



Curriculum Links For Teachers





Reef IQ - Curriculum Links

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INTRODUCTION

Reef Check Australia is a not-for-profit environmental organisation that engages the Australian community in coral reef conservation at a unique level. We are part of a global network of volunteers who regularly monitor and report on reef health, bringing Citizen Science to environmental issues.

Reef Check Australia has developed an Educational Program for Years 4-7 (although some activities can be adapted for older or younger audiences) *Reef IQ* tailored to all states' curricula, which consists of 2 courses focusing on coral reefs, sustainability and environmental monitoring.

Reef IQ Courses:

1. Coral Reefs & Sustainability

This course focuses on finding out about coral reefs and the marine animals that inhabit them, exploring the coral reef ecosystem and the different roles of the varied coral reef creatures, and finishes by investigating the concept of sustainability encouraging students to carry out sustainable activities in the school, at home or in the community.

2. Classroom Monitoring for Management

This course explores coral reef management by investigating the threats to coral reefs, introducing students to coral reef monitoring (undertaking stimulated surveys of reefs in the classroom) and looking at ways we can help to protect them. This course encourages students to claim stewardship of Australia's reefs by engaging them in classroom surveys of real (and preferably local) reefs using photocards.

'We have created these materials to work towards increasing awareness and engendering behavioural change towards more sustainable practices. We believe it is important to provide young people with the skills, knowledge and capacity to take part in environmental decision-making and conservation'.

This document lists the curriculum links for teachers for all States and Territories in Australia.



CURRICULUM LINKS: Australian Capital Territory

CURRICULUM DOCUMENT

Every chance to learn

Curriculum framework for ACT schools Preschool to year 10

http://activated.act.edu.au/ectl/resources/ECTL_Framework.pdf

The curriculum framework has been sequenced in four bands of development, from preschool to year 10—early childhood, later childhood, early adolescence and later adolescence.

The four bands of development are related to ages and school years.

Early childhood - preschool to year 2

Later childhood - year 3 to year 5

Early adolescence - year 6 to year 8

Later adolescence - year 9 to year 10.

Essential Learning Achievement	Learning Outcomes
<p>ELA 19: The student understands and applies scientific knowledge This Essential Learning Achievement is about developing students' capacity to be interested in and understand the world around them, and to reflect on and apply scientific knowledge to new learning situations and problems in personal, social and civic life.</p>	<p>19.LC.9 structures of living things and relationships between structure and function</p> <ul style="list-style-type: none"> • Coral Reef Monitoring for Management • Coral Reefs and Sustainability <p>19.LC.10 categories of living things based on observable characteristics</p> <ul style="list-style-type: none"> • Coral Reef Monitoring for Management • Coral Reefs and Sustainability <p>19.LC.12 some interactions between living things, and between living things and their environment</p> <ul style="list-style-type: none"> • Coral Reef Monitoring for Management • Coral Reefs and Sustainability
<p>ELA 20 :The student acts for an environmentally sustainable future This Essential Learning Achievement is about developing students' capacity to understand and contribute to an environmentally sustainable future.</p>	<p>20.LC.1 natural cycles and systems in the environment (e.g. water cycle, food chains)</p> <ul style="list-style-type: none"> • Coral Reefs and Sustainability <p>20.LC. 2 the concept of habitat and the diversity of living things within a habitat</p> <ul style="list-style-type: none"> • Coral Reefs and Sustainability <p>20.LC.3 some effects of human action on natural environments</p> <ul style="list-style-type: none"> • Coral Reefs and Sustainability <p>20.LC.6 how protecting the environment requires that people work together as citizens and consumers and participate in appropriate actions as environmental stewards or in other civic action to effect positive change</p> <ul style="list-style-type: none"> • Coral Reefs and Sustainability



ELA 22:the student understands and values what it means to be a citizen within a democracy

This Essential Learning Achievement is about developing students' understanding of Australia's democratic society and commitment to participating in it as informed citizens. It focuses on three main aspects: features of Australia's representative democracy; principles that underpin democratic society; and active citizenship.

22.EA.13 ways to become involved in, or influence, representative groups in the school or community (e.g. a campaign to raise awareness about a significant issue, elections).

- [Coral Reefs and Sustainability](#)
- [Coral Reef Monitoring for Management](#)

22.EA.16 express their own viewpoints on issues and contribute to class and group

- [Coral Reefs and Sustainability](#)

22.LA.12 ways in which citizens can influence government.

