.



Alloys

- **Alloys** = mixture of two or more metal atoms
- Pure metals are too soft for many uses.

Pure Metal

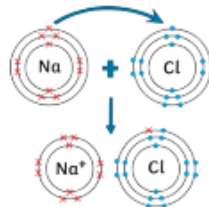


Alloy

- | | |
|-------------------|-------------------------|
| • Atoms same size | • Different sized atoms |
| • Layers slide | • Layers cannot slide |
| • Softer | • Stronger |

Ionic Bonding

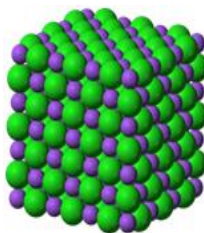
- Between a metal and non-metal.
- Metals give electrons to non-metals so both have a full outer shell.
- **Electrostatic force of attraction** between positive and negative ions.



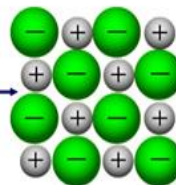
E.g. Sodium loses one electron to become Na^+ . Chlorine gains one electron to become Cl^- . The two ions attract to form sodium chloride.

Ionic compounds

- Form **giant lattices**, as the attraction between ions acts in all directions



strong electrostatic forces between oppositely charged ions



Properties of Ionic Compounds

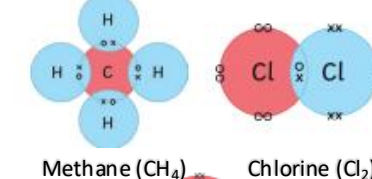
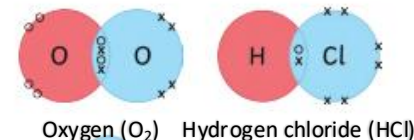
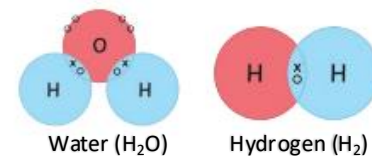
- **High melting point** – lots of energy needed to overcome electrostatic forces.
- **High boiling point**
- **Cannot conduct electricity as solid** – ions cannot move
- **Conducts electricity when molten or dissolved** – ions are free to move.

Covalent Bonding

- **Covalent bonding** = sharing a pair or pairs of electrons for a full outer shell.
- Between **non-metals only**.

Dot and cross diagrams

- Show the bonding in simple molecules.
- Uses the outer shell of the atoms
- Crosses and dots used to show electrons
- You should be able to draw the following:



Simple Covalent Molecules

- Form when all atoms have full outer shells so bonding stops
- Examples are the molecules shown above.
- Have **low melting and boiling points**
- Due to **weak intermolecular forces**
- Do not conduct electricity

C2 – Bonding, structure, and the properties of matter

1. What is an ion?
2. What happens to form a positive ion?
3. What happens to form a negative ion?
4. What type of ions are formed by:
 1. metals
 2. non-metals

1. What are metal ions surrounded by?
2. Name the type of attraction between the electrons and ions.
3. Why do metals conduct electricity?
4. What is an alloy?
5. Why are pure metals too soft for some uses?
6. Why are alloys stronger than pure metals?

1. Ionic bonding happens between..
2. What do metals give to non-metals?
3. What type of attraction is between the positive and negative ions?
4. What structure do ionic compounds form?
5. What are the melting points of ionic compounds like?
6. Why can solid ionic compounds **not** conduct electricity?
7. When can ionic compounds conduct electricity?

1. What is covalent bonding?
2. What type of atoms does covalent bonding happen between?
3. Draw dot and cross diagrams for the following:

Water (H₂O)

Methane (CH₄)

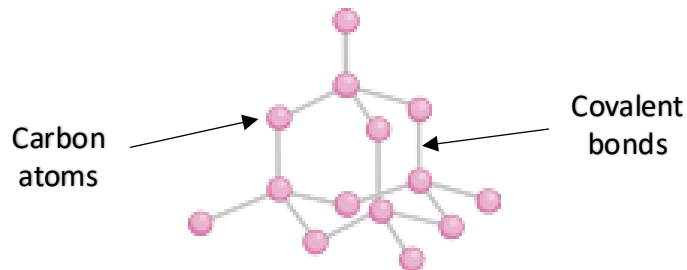
Oxygen (O₂)

5. Do simple covalent molecules have a high/low melting point?
6. Why is this?

C2 – Bonding, structure, and the properties of matter

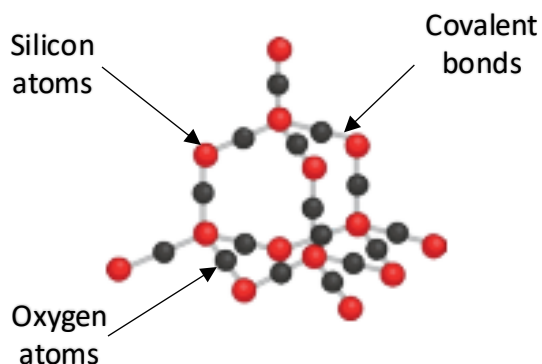
Giant Covalent Structure – Diamond

- Each carbon atom **covalently** bonded to **four** others.
- Forms a giant structure
- This makes diamond **strong** → a lot of **energy** needed to break lots of strong covalent bonds.
- **Does not conduct electricity** – has no free electrons.



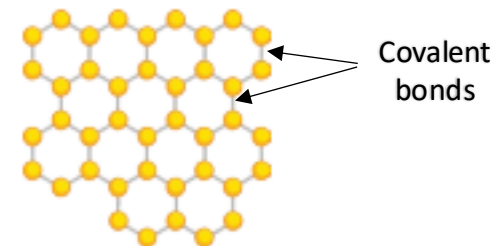
Silicon Dioxide

- Similar structure to diamond
- Giant covalent structure.
- Lots of **strong covalent bonds**.
- These require lots of **energy** to break.
- High melting and boiling points.



Graphene

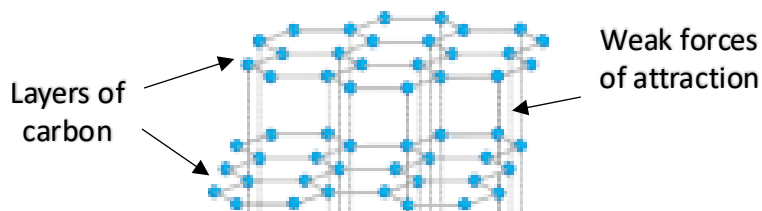
- Graphene = one layer of graphite.
- Very strong → lots of strong covalent bonds.



- Each carbon bonded to three others.
- One **free delocalised electron** → can move to **carry electrical current** throughout the structure.

Giant Covalent Structure – Graphite

- Layers of **carbon** arranged in **hexagons**.
- Each carbon bonded to **three** other carbons.
- Leaves **one delocalised electron** → moves to carry electrical charge **throughout structure**.

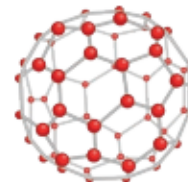


- Layers held together by **weak forces**
- Layers can **slide** over each other easily
- Makes graphite **soft/slippery** → good lubricant.
- Has **high melting point** as has many strong covalent bonds.

Fullerenes and Nanotubes

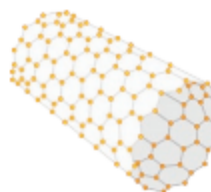
- Molecules of carbon shaped into hollow tubes or balls.
- Used to **deliver drugs into body**

Buckminsterfullerene
Formula = C₆₀



- **Carbon nanotubes** = long narrow tubes
- Can conduct electricity

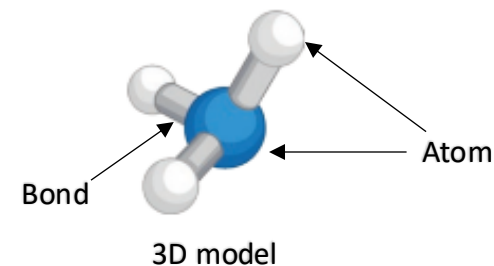
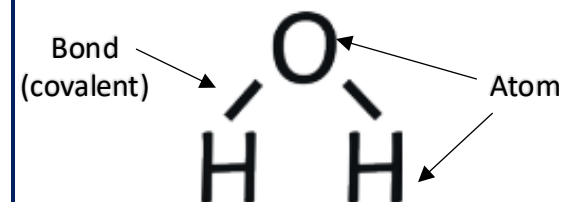
- Can strengthen materials without adding weight.



- Used in electronics and nanotechnology.

Molecular models

- There are different ways to show a molecule other than dot and cross diagrams.



