**What You Need to Know – What We Do to the Environment**

**Conserving and maintaining the quality and sustainability of the environment requires scientific understanding of the interactions within, the cycling of matter and the flow of energy through ecosystems.**

1. Recall that ecosystems consist of communities of interdependent organisms and abiotic components of the environment.
2. define an ecosystem
3. draw food chains and food webs and describe the feeding relationships.
4. use the terms producer, consumer, decomposer, predator and prey to describe organisms in the food web and their interactions.
5. list some abiotic factors and identify ways through which they are measured.

1. Describe how energy flows through ecosystems, including input and output through food webs.
2. identify the source of all energy that flows through an ecosystem and the roll of photosynthesis.
3. Use energy pyramids to show how energy lost as it flows through a food web.

1. Analyse how changes in some biotic and abiotic components of an ecosystem affect populations and/or communities.
2. define and identify sources of competition.
3. Outline using examples how matter is cycled through ecosystems, including:
4. Nitrogen cycle
5. Carbon cycle
6. Water cycle

1. Assess ways that Aboriginal and Torres Strait Islander peoples' cultural practices and knowledge of the environment contribute to the conservation and management of sustainable ecosystems.
2. Use of fire
3. Nomadic
4. Totems
5. Evaluate some examples in ecosystems, of strategies used to balance conserving, protecting and maintaining the quality and sustainability of the environment with human activities and needs.
6. define sustainability and conservation
7. evaluate strategies used with plastics and in documentary.

**People use scientific knowledge to evaluate claims, explanations or predictions in relation to interactions involving the atmosphere, biosphere, hydrosphere and lithosphere.**

1. Outline how global systems rely on interactions involving the biosphere, lithosphere, hydrosphere and atmosphere, including the carbon cycle.
2. Define the spheres.
3. Describe how the different spheres interact with each other.
4. Describe some impacts of natural events, such as cyclones on the Earth's spheres.
5. Evaluate scientific evidence of some current issues affecting society that are the result of human activity on global systems, including the greenhouse effect, global warming and the depletion of the ozone layer depletion.
6. Discuss the reasons different groups in society may use or weight criteria differently to evaluate claims, explanations or predictions in making decisions about contemporary issues involving interactions of the Earth's spheres, including coal seam gas.