Curriculum Content Science - Physics Year 8

Content - Big ideas

P1.3 Light

Big Question: How do we see things?

Learning Outcome:

Describe some ways that light interacts with materials. Describe the features of a mirror image. Describe what happens when light is refracted. Name parts of the eye and parts of the camera. State what happens to light when it passes through a prism.

P2.1 Electricity & Magnetism

Big Question: What happens in an electric circuit?

Learning Outcome:

Describe how to charge insulators. Name what flows in a circuit and the equipment used to measure it. State the unit of potential difference and the equipment used to measure it. State one difference between series and parallel circuits. State the unit of resistance and compare the resistance of conductors and insulators. Describe features of a magnet and electromagnets.

P2.2 Energy

Big Question: What happens in a power station?

Learning Outcome:

Identify energy values for food and fuels. State the definition of the conservation of energy. State how energy and temperature are measured. Describe simply what happens in conduction and convection. State some sources of infrared radiation. Name renewable and non-renewable energy resources. State the definitions of energy and power. State how work is calculated.

Prior learning

- Lights travels in straight lines
- Light reflects off objects
- Lots of appliances run on electricity
- Metals are good conductors of electricity

Global/IOM/Subject Links

Global & IOM links:

• Light pollution, Power Supply, Fossil Fuels, Global warming & Climate change

Subject:

• Colour & Camera → ART
• Electricity → D&T
• Energy → GEOGRAPHY

Subject specific skills development

- Compare results with other groups, stating if there is a spread in results.
- Use appropriate equipment safely with guidance.
- Use appropriate equipment to measure potential difference.
- Identify some of the variables in the investigation.
- Record the shape of field lines around a magnet.
- Test the effect of changing an electromagnet.
- Interpret data on food intake for some activities.
- Identify a source of error.
- Identify some risks in an experiment.
- Predict which equipment is more powerful when given a selection of appliances.