C2 – Bonding, structure, and the properties of matter

1. How many bonds do each carbon atom have in diamond?
2. What type of bonds are in diamond?
3. Why is diamond hard?
4. Why does diamond not conduct electricity?

1. What structure does silicon dioxide have?
2. Why does this structure have a high melting and boiling point?

1. What is graphene?
2. State a property of graphene.
3. How many bonds does each carbon have?
4. What does this allow graphene to do?

1. What element is graphite made from?
2. How many bonds does each carbon have?
3. Why can graphite conduct electricity?
4. What holds together the layers of graphite?
5. Why is graphite soft/slippery?
6. Does graphite have a high/low melting point?
7. Why?

1. What can fullerenes be used for?
2. What is the formula of buckminsterfullerene?
3. State two uses of carbon nanotubes.

1. What are three ways that H₂O could be drawn?

P2 – Electricity

Current, resistance and potential difference

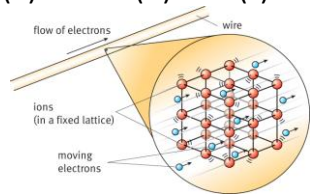
Electrical current is the flow of electrical charge.

Current is measured in amps (A), charge is measured in Coulombs (C).

The size of the current depends on the rate of the flow of charge – ie how many coulombs of charge per second.

$$Q = I t$$

Charge = Current x time
(C) (A) (s)



Ohms Law

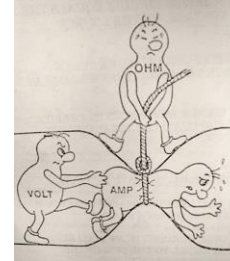
The current through a component depends on the potential difference and the resistance of the component.

If a component has high resistance, the current will be smaller for a given potential difference

potential difference = current x resistance

$$V = I R$$

pd is measured in volts (V), resistance in Ohms (Ω)



Hypothesis 'the length of the wire affects resistance'

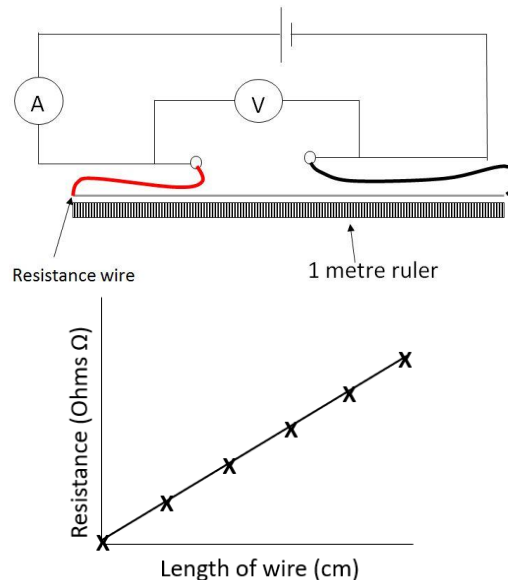
Independent variable – length of wire

Dependent variable – resistance

Control variables – type of wire, temperature of the wire, diameter of the wire

1. Set up the circuit as shown, with an ammeter in the circuit and a voltmeter connected across the wire
2. Use crocodile clips to change the length of the wire in the circuit
3. Make the wire 10cm long and read the current and pd. Switch off the current between readings or the wire will get hot, increasing the resistance.
4. Repeat for 20, 30, 40, 50 cm. (5 minimum)
5. Calculate resistance using Ohms Law $R = V/I$

Plot length of wire (IV) against resistance (DV)

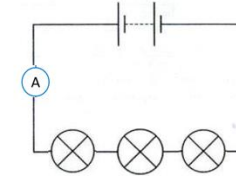


The relationship is directly proportional

Series and parallel circuits

Series circuits:

A series circuit is one single loop

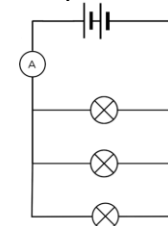


In a series circuit:

- the current is the same at all points in the circuit.
- potential difference is shared between components (equally if components are identical resistance)
- total resistance = sum of all resistors

Parallel circuits

A parallel circuit consists of more than one loop from the battery/cell.



In a parallel circuit:

- The current is shared amongst the branches
- The potential difference is the same across all components
- Resistance in the whole circuit is LESS than that of the smallest resistor

P2 – Electricity

Current, resistance and potential difference

1. What is current?
2. What is the unit for charge?
3. What is the unit for current?
4. What is the equation linking charge, current and time?
5. What is the equation linking current, potential difference and voltage?
6. If a component's resistance increases, what happens to current through that component?
7. What is the unit for resistance?

Hypothesis 'the length of the wire affects resistance'

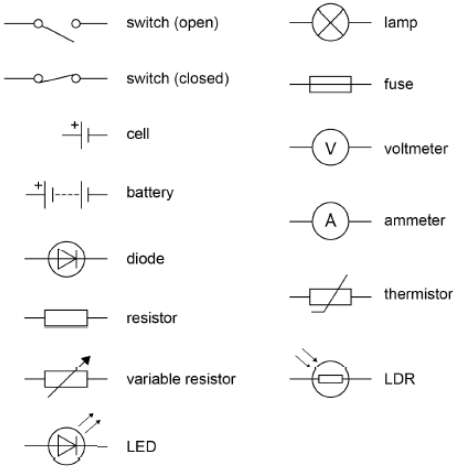
1. What is the independent variable in this investigation?
2. What is the dependent variable?
3. What is the minimum number of readings needed for a line graph?
4. What two readings are taken?
5. How is resistance calculated?
6. What sort of relationship is seen?
7. Why is it important to turn off the power in between readings?

Series and parallel circuits

1. What is a series circuit?
2. In a series circuit, the current is.....
3. How do you find total resistance in a series circuit?
4. The potential difference is shared equally among components as long as.....
5. What is a parallel circuit?
6. What is true about potential difference across all of the components in a parallel circuit?
7. How is total current calculated in parallel?
8. What is true for total resistance in a parallel circuit?

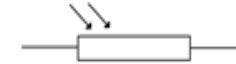
P2 – Electricity

Components

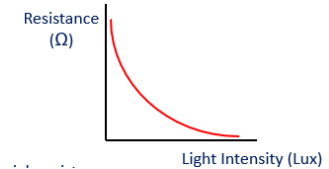


- A **diode** only allows current to flow one way in a circuit
- A **resistor** is a component that provides a fixed resistance in the circuit – e.g a $5\ \Omega$ resistor
- A **variable resistor** is a component whose resistance can be changed (e.g a dimmer switch)
- A **thermistor** is a resistor whose resistance changes with temperature – the higher the temperature the lower the resistance
- An **LDR** (light dependent resistor) has resistance that changes
- An **LED** (light emitting diode) is a light that only allows the flow of current one way

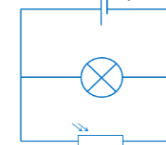
LDR



A light dependent resistor has varying resistance.
As the light intensity increases, the resistance decreases



LDRs can be used to switch on lights at night time.



In this circuit, when it is day time, the resistance in the LDR is low, so all current flows through the LDR.

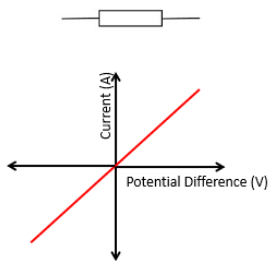
As light levels fall, resistance increases, until eventually there is less resistance in the bulb than the LDR, so current flows through the bulb – switching it on.

Thermistor

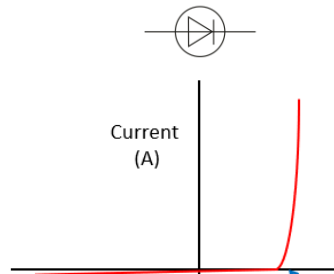


As the temperature increases, the resistance in a thermistor decreases.

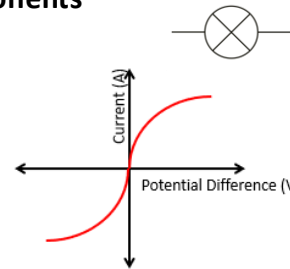
Current, potential difference and resistance for different components



A fixed (ohmic) resistor has fixed resistance
current is directly proportional to potential difference
Resistance remains constant (at constant temp)



A diode very high resistance in one direction.
Only when the potential difference is positive does current flow



A filament bulb contains a thin wire that glows as current flows.
As the pd increases, the current initially increases.
However, at higher pd, the wire gets hot
The ions in the wire move faster and collide with the moving charges
Resistance increases, so current stops increasing

P2 – Electricity

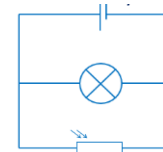
Components

Symbol	Name
	Cell
	fuse
	Voltmeter

1. Complete the table opposite
2. Which component has a resistance that decreases as light intensity increases?
3. Which component only allows current to flow one way?
4. What is a fixed resistor?

