

# RAIN TO RUNOFF CURRICULUM CONNECTIONS

Curriculum Links (Primary 2007 Revised)			
Grade	Strand	Overall Expectation	Specific Expectation
2	<b>Understanding Life Systems:</b> Growth and Changes in Animals	Assess ways in which Humans have an impact on society and the environment, and ways in which humans have an impact upon animals and places where they live.	<b>1.2:</b> Identify Positive and Negative Impacts of Human activity on Animals and where they live
	<b>Understanding matter and Energy:</b> Properties of Liquids and Solids	Assess ways in which the uses of liquids and solids have an impact on Society and the Environment	<b>1.1:</b> Assess the ways in which liquids and solids in the home are used, stored, and disposed of in terms of the effect on personal safety and the health of the environment, and suggest responsible actions to replace inappropriate practices
	<b>Understanding Earth and Space Systems:</b> Air and Water in the Environment	Assess ways in which Humans have an impact on the Quality of air and water, and ways in which the quality of air and water has an impact on living things	<b>1.1:</b> Assess the impact of human activities on air and water in the environment, taking different points of view into consideration (e.g., the point of view of parents, children, other community members), and plan a course of action to help keep the air and water in the local community clean
			<b>1.2:</b> Assess personal and family uses of water as responsible/efficient or wasteful, and create a plan to reduce the amount of water used, where possible
			<b>2.5:</b> Investigate water in the natural environment (e.g., observe and measure precipitation; observe and record cloud formations; observe water flow and describe where it goes; observe a puddle over time and record observations)
	Demonstrate an understanding of the ways in which air and water are used by living things to help them meet their basic needs	<b>3.6:</b> State reasons why clean water is an increasingly scarce resource in many parts of the world	
3	<b>Understanding Life Systems:</b> Growth and Changes in Plants	Assess ways in which plants have an impact on society and the environment, and ways in which human activity has an impact on plants and plant habitats	<b>1.2:</b> Assess the impact of different human activities on plants, and list personal actions they can engage in to minimize harmful effects and enhance good effects
			<b>3.8:</b> Identify examples of environmental conditions that may threaten plant and animal survival (e.g., extreme heat and cold; floods and/or droughts; changes in habitat because of human activities such as construction, use of gas-powered personal watercraft on lakes)

## Curriculum Links (Junior 2007 Revised)

Grade	Strand	Overall Expectation	Specific Expectation
<b>4</b>	<b>Understanding Life Systems:</b> Habitats and Communities	Analyse the effects of human activities on habitats and communities	<b>1.1:</b> Analyse the positive and negative impacts of human interactions with natural habitats and communities (e.g., human dependence on natural materials), taking different perspectives into account
		Demonstrate an understanding of habitats and communities and the relationships among the plants and animals that live in them	<b>1.2:</b> Identify reasons for the depletion or extinction of a plant or animal species (e.g., hunting, disease, invasive species, changes in or destruction of its habitat), evaluate the impacts on the rest of the natural community, and propose possible actions for preventing such depletions or extinctions from happening
			<b>3.4:</b> Demonstrate an understanding of a community as a group of interacting species sharing a common habitat
<b>5</b>	<b>Understanding Life Systems:</b> Human Organ Systems	Analyse the impact of human activities and technological innovations on human health	<b>1.1:</b> Assess the effects of social and environmental factors on human health, and propose ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial
			<b>1.2:</b> Evaluate the effects, both beneficial and harmful, of various technologies on human body systems, taking different perspectives into account
	<b>Understanding Earth and Space Systems:</b> Conservation of Energy and Resources	Analyse the immediate and long-term effects of energy and resource use on society and the environment, and evaluate options for conserving energy and resources	<b>1.1:</b> Analyse the long-term impacts on society and the environment of human uses of energy and natural resources, and suggest ways to reduce these impacts
<b>6</b>	<b>Understanding Life Systems:</b> Biodiversity	Assess human impacts on biodiversity, and identify ways of preserving biodiversity	<b>1.1:</b> Analyse a local issue related to biodiversity

## Curriculum Links (Intermediate 2007 Revised)

Grade	Strand	Overall Expectation	Specific Expectation
7	<b>Understanding Life Systems:</b> Interactions in the Environment	Assess the impacts of human activities and technologies on the environment, and evaluate ways of controlling these impacts	<b>1.1:</b> Assess the impact of selected technologies on the environment
		Investigate interactions within the environment, and identify factors that affect the balance between different components of an ecosystem	<b>1.2:</b> Analyse the costs and benefits of selected strategies for protecting the environment
		Demonstrate an understanding of interactions between and among biotic and abiotic elements in the environment	<b>3.8:</b> Describe ways in which human activities and technologies alter balances and interactions in the environment
	<b>Understanding Structures and Mechanisms:</b> Form and Function	Analyse personal, social, economic, and environmental factors that need to be considered in designing and building structures and devices	<b>1.1:</b> Evaluate the importance for individuals, society, the economy, and the environment of factors that should be considered in designing and building structures and devices to meet specific needs
	<b>Understanding Matter and Energy:</b> Pure Substances and mixtures	Evaluate the social and environmental impacts of the use and disposal of pure substances and mixtures	<b>1.1:</b> Assess positive and negative environmental impacts related to the disposal of pure substances (e.g., uranium) and mixtures (e.g., paint, sewage)
			<b>1.2:</b> Assess the impact on society and the environment of different industrial methods of separating mixtures and solutions
<b>3.5:</b> Describe the processes (e.g., evaporation, sifting, filtration, distillation, magnetism) used to separate mixtures or solutions into their components, and identify some industrial applications of these processes			