- [Coral Reefs and Sustainability](#)
- [Coral Reef Monitoring for Management](#)

22.LA.14 reflect on their rights and responsibilities as young adults and consider ways in which people, individually and collectively, make decisions and contribute to the common good (e.g. contact a local member of parliament, take informed civic action on issues)

- [Coral Reefs and Sustainability](#)
- [Coral Reef Monitoring for Management](#)



CURRICULUM LINKS: New South Wales

CURRICULUM DOCUMENT

NSW Syllabus

<http://www.boardofstudies.nsw.edu.au/>

Year Levels & Stages

- [Kindergarten - Early Stage 1](#)
- [Years 1 and 2 - Stage 1](#)
- [Years 3 and 4 - Stage 2](#)
- [Years 5 and 6 - Stage 3](#)

Human Society and Its Environment (HSIE) is the key learning area in which students develop knowledge, understandings, skills, and values and attitudes about people and their social and physical environments.

K-6 syllabuses are organised in broad stages that describe the sequence of learning experiences through which students will progress. The outcomes and content in this Human Society and Its Environment.

K-6 Syllabus are organised in four strands:

- Change and Continuity
- Cultures
- Environments
- Social Systems and Structures.

Learning Area	Focus Area	Learning Outcome
HSIE Environments Stage 3	Patterns of Place and Location	ENS 3.5 demonstrates an understanding of the interconnections between Australia and global environments and how individuals and groups can act in an ecologically responsible manner
Science and Technology Stage 3	Living Things	Students will know and understand that: All living things are different Living things grow, reproduce, move, need air, take in nutrients & eliminate wastes Living things show variation amongst species The activities of people can change the balance of nature Groups of living things have changed over long periods of time

	Physical phenomena	There are many physical phenomena which change the environment
	Earth and its surroundings	Living things need energy to do things. Some living things change according to the season. <ul style="list-style-type: none"> • Coral Reefs and Sustainability, • Coral Reef Monitoring for Management

Learning Area and Outcomes

Global Geography consists of four focus areas in which students learn about the geographical processes and human interactions that shape global environments. They also learn about geographical issues and different perspectives about the issues; and develop an understanding of civics and appropriate methods of citizenship for individual and group responses to these issues.

Year Levels & Stages

- [Years 7 and 8 - Stage 4](#)
- [Years 9 and 10 - Stage 5](#)

Learning Area	Focus Area	Learning Outcome
<p>HSIE Geography (Mandatory) Stage 4 & 5</p> <p>Objectives Knowledge and understanding about how physical, social, cultural, economic and political factors shape communities, including the global communities.</p> <p>Knowledge and understanding about civics for informed and active citizenship</p>	<p>Focus Area 4G3 Global Change Focus: The changing nature of the world and responses to change</p> <p>Focus Area 4G4 Global Issues and the Role of Citizenship Focus: Global geographical issues and appropriate methods of citizenship for their management.</p> <p>Focus Area 5A4</p>	<p>4.8 describes the interrelationships between people and environments</p> <p>4.10 explains how geographical knowledge, understanding and skills combine with knowledge of civics to contribute to informed citizenship</p> <ul style="list-style-type: none"> • Coral Reefs and Sustainability, • Coral Reef Monitoring for Management <p>A student:</p>

	<p>Australia in Its Regional and Global Contexts Focus: Australia in its regional and global contexts and the roles of individuals and groups in planning for a better future.</p>	<p>LS.4 explores the effects of the physical environment on people's activities LS.10 recognises the importance of active and informed citizenship LS.11 uses a variety of strategies to locate and select information LS.12 uses a variety of strategies to organise and communicate information.</p> <ul style="list-style-type: none">• Coral Reefs and Sustainability,• Coral Reef Monitoring for Management
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CURRICULUM LINKS: Northern Territory

The *Northern Territory Curriculum Framework* (NTCF) identifies learning outcomes for all Northern Territory learners in classes from Transition to Year 10. It provides the major elements of curriculum, around which schools can

- develop flexible teaching and learning programs that are inclusive of the varied pedagogical approaches of educators
- assess learner progress
- report on the outcomes achieved.

The **EsseNTial Learnings** lay the foundation for 'connected life-long learning', and are essential in preparing students for complex future life roles. These learning outcomes include capabilities, understandings and dispositions that students develop across their schooling years (Transition to Year 10).

