

ENTRY LEVEL →

DOUBLE AWARD →

Biology



1. Cell biology

Culturing Microorganisms

2. Organisation

[No additional videos]

3. Infection and response

Monoclonal antibodies

Plant diseases and defence responses

4. Bioenergetics

[No additional videos]

5. Homeostasis and response

The brain

The eye

Controlling body temperature

Maintaining water and nitrogen balance

Plant hormones: Coordination and use

6. Inheritance, variation and evolution

Reproducing both ways

DNA structure and protein synthesis

Cloning

Theories of evolution and speciation

The History of genetics

7. Ecology

Impact of environmental change Trophic levels in an ecosystem Sustainable food production

Chemistry



1. Atomic structure

Transition elements

2. Bonding

Nanoparticles

3. Quantitative Chemistry

Yield and atom economy

Concentration in moldm³

Gas volumes

4. Chemical Changes

Titration

5. Energy Changes

Chemical Cells Fuel Cells

6. Rate and extent of chemical change

[No additional videos]

7. Organic Chemistry

Alkenes

Alcohols

Carboxylic acids

Addition polymerisation

Condensation polymerisation

Biological polymers

8. Chemical Analysis

Tests for cations

Tests for anions

Instrumental methods

9. Chemistry of the atmosphere

[No additional videos]

10. Using Resources

Corrosion and rusting

Using materials

The Haber process

NPK Fertilisers

Physics



1. Energy

[No additional videos]

2. Electricity

Static electricity

Electric fields

3. Particle model of matter

[No additional videos]

4. Atomic structure

Background radiation

Radioactive emissions and background

radiation

Nuclear fission and fusion

5. Forces

Moments, levers and gears

Pressure and pressure differences in fluids

Momentum 2

6. Waves

Reflection of waves

Sound waves

Waves for detection and exploration

Lenses

Visible light

Black body radiation

7. Magnetism and electromagnetism

Induced potential and the generator effect Transformers and the National Grid

8. Space Physics

Our solar system

The life cycle of a star

Orbital motion, natural and artificial satellites

Red-shift