LDR

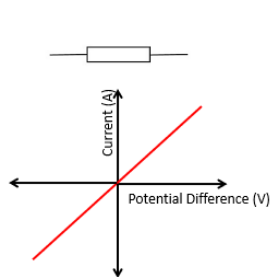
1. Draw the symbol for an LDR
2. Draw the pattern you would expect for resistance as the light intensity increases.
3. The circuit below is for a night light. What is resistance in the LDR like during the day time? (high light levels)



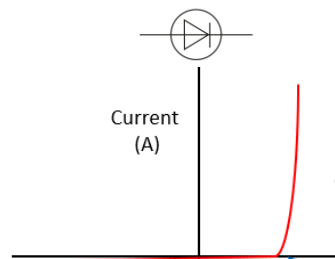
4. Why does the light switch on when it goes dark?
5. Draw the symbol for a thermistor
6. Describe the relationship between temperature and resistance in a thermistor

Current, potential difference and resistance for different components

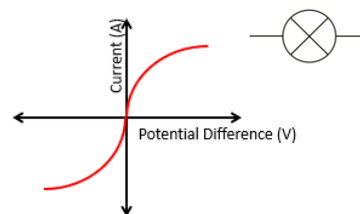
1. What readings would you need to take from a circuit to calculate resistance?



2. Describe the relationship shown



3. Why is there no current on one side of the graph?



4. What happens to current when the pd rises at first?
5. What happens to the current as the pd gets higher?
6. Why does the resistance increase at higher pd?

Climate Change

Background:	
1.	Since the 1860s the global climate has been recorded.
2.	Since then the climate globally has increased by 0.8° Celsius.
3.	Climate scientists can use methods to find out about the global climate before we started recording it. (B)
4.	From this evidence we can see that the planet has always gone through periods of warming and cooling. (A)
5.	However, the rapid increase of carbon dioxide in the atmosphere from burning fossil fuels, is causing the enhanced greenhouse effect. (D)
6.	The enhanced greenhouse effect is causing changes to the planet, such as the melting of Arctic sea ice, rising temperatures, and an increase in extreme weather events such as tropical storms. (E, F)
7.	Countries are trying to resolve the climate change issue by limiting the amount of carbon dioxide released into the atmosphere, this is known as mitigation. (G, H)
8.	Some countries are trying to adapt to climate change by building flood barriers and growing drought resistant crops. (G, H)

A. Changes in climate (3)	
Climate change	The process of the Earth's climate changing over time.
Glacial periods	Cold periods.
Inter-glacial periods	Warm periods.

B. Measuring climate change (3)	
Ice cores	Each layer of ice in a core represents a different year. CO ₂ can be measured in each layer, and therefore the temperature.
Tree rings	Each ring represents a different year. Thicker rings show a warmer climate.
Historical evidence	Paintings and diaries e.g. paintings of ice fairs on the frozen Thames 500 years ago.

C. Natural climate change (3)	
Volcanic eruptions	Ash from volcanic eruptions can block sunlight, making it colder.
Sun spots	The sun can give out more energy due to an increase in sun spots.
Orbital change	The orbit of the sun changes from oval (ellipse) to circular approx. 98,000 yrs.

E. Effects on people (6)	
Tropical storms	Increase in frequency and intensity so more damage.
Sea-level rise	Increased risk of floods, damaging property and businesses.
Melting Arctic ice	Affects trading routes in the Arctic Circle.
More droughts/ floods	Crop failure, could lead to starvation and famine.
Cost of defence	Governments have to spend more money on disasters instead of developing.
Environmental Refugees	Pressure on countries to accept refugees.

G. Strategies to resolve climate change (4)	
Adaptation	Adapting to climate change to make life easier.
Adaptation examples (3)	<ol style="list-style-type: none"> 1. Building flood defences. 2. Growing new crops to suit the new climate. 3. Irrigation channels, sending water from areas of surplus to deficit.
Mitigation	Trying to stop climate change from happening by reducing greenhouse gases.
Mitigation examples (3)	<ol style="list-style-type: none"> 1. International agreements. 2. Alternative energies. 3. Carbon capture.

D. Human-induced climate change (5)	
Greenhouse effect	The way that gases in the atmosphere trap heat from the sun. Like glass in a greenhouse they let heat in, but prevent most from escaping.
Greenhouse gases	Gases like carbon dioxide and methane that trap heat around the Earth, leading to climate change.
Transport	More cars, so more CO ₂ causing the enhanced greenhouse effect.
Farming	Farming livestock produces methane, this is a greenhouse gas.
Energy	More energy required, meaning more fossil fuels burnt, so more CO ₂ .

F. Effects on the environment (4)	
Sea temperature rises	Coral bleaching and destruction of marine ecosystems.
More droughts	Migration/ death of species which can not survive drought conditions.
Melting glaciers (ice rivers)	Will send more fresh water into the sea, causing the sea level to rise.
Melting Arctic ice	Loss of habitats for animals, such as polar bears.

H. Place specific examples (2)	
Adaption	The Thames Barrier. Positive: Stops flooding due to rising sea levels. Negative: Expensive
Mitigation	The Paris Agreement. Positive: Countries are trying to lower CO ₂ emissions. Negative: The USA pulled out and China did not sign up.

Climate Change

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A.	Changes in climate (3)
Climate change	
Glacial periods	
Inter-glacial periods	

B.	Measuring climate change (3)
Ice cores	
Tree rings	
Historical evidence	

C.	Natural climate change (3)
Volcanic eruptions	
Sun spots	
Orbital change	

E.	Effects on people (6)
Tropical storms	
Sea-level rise	
Melting Arctic ice	
More droughts/ floods	
Cost of defence	
Environmental Refugees	

G.	Strategies to resolve climate change (4)
Adaptation	
Adaptation examples (3)	
Mitigation	
Mitigation examples (3)	

D.	Human-induced climate change (5)
Greenhouse effect	
Greenhouse gases	
Transport	
Farming	
Energy	

F.	Effects on the environment (4)
Sea temperature rises	
More droughts	
Melting glaciers (ice rivers)	
Melting Arctic ice	

H.	Place specific examples (2)
Adaption	
Mitigation	

Year 9 Unit 2: The Suffragettes Knowledge Organiser

What we are learning this term:

In this unit students will study how women strove towards equal voting rights throughout the 19th century and the impact this had on how women were perceived. Students will also study how and why the electorate widened in general, including the place in society of working-class men A. Key words for this unit B. Key people and their roles in the suffrage movement C. Key events and dates in the suffrage movement D. Suffragists vs Suffragettes

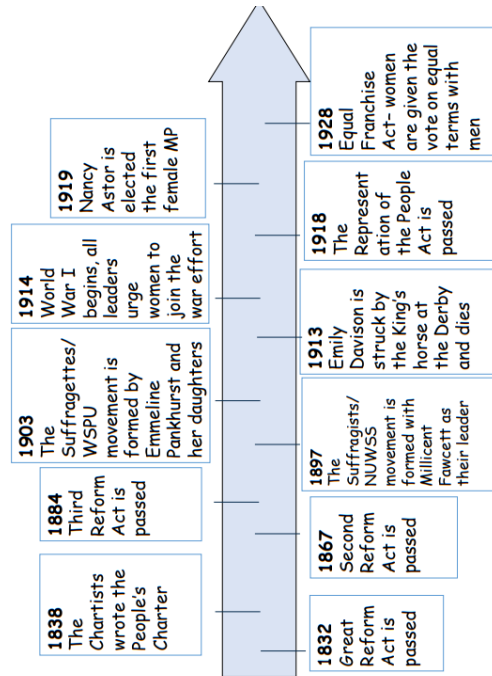
Key concept: Causation

Long term	Factor(s) that were around or happened significantly before hand. E.g. Success of protests for male suffrage, demands of the Chartists
Short term	Factor(s) that happen relatively close to the event you are studying. E.g. Militant actions of the Suffragettes
Spark or Trigger	A significant factor or turning point, that has an immediate impact that sets a sequence of events in motion that won't turn back. E.g WW1 and changing role of women.

