

Course Mapping Guide

Science - Cambridge IGCSE

About CENTURY

CENTURY is a learning platform that uses artificial intelligence to personalise learning for every learner. Our team of experienced teachers have created all of our content for English, maths and science from years 2 to 11, as well as functional skills content for post-16 learners. All courses are aligned to the national curriculum and national standards.

- ✓ Learning materials and questions for primary, secondary and post-16 learners
- ✓ Tailored to each learner's skills and knowledge
- ✓ Powered by the world's leading adaptive learning platform
- ✓ Web-based learning for tablets, laptops and desktops




How does **CENTURY** work?



Diagnostics

Learners begin by completing diagnostics that quickly identify knowledge gaps and misconceptions, and help CENTURY recommend the best learning materials for each individual learner.



Recommended Path

This constantly adapting personalised pathway contains micro-lessons designed to address gaps in knowledge, provide stretch and challenge and promote long-term memory retention.




Leadership Dashboard

Senior and middle leaders get an overview of performance and engagement on a subject, class and learner level.




Achievements

Learners get rewarded with badges and streaks for completing micro-lessons or using CENTURY over a certain period of time to increase their motivation and engagement.




Automated Marking

Teachers can view data in real time, to help you quickly identify which learners require additional support or further stretch.



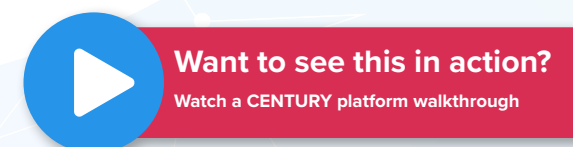
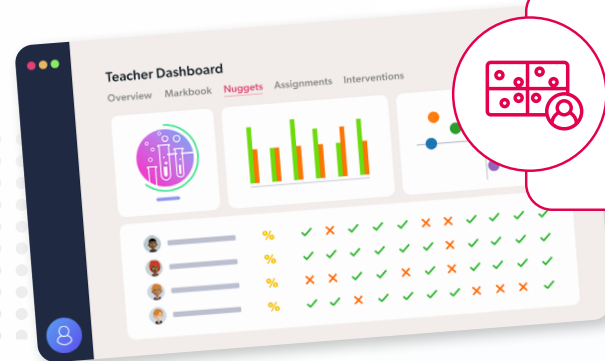
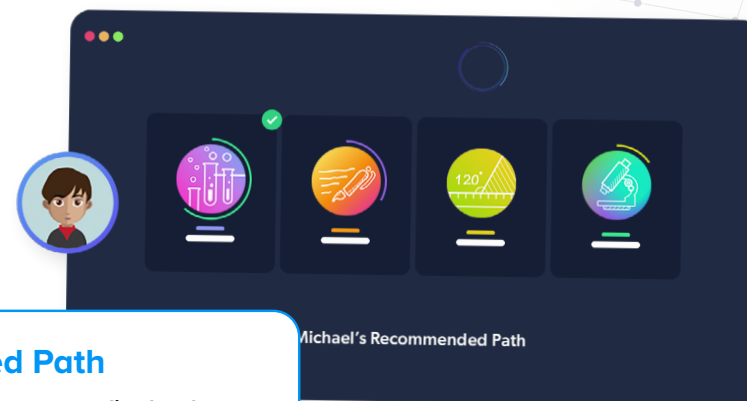
Teacher Dashboard

Use the markbook to monitor individual learners and whole-class trends with a range of dashboards.



Learner Dashboard & Guardian Portal

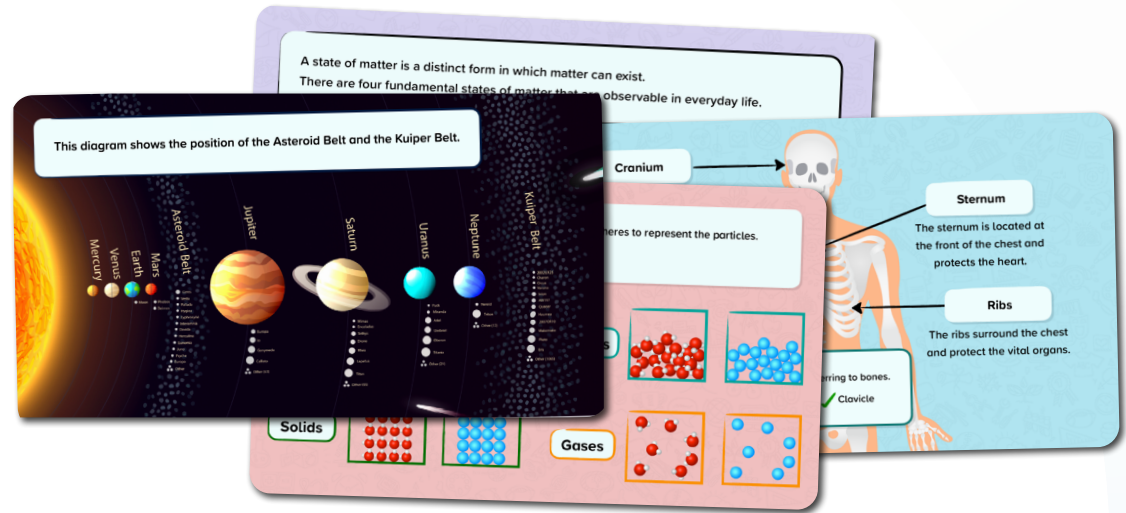
Learners can identify their strengths and areas for improvement. Parents and guardians can monitor their learner's progress, completed work, and see work set.