The **EsseNTial Learnings** are organised into the **Inner Learner**, **Creative Learner**, **Collaborative Learner** and **Constructive Learner** domains. Each domain has a set of culminating outcomes and developmental indicators to help map a learner's progress through the Key Growth Points and Bands. The domains are each guided by a key question

- **Inner Learner:** *Who am I and where am I going?*
- **Creative Learner:** *What is possible?*
- **Collaborative Learner:** *How do I connect with and relate to others?*
- **Constructive Learner:** *How can I make a useful difference?*

Band	Approximately end of Year Level
Band 5	10
Band 4	8
Band 3	6
Band 2	4
Band 1	2

The **Studies of Society and Environment (SOSE)** Learning Area incorporates the disciplines of History, Geography, Politics, Economics, Business and Careers. Through SOSE, learners explore and critically construct their knowledge and understandings about the society in which they live and their place within it. They investigate the changing world in terms of natural and social systems, culture, place and resources, examining how these changes influence and impact on their lives, society and the environment.

Strand Overview

The SOSE Learning Area is organised into three strands. Key Growth Points to Band 3 are organised into two strands - Social Systems and Structures and Environments. A third strand, Enterprise is introduced in Band 4.

Strand One: Social Systems and Structures has been organised into five elements:

- Time, Continuity and Change
- Indigenous Studies
- Civics, Governance and Social Justice
- Values, Beliefs and Cultural Diversity
- Enterprise

Strand Two: Environments has been organised into three elements:

- Place, Landforms and Features
- Environmental Awareness and Care
- Natural Systems

Strand Three: Enterprise has been organised into three elements:

- Financial Literacy
- Life Roles
- Consumerism

KEY GROWTH POINTS

Env KGP1.1

Place, Landforms and Features

- Interact with elements within natural and built environment in their immediate surroundings
 - [Coral Reef Monitoring for Management](#)
 - [Coral Reefs and Sustainability](#)

Env KGP1.2

Environmental Awareness and Care

- Participate in caring for their immediate surroundings
 - [Coral Reef Monitoring for Management](#)
 - [Coral Reefs and Sustainability](#)

Env KGP1.3

Natural Systems

- Experience some immediate natural environments.
 - [Coral Reef Monitoring for Management](#)
 - [Coral Reefs and Sustainability](#)

Env KGP2.1

Place, Landforms and Features

- Identify the ways they interact with and use the natural and built features in their surroundings
 - [Coral Reef Monitoring for Management](#)
 - [Coral Reefs and Sustainability](#)

Env KGP2.2

Environmental Awareness and Care

- Care for their immediate environment
 - [Coral Reef Monitoring for Management](#)
 - [Coral Reefs and Sustainability](#)

Env KGP3.1

Place, Landforms and Features

- Interact with elements within natural and built environments in their immediate surroundings
 - [Coral Reef Monitoring for Management](#)
 - [Coral Reefs and Sustainability](#)

Env KGP3.2

Environmental Awareness and Care

- Interact with elements within natural and built environments in their immediate surroundings
 - [Coral Reef Monitoring for Management](#)
 - [Coral Reefs and Sustainability](#)

Env KGP3.3

Natural Systems

- Investigate how elements of natural environments meet the needs of others
 - [Coral Reef Monitoring for Management](#)
 - [Coral Reefs and Sustainability](#)



CURRICULUM LINKS: Queensland

The QSA uses Essential Learnings to provide teachers with guidelines for a common curriculum taught at schools across Queensland. The QSA advises schools to use the Essential Learnings and Standards as the starting point for planning their curriculum. These guidelines are specific to each of the key learning areas, at four different year-level junctures (end of Years 3, 5, 7 and 9).

The *Reef IQ* program is also dedicated to quality education and many of its programs fulfil several of the Essential Learnings criteria as shown below.

Learning and Assessment focus Years 5 & 7

Learning Area	Focus Area	Learning Outcome
Science	Science as a human endeavour	Ethics in Science, Science in respect to work and leisure, Sustainability, Culture and Science <ul style="list-style-type: none"> • Coral Reefs and Sustainability
	Energy & change	Energy can be transferred & Transformed e.g. light energy from the sun transformed to chemical energy by plants <ul style="list-style-type: none"> • Coral Reefs and Sustainability
	Life & living	Taxonomy, Structures and functions of living things, Reproduction processes & Life cycles, Relationships between living organisms <ul style="list-style-type: none"> • Coral Reefs and Sustainability • Coral Reef Monitoring for Management
SOSE	Place & space	Environments defined by physical & human impacts, Sustainability affected by natural processes & social behaviours, Global environments defined by physical & human dimensions <ul style="list-style-type: none"> • Coral Reefs and Sustainability
	Political & economic systems	Australian government, small communities & citizens, Resources (needs & limitations) <ul style="list-style-type: none"> • Coral Reef Monitoring for Management
Mathematics	Measurements	m, cm, etc <ul style="list-style-type: none"> • Coral Reef Monitoring for Management
	Chance and Data	Graphs: Pie charts, line graphs, etc

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| | | <ul style="list-style-type: none">• Coral Reef Monitoring for Management |
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CURRICULUM LINKS: South Australia

The SA curriculum framework has been sequenced in four bands from preschool to year 12
The three bands of development are related to ages and school years.