B.	Key people
Nancy Astor	The first women elected as a Member of Parliament (MP)
Emily Davison	Joined the WSPU in 1906. Was struck by the King's horse at the Epsom Derby and killed in 1913.
Benjamin Disraeli	A Conservative Prime Minister (1868, 1874-80) who introduced the Second Reform Act
Millicent Fawcett	Founded the Suffragists/NUWSS in 1897
William Gladstone	A Liberal politician who served in Parliament for over 60 years and four times as Prime Minister. He passed the Third Reform Act, extending the vote to all male homeowners.
Earl Grey	A Whig Prime Minister who proposed the Great Reform Act in 1831 and resigned when the House of Lords rejected it.
Annie Kenney	A working-class socialist feminist who was active in the WSPU as a militant member and was arrested.
William Lovett	The leader of the Chartist movement and wrote the People's Charter in 1838
Christabel Pankhurst	Speaker for the WSPU in 1905. She trained as a lawyer but could not practice as a woman. She fled the country in 1912 for fear of rearrest, and unsuccessfully ran for parliament in 1918.
Emmeline Pankhurst	Founded the WSPU in October 1903 and encouraged militant action as a form of protest. Was arrested many times, she went on hunger strike and was force-fed. Mother of Christabel.

D.	Suffragists	Suffragettes
	Men and women who were fighting for women to have the right to vote	Just women who wanted more extreme action
	Leader Millicent Fawcett	Leader – Emmeline Pankhurst
	Formed in 1897	Formed in 1903 after splitting from the Suffragists
	Used pamphlets, petitions and marches to help persuade people to their cause	<ul style="list-style-type: none"> Used Protests and damaging property to help persuade people to their cause
	Women were given the right to vote from age 30 (men 21) by the 1918 Representation of the People Act. They were given the right to vote at the same age as men (21) in the 1928 Representation of the People Act.	

A.	Can you define these key words?
Act	a written law passed by Parliament
Propaganda	information used to promote a political point that can be misleading or untrue
Ballot	a system of voting on a particular issue
Reform	make changes in order to improve something
Charter	a written statement of the rights of a specified group of people
Representation	Speaking or acting on behalf of someone
Democracy	A system of government by the whole population typically through elected representatives.
Rotten boroughs	a borough that was able to elect an MP despite having very few voters, the choice of MP typically being in the hands of one person or family
Enfranchisement	To be given the right to vote
Strike	an organised refusal to do something expected or required typically to gain a concession
Manifesto	A public set of aims written down
Suffrage	The right to vote
Parliament	a group of people who make the laws for their country
Tactics	An action or strategy carefully planned to achieve a specific end
Petition	A formal written request, typically one signed by many people, appealing to authority in respect of a particular cause



Year 9 Unit 2: The Suffragettes Knowledge Organiser

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Key concept: Causation

Long term

Short term

Spark or Trigger

B.

Key people

Nancy Astor

Emily Davison

Benjamin Disraeli

Millicent Fawcett

William Gladstone

Earl Grey

Annie Kenney

William Lovett

Christabel Pankhurst

Emmeline Pankhurst

A.

Can you define these key words?

Act

Propaganda

Ballot

Reform

Charter

Representation

Democracy

Rotten boroughs

Enfranchisement

Strike

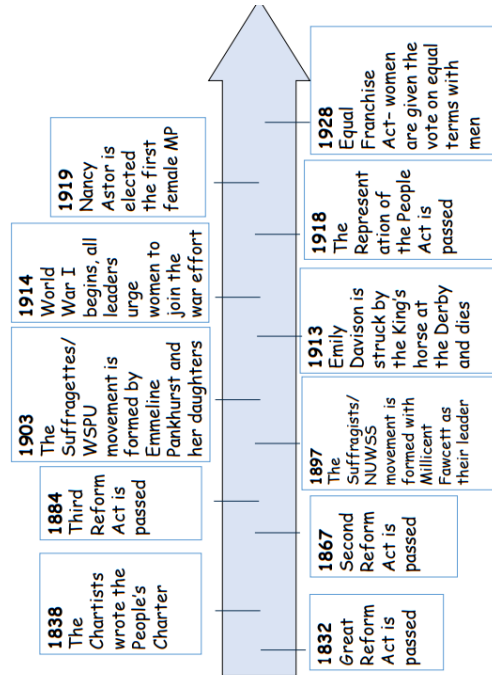
Manifesto

Suffrage

Parliament

Tactics

Petition



D.

Suffragists

Suffragettes

A.		Can you define these key words?		Year 9 Religious Education: Matters of Life and Death				What we are exploring this term: situation ethics, natural moral law, abortion, euthanasia, death penalty	
Key word		Key definition		B Natural moral law - Aquinas		C Joseph Fletcher – Situation Ethics			
Subjective		Based on personal beliefs, feelings or opinions		<ul style="list-style-type: none"> God made truths and rules about what is right and wrong e.g. the 10 commandments Everything in existence has a purpose so moral behaviour fits in with this 		<ul style="list-style-type: none"> Right and wrong depends on the situation No universal rules Based on agape – unconditional love Based on Jesus – “love thy neighbour” Every moral action is based on what would be the most loving and compassionate thing to do 			
Objective		Dealing with facts, not influenced by personal beliefs or feelings		The 5 primary precepts <ul style="list-style-type: none"> 5 of the most important rules which we must stick to in order to be good and overcome evil <ul style="list-style-type: none"> Preserve innocent life Reproduce Educate children Live in an ordered society Worship God 		D Situation Ethics strengths		Situation ethics weaknesses	
Natural moral law		The view there are universal moral standards that are inherent in humankind		Secondary precepts can be determined from the 5 primary ones		<ul style="list-style-type: none"> It is personal – sensitive to a person’s circumstances It is particular – moral decisions on a case by case basis It is based on doing good – teaches that right acts are motivated by the wish to promote well-being of 		<ul style="list-style-type: none"> It isn’t clear what ‘love’ means – may be different for different people It is difficult to implement It can’t produce consistent results – slippery slope Using ‘love’ to do unloving things 	
Primary precepts		Morally good rules for humans. E.g. preserve life		B Natural law strengths		Natural law weaknesses			
Secondary precepts		Rules we must follow to keep the primary precepts		<ul style="list-style-type: none"> We can use reason to determine it It is very adaptable – you can break one precept to keep another Leads to moral outcomes 		<ul style="list-style-type: none"> It doesn’t work in practice due to conflicting precepts If you do not believe in God then there is no God given purpose to fulfil Not all people share a common nature 			
F Abortion				B Natural law strengths		Natural law weaknesses			
Abortion		<ul style="list-style-type: none"> Deliberate ending of a pregnancy Reasons... <ul style="list-style-type: none"> Living in poverty Low quality of life Impact on physical or mental health of mother and child No support system 		<ul style="list-style-type: none"> We can use reason to determine it It is very adaptable – you can break one precept to keep another Leads to moral outcomes 		<ul style="list-style-type: none"> It doesn’t work in practice due to conflicting precepts If you do not believe in God then there is no God given purpose to fulfil Not all people share a common nature 			
Arguments for		Arguments against		F Euthanasia		E Sanctity of life and quality of life			
<ul style="list-style-type: none"> Woman has the right to choose as it is her body In the case of rape it would be lacking in compassion to not allow it Woman may be too young or have commitments Pregnant woman’s health and welfare are more important than that of the foetus Quality of life of woman can be affected by birth “Clothe yourself in compassion”/“love thy neighbour” 		<ul style="list-style-type: none"> Roman Catholics believe life begins at conception Abortion in the case of rape is still wrong – “the son shall not bear the guilt of the father” Everyone has the right to live and reach their potential There are alternatives e.g. abortion Destroys human life and makes life appear cheap and disposable – impacts the quality and value of life People born with disabilities can live full and happy lives Goes against sanctity of life 		Ending a person’s life due to suffering or a terminal illness to end their suffering		<ul style="list-style-type: none"> Human life is sacred Life is a gift from God because God created humans “in his image” (Genesis) Christians should care for humans because it is God’s creation – treat it with respect “God created man in his image” “Thou shall not kill” “Your body is a temple of the Holy Spirit” “You created every part of me” 			
				Agree		Quality			
				Disagree		<ul style="list-style-type: none"> Description of how good someone’s life is E.g. how comfortable they are, how easy it is to live through each day, how much money they have Some say quality of life is most important 			
				<ul style="list-style-type: none"> Quality of life may have been impacted Human beings have free will Humans can decide when and how to die Enables someone to die with dignity Death is a private matter and state should not be involved It is expensive to keep someone alive – funds and resources could be used to help someone who could live Family and friends would be spared the pain of seeing their loved one suffer 		<ul style="list-style-type: none"> Some people unexpectedly recover Discourage the search for new cures for terminal illnesses Palliative care is available Goes against sanctity of life – God made humans in his image Undermines commitment of doctors and nurses Weaken society’s respect for the value and importance of human life 			
						G Capital punishment			
						Ending a person’s life as a punishment for a crime			
				Agree		Disagree			
				<ul style="list-style-type: none"> “Whoever sheds human blood, by humans shall their blood be shed” “Life for life” “Protect the weak and needy” People will be deterred from committing the same crime It can be expensive to keep a prisoner in prison for the rest of their life Brings justice to the victims of the family Protect other people in society from dangerous individuals 		<ul style="list-style-type: none"> Goes against the teaching of the sanctity of life The Bible says “thou shall not kill” Sometimes an innocent person may be put to death when they shouldn’t be Love thy neighbour Clothe yourself in compassion Jesus said that we should forgive 7x70 			

