

Curriculum Objectives

The following curriculum objectives and Suggested Learning Outcomes are suggestions only and not a comprehensive list. Some of the objectives may relate to specific activities while others will be met during the course of the unit as a result of a well integrated programme. It is not intended that every objective be taught and assessed. Teachers will need to decide on the objectives that are relevant for their programme.

The Essential Skills

Communication Skills	Numeracy Skills	Information Skills	Problem-Solving Skills
<p>Students will:</p> <ul style="list-style-type: none"> Communicate competently and confidently by listening, speaking, reading, and writing and by using other forms of communication where appropriate; Develop skills of discrimination and critical analysis in relation to the media, and to aural and visual messages from other sources; Argue a case clearly, logically, and convincingly. 	<p>Students will:</p> <ul style="list-style-type: none"> Estimate proficiently and with confidence; Organise information to support logic and reasoning. 	<p>Students will:</p> <ul style="list-style-type: none"> Identify, locate, gather, retrieve and process information from a range of sources; Present information clearly logically, concisely, and accurately; Identify, describe, and interpret different points of view, and distinguish fact from opinion. 	<p>Students will:</p> <ul style="list-style-type: none"> Think critically, creatively, reflectively, and logically; Exercise imagination, initiative, and flexibility; Identify, describe, and redefine a problem; Analyse problems from a variety of different perspectives; Make connections and establish relationships; Inquire and research, and explore, generate, and develop ideas; Try out innovative and original ideas; Test ideas and solutions, and make decisions on the basis of experience and supporting evidence; Evaluate processes and solutions.
Self-management and Competitive Skills	Social and Co-operative Skills	Physical Skills	Work and Study Skills
<p>Students will:</p> <ul style="list-style-type: none"> Show initiative, commitment, perseverance, courage, and enterprise; Adapt new ideas, technologies and situations; Develop constructive approaches to challenge and change, stress and conflict, competitions, and success and failure; Achieve self-discipline and take responsibility for their own actions and decisions. 	<p>Students will:</p> <ul style="list-style-type: none"> Develop good relationships with others, and work in co-operative ways to achieve common goals; Take responsibility as a member of a group for jointly decided actions and decisions; Participate appropriately in a range of social and cultural settings; Learn to recognise, analyse, and respond appropriately to discriminatory practices and behaviours; Develop a sense of responsibility for the well-being of others and for the environment; Participate effectively as a responsible citizen in a democratic society. 	<p>Students will:</p> <ul style="list-style-type: none"> Develop specialised skills related to sporting, recreational, and cultural activities. 	<p>Students will:</p> <ul style="list-style-type: none"> Work effectively, both independently and in groups; Build on their own learning experiences, cultural backgrounds, and preferred learning styles; Develop sound work habits; Take increasing responsibility for their own learning and work; Develop the desire and skills to continue learning throughout life.