- A Early childhood - birth to year 2
- B Primary - year 3 to year 5
- C Middle School - year 6 to year 9
- D Senior Years - years 10 - 12

The SACSA Framework is developed from the concept that in these changing times there is a responsibility on educators to assist students, *“to apply knowledge, skills and experiences to new and different contexts and situations and to be able to act responsibly with regard to others.”* (SACSA Framework page 12)

Essential Learnings: have been identified in order that particular capabilities in students can be fostered, to enrich their and others' life options. The five Essential Learnings are:

- Futures - 'Who I want to be and how I want the world to be for me and others' (F)
- Identity - 'Who I am' (Id)
- Interdependence - 'Where and how I fit with others' (In)
- Thinking - 'How I understand the world' (Th)
- Communication - 'How I express myself and interact with others' (C)

Each of these essential learnings has relevance for the *Reef IQ* Program.

The most obvious link is with the **Essential Learnings**.

The SACSA Framework is developed from the concept that in these changing times there is a responsibility on educators to assist students,

“to apply knowledge, skills and experiences to new and different contexts and situations and to be able to act responsibly with regard to others.”

(SACSA Framework page 12)

This includes taking into account our natural environment and resources we need to sustain life.
Responsible action with regard to reef resources and the people dependent upon the Reef is imperative.

The Essential Learnings or understandings, capabilities and dispositions, are personal and intellectual qualities, not bodies of knowledge, and they are developed throughout an individual's life. ... Specifically these Essential Learnings foster the capabilities to:

- develop the flexibility to respond to change, recognise connections with the past and conceive solutions for preferred futures - Futures (F)
- develop a positive sense of self and group, accept individual and group responsibilities and respect individual differences - Identity (Id)
- work in harmony with others and for common purposes, within and across cultures - Interdependence (In)
- be independent and a critical thinker, with the ability to appraise information, make decisions, be innovative and devise creative solutions - Thinking (Th)

- communicate powerfully - Communication (C)

(SACSA Framework page 13)

Each of these is particularly relevant to learning focussed on the Reef. All the *Reef IQ* Educational Resources seek to encourage responsible action *for* the sustainability of reefs following the development of knowledge and values, with skills to act positively for the future.

The two Essential Learnings, which are very relevant, are **Futures** and **Interdependence**.

The SACSA framework says in describing **Futures** that,

“Learners develop a sense of optimism about their ability to actively contribute to shaping preferred futures and capabilities to critically reflection, and take action in, shaping preferred futures.

“Curriculum developed from this Framework provides opportunities and skills for learners to critically examine future possibilities and challenge commonly held assumptions about the past, present and future. Through such analysis learners understand that the future has connections with the present and the past, and that social, political, economic, and physical environments are constantly changing and can be improved. Thus the major theme of this learning is creating sustainable natural environments, and just and sustainable human environments.”

(SACSA Framework, page 13)

For **Interdependence** it says,

“ Through this Essential Learning students develop a sense of being connected with their world and capabilities to contribute to, critically reflect on, and take action to shape local and global communities.

“Curriculum developed from this Framework provides structures and processes for learners to critically examine the social, political, cultural, economic and environmental systems to which they belong and contribute. In understanding their own interdependence and developing their own world view, they take civic action in supporting sustainable physical environments and just social environments.”

(SACSA Framework, page 14)

Each one of the *Reef IQ* educational resources, used separately or together, can help promote these two Essential Learnings with students.

The other three Essential Learnings, particularly Thinking and Communication are very important aspects developed in the Reef Check resources.

After a close reading of the resources, you will easily find the connections between the curriculum aims for Futures, Interdependence, Thinking and Communication, and the learning which will be developed through using the resources, from the issues to be discussed, the research to be carried out and the strategies suggested in activities.