A.		Can you define these key words?		Year 9 Religious Education: Matters of Life and Death				What we are exploring this term: situation ethics, natural moral law, abortion, euthanasia, death penalty	
Key word		Key definition		B Natural moral law - Aquinas				C Joseph Fletcher – Situation Ethics	
Subjective									
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F Abortion									
Abortion				B Natural law strengths		Natural law weaknesses			
								E Sanctity of life and quality of life	
								Sanctity	
								Quality	
Arguments for		Arguments against		F Euthanasia				G Capital punishment	
				Ending a person's life due to suffering or a terminal illness to end their suffering				Ending a person's life as a punishment for a crime	
				Agree		Disagree		Agree	
								Disagree	



What we are learning this term:	
<p>A. Free time activities B. Food and Drink C. Sports D. Foods E. Sports F. Key words across topics</p>	
6 Key Words for this term	
1. Almuerzo	4. Peligroso
2. Ceno	5. evitar
3. Desayuno	6. cambiar

A. 3.1H Hablando del tiempo libre	
aburrido/a agradable al aire libre batería la canción dar un paseo de vez en cuando Desafiante divertido/a Emocionante entretenido/a la entrevista estar en forma grabar la letra relajante la rutina la tarde el terror	boring pleasant in the open air drums song to go for a walk From time to time Challenging fun exciting entertaining interview to be fit to record lyrics, words relaxing routine afternoon, evening horror

B. 3.2G Comer y beber	
el agua (mineral) beber el bocadillo la carne la cena cenar comer la comida desayunar el desayuno después el perrito caliente el pollo el postre el queso Tomar	(mineral) water to drink sandwich meat evening meal to eat evening meal to eat lunch, food, meal to have breakfast breakfast afterwards hot dog chicken dessert, pudding cheese to take, to have (food, drink) omelette toast glass
la tortilla la tostada el vaso	

C. 3.3G ¿Haces deporte?	
activo/a al aire libre ayudar el baloncesto el campo la cancha los deberes la equitación el estadio montar a caballo montar en bicicleta la natación pasar el patinaje la pista de hielo el polideportivo tranquilo/a	active in the open air, outdoors to help basketball countryside, field court (tennis) homework horse riding stadium to ride a horse to ride a bike Swimming to spend time skating ice rink sports centre peaceful, quiet

Key Verbs				
<u>Ser</u> To be	<u>Tener</u> To have	<u>Present</u>	<u>Past</u>	<u>Future</u>
Soy = I am	Tengo = I have	Hablo I speak	Hablé I spoke	Voy a Hablar I am going to speak
Eres = You are	Tienes = You have	Como I eat	Comí I ate	Voy a comer I am going to eat
Es = s/he is	Tiene = s/he has	Voy I go	Fui/fue I am/it was	Voy a ir I am going to go
Somos = We are	Tenemos = We have	Soy I am	Fui I was	Voy a ser I am going to be
Son = They are	Tienen = They have	Tengo I have	Tuve I had	Voy a tener I am going to have

D. 3.2H Una cena especial	
la aceituna la basura el bocadillo el/la camarero/a dejar escoger los espaguetis el/la esposo/a el gusto la lata las legumbres optar por	olive rubbish, junk Sandwich waiter to leave, to let, to choose Spaghetti husband, wife taste tin, can Pulses (lentils) to opt for

E. 3.3F ¿Qué deportes harás?	
el alpinismo cansado/a la carrera el concurso durante el entrenamiento entrenar el equipo ganar el jugador mañana el miembro el partido	rock climbing tired race Competition(contest) during training to train team to win player tomorrow member match

F. Key Words across Topics?	
to have = tener to be = ser to go = ir to do = hacer to play = jugar to see = ver to listen=escuchar to buy =comprar to live =vivir to speak= hablar to have to = deber to want to=querer to visit = visitar to eat - =comer to drink = beber to go out = salir to read = leer to work = trabajar to think = pensar to write =escribir	Divertido – fun Aburrido – boring Útil – useful Inútil – useless Comodo – comfy Interesante- interesting Entretenido – entertaining Emocionante – exciting Guay – cool Genial – great Soso – dull Asqueroso – disgusting Malo- bad Bueno – good Arriesgado- risky Educativo- educational Estimulate- stimulating Peligroso- dangerous



G. Translation Practice	
For lunch, and for breakfast I drink tea	p e a, y p e d b t
The prawns are delicious	l g s d
The chips are cold	l p f s f
The food is bad	l c e m
Normally I eat salad everyday	n c e t l d
The soup is tasty	l s e s
The salads are delicious	l e s d
I think that chicken is more tasty than pork	p q e p e m s q e c
I think salad is more healthy than ice cream	p q e e m s q h
I believe that ice cream is more fatty than salad	c q h e m g q e
We are going to go out to eat	v a s a c
They are going to buy a present	v a c u r
We are going to celebrate my grandma's birthday	v a c e c d m a
I am going to prepare a healthy hot dog	v a p u p c s
Often they play basketball in the free time	a m j a b e l t l
Usually we listen to music every day	a m e m t l d
I hope to visit my grandma's house	e v l c d m a
I'm going to cook chicken and chips	v a c p c p f
I have to cook every day	t q c t l d
I'm thinking of watching TV tonight	p v l t h p l t
For breakfast, I drink milk and eat a sandwich	p e d, b l y c u b
For desert, they eat cake	p e p, c p
For breakfast, I take salad and chicken	p e d, t e y p
The football match was good	E p d f f b

H . Key Questions: Answer the following in your own words. Use these model answers	
<p>¿Qué deberías hacer para mejor proteger tu forma/tu salud? What should you do to improve your health?</p>	Debería hacer ejercicio físico durante 30 minutos cada día. Para mejorar tu salud, hay que comer cinco raciones de verdura o fruta cada día, no tienes que comer demasiada carne roja/caramelos/gaseosas, no deberías fumar cigarrillos o porros, no debes consumir tanta grasa en la comida, no debes tomar las drogas duras/blandas.
<p>¿Qué deberían hacer en los colegios para mejorar la salud de los jóvenes? What should schools do to improve health of Young people?</p>	En los colegios, solo deben vender comida sana, no deberían vender gaseosas/bebidas azucaradas/deben mejorar la cantidad de fruta y verdura/deben mejorar la cantidad de ejercicio físico que tienes que hacer durante la semana.
<p>¿Qué comes para el desayuno, la cena, tu almuerzo? ¿es sano? What do you eat for breakfast, dinner, lunch? Is it healthy?</p>	Para el desayuno, como normalmente los cereales que son deliciosos con zumo de naranja. Para la cena como normalmente carne con patatas y verduras con mi familia en casa que es un poco sano. Para mi almuerzo, como un bocadillo con jamón y queso en el colegio con agua o coca. Ayer desayuné ... cené ... comí para mi almuerzo ...
<p>¿Tomas demasiadas bebidas azucaradas? Do you drink too many fizzy drinks?</p>	Si, tomo demasiadas bebidas azucaradas porque son deliciosas y muy dulces/me dan energía/todos mis amigos las beben, pero lo sé que son muy malas para la salud/para mi cuerpo.

