Trajectory Education

Headstart 2026

Subject Syllabus & Timeline

VCE Physics 1+2

WEEK 1: FUNDAMENTALS OF THERMODYNAMICS — 20-12-2025

- Explain why temperature is distinct from thermal energy using the kinetic particle model.
- Perform conversions between Celsius and Kelvin scales.
- Describe the condition of thermal equilibrium between two systems.

WEEK 2: SPECIFIC HEAT CAPACITY & ENERGY TRANSFER — 27-12-2025

- Calculate the thermal energy required to change the temperature of a substance using $Q = mc\Delta T$.
- Distinguish between conduction, convection, and radiation with examples.
- Explain the cooling effect of evaporation using the kinetic energy model.

WEEK 3: INTRODUCTION TO ELECTRICITY (CHARGE AND CURRENT) — 03-01-2026

- Define electric current as the rate of flow of charge and perform calculations using $I = Q/t$.
- Explain potential difference as energy transformed per unit charge.
- Justify the use of ammeters (series) and voltmeters (parallel) in circuit measurement.

WEEK 4: POWER & ENERGY IN CIRCUITS — 10-01-2026

- Calculate electrical power using $P = VI$.
- Convert between Joules and kilowatt-hours.
- Describe energy transfers in common electronic components like resistors and LEDs.

WEEK 5: CIRCUIT ANALYSIS (SERIES VS. PARALLEL) — 17-01-2026

- Calculate the equivalent resistance for both series and parallel circuit arrangements.
- Compare power transfers and brightness of light globes in series versus parallel circuits.
- Explain why parallel circuits are preferred for household electrical systems.

Headstart classes are **completely free** and a great way to set yourself up for the new school year.

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Questions?

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