



SAMPLE COURSE OUTLINE

EARTH AND ENVIRONMENTAL SCIENCE
GENERAL YEAR 11

Acknowledgement of Country

Kaya. The School Curriculum and Standards Authority (the Authority) acknowledges that our offices are on Whadjuk Noongar boodjar and that we deliver our services on the country of many traditional custodians and language groups throughout Western Australia. The Authority acknowledges the traditional custodians throughout Western Australia and their continuing connection to land, waters and community. We offer our respect to Elders past and present.

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Sample course outline

Earth and Environmental Science – General Year 11

Unit 1 and Unit 2

Science Inquiry Skills

Note: All the Science Inquiry Skills content aligns with the Science Understanding and Science as a Human Endeavour content of the unit and are integrated into the learning experiences throughout the delivery of Unit 1 and Unit 2.

Semester 1 – Changing Earth

Week	Key teaching points
1–2	<ul style="list-style-type: none"> the structure of the Earth – inner and outer core, mantle, lithosphere – and its position in the solar system
3–5	<ul style="list-style-type: none"> ways in which plate tectonics have changed the distribution of features of the Earth's surface the occurrence of earthquakes and volcanic activity are related to plate boundaries plant, animal and geological evidence show that super continents were assembled and broke up over geological time
6–7	<ul style="list-style-type: none"> a mineral is a naturally occurring solid with its own chemical composition and crystalline structure mineral properties can be determined by practical investigation, including colour, streak, lustre, transparency, hardness (Mohs scale) (see Minerals PowerPoint at ESWA website) rocks may be composed of several different minerals
8–9	<ul style="list-style-type: none"> the rock cycle and its major processes, including plate tectonics and the water cycle, are involved in producing the three major rock types rocks can be classified as igneous, sedimentary or metamorphic, based on mineralogical and textural differences in physical samples, diagrams and photographs; common examples of each rock type
10–11	<ul style="list-style-type: none"> Earth's resources are related to the development of society and technology over time (SHE)
12–13	<ul style="list-style-type: none"> the texture of sedimentary rocks, including grain size, sorting and rounding, is related to their environment of deposition
14–16	<ul style="list-style-type: none"> weathering and deposition of sediments has a role in the formation of soils soils have different properties according to the conditions they are subjected to and their parent rock, for example, permeability, nutrients, pH, wettability, electrical conductivity

Semester 2 – Sustainable Earth

Week	Key teaching points
1	<ul style="list-style-type: none"> composition of the atmosphere on Earth and other celestial bodies; the evolution of the atmosphere is related to changes in biodiversity
2–3	<ul style="list-style-type: none"> the requirements of living things and their relationships to the biotic and abiotic aspects of the environment, including habitat, nutrition, water, temperature
4–6	<ul style="list-style-type: none"> ecology, ecosystem, biodiversity, sustainable ecosystem a sustainable ecosystem maintains its life support systems. Sustainability of an ecosystem can be affected by natural and human factors organisms have developed different adaptations to their environments, resulting in biodiversity areas of local biodiversity can be affected by human impact (SHE) Western Australia contains ecosystems which have World Heritage listing (Shark Bay) or classification as a globally recognised biodiversity hot spot (the southwest of Western Australia) (SHE)
7–9	<ul style="list-style-type: none"> matter, including carbon, nitrogen and water, moves between reservoirs in the Earth, in oceans and other water reservoirs, in the atmosphere, and within and among organisms as part of biogeochemical cycles; the movement of matter between reservoirs is driven by Earth's internal and external sources of energy respiration and photosynthesis are important processes in the carbon cycle the Mars mission and the search for life involves investigation of the possibility of water and carbon dioxide on Mars (SHE)
10–13	<ul style="list-style-type: none"> water is an important resource that undergoes constant changes of state and location during the water cycle, and is present in oceans, ice, lakes, rivers, groundwater, and in the atmosphere water quality and availability are dependent upon the Earth materials through which it moves and the impact of human activities, such as extraction of water, land clearing and use of fertilisers Western Australia draws its water from catchments, groundwater and desalination plants (SHE)
14–16	<ul style="list-style-type: none"> changes in land use are linked to environmental changes, such as salinity, eutrophication, soil degradation and nutrient depletion