Links can also be found in the Key Ideas set out for Learning Areas under Curriculum Scope, and in the corresponding Outcomes as detailed in the Curriculum Standards. The most direct links are explained under each resource, in the following pages.

As well there are seven **Key competencies** to be developed with students. The ones that relate to the *Reef IQ* program are

- KC1 Collecting, analysing and organising information
- KC2 Communicating ideas and information
- KC4 Working with others in teams
- KC6 Solving problems

The curriculum is divided into seven **Learning areas**. The Learning area offering the most opportunities for the *Reef IQ* program is **Society and Environment**.

This learning area is divided into strands:

- Place and Space - geography
- Time Continuity and Change - history
- Societies and Cultures - social studies/ religion /aboriginal studies
- Social Systems - political and economic studies

Under **Scope** there are three **Key ideas** written for understanding each Strand.

Learning Outcomes are linked to the Key ideas. These are set out in the following table, with relevant Essential Learnings and Key competencies marked with symbols.

Where there are opportunities to use topics from *Reef IQ* to help students understand the key ideas and achieve the outcomes, these are marked.

Primary Years Band Learning Area: Society and Environment

Strand: Place Space and Environment

Curriculum Scope	Standard 2 Outcomes	Standard 3 Outcomes
Key Ideas	At Standard 2, towards the end of Year 4, the student:	At Standard 3 towards the end of Year 6, the student:
Key Idea: Students examine natural and social environments in local and global communities, analysing patterns, systems and relationships. [In] [T] [KC1] Coral Reefs and Sustainability	2.4 Shows and reports on understanding of the interrelationships between natural and built environments, resources and systems. [In] [T] [KC2]	3.4 Identifies and describes significant resources, explains the threats which endanger them, and suggests strategies to combat threats. [F] [In] [T] [KC1] [KC2] [KC6]
Key Idea Students consider sustainability and care of resources and places as they explore how people's attitudes and values affect their interactions with natural features and cycles. [F] [In] [KC6] Coral Reefs and Sustainability	2.6 Understands that people cause changes in natural, built and social environments, and they act together in solving problems to ensure ecological sustainability. [F] [In] [KC6]	3.6 Identifies factors affecting an environmental issue, and reports on ways to act for sustainable futures. [F] [In] [T] [KC1] [KC2]

Middle Years Band Learning Area: Society and Environment

Strand: Place Space and Environment

Curriculum Scope	Standard 3 Outcomes	Standard 4 Outcomes
Key Ideas	At Standard 3, towards the end of Year 6, the student:	At Standard 4, towards the end of Year 8, the student:
<p>Key Idea: Students analyse spatial associations in Australian and other regions, according to such factors as location, natural and built features, changing populations, employment, resources, transport, and government decisions. They consider critically the differentials in power and access of individuals and groups in relation to valued community resources. [F] [In] [T] [KC1] [KC5]</p> <p>Coral Reefs and Sustainability</p>	<p>3.4 Identifies and describes significant resources, explains the threats which endanger them, and suggests strategies to combat threats. [F] [In] [T] [KC1] [KC2] [KC6]</p>	<p>4.4 Describes places in Australia and elsewhere according to their location, natural and built features, and population and resources. Students explain interrelationships, including the effects of human modifications. [F] [In] [T] [KC1] [KC2]</p>
<p>Key Idea Students access, investigate, interpret and represent information from field work, electronic systems and other research, in order to explain local and global interactions and relationships between people and environments. [In] [T] [C] [KC1] [KC2]</p> <p>Coral Reefs and Sustainability Coral Reef Monitoring for Management</p>	<p>3.5 Interprets and represents data about natural and built environments, resources, systems and interactions, both global and local, using maps, graphs and texts. [In] [T] [C] [KC1] [KC2]</p>	<p>4.5 Hypothesises, then collects, records, organises and evaluates data from field work, print and electronic sources, in order to analyse local and global, environmental or socioeconomic issues. [In] [T] [C] [KC2] [KC6]</p>
<p>Key Idea: Students discuss environmental, conservation or resource issues, and individually and/or in teams collaboratively develop strategies to bring about positive change in the local community. [F] [In] [T] [KC2] [KC4] [KC6]</p> <p>Coral Reefs and Sustainability</p>	<p>3.6 Identifies factors affecting an environmental issue, and reports on ways to act for sustainable futures. [F] [In] [T] [KC1] [KC2]</p>	<p>4.6 Identifies and describes ways that places and natural environments are valued or threatened, and discusses strategies related to ecological sustainability. [F] [In] [T] [KC2] [KC6]</p>