I. Key Questions: Try to translate the model answers using words from the KO	
<p>¿Qué te gusta comer/beber? What do you like to eat/drink</p>	For breakfast I like to eat toast but I never eat cereals because they aren't tasty. For lunch I eat a sandwich with ham or cheese or I eat pizza with ham or sausage. For my main meal normally I eat chips with meat or fish or vegetables with potatoes
<p>¿Eres Sano? About your family</p>	I think I'm healthy because I don't smoke and I like to eat lots of fruit. I like to eat vegetables but I have to eat more vegetables and I have to eat less sweets
<p>¿Qué es tu opinión de fumar? What is your opinion on smoking</p>	I do not like smoking because I think that it is stupid. My brother smokes and it smells bad. Also, it causes cancer and is really dangerous
<p>¿Qué te gusta hacer en tu tiempo libre y por qué? What do you like doing in your free time</p>	Normally in my free time I like to play football. I play football after school every day and from time to time I play rugby. I don't like to dance because it's boring and I love to play computer games because they are exciting

J. Key Grammar	
Make sure adjectives agree eg blanco/blanca/blancos/blancas	Mi casa es blanca = My house is white Mi perro es blanco = My dog is white
Using verbs correctly in the present tense	Hablar hablo, hablas, habla, hablamos, habláis, hablan Como, comes, come, comemos, coméis, comen
Comparatives More /less Better/worse The best/the worst	Más/menos que – more/less than Mejor/peor que – better/worse than Lo mejor/lo peor = the best/the worst

What we are learning this term:

- A. Ines Kouidis
- B. Michael Volpicelli
- C. Techniques and skills



A. How has Ines Kouidis created this image?

1 What materials has she used?
Ines uses a range of scrap materials including envelopes, scrap paper, newspapers, old magazines and cardboard.

2 How has she torn the material?
Ines doesn't use scissors often, but more she tears the material so to get a rough edge to her work. A type of uneven and rustic approach to her outcomes.

3 What impact do smaller pieces of material have?
She is very particular about the size of pieces she is collaging. Smaller and more detailed pieces can form darker areas and shadows. Lagers and lighter pieces are the highlights. The smaller the pieces, the longer it will take her- however the more intricate it will become.

4 Who does she make collages of?
She usually makes collages of famous people in history, who might be dead or alive today. These people influence her making and have had an impact on Ines' live. They are her main inspiration.



C How to make a collage.

Collage: is a form of art by cutting and ripping paper to create interesting artworks.

Steps for making your collage:

1. Start by having an image as a source, something you will use as a guide to follow or for inspiration
2. Use a range of different types of paper, such as; scrap paper, newspaper, card, coloured paper.
3. Tear the paper to get a jagged edge, cut with scissors to get a straight edge.
4. The smaller the pieces of paper, the more detailed the outcome.
5. Darker paper in more shaded areas. Lighter paper in highlighted areas.
6. Add additional details on the face and in the background, following the same technique as step 2 and 3.

What each tool is used for:




Cutting mat	To protect the table from damage.
Glue stick	To cleanly stick the shapes onto paper.

Looking at the image drawn by Michael Vollpicelli, how does he create.....

1. Darker areas? Michael creates darker areas on the portrait by doing smaller words that are closer to one another to create shadowing.
2. Lighter areas? Words further apart and larger will be lighter



C. Name the following equipment.

		
Sharpie or permanent marker	Sheets of acetate	Masking tape

B. Answer the following questions about Michaels work and how he works.

What part of the body does Michael focus in drawing?	Michael focuses in on the face and facial features. This is called portraiture.
What effect do the larger words make?	The larger words make highlighted areas on the face
How would you describe his work?	Meaningful, cultural identities, typography, portrait,
What is significant about the words he uses to make up the drawing?	The words he uses are meaningful to that particular person. They might be words that describe them, or what they do, what impact they have or their personality.



B. About the work of artist Michael Volpicelli

WHAT?	Michael creates word art using a variety of sizes to make up a portrait of a person.
HOW?	Use uses a fine permanent marker to draw with words. Larger words create a highlight and smaller more scrambled words create shadows and darkness.
WHY?	Michael draws people using words he thinks describes them. Kind and thoughtful words to spread the kindness.

F. Keywords

Appropriate	Suitable for a particular person, place or condition
Highlight	An area of lightness in an image
Shadow	When an objector artwork intercepts light and causes an obscurity
intricate	Having many complexly arranged element
relevant	Having a bearing or connection with the subject or matter

What we are learning this term:

A. Ines Kouidis
 B. Michael Volpicelli
 C. Techniques and skills



A. How has Ines Kouidis created this image?

1. What materials has she used?

2. How has she torn the material.....

3. What impact do smaller pieces of material have?

4. Who does she make collages of?



C How to make a collage.

Collage:

Steps for making your collage:

- 1.
- 2.
- 3.
- 4.
- 5.

What each tool is used for:

Magazines	.
Glue stick	

B. Answer the following questions about Michaels work and how he works.

What part of the body does Michael focus in drawing?	
What effect do the larger words make?	
How would you describe his work?	
What is significant about the words he uses to make up the drawing?	




F.	Keywords
Appropriate	
Highlight	
Shadow	
intricate	
relevant	

Looking at the image drawn by Michael Vollpicelli, how does he create.....

1. Darker areas?
2. Lighter areas?



C. Name the following equipment.



B. About the work of artist Michael Volpicelli

WHAT?	
HOW?	
WHY?	

YEAR 9 GRAPHIC COMMUNICATION

What are we learning this term?

A Logos	B Typography	C Computer skills	D Key words	E Evaluation
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A | Logos

What is a logo?

A graphic design element that includes words and images, shapes, symbols or colour.

How does Alex Trochut design logos?

Alex Trochut collaborates with brands to create new catchy designs. He uses text and imagery to create visual art. The viewer first notices the imagery but looks closer to find a hidden message through typography.

B | Typography

Draw your initials in the typographic style of designer Alex Trochut work



C | Computer skills

What is the shortcut for copy?

Ctrl + C

What is the shortcut for paste?

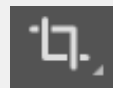
Ctrl + V

What does this symbol stand for?



Photoshop

What does this symbol mean?



Cropping

D | Key words

Merchandise	Branded products used to promote and sell a product
Combined Logo	A logo that uses both images and text
Photoshop	A software for editing photos and graphics. It is used for image editing, making illustrations or web design.
Photo Editing	The act of image and enhancement and manipulation

E | Evaluation

Evaluation: To judge or give an opinion

Designers will evaluate their products to see what works well and what doesn't. This way they can make any improvements on their current designs to ensure a high-quality product.

When writing an evaluation it is important to include the following three things:

1. Positives – what works well
2. Negatives – what doesn't work well
3. Possible improvements – how could you make it better?

For example:

My tote bag looks great, the colours are bright which appeals to the audience of the festival. However, I have not designed a combined logo. One improvement I could make is to use images and text to create a combined logo.

YEAR 9 GRAPHIC COMMUNICATION

What are we learning this term?

A Logos	B Typography	C Computer skills	D Key words	E Evaluation
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A | Logos

What is a logo?

How does Alex Trochut design logos?

B | Typography

Please use pencil for the drawing of your design

C | Computer skills

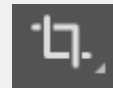
What is the shortcut for copy?

What is the shortcut for paste?

What does this symbol stand for?



What does this symbol mean?



D | Key words

Merchandise	
Combined Logo	
Photoshop	
Photo Editing	

E | Evaluation

Evaluation: To judge or give an opinion

When writing an evaluation it is important to include the following three things:

1. Positives – what works well
2. Negatives – what doesn't work well
3. Possible improvements – how could you make it better?



Year 9 PRODUCT DESIGN Rotation Knowledge Organiser

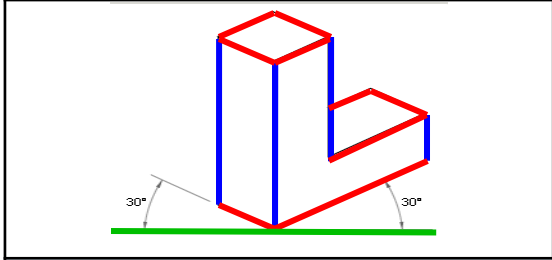


What we are learning this term:
A. Drawing Skills
B. Materials
C. Wooden Joints & Their Uses
D. Tools & Machinery

A.	Drawing Skills
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Isometric Technical Drawing

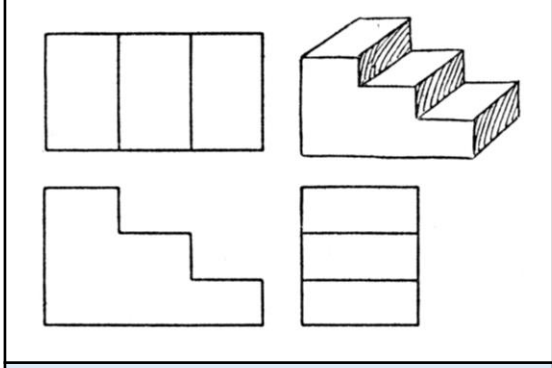
Made up of a series of parallel **vertical lines** and parallel **30-degree lines**. But no **horizontal lines**.



Used to show a 3D (3-dimensional) perspective of a object or product.