# Curriculum Links (Intermediate 2007 Revised)

Grade	Strand	Overall Expectation	Specific Expectation
8	<b>Understanding Structures and mechanisms:</b> Systems in Action	Assess the personal, social, and/or environmental impacts of a system, and evaluate improvements to a system and/or alternative ways of meeting the same needs	<b>1.2:</b> Assess the impact on individuals, society, and the environment of alternative ways of meeting needs that are currently met by existing systems, taking different points of view into consideration
		Investigate a working system and the ways in which components of the system contribute to its desired function	<b>3.3:</b> Identify the various processes and components of a system
		Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation	<b>3.9:</b> Identify social factors that influence the evolution of a system (e.g., growing concern over the amount of waste creates a need for recycling centres, and the recycling centres must grow as population and waste increase)
	<b>Understanding Matter and Energy:</b> Fluids	Analyze how the properties of fluids are used in various technologies, and assess the impact of these technologies on society and the environment	<b>1.2:</b> Assess the impact of fluid spills on society and the environment, including the cost of the cleanup and the effort involved
	<b>Understanding Earth and Space Systems:</b> Water Systems	Assess the impact of human activities and technologies on the sustainability of water resources	<b>1.3:</b> Assess the impact on local and global water systems of a scientific discovery or technological innovation
		Investigate factors that affect local water quality	<b>3.2:</b> Demonstrate an understanding of the watershed as a fundamental geographic unit, and explain how it relates to water management and planning
		Demonstrate an understanding of the characteristics of the earth's water systems and the influence of water systems on a specific region	<b>3.3:</b> Explain how human and natural factors cause changes in the water table

# Curriculum Links (High School 2008 Revised)

Grade	Strand	Overall Expectation	Specific Expectation
<p style="font-size: 2em; font-weight: bold; margin: 0;">9</p> <p style="margin: 0;">Academic</p>	<p><b>Biology:</b> Sustainable Ecosystems</p>	<p>Assess the impact of human activities on the sustainability of terrestrial and/or aquatic ecosystems, and evaluate the effectiveness of courses of action intended to remedy or mitigate negative impacts</p>	<p><b>B1.1:</b> Impact of a factor related to human activity on Sustainability Aquatic or terrestrial Ecosystems, <b>B1.2:</b> Effectiveness of Government Initiatives on sustainability of Aquatic or terrestrial Ecosystems</p>
		<p>Investigate factors related to human activity that affect terrestrial and aquatic ecosystems, and explain how they affect the sustainability of these ecosystems</p>	<p><b>B2.4:</b> Investigate how human activity affects water quality, <b>b2.5:</b> Interpret data on the effects of human activity on terrestrial and aquatic ecosystems</p>
		<p>Demonstrate an understanding of the dynamic nature of ecosystems, particularly in terms of ecological balance and the impact of human activity on the sustainability of terrestrial and aquatic ecosystems</p>	<p><b>B3.1:</b> Analyze biotic and abiotic characteristics of sustainable and unsustainable terrestrial and aquatic ecosystems, <b>b3.5:</b> Identify factors related to human activity that have an impact on ecosystems</p>
<p style="font-size: 2em; font-weight: bold; margin: 0;">9</p> <p style="margin: 0;">Applied</p>	<p><b>Biology:</b> Sustainable Ecosystems and Human Activity</p>	<p>Analyse the impact of human activity on terrestrial or aquatic ecosystems, and assess the effectiveness of selected initiatives related to environmental sustainability</p>	<p><b>B1.1:</b> Impact of human activity on Sustainability Aquatic or terrestrial Ecosystems, <b>B1.2:</b> Effectiveness of a local Initiative of personal interest on sustainability of Aquatic or terrestrial Ecosystems</p>
		<p>Investigate some factors related to human activity that affect terrestrial or aquatic ecosystems, and describe the consequences that these factors have for the sustainability of these ecosystems</p>	<p><b>B2.2:</b> Investigate the characteristics and interactions of biotic and abiotic components of a terrestrial or aquatic ecosystem, and describe the importance of these components in a sustainable ecosystem, <b>B2.3:</b> Inquire into how a factor related to human activity affects a terrestrial or aquatic ecosystem, <b>B2.5:</b> Analyse the effects of human activity on terrestrial and aquatic ecosystems</p>
		<p>Demonstrate an understanding of characteristics of terrestrial and aquatic ecosystems, the interdependence within and between ecosystems, and the impact humans have on the sustainability of these ecosystems</p>	<p><b>B3.1:</b> Describe the interdependence of components within a terrestrial and aquatic ecosystem, <b>b3.5:</b> Identify factors related to human activity that have an impact on ecosystems</p>

## Curriculum Links (High School 2008 Revised)

Grade	Strand	Overall Expectation	Specific Expectation
<b>10</b> Academic	<b>Chemistry:</b> Chemical Reactions	Analyse a variety of safety and environmental issues associated with chemical reactions, including the ways in which chemical reactions can be applied to address environmental challenges	<b>C1.1:</b> Analyse various safety and environmental issues associated with chemical reactions and their reactants and/or product(s)
			<b>C1.2:</b> Analyse how an understanding of the properties of chemical substances and their reactions can be applied to solve environmental challenges
<b>10</b> Applied	<b>Chemistry:</b> Reactions and Their Practical Applications	Analyse how chemical reactions are employed in common products and processes, and assess the safety and environmental hazards associated with them	<b>C1.2:</b> Identify practical applications of chemical reactions in a particular profession and assess the associated hazards, including hazards associated with the handling and disposal of chemicals