

KEY Organism Energy Matter Forces Reactions Waves Genes Ecosystems Earth and beyond

YR9

Y9 SUMMER TERM UNIT 1

Cell level systems

What factors affect how well an enzyme is able to perform?
How do various factors affect photosynthesis?

Y9 SUMMER TERM UNIT 2

Changes of state

What is density?
How is specific heat capacity calculated?

Y9 SUMMER TERM UNIT 3

Using the atom

What is the structure of an atom?
How can mixtures be separated?

Y9 SUMMER TERM UNIT 4

Calculating motion

What is a distance-time graph?
How do you calculate acceleration?

YR10

Y10 UNIT 1

Newtons laws

What is used to represent forces in a diagram?
Why are some objects able to accelerate?

Y10 UNIT 2

Bonding and structure

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

Y10 UNIT 3

Scaling up

What is the process of mitosis and why is it needed?
How does the transport in plants in transpiration differ to the circulatory system?

Y10 UNIT 5

Electricity

What is static electricity and how can it be used?
How do current and potential difference change in series and parallel circuits?

Y10 UNIT 4

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

Advanced magnetism

How can you represent magnetic fields?
How do motors use magnetism to turn?

Y10 UNIT 7

Organism level systems

What happens when the central nervous system takes a message to the brain?
How are hormones able to regulate the menstrual cycle?

Y10 UNIT 8

Acids, alkalis and electrolysis

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

Y10 UNIT 11

Predicting reactions

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

Y10 UNIT 10

Community level systems

What are biotic and abiotic factors?
How do some organisms affect the population size of others?

Y10 UNIT 12

Inheritance and selection

What is evolution by natural selection?
How does a genetic cross show likelihood to have a particular trait?

Y10 UNIT 9

Wave effects and properties

What are uses and dangers of electromagnetic waves?
How are different types of radioactive emissions stopped?

YR11

Y11 UNIT 1

Work done

What energy stores exist and what happens when these stores are used?
How is the cost of electricity calculated?

Y11 UNIT 2

Controlling reactions

What factors affect the rate of reaction?
How does an equilibrium form and how is it controlled?

Y11 UNIT 6

Feeding the human race

What is genetic engineering?
How is farming affected by genetic engineering?

Y11 UNIT 3

Monitoring the environment

What sampling techniques are there and how are they used?
How is biodiversity being reduced and what are we doing to help?

Y11 UNIT 7

Powering Earth

What are the wires in a plug and what are their roles?
How does the National Grid supply energy safely to homes?

Y11 UNIT 5

Chemical processes

What determines how to extract a metal from an ore?
How is oil separated to make purer, more useful substances?

Y11 UNIT 4

Physics on the move

What factors affect thinking distance?
How are stopping distances calculated?

Y11 UNIT 8

Earth Systems

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

Y11 UNIT 9

Monitoring health

What types of organisms cause diseases in plants and animals?
How do certain factors affect the development of non-communicable diseases?