

Cambridge IGCSE

Physics 0625

Discover how things work-and what you could do with that knowledge.

Understanding the subject

Discover how things work-and what you could do with that knowledge. This introduction connects the subject with everyday questions, practical learning and possible future directions. It gives you a starting point before you explore the complete syllabus.

Why does a bicycle stop when you brake? How does a phone battery power its screen? How do glasses help someone see? These questions invite you to connect ideas with a real situation. Notice something you want to explain. Connect it to a physics idea. Use evidence to check your explanation. As you study, you will learn to explain your choices and check how well your ideas fit the situation.

What your learning will look like

Learning focus	What you will explore
Movement and energy	Predict how forces change motion. Explain energy changes in machines. Explore how heat moves between objects.
Light, sound and electricity	Explain how lenses change light. Explore how sound travels. Understand current in a simple circuit.

These examples introduce the subject. Open Syllabus Overview for the complete topic map and any qualification options.

Skills you will develop

Calculate a journey's average speed. Read a graph and explain the pattern. Choose the right units for an answer. Change one thing at a time. Take careful, repeated measurements. Explain what your results show. Practise these skills together: a clear answer should show how you reached it, not simply state a result. Use feedback to notice what you can already do and what needs more practice.

A useful habit

Ask: What is the evidence, and how does it support my explanation? Clear reasoning matters more than guessing an answer.

Putting ideas into practice

Which wrapping slows warming most? Compare safe materials around cool water. Keep the containers and water amounts alike. This sets the context for applying what you have learned. Measure temperature at set times. Plot a graph to compare the results. Choose a material and explain why.

Connect the starting information to your explanation or decision. The diagram summarises this process; it is not an extra assignment. Practical work requires suitable equipment, supervision and safety guidance.

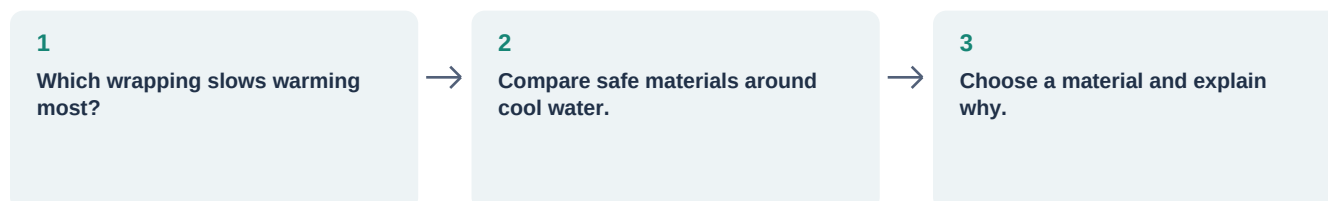


Figure 1. A simple sequence for turning a question into a reasoned explanation.

Future study and career connections

Mechanical engineers develop machines. Electrical engineers design circuits. Energy engineers improve power systems. Medical physicists help make treatments safe. Researchers investigate new questions. Technicians build and test equipment.

These connections show where the skills can be useful; the qualification does not award a particular job. Specialist roles usually require further study or training. You can explore these possibilities without deciding on a career now.

Your next step

Grow confidence with science and maths. Prepare for further physics study. Explore technical learning pathways. Notice which problems interest you. Explore the subjects your next course needs. Open Syllabus Overview to see what is ahead.

Use the subject map to see the learning ahead. For future study, check entry requirements with the institution; these can differ.

Keep the purpose in mind

This introduction helps you see why the subject matters and how you will learn. It is not the full syllabus or an assessment guide. Continue to Syllabus Overview, then Assessment Overview, for those details.

Reference

Based on the seven-slide course introduction and the Cambridge syllabus for 2026–2028. [Read the official Cambridge syllabus](#). Practical examples and career connections are illustrative.