Curriculum Objectives - Level 2

Science	Technology		
Making Sense of Planet Earth and Beyond	Strand A: Technological Knowledge	Strand B: Technological Capability	Strand C: Technology and Society
<ul style="list-style-type: none"> Students can investigate easily observable physical features and patterns and consider how the features are affected by people. 	Within a range of technological areas and contexts, students should: <ol style="list-style-type: none"> identify and discuss ideas about modifications and adaptations in familiar technologies, such as wheeled vehicles; identify, and depict ideas about components of technological systems, such as connections; sequence. 	Within a range of technological areas and contexts, students should produce technological solutions. They will: <ol style="list-style-type: none"> with reference to identified needs and opportunities, discuss possible solutions and strategies, and select and develop a suitable option; identify and gather necessary resources, and model or make their preferred solution show and describe examples of their intentions, progress, and outcomes to others; describe how satisfied they are with their progress and outcomes, and how well they are achieving the intended solution. 	Within a range of technological areas and contexts, students should: <ol style="list-style-type: none"> Explore and compare the roles of some example of technology in daily life in their own and another time or place, such as retailing; personal hygiene.
Suggested Learning Outcomes			
<ul style="list-style-type: none"> Students will be able to identify a local waterway and name some environmental impacts that have an adverse affect on it e.g. unfenced waterways, non-vegetated waterways. Students will demonstrate an understanding of the water cycle. 	Context: Designing a watercraft that is made of biodegradable materials to float in a stream. <ul style="list-style-type: none"> Students will explore the properties of objects that float and sink, designs that will bounce off rocks and snags and materials that biodegrade easily. 	Students will design and make a floating craft to explore the stream habitat during a stream visit. <ol style="list-style-type: none"> Students will discuss and investigate possible designs for a floating craft that will catch on rocks, snags, etc, in a stream and then develop a suitable design. Students will identify and gather the necessary biodegradable resources and make the suitable floating craft. Students will show and describe examples of their craft design to others. Students will complete a self-assessment of their design determining how well their craft met the criteria decided upon in their design. 	<ul style="list-style-type: none"> Students investigate how the use of floating objects has developed over time, for example boats, rafts, and inflatable water craft.
Health and Physical Education	The Arts (from the draft curriculum)		Social Studies
D: Healthy Communities and Environments	Learning the Language of Visual Arts	Developing ideas in the Visual Arts	Place and Environment
<ul style="list-style-type: none"> Students will examine how people's attitudes, values and actions contribute to healthy physical and social environments. 	<ul style="list-style-type: none"> Students will identify and explore the elements of the visual arts , using a variety of techniques, tools and processes, materials and media. 	<ul style="list-style-type: none"> Students will use imagination, observation, and invention with materials and media to initiate and develop visual ideas. 	<ul style="list-style-type: none"> Students will understand how people's activities influence places and the environment and are influenced by them.
Suggested Learning Outcomes			
Students will: <ul style="list-style-type: none"> Examine people's attitudes and values towards freshwater resources and the role that they play in maintaining a healthy environment. Examine the actions people can take and have taken to contribute to healthy fresh water environments. 	<ul style="list-style-type: none"> Students will develop their ability to use different techniques, tools, processes, materials and media using fresh water resources and the ways that we use them as a source of motivation. 	<ul style="list-style-type: none"> Students will develop imagination, observation, and intervention with materials and media to initiate and develop visual ideas about fresh water resources. 	<ul style="list-style-type: none"> Students will be able to identify some of the activities that impact negatively on waterways. Students will know some things that can be done to protect a waterway from erosion and pollution.

Curriculum Objectives - Level 2

English		English		English	
Oral Language		Written Language		Visual Language	
<p>Interpersonal listening</p> <ul style="list-style-type: none"> Students should listen to and interact with others in a group. <p>Interpersonal speaking</p> <ul style="list-style-type: none"> Students should converse, ask questions, and talk about events and personal experiences in a group. <p>Thinking critically</p> <ul style="list-style-type: none"> Students should identify, clarify and question meanings in spoken texts, drawing on personal background, knowledge and experience. 		<p>Close reading</p> <ul style="list-style-type: none"> Students should respond to language, meanings, and ideas in different texts, relating them to personal experiences. <p>Transactional writing</p> <ul style="list-style-type: none"> Students should write instructions and explanations, state facts and opinions, and recount events in a range of authentic contexts. <p>Thinking critically</p> <ul style="list-style-type: none"> Students should identify and express meanings in written texts, drawing on personal background, knowledge and experience. 		<p>Viewing</p> <p>Reading visual and dramatic texts, including static and moving images, students should respond to meanings and ideas, identifying and describing the verbal and visual features.</p>	
Specific Learning Outcome					
<ul style="list-style-type: none"> While exploring information about waterways (streams and rivers), students will listen to other student's ideas, ask relevant questions about water and be able to share their experiences of fresh water. 		<ul style="list-style-type: none"> Students will read appropriate material related to fresh water, to help clarify understandings about how water resources are used. Students will be able to write relevant information related to their growing knowledge about rivers and/or streams, e.g. facts, recounts of field experiences, diagrams of catchments systems, interpreting maps. Students will show a growing ability to respond to written texts and write information demonstrating their understanding of fresh water resources and people's interaction with them. 		<p>Students will view the photographic series as part of the unit and develop their ability to respond to visual images about how people interact with and impact on fresh water resources.</p>	
Mathematics					
Number		Measurement		Geometry	
<p>Within a range of meaningful contexts students should be able to:</p> <ul style="list-style-type: none"> Make sensible estimates and check the reasonableness of answers. 		<p>Within a range of meaningful contexts, student should be able to:</p> <ul style="list-style-type: none"> Carry out practical measuring tasks using appropriate metric units, length, mass and capacity. 		<p>Within a range of meaningful contexts students should be able to:</p> <ul style="list-style-type: none"> Describe and interpret position, using the language of direction and distance. 	
Algebra		Statistics			
<p>Within a range of meaningful contexts students should be able to:</p> <ul style="list-style-type: none"> Use graphs to illustrate relationships. 		<p>Within a range of meaningful contexts students should be able to:</p> <ul style="list-style-type: none"> Collect and display category data and whole numbers data in pictograms, tally charts and bar charts as appropriate. 			
Suggested Learning Outcome					
<ul style="list-style-type: none"> As a class estimate the amount of water likely to be flowing in a stream using the flow calculation. Check this estimate as appropriate. 		<ul style="list-style-type: none"> Using the water quality monitoring equipment, students should be able to measure the clarity, velocity, depth and width of a stream. 		<ul style="list-style-type: none"> Students will look at maps of the area and observe the approximate distances of different waterways in the area. They will describe the paths that waterways in the region take identifying North, South, East and West. 	
<ul style="list-style-type: none"> Students will create appropriate graphs to show how people use water resources. 		<ul style="list-style-type: none"> Using graphs created from data collected from a stream visit such as numbers of invertebrates, student will talk about the information that they have depicted. 			