Senior Years Band Learning Area: Society and Environment

Strand: Place Space and Environment

Curriculum Scope	Standard 4 Outcomes	Standard 5 Outcomes
Key Ideas	At Standard 4, towards the end of Year 8, the student:	At Standard 5, towards the end of Year 10, the student:
<p>Key Idea</p> <p>Students critically analyse the relationships between interactions and flows of people, ideas, energy and resources. They experience the resultant patterns, on a variety of scales and contexts, within an equity framework. [In] [T] [KC1]</p> <p>Coral Reefs and Sustainability</p>	<p>4.4</p> <p>Describes places in Australia and elsewhere according to their location, natural and built features, and population and resources. Students explain interrelationships, including the effects of human modifications. [F] [In] [T] [KC1] [KC2]</p>	<p>5.4</p> <p>Analyses and justifies personal views about similarities and differences between regions, in Australia and globally, identifying factors which shape dominant natural, socio-cultural, political, economic and environmental contexts. [In] [T] [KC1] [KC2]</p>
<p>Key Idea</p> <p>Students work independently, in groups, and in teams, using inquiry skills to collect, critically analyse and organise data on how individuals and groups make decisions about natural and built environments. They represent their findings through a range of oral, written, visual and electronic forms. [In] [T] [C] [KC1] [KC2] [KC4]</p> <p>Coral Reefs and Sustainability</p> <p>Coral Reef Monitoring for Management</p>	<p>4.5</p> <p>Hypothesises, then collects, records, organises and evaluates data from fieldwork, print and electronic sources, in order to analyse local and global, environmental or socio-economic issues. [In] [T] [C] [KC2] [KC5] [KC6]</p>	<p>5.5</p> <p>Reports on an issue related to people's sustainable use of resources or places, after critically analysing information from multiple sources and discussing the political implications of decisions. [In] [T] [C] [KC1] [KC2]</p>

CURRICULUM LINKS: Tasmania

Tasmanian students have the opportunity to learn and achieve the highest outcomes in a personalised learning program drawn from the areas of the curriculum.

Through all curriculum areas, students learn to

- reason, ask questions, make decisions and solve problems
- communicate, create and convey ideas effectively and confidently
- develop a positive vision for themselves and their future
- participate responsibly in the community and
- understand and apply important concepts, knowledge and skills.

Skills in [Information and Communication Technologies](#) and [Thinking](#) are developed in all areas of the curriculum.

The Tasmanian Curriculum is organised into seven learning areas of which Society and History and Science are the learning areas best suited for topics from the *Reef IQ* Program.

Society and History enables students to become active, engaged, lifelong learners able to participate as responsible citizens and contribute to global sustainability through inquiry, analysis, and critical and reflective thinking.

The content, processes, skills and concepts of the Society and History curriculum are organised into **eight interrelated strands**. Schools are best placed to make decisions about the learning needs of their students and to implement the Society and History curriculum in ways that provide all students with engaging, challenging and personalised opportunities to learn. The relevant strands to the Reef IQ program are:

1. Interactions with the environment

Students learn to explain the local and global interconnections between people, resources and places and their influence on the environment. They investigate how particular aspects change or persist over time and space.

2. Interconnections between systems

Students learn to explain the local and global interconnections between economic, political and social systems, and how competing objectives influence the achievement of particular outcomes such as social justice, sustainable development and economic growth. Students consider the interdependence of these systems and how the choices and actions of groups such as governments affect quality of life.

3. Responsible citizenship

Students investigate and evaluate strategies that promote democracy, conflict resolution, environmental sustainability, equity and social justice. They learn how to participate responsibly in civic life and work for the collective benefit of communities.

4. Historical inquiry

Students undertake historical inquiries into past events and explain and reflect on the value of the past in understanding the present, and in predicting, choosing and planning for the future. Historical inquiry emphasises people and places, how and why change has occurred over time, and how change can guide planning for the future. Students consider how identity and values are shaped by the circumstances of the time and how differing viewpoints are used to understand the past and shape the present and future.

5. Philosophical inquiry

Students undertake philosophical inquiries to investigate controversial issues. They consider differing viewpoints, critically analyse ideas, information and issues they encounter and examine evidence using a fair-minded approach. They consider how people make judgements about right and wrong. Students consider concepts such as rights and responsibilities,

democracy, sustainability and social justice. They develop their own beliefs, opinions and viewpoints and reflect on the position of others.

