

KEY  Reactions  Matter  Earth and beyond

YR9

Y9 SUMMER TERM UNIT 1

Atomic Structure

What is the structure of an atom?
Why are there limitations of the particle model?

Y9 SUMMER TERM UNIT 2

Purity and separating mixtures

What is an empirical formula?
How can different mixtures be separated?

YR10

Y10 UNIT 1

Bonding

What is an ion and how do they form?
How are ionic and covalent bonds different?

Y10 UNIT 2

Properties of materials

How do nanoparticles get used?
Why does graphite behave differently to diamond?

Y10 UNIT 3

Energy and reactions

What is the difference between exothermic and endothermic reactions?
How are chemical equations used to show what happens in a reaction?

Y10 UNIT 6

Identifying products

What tests are carried out to detect gases?
How is sodium hydroxide used to detect cations?

Y10 UNIT 5

Predicting reactions

What is the pattern of reactivity in group 1?
Why are group 0 elements really unreactive (inert)?

Y10 UNIT 4

Acids, alkalis and electrolysis

What is the pH scale and what does it measure in acids and alkalis?
How does electrolysis split an ionic substance?

YR11

Y11 UNIT 1

Monitoring reactions

What is the method for a titration?
How can titration results be used to calculate concentration?

Y11 UNIT 2

Controlling reactions

What factors affect rate of reaction?
How does a catalyst increase the rate of reaction?

Y11 UNIT 4

Chemical processes

What determines how to extract a metal from an ore?
How is the Haber process controlled to maximise production of ammonia?

Y11 UNIT 3

Equilibria

What factors affect position of equilibrium?
How does an equilibrium form and how is it controlled?

Y11 UNIT 5

Organic chemistry

What series of organic molecules are there?
How is fractional distillation used to make purer, more useful substances?

Y11 UNIT 6

Earth Systems

What are the amounts of gases in the atmosphere?
How is pollution affecting the atmosphere?