Curriculum Objectives - Level 3

Science		Social Studies	English	
Making Sense of Planet Earth and Beyond	Making Sense of the Living World	Place and Environment	Oral Language	
<ul style="list-style-type: none"> Students investigate the major features, including the water cycle, that characterise Earth's water reserves, e.g. oceans, rivers, lakes, glaciers, ice-caps, snowfields, clouds. 	<ul style="list-style-type: none"> Students can explain, using information from personal observation and research, where and how a range of familiar New Zealand plants and animals live. 	<ul style="list-style-type: none"> Students will understand how different groups view and use places and the environment. Students will understand how and why people express a sense of belonging to particular places and environments. 	<p>Interpersonal listening</p> <ul style="list-style-type: none"> Students should listen to and interact with others to clarify understanding in a group or class discussion. <p>Interpersonal speaking</p> <ul style="list-style-type: none"> Students should talk clearly in small and large groups about experiences, events, information, ideas and opinions, organising material effectively, and questioning and supporting others. <p>Thinking Critically</p> <ul style="list-style-type: none"> Students should discuss and interpret spoken texts, considering relevant personal experiences and others' points of view. 	
Suggested Learning Outcomes				
<ul style="list-style-type: none"> Students will develop their understanding of the watercycle. Students will be able to identify the part of the watercycle that humans participate in. Students will begin to recognise that freshwater reserves are only a very small part of the Earth's total water reserves. Students will learn that fresh water reserves are a fragile and important part of the water cycle, requiring conservation and protection. 	<ul style="list-style-type: none"> Students will be able to identify animals that live in waterways and describe the habitat in which they live. Students will understand that many of the animals found in a waterway are fulfilling part of their life cycle. 	<ul style="list-style-type: none"> Students will know how important waterways are to us. They will understand the impact of polluted waterways in the watercycle and how people rely on clean water as a resource. Students will begin to understand the importance of the Waikato River to Maori people in our region. 	<ul style="list-style-type: none"> While exploring information about rivers students will listen to others in small groups and class discussions. Students will participate in discussions, asking relevant questions and interacting sharing experiences to help answer others' questions about rivers. Students will discuss the implications of the activities and actions they see in the photo series as part of the unit, relating the information to how people interact with fresh water resources. On the completion of the Rivers and Us unit students will be able to speak clearly and in an informed manner about the nature of fresh water resources - streams and rivers and the need to care for those environments. 	
English			The Arts	
Written Language		Visual Language	Learning the Language of the Visual Arts	Developing ideas in the Visual Arts
<p>Close reading</p> <ul style="list-style-type: none"> Students should discuss language, meanings and ideas in a range of texts, relating their understanding to personal experiences and other texts. <p>Transactional writing</p> <ul style="list-style-type: none"> Students should write instructions, explanations, and factual accounts, and express personal viewpoints, in a range of authentic contexts, sequencing ideas logically. <p>Thinking critically</p> <ul style="list-style-type: none"> Students should discuss and convey meanings in written texts, exploring relevant experiences and other points of view. 		<ul style="list-style-type: none"> Reading visual and dramatic texts including static and moving images, students should respond to and discuss meanings and ideas, identifying and describing the effects of and links between verbal and visual features. 	<ul style="list-style-type: none"> Students will apply knowledge of elements and principles and use techniques, tools, and processes to describe ideas, employing a variety of materials and media. 	<ul style="list-style-type: none"> Students will use imagination, observation, and invention with materials and media to initiate and develop visual ideas.
Suggested Learning Outcomes				
<ul style="list-style-type: none"> Students will read newspaper articles, school journal articles, fact sheets and other relevant materials to help develop their understanding of fresh water resources and how people interact with them. Students will develop their ability to write instructions, factual recounts or express their personal viewpoint using fresh water resources as purpose for writing. Students will develop their ability to use written texts when learning about rivers and streams. 		<ul style="list-style-type: none"> Students will discuss the implications of the activities and actions they see in the photo series as part of the unit, relating the information to how people interact with fresh water resources. 	<ul style="list-style-type: none"> Students will develop their knowledge of how to apply different techniques and tools, and process to describe ideas, employing a variety of materials and media with the fresh water as a motivation. 	<ul style="list-style-type: none"> Students will develop their ability to use imagination, observation, and invention with materials and media to initiate and develop, and resolve visual ideas related to freshwater.

