



Ever-Changing Environments – Year Ten Program Overview & Schedule

Program Duration: 45 minutes

Minimum Participants: 10 students

Maximum Participants: 35 students

Location: Polar Bear Shores

Program Overview:

This program allows students to consolidate their understanding of climate change with a focus on how it is affecting the survival of Polar bears. *Ever-Changing Environments* aligns with the Australian Curriculum for Geography and the Earth and Space Sciences strand of Science. To understand the current state of our global climate, students will first be introduced to the science behind the naturally occurring greenhouse effect – a necessity to life on Earth. Students will postulate how humans are creating an enhanced greenhouse effect (climate crisis) through our involvement in the carbon cycle via activities such as deforestation and the burning of fossil fuels. In addition to carbon dioxide, the contribution of other greenhouse gases to climate change will be considered, as well as identifying human activities like farming that are increasing quantities of these gases in the atmosphere. Students will hypothesise the consequences of climate change on ocean temperatures and sea ice and will relate how these changes affect the survival of Polar bears. Discussions will finalise with examples of management strategies that aim to lessen human induced climate change and students will consider the social, economic and environmental benefits and costs of these options. Lastly, students will be asked to pledge actions they can take to reduce their ecological footprint.

Program Schedule:

Time

9:15am Arrival

The school will arrive promptly at 9:15am and will be met by a Marine Education Officer on the lawn next to the flagpoles out the front of Sea World.

9:20am Park Entry

The Marine Education Officer will lead the school group through the admissions gate to Polar Bear Shores for the education program.

9:30am Education Program

This program is approximately 45 minutes and will finish by 10:30am at the latest. Please note: selection of this program will prevent the school group from seeing the morning *Seal Guardians Presentation*.

10:30am Program Conclusion

At the conclusion of this session, students will be free to enjoy the park for the rest of the day, at the discretion of school staff.

Ever-Changing Environments – Year Ten Program Mapping

Alignment with the Australian Curriculum:

SCIENCE	
Science Understanding	
Earth and Space Sciences	Global systems, including the carbon cycle, rely on interactions involving the biosphere, lithosphere, hydrosphere and atmosphere (ACSSU189)
Science as a Human Endeavour	
Nature and Development of Science	Scientific understanding, including models and theories, is contestable and is refined over time through a process of review by the scientific community (ACSHE191)
Use and Influence of Science	People use scientific knowledge to evaluate whether they accept claims, explanations or predictions, and advances in science can affect people's lives, including generating new career opportunities (ACSHE194)
	Values and needs of contemporary society can influence the focus of scientific research (ACSHE230)
GEOGRAPHY	
Geographical Knowledge and Understanding	
Environmental Change and Management	Human-induced environmental changes that challenge sustainability (ACHGK070)
	Environmental world views of people and their implications for environmental management (ACHGK071)
	<p>Select ONE of the following types of environment as the context for study: land (e.g. forests, deserts, grasslands, farmland), inland water, <i>coast, marine</i> or urban.</p> <ul style="list-style-type: none"> The application of systems thinking to understanding the causes and likely consequences of the environmental change being investigated (ACHGK073) The application of geographical concepts and methods to the management of the environmental change being investigated (ACHGK074) The application of environmental economic and social criteria in evaluating management responses to the change (ACHGK075)
Geographical Inquiry and Skills	
Observing, Questioning and Planning	Develop geographically significant questions and plan an inquiry that identifies and applies appropriate geographical methodologies and concepts (ACHGS072)
Reflecting and Responding	Reflect on and evaluate findings of an inquiry to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic, political and social considerations; and explain the predicted outcomes and consequences of their proposal (ACHGS080)
<div> <div> General Capabilities: <ul style="list-style-type: none"> Literacy Critical and Creative Thinking Personal and Social Capabilities Ethical Understanding </div> <div> Cross-Curriculum Priorities: <ul style="list-style-type: none"> Sustainability </div> </div>	