



## Content - Big ideas

### CP09 Electricity & Circuits

**Big Question:** How does your computer turn on?

**Learning Outcome:** What is current, charge and potential difference? How to calculate resistance, power and energy transferred. Why do components have changing resistance? UK domestic electricity supply and electrical safety features in homes.

### CP10 Magnetism & the Motor Effect

**Big Question:** How does a compass work?

**Learning Outcome:** What are permanent and induced magnets? How do you represent a magnetic field? What causes a magnetic field around a current in a wire? How do individual coils in a solenoid interact?

### CP11 Electromagnetic Induction

**Big Question:** How does electricity get to your house?

**Learning Outcome:** How to use the power equation for transformers. How transformers are used in the National Grid.

### CP06 Radioactivity

**Big Question:** How does a nuclear power station work?

**Learning Outcome:** How are particles inside atoms arranged? How to represent atoms using symbols. What are the different types of radiation and how do they affect atoms? What is background radiation? What are the dangers of radiation and how can we protect ourselves?

## Prior learning

- CP03 – Conservation of Energy
- CP05 – Light & The Electromagnetic Spectrum
- CP07 – Energy Forces Doing Work
- CP08 – Forces & their Effects

## Global/IOM/Subject Links

### Global & IOM links:

- Power Supply, Scrapyards & Recycling, Nuclear fallout

### Subject:

- Electricity → D&T and MATHS
- Magnetism → GEOGRAPHY
- Radioactivity → HEALTH & SOCIAL CARE

## Subject specific skills development

### Edexcel CORE Practical Skills:

- Use of appropriate apparatus to measure current, potential difference (voltage) and resistance, and to explore the characteristics of a variety of circuit elements.
- Use of circuit diagrams to construct and check series and parallel circuits including a variety of common circuit elements.