Curriculum Objectives - Level 3

Technology				
Strand A Technological Knowledge		Strand B Technological Capability		Strand C Technology and Society
Within a range of technological areas and contexts, students should: 2. a) compare significant features of some technologies, such as safety features, user-friendliness; b) explore and describe how components are linked in a technological system.		Within a range of technological areas and contexts, students should produce technological solutions. They will: With reference to identified needs and opportunities they will: a) explore possible solutions and strategies, and select, appropriate options, justifying their decisions; b) prepare a plan of action, identify and collect the required resources, and produce the selected solution to meet agreed or specified criteria; c) present designs, plans, and outcomes to selected groups, using suitable means of communication; d) review decisions and progress, assessing how satisfied they are with their strategies and outcomes.		Within a range of technological areas and contexts, students should: · Describe and identify the positive and negative effects of some instances of technologies on people's lives and the environment, such as the introduction of large scale offshore mussel farms.
Suggested Learning Outcomes				
Context: Designing a watercraft that is made of biodegradable materials to float in a stream. · Students will explore the properties of objects that float and sink, designs that will bounce off rocks and snags and materials that biodegrade easily.		Students will design and make a floating craft to explore the stream habitat during a stream visit. a) Students will discuss and investigate possible designs for a floating craft that will catch on rocks, snags, etc., in a stream and then develop a suitable design. b) Students will identify and gather the necessary biodegradable resources and make the suitable floating craft. c) Students will show and describe examples of their craft design to others. d) Students will complete a self-assessment of their design determining how well their craft met the criteria decided upon in their design.		· Students investigate how the use of floating objects has developed over time, for example boats, rafts, and inflatable watercraft.
Mathematics				
Number	Measurement	Geometry	Algebra	Statistics
Within a range of meaningful contexts students should be able to: · Make sensible estimates and check the reasonableness of answers.	Within a range of meaningful contexts, student should be able to: · Demonstrate a knowledge of the basic units of length, mass, area, volume (capacity) and temperature by making reasonable estimates.	Within a range of meaningful contexts students should be able to: · Draw and interpret simple scale maps.	Within a range of meaningful contexts students should be able to: · Use graphs to represent number or informal relations.	Within a range of meaningful contexts students should be able to: · Plan a statistical investigation of an assertion about a situation.
Suggested Learning Outcomes				
· Estimate the amount of water flowing in a stream using the flow calculation. Check their results using an appropriate method, e.g. calculator.	· Using appropriate measuring equipment students will measure the flow and velocity of a stream, take the temperature and determine the clarity.	· Students will draw a simple map of their area including local waterways, from given lengths of the actual waterway.	· Students will create appropriate graphs to show the number of animals found in a stream, water temperature over time.	· Using water resources as a motivation have students plan a statistical investigation such as the times of the day that water is used more at school or at home, whether wider streams are deeper or shallower etc.

