



# Environmental Education

## Secondary School Programs

Program	7 & 8			9 & 10		
	Geog	History	Science	Geog	History	Science
Water						
Landforms and Landscapes						
Human Impact						
Cultural Heritage (Juby's Garden)						
Living things						
Habitats and Ecosystems						
Adaptations						
Daily and Seasonal Change						
Earth's Resources						
Environmental Change and Management						
Food Production (Juby's Garden)						
Global Systems						

## VCE

### Biology Unit 1

AoS 2 – How do living things sustain life?

### Chemistry Unit 2

AoS 2 – How are substances in water measured and analysed?

AoS 3 – Practical Investigation

### Food Studies Unit 1

AoS 2 – Food in Australia

### Geography Unit 3

AoS 1 – Land use change

AoS 2 – Land cover change

### **Water (7-10 Geography, 7-8 Science)**

- Water cycle – sources of water (groundwater, soil moisture and surface water)
- Value of water and waterways (spiritual, economic, cultural, aesthetic) – different values for different users
- Amount of the World's water suitable for drinking
- Rainfall patterns in Melbourne (compare to Northern Australia)
- Compare the Kulin seasons to the 4 season model using climate data – contrast with Yolgnu seasons
- Lake (or creek) and its path out to the ocean
- Aboriginal use of area (BL was a creek) – lived near waterways and beaches, moved during winter and summer
- Human impact on the water cycle – Water quality and testing – use – sustainability – ways to improve quality
- Impact of weather events – drought, floods, storms – community response
- Water quality and testing

### **Landforms and Landscapes (7-10 Geography, 7-8 History)**

- Aboriginal and Torres Strait Island flags and language maps
- Traditional Aboriginal creation stories from Victoria (comparison to other parts of Australia) – Connection to the land
- Whitehorse over time (aerial photos from 1945, paintings from Artist's Camp, sketches) – how use has changed over time – different scales (Whitehorse, Suburb, School) – Stats about use of the area
- Land degradation – erosion, sedimentation, urban development
- Soil/land/water quality
- Introduced plants and animals
- Comparison of Bushland to Riparian habitats
- Protection of plants and animals at Blackburn Lake and Yarran Dheran
- Effect of urban environment on Bushland areas

### **Human Impact (7-8 Geography, 7-10 History)**

- How do plants and animals use the area? How do they interact?
- How do humans use the area? How do they interact with the environment and the plants and animals?
- How have humans impacted on the environment? – What can you do to help?

### **Cultural Heritage (7-8 History & Science)**

- Aboriginal and Torres Strait Island flags and language maps
  - Traditional Aboriginal creation stories from Victoria (comparison to other parts of Australia) – Connection to the land
  - Timeline activity
  - Evidence of Aboriginal and Torres Strait Islander society (including Mungo and Budj Bim) – complexity of society - significance
  - Ways of passing on knowledge
  - Trading pathways and songlines
  - Use of fire and other techniques to manage the land
  - Conservation of cultural heritage sites and artifacts – World Heritage Site – National Parks – Land council (TO groups)
  - Exploring the diaries of early explorers and settlers, sketches and paintings as an historical source
  - Effect of European settlement in Australia and Melbourne
- Juby's Garden
- Aboriginal use of area (BL was a creek) – lived near waterways and beaches, moved during winter and summer
  - Aboriginal use plants from Victoria – What and how used

### **Living Things (7-8 Science)**

- Living / non-living /once living
- Classification – Structure and function – using a key
- Interactions between animals and plants – Food chains and food webs, feeding relationships, energy cycle
- Microorganisms (decomposers, bacteria and fungi) - importance in the energy cycle
- Human Impact on habitats
- Growth, development and offspring
- Effect of environment on growth and development

### **Habitats and Ecosystems (7-10 Science)**

- Interactions between animals and plants – producer, consumer, decomposer – feeding relationships, predator, prey, parasite)
- Needs of plants and animals, what happens when those needs are not met
- Living on land and living in water (mini beasts and pond life)
- Living / non-living /once living – Requirements for life
- Body function and systems to aid survival – Response to changes in the environment
- Interactions between animals and plants – Food chains and food webs, feeding relationships, energy cycle
- Microorganisms (decomposers, bacteria and fungi) - importance in the energy cycle
- Abiotic and Biotic components of the environment
- Human Impact on habitats
- Growth, development and offspring – Population size
- Effect of environment on growth and development
- Effect of fire, drought and flooding

### **Adaptations (7-8 Science)**

- Animal and plant structure to help them survive
- Animal body parts
- Plant parts
- Living on land and living in water (mini beasts and pond life)
- Classification (grouping due to features)
- Environmental factors (eg fire and seed germination)

### **Daily and Seasonal Change (7-8 Science)**

- Earth's rotation and tilt – day, month, year – moon and lunar calendar (ATSI use), Analemmatic sundial
- Seasonal change – comparing 4 seasons to Kulin seasons (Wurundjeri), compare with Anangu and Yolgnu
- Climate data – BOM graphs of rainfall and temperature
- Using resources in season

### **Earth's Resources (7-8 Geography & Science)**

- Earth's resources – water, soil, air
- Human impact on resources – water, soil
- Water cycle – water saving tips
- Effect of extreme weather on landscapes – fire, drought, floods
- Timescale for regeneration of resources
- Human impact on resources – water, soil - examples
- Using resources in season
- What can we do to preserve our resources?



### **Place, space and interconnection (9-10 Geography)**

- How do we use the area? – What is the value of the area?
- Aboriginal and Torres Strait Island flags and language maps
- Traditional Aboriginal creation stories from Victoria (comparison to other parts of Australia) – Connection to the land
- Whitehorse over time (aerial photos from 1945, paintings from Artist’s Camp, sketches) – how use has changed over time – different scales (Whitehorse, Suburb, School) – Stats about use of the area
- Aboriginal use of area (BL was a creek) – lived near waterways and beaches, moved during winter and summer
- Perception of open space and Bushland
- Human impact – sustainability

### **Environmental Change and Management (9-10 Geography)**

- Identifying human impact
- Land degradation – erosion, sedimentation, urban development – Vegetation loss (aerial photos of Whitehorse)
- Soil/land/water quality - Pollution
- Biodiversity - Introduced plants and animals
- Comparison of Bushland to Riparian habitats
- Protection of plants and animals at Blackburn Lake and Yarran Dheran
- Effect of urban environment on Bushland areas
- Sustainability – Management Strategies
- Urban planning
- Traditional management techniques - Indigenous Ranger program – Burning
- Climate change

### **Food Production - Juby’s Garden (9-10 Geography)**

- Natural vs agriculture vs urban systems – effect of production on natural systems (different uses of area)
  - Factors affecting plant and animal growth
  - Biome Definition
  - Land and resource management used by Aboriginal and Torres Strait Islander peoples - Food security, farming, eel traps, seasonal use of food and resources – including Juby’s Garden
  - Population growth and effect on environment
  - Sustainable food production (and maintaining natural habitats)
- Juby’s Garden
- Aboriginal use of area (BL was a creek) – lived near waterways and beaches, moved during winter and summer
  - Aboriginal use plants from Victoria – What and how used

### **Global Systems (9-10 Geography)**

- Water, carbon, nitrogen, phosphorus, oxygen cycle
- Effect of human impact on atmosphere, biosphere, hydrosphere and lithosphere
- Natural and changed systems
- Climate change

For more information please contact

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