Science Courses

KS3

This map show how our KS3 Biology, Chemistry and Physics courses are aligned to the Cambridge scheme. You can edit each of these courses to match your KS3 schemes of work.



Science – Stage 7: Cambridge University Press Aligned



Science – Stage 7: Cambridge Framework Aligned



Science – Stage 8: Cambridge University Press Aligned



Science – Stage 8: Cambridge Framework Aligned



Science – Stage 9: Cambridge University Press Aligned



Science – Stage 9: Cambridge Framework Aligned

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Science Courses

IGCSE Cambridge

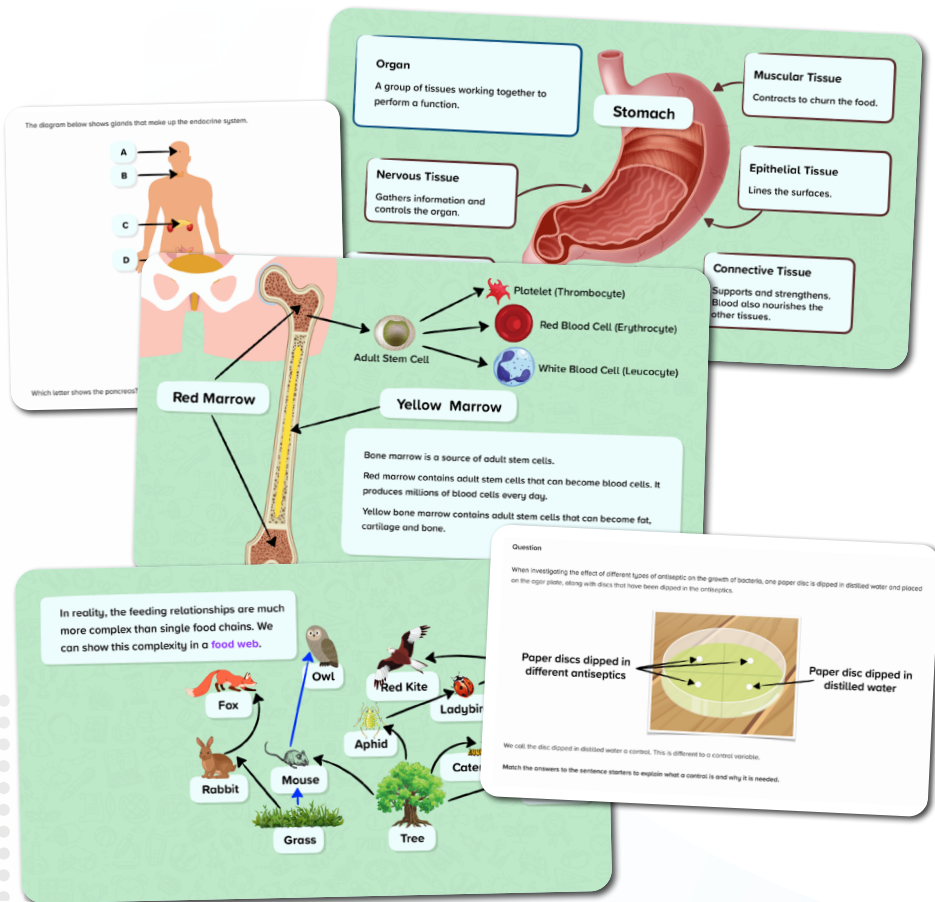
These courses are mapped to the IGCSE Cambridge scheme.



Science Biology IGCSE (Core)



Science Biology IGCSE (Extended)



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Science Courses

IGCSE Cambridge

These courses are mapped to the IGCSE Cambridge scheme.

