

Y8 Elements, compounds and mixtures

Learned	Revised	Confident
_____ % Achieved: _____		

N°	Keyword	Definition
1	Element	A pure substance which is made from only one type of atom. Elements are listed on the periodic table.
2	Compound	A pure substance made from two or more different elements which are chemically bonded.
3	Mixture	When two or more compounds or elements are mixed but not chemically bonded
4	Molecule	Two or more atoms which are chemically bonded
5	Atom	The smallest particle of an element. They are made from smaller particles called protons, neutrons and electrons.
6	Periodic table	A table which lists all of the chemical elements and arranges them in order of atomic (proton) number

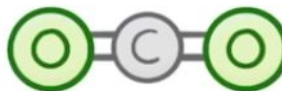
Helium



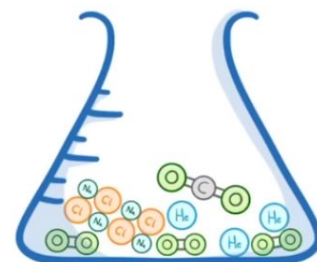
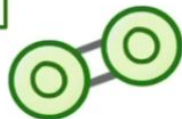
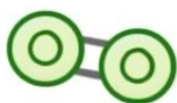
WATER



CARBON DIOXIDE



OXYGEN

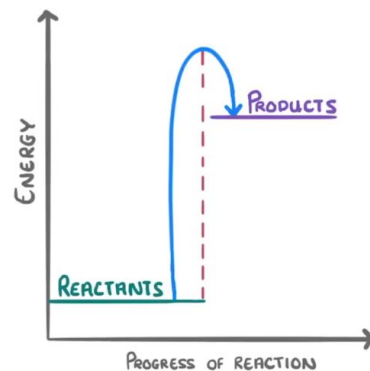
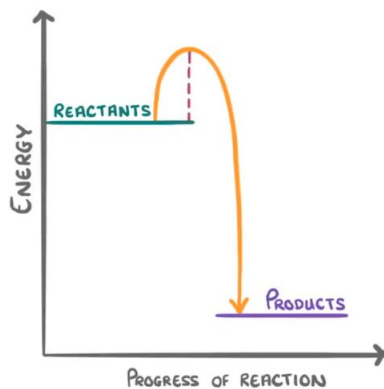


MIXTURE

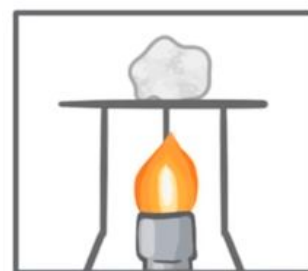
N°	Fact
1	The elements in a compound are bonded in a fixed ratio, this is a chemical formula e.g. water is H_2O and carbon dioxide is CO_2
2	Breaking compounds apart is difficult, the chemical bonds need to be broken in a chemical reaction such as thermal decomposition
3	Mixtures are easy to separate as they aren't bonded. We can use filtration, crystallisation, distillation or chromatography
4	We can represent chemical reactions in word or symbol equations Reactants → Products

Y8 Endothermic and exothermic project

Learned	Revised	Confident
_____ % Achieved: _____		



N°	Keyword	Definition
1	Endothermic	A reaction that takes in energy from its surroundings, it can usually feel cold
2	Exothermic	A reaction that releases energy to its surroundings, it usually feels warm
3	Variables	These are the things that are changed (independent), measured (dependent) and kept the same (control) in an investigation
4	Conclusion	A conclusion describes what has been found in an investigation. It should describe the pattern, use data and explain the findings using scientific knowledge.
5	Evaluation	An evaluation judges how reliable the conclusion is by looking at the results and method. Improvements to the method with explanations should be given.



N°	Fact
1	Some examples of endothermic reactions are photosynthesis and thermal decomposition.
2	Some examples of exothermic reactions are respiration, combustion, neutralisation and displacement.
3	Mixtures are easy to separate as they aren't bonded. We can use filtration, crystallisation, distillation or chromatography
4	We can represent chemical reactions in word or symbol equations Reactants → Products

Y8 Respiration

1

AEROBIC RESPIRATION

GLUCOSE + OXYGEN → CARBON + WATER
DIOXIDE



Learned Revised Confident

_____ % Achieved: _____

N°	Keyword	Definition
2	Respiration	Chemical reaction in the mitochondria that releases energy
3	Aerobic	In the presence of oxygen
4	Anaerobic	In the absence of oxygen
5	Mitochondria	Subcellular structure where respiration takes place
6	Fermentation	Anaerobic respiration carried out in bacteria and yeast
7	Oxygen debt	The amount of oxygen needed to work aerobically or break down the lactic acid.
8	Gas exchange	The exchange of oxygen and carbon dioxide, usually between the blood and lungs or cells



MITOCHONDRIA

5

GLUCOSE → LACTIC ACID

9

NOT
UNLOCKING
ALL
ENERGY



LACTIC ACID
(BUILD UP)

↳ HAS TO BE REMOVED

10

GLUCOSE → ETHANOL + CARBON
(TYPE OF ALCOHOL) DIOXIDE

N°	Fact
11	Aerobic respiration is longer lasting than anaerobic respiration, it also releases more energy
12	Anaerobic respiration is used in in short, fast bursts of exercise e.g. sprinting
13	Fermentation is used in the brewing and baking industries. The ethanol makes alcohol alcoholic and carbon dioxide makes the bread rise in baking.