6. Communication

Students learn to analyse and evaluate diverse texts and information and communication technologies. They use texts and ICT to describe and analyse events and issues and represent perspectives. Key focus areas for this strand include:

- selecting appropriate information
- analysing information sources and texts
- evaluating how texts persuade and influence opinions
- creating information products

Strands	<i>Performance criteria</i>
Interactions with the environment	Understand relationships between people, resources and places
Interconnections between systems	Understand social, economic and political systems and the connections between them
Responsible citizenship	Understand how individuals and groups can take action to positively influence change
Historical inquiry	Undertake historical inquiries in relation to continuity and change in society
Philosophical inquiry	Undertake philosophical inquiries into issues and beliefs in society
Communication	Acquire, critically examine and communicate information

Science

Science enables students to systematically questions, investigates, predicts and explains events in the universe. It uses logical processes, based on observation, experimentation and modelling, to gather evidence and develop explanations. There are some links to Science in the *Reef Check* program.

Science Performance criteria

The Science performance criteria are identical to the strand names. The performance criteria are the core assessable aspects of learning. Science as a body of knowledge is considered by its sub-strands. The four Science performance criteria are:

1. *Science as a human endeavour*
2. *Scientific inquiry*
3. *Scientific communication*
4. *Science as a body of knowledge.*

The *Reef IQ* program provides learning opportunities that develop students abilities in Science in Stages 6-12 in the strands Science as a body of knowledge - living things, earth & matter and scientific inquiry.

CURRICULUM LINKS: Victoria

The Victorian Essential Learning Standards (VELS) describe what is essential for Victorian students to achieve from Prep to Year 10. They provide a whole school curriculum planning framework that sets out learning standards for schools to use to plan their teaching and learning programs, including assessment and reporting of student achievement and progress. Standards define what students should know and be able to do at different levels and are written for each dimension.

Relevant disciplines to the *Reef IQ* program in the humanities area include Science and Geography.

Science is a human process influencing and influenced by social values. Science has a long and fascinating history of human attempts to appreciate, understand, control and manage our world.

Science extends understanding beyond what affects us to include what we can't see, feel, hear or touch but can only imagine. Science capability is multidimensional, consisting of dispositional facets (interest and curiosity), operational facets (creativity and problem solving) and cognitive facets (reasoning and critical thinking). The extent to which we as citizens understand and appreciate these interactions will shape our future.

A set of values inform and govern how scientists operate including respect for the environment (living and non-living) and the opinions and ideas of others, honesty in collecting and presenting data and evidence, and acknowledgment of the work of others. These values are an integral part of a science curriculum that explores and encourages debate about the relationship between science, society and technology.

A major goal of science education is to develop citizens who are capable of engaging in informed debate about science and its applications. Increasing emphasis will be placed on the role of science and the work of Australian and other scientists in addressing issues of sustainability at a local and global level. Science education provides opportunities for students to develop the skills and understanding appropriate to service and good citizenship.

Geography is the study of physical and human environments from a spatial perspective. It provides students with the knowledge and skills to observe and describe places on the surface of the Earth and to analyse and provide explanations from a spatial perspective of human and physical phenomena and their complex interactions. Students' evolving understanding of their world provides a basis for evaluating strategies for the sustainable use and management of the world's resources.

VIC Curriculum Links to *Reef IQ* Learning Areas and Outcomes

Learning Area	Strand	Learning Outcome
SCIENCE	Science knowledge and understanding	<p>Level 3</p> <p>Students identify and describe the structural features of living things, including plants and animals. They identify how these features operate together to form systems which support living things to survive in their environments. They distinguish between biotic and abiotic factors in their environment and describe interactions that occur between them. They describe natural physical and biological conditions, and human influences in the environment, which affect the survival of living things.</p> <ul style="list-style-type: none">• Coral Reefs and Sustainability• Coral Reef Monitoring for Management <p>Level 4</p>