Thomson's Conclusions

- The cathode ray is made up of negatively charged particles.
- These particles are only 1/1840 the mass of a hydrogen atom, so these negative particles must actually be part of the atom.

Atomic particles can be found in all elements. The atom must be positively charged to balance out the negative charge of the electrons.

Question: A 24 carat sample of 18 carat gold was found to contain 18 g of pure gold and 6 g of other metals. Calculate the percentage of gold in the sample. Give your answer to 2 significant figures.

You are given in the question:

Mass of substance (gold) = 18 g
Mass of Mixture (sample) = 24 g

To find the percentage of gold in the sample:

Mass of substance (gold)	18 g	× 100	Answer
Mass of Mixture (sample)	24 g	× 100	
Percentage (%) = 75% (2 sf)			75%

Examples of Giant Covalent Structures

Diamond

Graphite

Silicon Dioxide
Silica

Chemical equation: $\text{HNO}_3 (\text{aq}) + \text{KOH} (\text{aq}) \longrightarrow \text{KNO}_3 (\text{aq}) + \text{H}_2\text{O} (\text{l})$

Use the chemical equation to work out how many moles of hydrochloric acid will be needed.

Moles of HNO_3 needed = _____ moles

Type your answer as a number, without a unit.



Science Chemistry IGCSE (Core)



Science Chemistry IGCSE (Extended)

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Science Physics IGCSE (Core)



Science Physics IGCSE (Extended)

Method

4. Remove the plumb line and shape, then reattach it from the second hole. Attach the plumb line from the second suspension point. Use the plumb line as a guide to make two additional marks.

A ball bearing is dropped in a measuring cylinder containing water. As it travels through the water it experiences drag due to the water.

The ball bearing accelerates due to gravity and eventually reaches a constant speed.

Identify the graph above that correctly describes the motion of the ball bearing.

More energy stored by each particle

Plasmas

Ionisation

Deionisation

Gases

Vaporisation

Boiling or Evaporation

Condensation

Sublimation

Deposition

Liquids

Melting

The region around a magnet where a non-contact force acts on a magnet or a magnetic material is called the magnetic field or magnetic flux.

The direction of the magnetic field at any point is given by the direction of the force that would act on another north pole placed at that point.

The direction of a magnetic field line is from the north seeking pole of a magnet to the south seeking pole of the magnet.

A student was asked the following question:

A baseball pitcher can accelerate a baseball up to speeds of 40.2 m/s.

The mass of a baseball is 0.145 kg and the acceleration of the baseball is 126 000 m/s².

Calculate the resultant force exerted on the baseball.

They carried out their calculation using the following steps:

$m = 0.145 \text{ kg}$

$a = 126\,000 \text{ m/s}^2$

$F = m \times a$

$F = 0.145 \times 126\,000$

$F = 18270 \text{ N}$

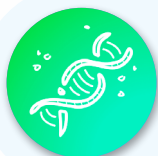
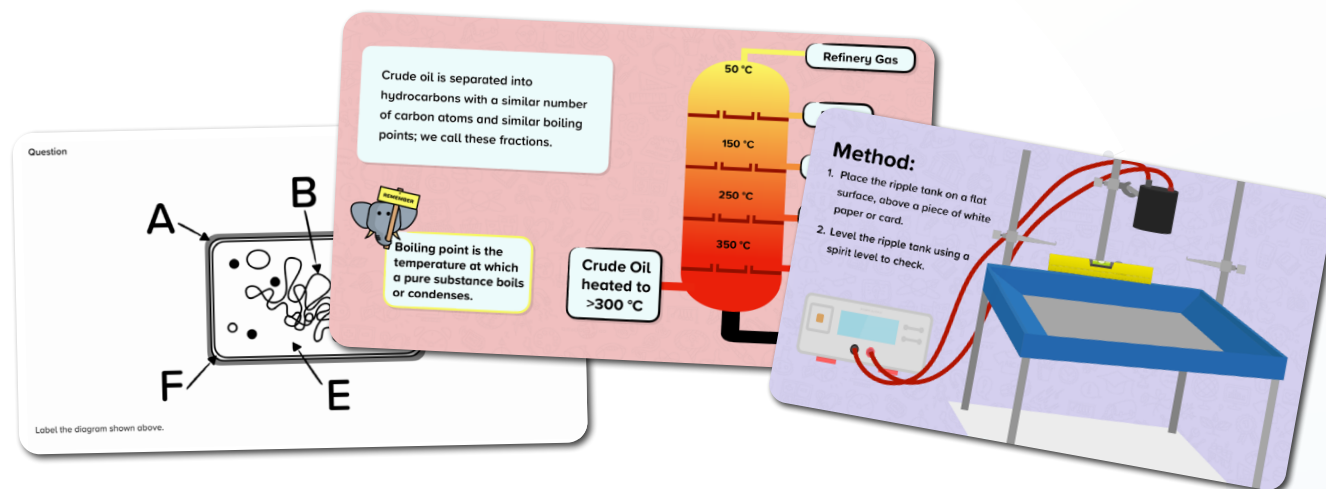
Has this been answered correctly?