Curriculum Objectives - Level 4

Science		Social Studies	English
Making Sense of Planet Earth and Beyond	Making Sense of the Living World	Place and Environment	Oral Language
<ul style="list-style-type: none"> Students can investigate a local environmental issue and explain the reasons for the community's involvement e.g. replanting of a cleared hillside, re-introduction of indigenous birds to a local area. 	<ul style="list-style-type: none"> Students can use simple food chains to explain the feeding relationships of familiar animals and plants, and investigate effects of human intervention on these relationships, e.g. lettuce leaf, snail, thrush, pollution, food production for people. 	<ul style="list-style-type: none"> Students will understand how places reflect past interactions of people with the environment. 	<p>Interpersonal Speaking</p> <ul style="list-style-type: none"> Students should listen to and interact with others to clarify understanding of narrative, information, ideas, and opinions, and to contribute to discussion, in one-to-one, small group and class discussion. Students should talk coherently in small and large groups about experiences, events, information, ideas and opinions, organising material effectively and questioning and supporting others. <p>Thinking Critically</p> <ul style="list-style-type: none"> Students should discuss and interpret spoken texts, considering relevant personal experiences and other points.
Suggested Learning Outcomes			
<ul style="list-style-type: none"> Students will be able to identify a number of activities or actions that will impact negatively on a waterway. Students will understand the term catchment and develop a growing awareness of the affects of land based activities have on waterways. 	<ul style="list-style-type: none"> Students will be able to identify some simple fresh water food chains. They will be able to identify actions or activities that will adversely affect the food chain. They will know suitable actions to prevent interference with the food chain. 	<ul style="list-style-type: none"> Students will recognise the impact human activities can have on waterways. Students will investigate the term catchment and how land use surrounding a waterway affects the quality of water in the catchment. 	<ul style="list-style-type: none"> Throughout the unit of work Waiora students will work towards being able to work with others to discuss relevant information and material about the fresh water resources in the Waikato region. Students will contribute in a variety of settings, including one to one, small groups and whole class discussions. Students will work towards being able to confidently express their opinion of how our freshwater resources are used, and the impact people and introduced species have on these areas.
English			Health and Physical Education
Written Language		Visual Language	D: Healthy communities and Environments
<p>Close reading</p> <ul style="list-style-type: none"> Students will discuss language, meanings and ideas in a range of texts, relating their understanding to experiences, purposes, audience and other texts. <p>Transactional writing</p> <ul style="list-style-type: none"> Students should write instructions explanations and factual accounts, and express and explain a point of view, in a range of authentic contexts, organising and linking ideas logically and making language choices appropriate to the audience. <p>Thinking critically</p> <ul style="list-style-type: none"> Students should discuss and convey meanings in written texts, exploring relevant experiences and other points of view. 		<p>Reading visual and dramatic texts, including static and moving images, students should: respond to and discuss meanings, ideas, and effects, identifying the purposes for which the verbal and visual features are used and combined.</p>	<p>Students will:</p> <ul style="list-style-type: none"> Investigate and describe lifestyle factors and media influences that contribute to common health problems across the lifespan of people in New Zealand.
Suggested Learning Outcomes			
<ul style="list-style-type: none"> Students while studying fresh water resources will read and discuss a variety of texts related to the use of freshwater resources e.g. newspaper articles, journal articles, fact sheets, reports. Using fresh water resources as a purpose for writing students will develop skills in writing: a factual account of what people can do to protect our fresh water resources, or write an explanation of the water cycle, or write a letter to a landowner explaining why they should fence and plant their waterways. While completing these objectives students will be developing their ability to use written texts to help develop their understanding of the coast. 		<ul style="list-style-type: none"> Using the photographic series from the unit students will identify concerns or problems for the environment from what the photos show - and begin to discuss and suggest ideas to solve the problem showing in the photo, or acknowledge the significance for freshwater resources. 	<p>Students will:</p> <ul style="list-style-type: none"> Investigate the increase of water carried diseases such as cryptosporidium and giardia and examine the cost this has for water treatment, individually and collectively.