		<p>At Level 4, students explain change in terms of cause and effect. They identify the characteristics of physical and chemical changes. They describe how substances change during reactions. They identify and compare the properties of the new or changed material/s with those of the original material/s. Students explain the role of chemical change in the production of new materials. They qualitatively describe changes in motion in terms of the forces present.</p> <p>Students apply the terms relationships, models and systems appropriately as ways of representing complex structures. They identify and explain the connections between systems in the human body and their various functions. They identify and explain the relationships that exist within and between food chains in the environment.</p> <ul style="list-style-type: none"> • Coral Reefs and Sustainability • Coral Reef Monitoring for Management
GEOGRAPHY	Geospatial skills	<p>Level 3</p> <p>In the Geospatial skills dimension students read and interpret maps of different kinds and at different scales, including street directories, atlas maps, ordnance survey maps and topographic maps. Students identify and collect information from maps, plans, photographs, satellite images, statistical data, and information and communications technology based resources; and record and represent data in different types of maps, graphs, tables, sketches, diagrams and photographs. Students develop skills in gathering information first-hand from fieldwork studies. They make observations, take field measurements, conduct surveys and interviews, map and record phenomena in a range of settings.</p> <ul style="list-style-type: none"> • Coral Reef Monitoring for Management <p>Level 4</p> <p>At Level 4, students use atlases, street directories and town plan maps to accurately describe the distance, direction and location of places. They identify features from maps, satellite images, and oblique photographs. They draw sketch maps of their neighbourhood using simple mapping conventions such as title, scale, north point and legend. They research, collect, record and describe data obtained through field study surveys and measurements to form conclusions about the use of resources.</p> <ul style="list-style-type: none"> • Coral Reef Monitoring for Management <p>Level 5</p> <p>At Level 5, students collect geographical information from electronic and print media, including satellite images and atlas maps and analyse, evaluate and present it using a range of forms. They construct overlay theme maps using map conventions of scale, legend, title, and north point. They identify and gather geographical information from fieldwork and organise, process and communicate it using a range of written, oral, visual and graphic forms.</p> <ul style="list-style-type: none"> • Coral Reef Monitoring for Management

CURRICULUM LINKS: Western Australia

The Western Australian Curriculum Framework sets out what all students should know, understand, value and be able to do as a result of the programs they undertake in schools in Western Australia, from kindergarten through to year 12. Its fundamental purpose is to provide a structure around which schools can build educational programs that ensure students achieve agreed outcomes.

It is neither a curriculum nor a syllabus, but a framework identifying common learning outcomes for all students

Phases of development

- Early Childhood (Typically Kindergarten To Year 3)
- Middle Childhood (Typically Years 3 To 7)
- Early Adolescence (Typically Years 7 To 10)
- Late Adolescence (Typically Years 11 To 12)

Reef IQ best fits within the Society and Environment learning area.

This learning area develops students' understanding of how groups live together and interact with their environment. Students develop a respect for cultural heritage and a commitment to social justice, the democratic process and ecological sustainability

The Society and Environment learning area develops students' understandings of how and why individuals and groups live together; interact with and within their environment; manage resources and create institutions and systems. Students further understand that, over time, these relationships and interactions may change to varying degrees. Students develop these understandings through processes of social inquiry, environmental appraisal, ethical analysis and the skills to constructively critique various perspectives from past and present contexts.

Students are encouraged to apply their understandings and skills in their own lives, in developing environmental consciousness, social competence and civic responsibility. In doing so, they are engaged in actively exploring, making sense of and contributing to improving the world around them.

SOCIETY & ENVIRONMENT LEARNING OUTCOMES

The learning outcomes of the Society and Environment Learning Area Statement describe learning that occurs from kindergarten to year 12. They are intended to enable students to construct a positive view of themselves as responsible citizens, capable of devising and acting on solutions that improve our society and environment. The Society and Environment Learning Area Statement identifies seven learning outcomes. These describe the key learning processes, understandings and values that all students should develop. They are interrelated in that understandings and values are developed through inquiry learning, which results in students demonstrating behaviours and practices of active citizenship.

INVESTIGATION, COMMUNICATION & PARTICIPATION

1. Students investigate the ways in which people interact with each other and with their environments in order to make informed decisions and implement relevant social action.

PLACE AND SPACE

2. Students understand that the interaction people have with places in which they live is shaped by the location, patterns and processes associated with natural and built features.

RESOURCES

3. Students understand that people attempt to meet their needs and wants by making optimum use of limited resources in enterprising ways.

CULTURE

4. Students understand that people form groups because of their shared understandings of the world, and, in turn, they are influenced by the particular culture so formed.

TIME, CONTINUITY AND CHANGE

5. Students understand that peoples' actions and values are shaped by their understanding and interpretation of the past.

NATURAL AND SOCIAL SYSTEMS

6. Students understand that systems provide order to the dynamic natural and social relationships occurring in the world.

ACTIVE CITIZENSHIP

7. Students demonstrate active citizenship through their behaviours and practices in the school environment, in accordance with the principles and values associated with the democratic process, social justice and ecological sustainability.