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Science Courses

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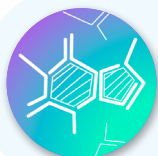
These courses are mapped to the IGCSE Cambridge scheme.



**Science Combined IGCSE –
Biology (Core)**



**Science Combined IGCSE –
Biology (Extended)**



**Science Combined IGCSE –
Chemistry (Core)**



**Science Combined IGCSE –
Chemistry (Extended)**



**Science Combined IGCSE –
Physics (Core)**



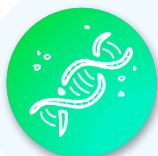
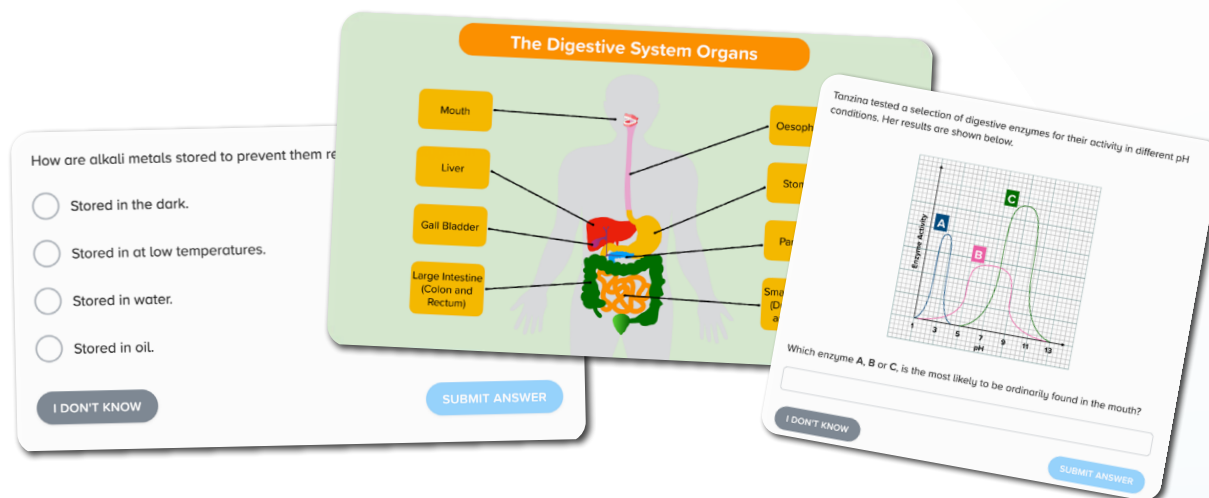
**Science Combined IGCSE –
Physics (Extended)**

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Science Courses

IGCSE Cambridge

These courses are mapped to the IGCSE Cambridge scheme.



**Science Co-ordinated IGCSE –
Biology (Core)**



**Science Co-ordinated IGCSE –
Biology (Extended)**



**Science Co-ordinated IGCSE –
Chemistry (Core)**



**Science Co-ordinated IGCSE –
Chemistry (Extended)**



**Science Co-ordinated IGCSE –
Physics (Core)**



**Science Co-ordinated IGCSE –
Physics (Extended)**

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Science Courses

Working Scientifically Secondary

This course includes scientific skills and ideas that flow through all scientific disciplines. It is suitable for study alongside secondary science subjects.



Working Scientifically Secondary

The collage features four overlapping cards with various scientific topics:

- Top Left Card (Green):** A diagram of a Bunsen burner with labels: "Barrel or Chimney", "Collar", "Air Hole", and "Gas Inlet". Text: "It is important to know the names of the parts on the Bunsen burner. This will make it easier to safely operate it. The barrel or chimney can get very hot during use, so the burner should be carried by the base to avoid burns. The collar controls the size of the air hole, this is how the size & temperature of the flame can be regulated."
- Top Right Card (Pink):** Four target diagrams illustrating precision and accuracy. Labels: "Not Accurate Not Precise", "Not Accurate Precise", "Accurate Not Precise", and "Accurate Precise". Text: "Consider an archery player: The arrows are considered to be **precise** if they are close together. They are considered to be **accurate** if they are near the centre of the bullseye. Like the results in an experiment, can be **precise** without being **accurate**."
- Bottom Left Card (Green):** A diagram of a photosynthesis experiment setup with a beaker, a plant, and a stopwatch showing "00:03:00". Text: "Let's take a look at the classic investigation into the effect of light intensity on the rate of photosynthesis."
- Bottom Right Card (Green):** A diagram of a neutralisation experiment showing "Acid" and "Base" being added to a beaker containing "Salt + Water". Text: "Hazard: Using dilute hydrochloric acid in a neutralisation experiment. Risk: **Medium** – The acid is mildly corrosive and could cause skin or eye irritation if spilled. The risk is higher if protective equipment is not used."

