

Unit 1 Environmental Science; THE ENVIRONMENT

Outline of course

Semester 1 2013

This unit focuses on the environment and its components. The function of ecosystems and the interactions in and between the ecological components are investigated. The unit presents opportunities to consider the effects of natural and human-induced changes in ecosystems.

Outcome 1 On completion of this unit the student should be able to identify and describe the components and natural processes within the environment.

Outcome 2 On completion of this unit the student should be able to analyse one human-induced environmental change and options for remediation.

Outcome 3 On completion of this unit the student should be able to explain the flow of energy, nutrient exchange and environmental changes in ecosystems.

HOMEWORK; Once a week. To be handed in on Mondays.

TERM 1 week	Topic Covered	Homework
1 Environmental Science	Introduction Student input Resource Smart Systems, models, inputs/outputs, processes. Eg Sassafras	Collect a range of images that represent the varied ecosystems of Earth. (One must be Victorian) Questions page 6
2 Earth – components and structure	Biosphere, hydrosphere, lithosphere, atmosphere Prepare for SAC 1	Devise a simple experiment to demonstrate an aspect of the water cycle for next week Pg 17 Swamp visit and design SAC 1
3	SAC 1 Scientific Study	Visit 4 of the following and find out what information is available ACF, Environment Victoria, Cool Melbourne, Kids Teaching Kids, Greening Australia, etc.
4	The Atmosphere Interaction between components of the biosphere	Earth Model; Prepare a model of Earth or use a software package to simulate a model that shows the components and structure of the atmosphere, biosphere and lithosphere.
5 The Flow of energy within the biosphere	Food Webs Biomass, energy-flow pyramids Productivity of ecosystems	Biotic relationships pg 25

6	SAC 2 Create an ecosystem	Interpreting data worksheet
7 Biogeochemical cycles	Water cycle Carbon-oxygen cycle	Australian soils p32
8	Nitrogen cycle Phosphorus cycle	Fertilizer p32
9	SAC 3 3D model of a biogeochemical cycle	
Term 2		
10 The Sun source of energy for Earth	The Electromagnetic spectrum	Refraction and bushfire homework
11 Ecosystems and natural changes	Victorian ecosystems Studying ecosystems	Biodiversity
12	Succession Natural random env changes	Find a recent event in the world where there has been natural changes to an ecosystem. Write a paragraph summarizes the changes and their affects to the organisms in that environment.
13 Human induced changes in the biosphere	Ozone layer Greenhouse effect Land degradation	Choose one of the 3 topics and find out the very latest information for Australia
14	Introduced species Vegetation Management Clearing	Report on one introduced species into Australia that has caused damage to the environment and one that has not. (At least a paragraph on each – Conclusion – Why the difference?)
15	SAC 4 Human Induced Change	Prepare for oral presentation of SAC 4
16	Sac 4 Orals	Revision
17	Revision	Revision
18	EXAM	