Orthographic Projection

This shows 2D views of a 3D object from different angles – front, plan and end.



Commonly used in industry to help the manufacturer understand the design.

B.	Materials
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Timbers come from **trees**



Scots pine – which you used for your frame – is a **softwood**

Softwood trees have needle like leaves and are more sustainable

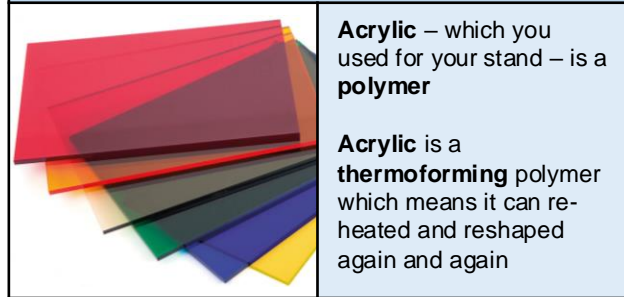
Dowels are a common **component** in joinery



Dowels – which you used in your dowel joint – is a **hardwood**

Hardwood trees have broad like leaves and lose their leaves in winter

Polymers come from **crude oil**



Acrylic – which you used for your stand – is a **polymer**

Acrylic is a **thermoforming** polymer which means it can be reheated and reshaped again and again

C.	Wooden Joints & Their Uses		
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Joint	Uses	Image
Mitre Joint	<ul style="list-style-type: none"> Picture Frames. Joining Moldings Window or Door Frames Trim and Skirtings 	
Dowel Joint	<ul style="list-style-type: none"> Make joints stronger. Axles on toys. Frames Shelves Table or Chair Leg Attachments 	<p><small>By K.Cooper 2006</small></p>
Mortise and Tenon Joint	<ul style="list-style-type: none"> Tables Chairs Door Beds Windows Cabinets Panelling 	
Cross Halving Joint	<ul style="list-style-type: none"> Picture frames Drawers Cabinets Structural Framing 	

D.	Tools & Machinery								
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Steel Rule	Tri Square	Mitre Square	Tenon Saw	Wooden Mallet	Chisel	Bandfacer	Pillar Drill	Mortice



Year 9 PRODUCT DESIGN Rotation Knowledge Organiser



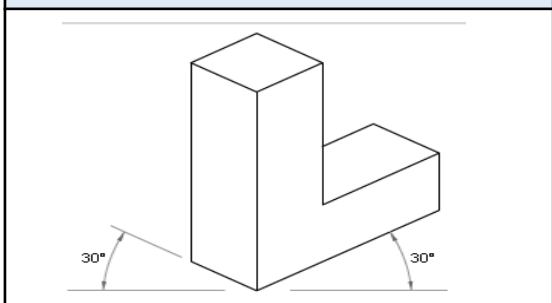
What we are learning this term:

- A. Drawing Skills
- B. Materials
- C. Wooden Joints & Their Uses
- D. Tools & Machinery

A. Drawing Skills

_____ Technical Drawing

This is used for _____



Practice drawing the shapes below

B. Materials

Timbers come from _____



Scots pine – which you used for your frame – is a _____

Softwood trees have _____

and are more sustainable

_____ are a common **component** in joinery



Dowels – which you used in your dowel joint – is a _____

Hardwood trees have _____

and lose their leaves in winter

Polymers come from _____



Acrylic – which you used for your stand – is a _____

Acrylic is a **thermo-** _____ polymer which means it can be _____

C. Wooden Joints & Their Uses

Joint	Uses	Image
	<ul style="list-style-type: none"> • _____ • _____ • _____ 	
	<ul style="list-style-type: none"> • _____ • _____ • _____ 	<p>By K.Cooper 2006</p>
	<ul style="list-style-type: none"> • _____ • _____ • _____ 	
	<ul style="list-style-type: none"> • _____ • _____ • _____ 	

D. Tools & Machinery



Year 9 – High Skills

What we are learning this term:

- A. Health, safety and hygiene in the kitchen
- B. The Eatwell guide and nutrients
- C. The Dietary requirements of a teenager
- D. Skills testing
- E. Healthy cooking
- F. Chopping Board Colours

6 Key Words for this term

- | | |
|------------------------|-----------------------|
| 1 Hygiene | 4 Healthy |
| 2 Dietary Requirements | 5 Teenager |
| 3 Skills Test | 6 Cross Contamination |

A. Explain the main four things that you should do when you enter the kitchen area.

Remove all of your jewellery.	Jewellery can harbour bacteria and could fall off into the food.
Tie back your hair	Hair could fall into the food or touch equipment.
Wash your hands with hot soapy water.	To remove any germs and bacteria from your hands and nails.
Put on and apron and tie it back.	To protect you from the food and equipment and the food from touching you.

B. Can you list 5 of the dietary requirements of a teenager?

- 1 A diet high in carbohydrate as a teenager is normally an energetic person.
- 2 A diet with 2-3 portions of protein to maintain muscle growth and cell repair
- 3 A diet with 2 -3 sources of calcium to build developing teeth and bones.
- 4 A diet low in fat to avoid becoming obese or developing other health problems.
- 5 Drinking 2 litres of water a day.

FOOD SAFETY CHOPPING BOARDS
If used correctly, colour coded chopping boards can eliminate or reduce the risk of cross contamination during food preparation

- RAW MEAT
- RAW FISH
- COOKED MEATS
- SALAD & FRUIT PRODUCTS
- VEGETABLE PRODUCTS
- BAKERY & DAIRY PRODUCTS

Clean and store chopping boards correctly after use



A. What is cross contamination and how can it be prevented?

Cross contamination happens when you use the wrong chopping board or equipment to prepare food which can therefore result in food poisoning. You must use the correct equipment for the correct ingredients. You must also ensure that you are always following good hygiene practices when cooking.

B. What do the following terms mean?

Grilling	Using the top part of the oven. It involves a significant amount of direct, radiant heat, and tends to be used for cooking meat and vegetables quickly. It is also a healthier method of cooking meat products.
Baking	Baking is a method of preparing food that uses dry heat, normally in an oven. Heat is gradually transferred from the surface of cakes, cookies, and breads to their centre.
Frying	Frying is the cooking of food in oil or another fat. It is usually done in a frying pan using the bob of the

C. Can you list 5 reasons for why we cook food and why it is important?

<u>Rule</u>	<u>Why it is important</u>
• 1 to get rid of bacteria on the food	• 1 to stop food poisoning
• 2 to make the food taste better	• 2 to make the food more appealing
• 3 to make food chewable	• 3 it could be raw or a choking hazard
• 4 to ensure that food is not raw	• 4 to stop food poisoning
• 5 to add colour to the food	• 5 to make it look more appetising or change its use



E. Keywords

Hygiene	A method of keeping yourself and equipment clean
Research	Information that you find out to help you with a project
Nutritious	A meal that is healthy and contains vital nutrients.
Target Market	The age or type of person you re creating a product for.
Carbohydrates	Foods that give you energy
Protein	Food that grow and repair your musdes
Fibre	Foods that keep your digestive system healthy and avoid constipation.
Calcium	Foods that make your teeth and bones strong
Design Idea	A sketch or plan of how you are hoping a project to turn out.
Organisation	Having everything ready for a lesson and following instructions
Time keeping	Using the time to remain organised.
Sensory analysis	Use your senses to taste and describe a product
Mood Board	A collage of photos and key words based on a project
Time Plan	Instructions of wat you are going to do and how long it should take.
Skills Test	Demonstrating your knowledge of a cooking term.
Teenager	Someone between the age of 13 – 19.

Year 9 – High Skills

What we are learning this term:

- A. Health, safety and hygiene in the kitchen
- B. The Eatwell guide and nutrients
- C. The Dietary requirements of a teenager
- D. Skills testing
- E. Healthy cooking
- F. Chopping Board Colours

6 Key Words for this term

1 Hygiene	4 Healthy
2 Dietary Requirements	5 Teenager
3 Skills Test	6 Cross Contamination

A. Explain the main four things that you should do when you enter the kitchen area.



B. Can you list 5 of the dietary requirements of a teenager?

1	
2	
3	
4	
5	

FOOD SAFETY CHOPPING BOARDS
If used correctly, colour coded chopping boards can eliminate or reduce the risk of cross contamination during food preparation

- MEATS
- SEAFOOD
- COOKED MEATS
- SALAD & FRUIT PRODUCTS
- VEGETABLE PRODUCTS
- BAKERY & DAIRY PRODUCTS

Clean and store chopping boards correctly after use



A. What is cross contamination and how can it be prevented?

•

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B. What do the following terms mean?