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Science Courses

Prepare for A-Level Science

These courses covers the key concepts and foundational knowledge to aid transition and preparation to study science at A-level.



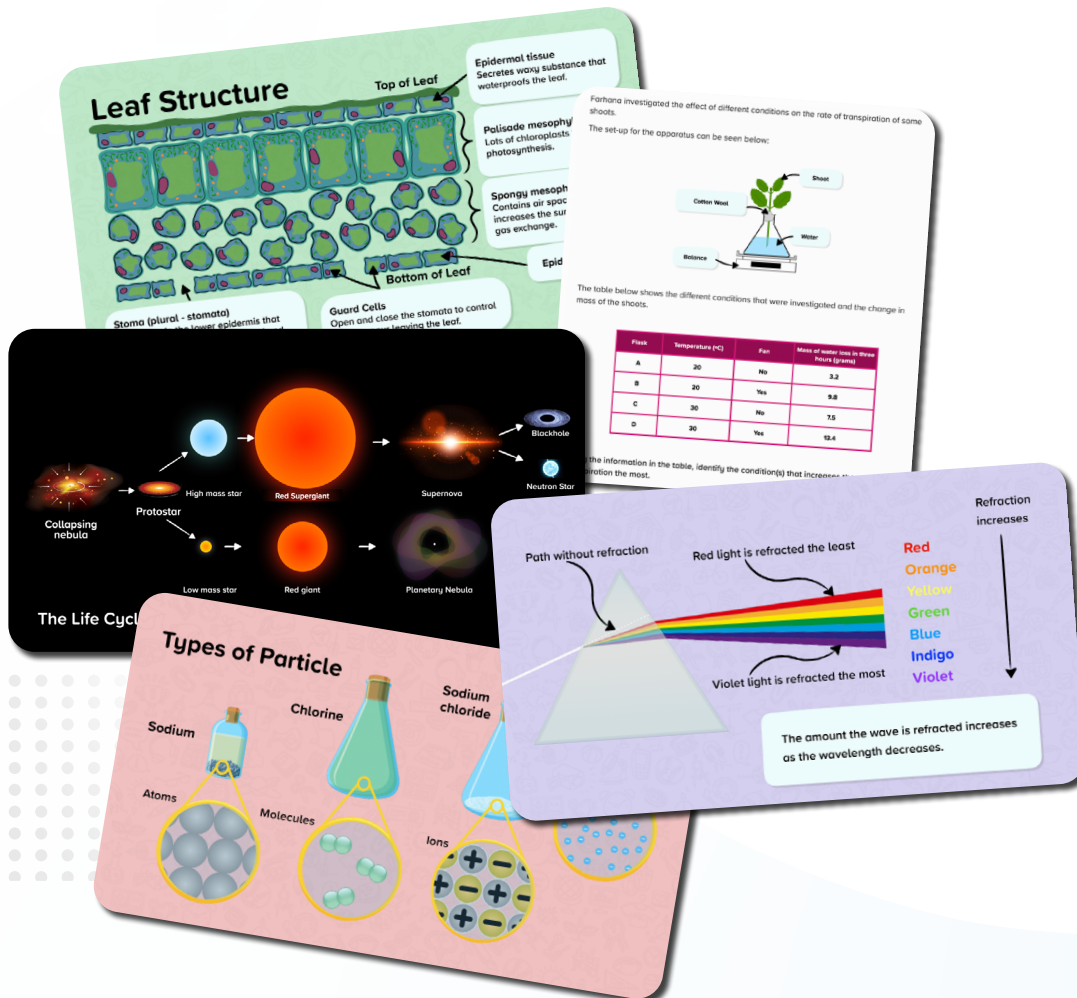
Prepare for A-Level: Biology



Prepare for A-Level: Chemistry

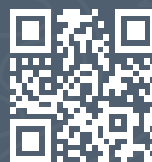


Prepare for A-Level: Physics



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Questions?
Email support@century.tech



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