



Science Knowledge Organiser

Topic:		Symbols in the periodic table (C.5)
1	What is the symbol for "hydrogen"?	H
2	What is the symbol for "helium"?	He
3	What is the symbol for "lithium"?	Li
4	What is the symbol for "beryllium"?	Be
5	What is the symbol for "boron"?	B
6	What is the symbol for "carbon"?	C
7	What is the symbol for "Nitrogen"?	N
8	What is the symbol for "oxygen"?	O
9	What is the symbol for "fluorine"?	F
10	What is the symbol for "neon"?	Ne
Topic:		Symbols in the periodic table (11-20) (C.6)
1	What is the symbol for "sodium"?	Na
2	What is the symbol for "magnesium"?	Mg
3	What is the symbol for "aluminium"?	Al
4	What is the symbol for "Silicon"?	Si
5	What is the symbol for "phosphorous"?	P
6	What is the symbol for "sulphur"?	S
7	What is the symbol for "chlorine"?	Cl
8	What is the symbol for "argon"?	Ar
9	What is the symbol for "potassium"?	K
10	What is the symbol for "calcium"?	Ca
Topic:		Separating mixtures 1 (solubility) (C.7)
1	What do we call a substance that doesn't dissolve?	Insoluble
2	What do we call a substance that does dissolve?	Soluble
3	What is the solid that dissolves called?	Solute

Year 7 Term 2 Knowledge Organiser

4	What is the liquid the substance dissolves in called?	Solvent
5	What do we call a mixture of a solvent and solute together?	Solution
6	What do we call the point where no more solute will dissolve?	Saturation point
7	Give two ways of increasing the rate of dissolving	Stir and heat
8	Is sand soluble or insoluble?	Insoluble
9	Are sugar or salt soluble or insoluble in water?	Soluble
10	Is fat soluble or insoluble in water?	Soluble
	Topic:	Separating mixtures 1 (solubility) (C.8)
1	What do we use to separate an insoluble solute from solution?	Filtration
2	What do we use to separate a soluble solute from solution?	Evaporation
3	What do we use to separate a solvent from solution?	Distillation
4	What do we use to separate two or more coloured solutions?	Chromatography
5	List the two pieces of equipment needed for filtration	1) filter funnel, 2) filter paper
6	What is the substance left in the filter paper after filtration called?	Residue
7	What is the liquid that has been filtered called?	Filtrate
8	List the five pieces of equipment needed for evaporation	1) evaporating basin, 2) tripod, 3) gauze, 4) heat proof mat, 5) Bunsen burner
9	What are the two stages of distillation?	Heat (evaporate liquid) and then cool (condense)
10	What are two errors that can occur when carrying out chromatography?	Line drawn with a pen, solvent level above the ink being separated
	Topic:	Acids and alkalis (indicators) (C.9)
1	What do we call a substance that changes colour in acid or alkali?	Indicator

Year 7 Term 2 Knowledge Organiser

2	What colour would universal indicator turn in a strong acid?	Red
3	What colour would universal indicator turn in a weak acid?	Orange
4	What colour would universal indicator turn in neutral substance?	Green
5	What colour would universal indicator turn in an alkali?	Purple
6	What is the pH of a strong acid?	pH 1-3
7	What is the pH of a weak acid?	pH 4-6
8	What is the pH of a neutral substance?	pH 7
9	What is the pH of a weak alkali?	pH 8-10
10	What is the pH of a strong alkali?	pH 11-14
	Topic:	Acids and alkalis (common substances) (C.10)
1	Name 2 examples of indicators	Litmus paper and universal indicator
2	What is the formula for hydrochloric acid?	HCl
3	What is the formula for sulphuric acid?	H ₂ SO ₄
4	What is the formula for sodium hydroxide	NaOH
5	Define "neutralisation"	The reaction of an acid with an alkali to form a neutral salt and water
6	Recall the general equation for a neutralisation reaction	Acid + alkali -> salt + water
7	What makes an acid a concentrated acid?	Lots of acid particles in a given volume
8	What makes an acid a weak acid?	Very few acid particles in a given volume
9	What makes an acid a strong acid? (extension only)	Completely ionises in water
10	What makes an acid a weak acid? (extension only)	Partially ionises in water
	Topic:	The Periodic table 1 (C.11)
1	Define "period"	Rows in the periodic table
2	Define "group"	Columns in the periodic table
3	Which side of the periodic table contains metals?	Left

Year 7 Term 2 Knowledge Organiser

4	Which side of the periodic table contains non-metals?	Right
5	Where are alkali metals found in the periodic table?	Group 1
6	Where are halogens found in the periodic table?	Group 7
7	Give 4 properties of metals	*High melting point *Good thermal and electrical conductors *Ductile *Malleable
8	Give 4 properties of non-metals	*Low melting point *Poor thermal and electrical conductors *Brittle
9	Define "alloy" (extension only)	Mixture of two elements, one is a metal
10	Why are alloys hard? (extension only)	Atoms are different sizes so can't slide over each other
	Topic:	The Periodic table 2 (history) (C.12)
1	What is the name for the smaller number which tells us how many protons the element has?	Atomic number
2	How are elements in the periodic table arranged?	In order of atomic number (lowest to highest)
3	How do you calculate the number of electrons for an element?	Use the atomic number
4	What is the larger number called?	Mass number
5	How do you calculate the number of neutrons for an element?	Mass number - atomic number
6	The column (group) in the periodic table tells us the ...	Number of electrons in the outer shell
7	Which scientist proposed the law of octaves and arranged elements by mass number?	John Newlands
8	Why did scientists not accept John Newlands' proposal?	Some metals were grouped with others that had different properties
9	What did Mendeleev do when creating the modern periodic table?	Left gaps for undiscovered elements

Year 7 Term 2 Knowledge Organiser

10	Why was Mendeleev's table was later accepted by scientists?	Elements with properties predicted by Mendeleev were discovered, filling the gaps in his table.
	Topic:	Materials (extension only) (C.14)
1	How are ceramics made?	Shaping wet clay and heating in furnace
2		Hard and tough
3	Why do we glaze ceramics?	To make them waterproof
4	What is a polymer?	A very large molecule made from smaller molecules called monomers
5	Give an example of a polymer	Plastic
6	Give two properties of polymers	Insulators, unreactive
7	Define "composite"	A material made form two or more different types of material
8	Give two examples of composites	MDF and fibreglass
9	What is MDF made from?	Wood fibres and glue
10	Why do we use composites?	We can combine materials with useful properties