Grilling	
Baking	
Frying	

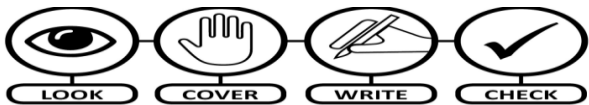
C. Can you list 5 reasons for why we cook food and why it is important?

<u>Rule</u>	<u>Why it is important</u>
• 1	• 1
• 2	• 2
• 3	• 3
• 4	• 4
• 5	• 5

E.	Keywords
Hygiene	
Research	
Nutritious	
Target Market	
Carbohydrates	
Protein	
Fibre	
Calcium	
Design Idea	
Organisation	
Time keeping	
Sensory analysis	
Mood Board	
Time Plan	
Skills Test	
Teenager	

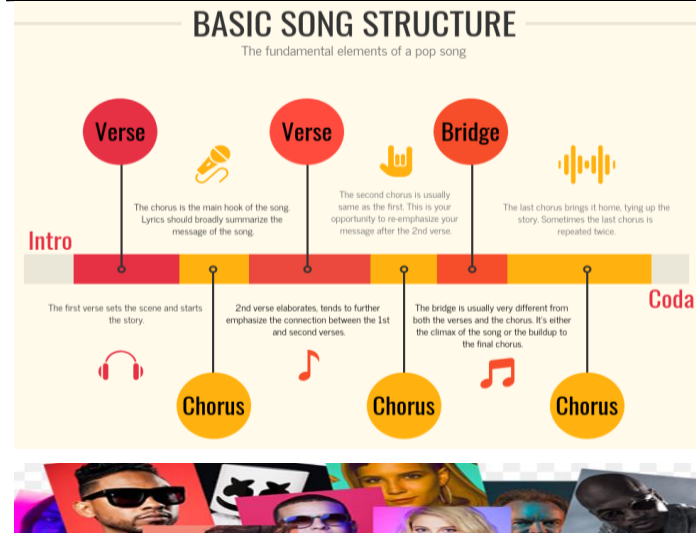


A	What we are learning about this term...
1	Basic Song Structure
2	How to write a perfect Evaluation
3	Playing an instrument / Chords / Melody
4	What are the music symbols – Note values
5	Keywords
6	How to read music - Treble clef and bass clef



B	Keywords
Instrumental Break	An instrument section during a song – no singing
Lyrics	The words of a song
Verse	A section of a song telling the story , followed by a chorus
Chorus	Repeated idea within a song, lyrics and music usually remain the same
Bridge / Middle 8	Passage of music that contrasts the verse and chorus
Outro / Coda	Passage of music that brings the song to an end
Album	A collection of audio recordings
Arrangement	A rework of a musical composition so that it can be played by different combinations of instruments
Genre	A style or category of art, music, or literature
Cover Song	A performance of a song by someone other than the original artist/band.

C Instruments in popular music



D How to write a perfect Evaluation?

1	Write a full sentence explaining what your musical performance or music composition was about
2	Explain what you were trying to communicate to an audience and how you did it
3	Pick out at least two moments that worked really well, using specific examples and say what you did that made them successful
4	Pick out one moment that you could make better. Explain why it needed improving and how you would make it better if you did your performance again
5	Sum up your evaluation and discuss one thing that you will take forward into your next work

E How to read music – treble clef and Bass Clef

Note	Name	Beats	Rest	Note	Name	Beats	Rest
	Semibreve, Whole Note	4 beats			Dotted Semibreve, Dotted Whole Note	6 beats	
	Minim, Half Note	2 beats			Dotted Minim, Dotted Half Note	3 beats	
	Crotchet, Quarter Note	1 beat			Dotted Crotchet, Dotted Quarter Note	1½ beats	
	Quaver, Eighth Note	1/2 beat			Dotted Quaver, Dotted Eighth Note	¾ beat	

F How to read music – treble clef and Bass Clef

TREBLE LINES: E G B D F **TREBLE SPACES: F A C E**

BASS LINES: G B D F A **BASS SPACES: A C E G**

G Describing music – MAD T SHIRT

M	A	D	T	S	H	I	R	T
Melody	Articulation	Dynamics	Texture	Structure	Harmony/Tonality	Instruments	Rhythm	Tempo
The tune	How notes are played	Loud/quiet and any other volume changes	Layers of sound / how they fit together	The sections and organising	Chords used / the mood	Types of instruments heard	Pattern of notes	The speed

Drama – Year 9 Improvisation

Links to
Comp 1
and 2

Improvisation

improvising is inventing and creating content spontaneously. It's a great way to generate new ideas and for creating and developing characters, using a variety of useful techniques.

Spontaneous improvisation which is completely unplanned can generate dialogue or scenarios that you feel work for the piece you are creating. This can then be refined, rehearsed and included in your finished **devised** piece.

A **constraint** is a condition that you must apply to a scene, so that you're improvising within a set of rules. Here are some ideas for working with constraints when improvising.

Space

A very small space, such as a lift. Characters must behave as they would normally but within a tiny playing area.

A vast space, such as across a giant mountain range.

Consider how changing **proximity** affects body language, vocal tone and volume and interaction, between characters. There may be something that works and could be included in your devised piece.



Examples – Mock the Week, Whose Line Is it Anyway? Outnumbered. The Office.

This improvisational exercise is excellent for creating entirely new and unplanned characters and scenarios.

Where, who, what?

Choose a location, eg a supermarket or a roller coaster.

Select characters, eg an astronaut or an I.T. manager.

Finally, choose a motivation for the character, eg they are looking for a partner or want to be famous at any cost.

Each piece of information should be randomly selected, so that they don't necessarily match up. This can make for interesting and very humorous drama.

- **Improvisational Theater (improv):** is a form of theater where most or all of what is performed is created at the moment it is performed.
- In its purest form, the dialogue, the action, the story and the characters are created collaboratively by the players as the improvisation unfolds.
- Improv exists in performance as a range of styles of improvisational comedy as well as some non-comedic theatrical performances.
- It is sometimes used in film and television, both to develop characters and scripts and occasionally as part of the final product.



Tips for success

-Listen to your partner.

A scene will often 'go stale' if the people involved are not responding genuinely to each other. Improv is all about **teamwork** and the relationship you have with each other. The better the relationship, the better the scene will be to the audience.

-Use 'yes, and...'

When your partner tells you something in an improv scene, accept it and then add something to the conversation. If your partner starts by asking you why you've come to a party dressed as a pineapple, don't tell them that you think they're seeing things. Ask them why they're the only one who hasn't come dressed as a giant piece of fruit and that you have a spare costume in your car if they need it. Scenes where actors deny what their partners are saying often go dry very quickly and offer nothing for the audience. It's also a good way to annoy your partners.

- Don't necessarily try to be funny.

Sure, comedy is great, but one person trying to make the audience laugh often alienates the others on stage.

-Accept your mistakes.

Like any learning process, you will make mistakes. It's how you learn. Don't beat yourself up if you forgot a key rule of improv or your scene wasn't particularly good. Make some general notes for yourself and put it behind you. Next time you get up to improvise, treat it like a fresh start and be positive.

Drama – Year 9 Improvisation

Links to
Comp 1
and 2

improvising is _____ and _____ content spontaneously. It's a great way to generate _____ and for creating _____ and developing _____, using a variety of useful techniques.

Improvisation

Spontaneous improvisation-

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Create your own

Where, who, what?

Location-

Character-

Motivation-

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Tips for success

What are the 5 tips for successful improvisation and why are these important?

Examples – Can you name any tv shows that are improvised?



SWINDON ACADEMY READING CANON

Year 7



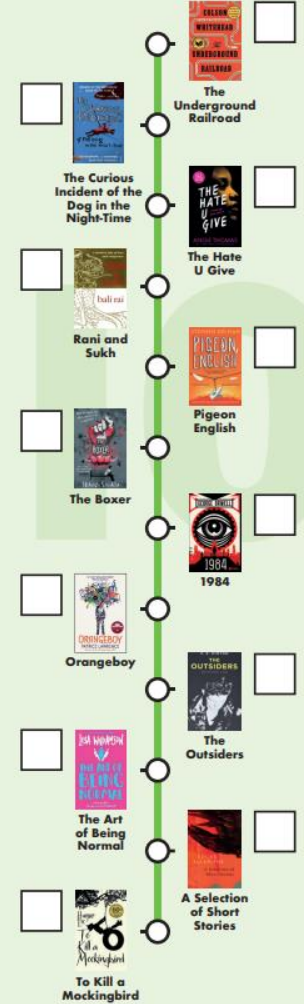
Year 8



Year 9



Year 10



#ReadingisPower