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# VCE UNITS INFORMATION

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## VCE Environmental Science Units 1 and 2

### CONTENT

#### Unit 1: How Are Earth's Systems Connected?

In this unit, students examine Earth as a set of four interacting systems: the atmosphere, biosphere, hydrosphere and lithosphere. Students apply a systems perspective when exploring the physical requirements for life in terms of inputs and outputs, and consider the effects of natural and human-induced changes in ecosystems. They investigate the physical environment and its components, the function of local ecosystems and the interactions that occur in and between ecological components over different timescales. Students consider how the biotic and abiotic components of local ecosystems can be monitored and measured.

A student practical investigation related to ecosystem monitoring and/or change is undertaken in this unit. The investigation draws on content from Area of Study 1 and/or Area of Study 2.

#### Unit 2: How Can Pollution Be Managed?

In this unit, students explore the concept of pollution and associated impacts on Earth's four systems through global, national and local perspectives. They distinguish between wastes, contaminants and pollutants and examine the characteristics, measurement and management of pollution. They analyse the effects of pollutants on the health of humans and the environment over time. Students consider the rules for use, treatment and disposal of pollutants and evaluate the different perspectives of those who are affected by pollutants. They explore the significance of technology, government initiatives, communities and individuals in redressing the effects of pollutants, and consider how values, beliefs and evidence affect environmental decision making.

Pollutants can be produced through natural and human activities and can generate adverse effects for living and non-living things when released into ecosystems. Students examine how pollutant effects produced in one of Earth's four systems may have an impact on the other systems. They explore the factors that affect the nature and impact of pollution including pollutant sources, transport mechanisms and potential build-up due to long-term or repeated exposure. Students compare three pollutants of national and/or global significance with reference to their effects in the atmosphere, biosphere, hydrosphere and lithosphere, and discuss management options.

Students undertake an in-depth case study of the management strategies that apply to a pollutant of local concern related to ecosystem monitoring and/or change. The investigation draws on content from Area of Study 1 and/or Area of Study 2.