Curriculum Objectives - Level 4

The Arts		Technology		
Learning the Language of the Visual Arts	Developing Ideas in the Visual Arts	Strand A Technological Knowledge	Strand B Technological Capability	Strand C Technology and Society
<ul style="list-style-type: none"> Students will apply knowledge of elements and principles and use techniques, tools and processes to compose images and make objects, employing a variety of materials and media. 	<ul style="list-style-type: none"> Students will use established art making conventions to initiate and develop ideas in response to a variety of motivations. 	Within a range of technological areas and contexts, students should: <ol style="list-style-type: none"> identify underlying technological principles, such as reliability; practicality; investigate several technological systems and explain the relationship between inputs, process, and outputs. 	Within a range of technological areas and contexts, students should produce technological solutions. They will: <ol style="list-style-type: none"> With reference to identified needs and opportunities, identify the nature and details of the issue and explore feasible strategies; select an appropriate solution through testing, adaptation, refinement, and modification; prepare plans of action, identifying the required resources (time, human, material, financial); produce the selected solution to meet agreed or specified criteria; present and explain designs, plans, strategies, and outcomes to specific groups, explain their choices, review strategies, and appraise outcomes, taking responses of others into account. 	Within a range of technological areas and contexts, students should: <ul style="list-style-type: none"> Explore and discuss the impacts over time on the local and wider environments and society of some specific technology, as in the dairy industry; the introduction of wide-bodied jets
Suggested Learning Outcomes				
<ul style="list-style-type: none"> Students will develop their ability to apply knowledge of elements and principles and use techniques, tools. And processes to compose images and make objects, employing a variety of materials and media using freshwater as the motivation. 	<ul style="list-style-type: none"> Students will develop their ability to use established art-making conventions to initiate and develop ideas in response to fresh water, e.g. exploring the work of Robin White using reflections on water. 	Context: Designing a watercraft that is made of biodegradable materials to float in a stream. <ul style="list-style-type: none"> Students will explore the properties of objects that float and sink, designs that will bounce off rocks and snags and materials that biodegrade easily. 	Students will design and make a floating craft to explore the stream habitat during a stream visit. <ol style="list-style-type: none"> Students will discuss and investigate possible designs for a floating craft that will catch on rocks, snags, etc., in a stream and then develop a suitable design. Students will identify and gather the necessary biodegradable resources and make the suitable floating craft. Students will show and describe examples of their craft design to others. Students will complete a self-assessment of their design determining how well their craft met the criteria decided upon in their design. 	<ul style="list-style-type: none"> Students investigate how the use of floating objects has developed over time, for example boats, rafts, and inflatable watercraft.
Mathematics				
Number	Measurement	Geometry	Algebra	Statistics
Within a range of meaningful contexts students should be able to: <ul style="list-style-type: none"> Make sensible estimates and check the reasonableness of answers. Write and solve problems involving decimal multiplication and division. 	Within a range of meaningful contexts, student should be able to: <ul style="list-style-type: none"> Carry out measuring tasks involving reading scales to the nearest graduation. 	Within a range of meaningful contexts students should be able to: <ul style="list-style-type: none"> Specify location, using bearings or grid references. 	Within a range of meaningful contexts students should be able to: <ul style="list-style-type: none"> Sketch and interpret graphs on whole number grids which represent simple everyday situations. 	Within a range of meaningful contexts students should be able to: <ul style="list-style-type: none"> Plan a statistical investigation arising from the consideration of an issue or an experiment of interest. Collect and display time-series data.
Suggested Learning Outcomes				
<ul style="list-style-type: none"> Estimate the litres of water flowing in a local stream using the flow calculation. Write and solve story problems about increases and decreases in water flow of a local river/stream. 	<ul style="list-style-type: none"> Students will carry out measuring tasks related to fresh water and develop their understanding of the equivalence of units with regard to amount of water, e.g. 1 cubic decimetre of water, 1 litre of water and 1kg of water are all equivalent. While carry out measuring activities with fresh water students will make appropriate conversions for example cm to m. Students will explore the technology used to measure water clarity. 	<ul style="list-style-type: none"> Using topographical maps students will identify the location of relevant waterways in their area. 	<ul style="list-style-type: none"> Students will create appropriate graphs related to freshwater resources, to show amounts of water used for different purposes. 	<ul style="list-style-type: none"> Using water resources as a motivation have students plan a statistical investigation, e.g. the effect of rainfall in the clarity in a local waterway, the number of invertebrates found along the stream bank compared to the open water flow, compare the clarity, temperature and invertebrate index in a open waterway to a bush waterway. Students will collect data over time with regard to water, e.g. rainfall and water clarity, water temperature and air temperature.

