OCR Gateway - Science B
Crocodile Clips lesson kits

The sections of the syllabus for which there are relevant Crocodile Physics and Crocodile Chemistry lesson kits are listed below. Under each heading, we've listed the lesson kit title [in bold], where you'll find it in the software and a brief description of the resource.

Because Crocodile Physics and Crocodile Chemistry are simulators, they will help you to cover other areas of the syllabus, too, and there are plenty of other experiments you can simulate. This is just a list of the lesson kits that are currently available.

Carbon Chemistry
C1g - Using Carbon Fuels

LESSON KIT:
Coal fires

Overview:
How the combustion of coal is used to produce energy

Find it in:
Crocodile Chemistry - Energy

LESSON KIT:
Products of burning

Overview:
Simulate combustion reactions and investigate the products

Find it in:
Crocodile Chemistry - Energy

Carbon Chemistry
C1h - Energy

LESSON KIT:
Reaction energies

Overview:
Simulate reactions to study the role of energy

Find it in:
Crocodile Chemistry - Energy

LESSON KIT:
Fuels & food

Overview:
How much energy is in fuels and foods

Find it in:
Crocodile Chemistry - Energy

LESSON KIT:
Exothermic & endothermic

Overview:
Look at reactions that take in and give out energy

Find it in:
Crocodile Chemistry - Energy

Rocks and Metals
C2b - Construction Materials

LESSON KIT:
Limestone

Overview:
Simulate the decomposition of CaCO3 and produce slaked lime

Find it in:
Crocodile Chemistry - Rocks and metals

Rocks and Metals
C2d - Metals and Alloys

LESSON KIT:
Ores & purification

Overview:
Extracting different metals from their ores

Find it in:
Crocodile Chemistry - Rocks and metals

FREE-FORMAT SIMULATION:
Chemistry simulation

Overview:
Investigate reactions and physical properties for a range of metals

Find it in:
Crocodile Chemistry - Parts library - Chemicals

LESSON KIT:
Purifying copper

Overview:
Electrolysis in a factory setting, with impure and pure electrodes

Find it in:
Crocodile Chemistry - Electrochemistry

Rocks and Metals
C2e - Cars for Scrap

LESSON KIT:
Reactivity of metals

Overview:
Order the reactivities of common objects, like an iron nail and a lead bullet

Find it in:
Crocodile Chemistry - Rocks and metals

LESSON KIT:
Fireworks

Overview:
How different metals give fireworks their colour

Find it in:
Crocodile Chemistry - Rocks and metals

LESSON KIT:
Iron

Overview:
Simulate the reactions of iron

Find it in:
Crocodile Chemistry - Rocks and metals

FREE-FORMAT SIMULATION:
Chemistry simulation

Overview:
Investigate reactions and physical properties for a range of metals

Find it in:
Crocodile Chemistry - Parts library - Chemicals

LESSON KIT:
Flame tests

Overview:
Flame tests for different metal chlorides & carbonates

Find it in:
Crocodile Chemistry - Identifying substances

Rocks and Metals
C2f - Clean Air

FREE-FORMAT SIMULATION:
Chemistry simulation

Overview:
Simulate combustion reactions, including complete and incomplete combustion of carbon, and production of sulfur and nitrogen oxides

Find it in:
Crocodile Chemistry - Parts library - Chemicals

Rocks and Metals
C2g - Faster or Slower (1)

LESSON KIT:
Concentration & rate

Overview:
Study the effect of using different concentrations in reactions

Find it in:
Crocodile Chemistry - Reaction rates

LESSON KIT:
Measuring reaction rate

Overview:
Different ways to measure how fast reactions take place

Find it in:
Crocodile Chemistry - Reaction rates

LESSON KIT:
Defining reaction rate

Overview:
Different measures of reaction rates

Find it in:
Crocodile Chemistry - Reaction rates

LESSON KIT:
Temperature & rate

Overview:
Measure the rate for a reaction at different temperatures

Find it in:
Crocodile Chemistry - Reaction rates

Rocks and Metals
C2h - Faster or Slower (2)

LESSON KIT:
Catalysts & rate

Overview:
How catalysts affect reaction rate

Find it in:
Crocodile Chemistry - Reaction rates

LESSON KIT:
Surface area & rate

Overview:
React fine, medium and coarse $CaCO_3$ powder with acid

Find it in:
Crocodile Chemistry - Reaction rates

LESSON KIT:
Gunpowder & explosions

Overview:
Fast explosions - using gunpowder as an example

Find it in:
Crocodile Chemistry - Reaction rates

Energy for the home
P1f - Wireless signals

LESSON KIT:
Plane mirror reflection

Overview:
Move objects to investigate the rays & images produced

Find it in:
Crocodile Physics - Optics

Energy for the home
P1g - Light

LESSON KIT:
Loudness and pitch

Overview:
Vary the frequency and amplitude of a sound wave

Find it in:
Crocodile Physics - Waves

LESSON KIT:
Wave formula

Overview:
Investigate how water wavelength varies with frequency

Find it in:
Crocodile Physics - Waves

Living for the future
P2b - Generating Electricity

FREE-FORMAT SIMULATION:
Electronic simulation

Overview:
Simulate circuits to investigate power dissipation at different transmission voltages

Find it in:
Crocodile Physics - Parts library - Electronics

Living for the future
P2h - The Big Bang

LESSON KIT:
Doppler shift

Overview:
Study the Doppler effect with a passing fire engine

Find it in:
Crocodile Physics - Waves