

YEAR 9

SCIENCE



SRI KDU
International
School
SUBANG JAYA

PROGRAMME OF STUDY

SOUND AND ENERGY

- Know that energy is conserved, meaning it cannot be created or destroyed.
- Describe the difference between heat and temperature
- Describe the difference between heat and temperature. Know that thermal energy will always transfer from hotter regions or objects to colder ones, and this is known as heat dissipation.
- Describe thermal transfer by the processes of conduction, convection and radiation.
- Explain cooling by evaporation.
- Draw and interpret waveforms, and recognise the link between loudness and amplitude, pitch and frequency.
- Use waveforms to show how sound waves interact to reinforce or cancel each other.

SOUND AND ENERGY

- Describe variation within a species and relate this to genetic differences between individuals.
- Describe the scientific theory of natural selection and how it relates to genetic changes over time.
- Describe what could happen to the population of a species, including extinction, when there is an environmental change.

CHEMICAL REACTION

- Understand that in chemical reactions mass and energy are conserved.
- Describe the effects of concentration, surface area and temperature on the rate of reaction, and explain them using the particle model.
- Identify examples of displacement reactions and predict products (limited to reactions involving calcium, magnesium, zinc, iron, copper, gold and silver salts).
- Describe how to prepare some common salts by the reactions of metals with acids, and metal carbonates with acids, and purify them, using filtration, evaporation and crystallisation.

ONGOING OBJECTIVES

- Discuss how scientific knowledge is developed through collective understanding and scrutiny over time
- Describe how science is applied across societies and industries, and in research.
- Evaluate issues which involve and/or require scientific understanding.
- Describe how people develop and use scientific understanding, as individuals and through collaboration, e.g. through peer-review.
- Discuss how the uses of science can have a global environmental impact.