Inquiry and Action Learning Process

Issues that arise in environmental education are suited to inquiry investigations as outlined in the following diagram. Using an inquiry process also develops essential skills as students become involved in finding information, examining different points of view and problem solving for environmental improvement. Support and guidance is very important for the success of this process. Development of skills involved in identifying, investigating, and problem solving environmental issues is one of the key aims of environmental education and leads very well into the other aims of awareness and sensitivity, knowledge and understanding, attitudes and values, and participation and action. If you decide to use this process students may be able to use the information in this unit to help them with their investigation. Alternatively teachers may choose to select particular activities that will support students learning.

Deciding/Identifying issues

- Why is this issue important to me and what do I think the issue is?
- What do I already know about this issue?

Reflection / Evaluation

- How do I feel about my issue now?
- Am I happy with the results?
- What did I learn?
- Would I change anything?
- Is there anything else that I need to do?

Analysing and understanding the topic

- Defining the issue - What is the issue? Find out who it involves, when and where it occurs, how it happens.
- What resources will be required to do this? - Print, non-print, people, electronic?

Taking Action and Presenting Information

- How will I carry out action safely?
- What resources will I need?
- Who needs to be informed?
- What is the best way of conveying this information?

Deciding on Action

- What have I found out?
- What will I do with this information?
- Can I change the situation?
- What sort of change will it be?
- Is there some action that I can carry out?
- What will it be?

School Water Supplies - Inquiry Process Example

In recent times a number of schools around New Zealand have had their water supply condemned due to bacterial contamination of groundwater. Using the inquiry process students investigate why and how the water has become contaminated.

1. Have students develop a 'concerns' box, where each student writes the thing that most concerns him/her about their water and places it in the box.
2. Gather these responses and initially investigate the most common concern.
3. Brainstorm what the students know about their concern. Make a list of things that students still need to find out about their concern. For example if their concern is not being able to drink the water, do they know why they can't drink the water or do they need to find out?
4. Help students to develop a list of possible places and sources that they can use to find the answers to their questions. For example they might choose to contact the Public Health Officer who tested their water to ask why they can no longer drink it. They might use the internet to research the conditions that can lead to groundwater aquifer contamination.
5. Gather the information together and discuss what the students have found out and what they want to do as a result of having this new information. Students need to decide if there is any action that they can and would like to take to help reduce or rectify the problem. This might be writing an article for the a local newsletter telling the local community the results of their investigations.
6. Carry out the action that students have chosen, write the letter, talk to the local community etc.
7. Have students reflect on the process and what has happened. Do they feel happy with what has happened? Do they need to look at something again. Is there another concern that they need to investigate?

This is not a comprehensive example. The inquiry process requires students to follow their own questions and investigations. The information in this unit can support this but it is not intended to replace the inquiry process.

Action Planner – for students to use when planning actions

Throughout this unit you will see ACTION boxes that highlight things you and your students could be doing to help protect, enhance or conserve the environment. Environmental action is described as education *for* the environment. This Action Planner is to help students think about what they might want to achieve from taking action and the processes that they go through. For more ideas refer to *Guidelines for Environmental Education in New Zealand Schools*. Every school should have at least one copy of this.

