

Grade Level/Course: 4 th Grade		Concepts: Waterways	
Area of Emphasis/Topic/Theme/Unit: Waterway ecosystems: properties of water, water conservation, water pollution (turbidity, excess nutrients), fish		Suggested Teaching Time Frame: 1 quarter, preferably Spring	
BIG IDEA – by the end of this course of study students will: Describe characteristics of a healthy waterway ecosystem, compare healthy and unhealthy waterway ecosystems, recognize the need for water conservation and propose ways of water conservation, define turbidity and excess nutrients in terms of water pollution and give examples of ways to decrease these forms of water pollution, recognize a fish’s niche in a waterway habitat.			
What?	How will you know?	How will you get there?	
Standards/Benchmarks	Assessment of Standards Assessed	Learning Strategies/Activities	Resources
<p><i>Water, Water Everywhere?:</i> Environmental: A2, A3, A4, B2, B3, B5, B6, C1, C2, C3 Science: 4.E1.10, 4.G1.2, 4.H1.1, 4.H1.2, 4.H1.3</p> <p><i>Stream Velocity:</i> Environmental: A3, A4, B1, B2, B3, B5, B6, C1, C2, C3 Science: 4.C1.1, 4.D3.7, 4.D3.8, 4.F2.4</p> <p><i>Nutrient Pollution:</i> Environmental: A3, A4, B1, B2, B3, B5, B6, C1, C2, C3 Science: 4.D1.4, 4.E1.3, 4.E1.11, 4.F2.4, 4.H1.1</p> <p><i>Water Turbidity:</i> Environmental: A3, A4, B1, B2, B3, B5, B6, C1, C2, C3 Science: 4.C1.1, 4.D1.4, 4.E1.3, 4.E1.11, 4.F2.4, 4.H1.1</p> <p><i>Fish:</i> Environmental: A3, B1, B6, C2, C3 Science: 4.C1.1, 4.F1.2, 4.F1.9, 4.F2.4, 4.F2.5</p>	<p><i>Water, Water Everywhere?:</i> Family water usage audit</p> <p><i>Stream Velocity:</i> Analysis of stream velocity measurement in Sheldon Nature Area and completion of activity follow-up sheet</p> <p><i>Nutrient Pollution:</i> Observation, analysis and completion of nutrient pollution simulation experiment and activity follow-up sheet</p> <p><i>Water Turbidity:</i> Water turbidity measurements and analysis, completion of water turbidity measurement activity follow-up sheet</p> <p><i>Fish:</i> Interactive computer fish survival activity and completion of follow-up activity sheet.</p>	<p><i>Water, Water Everywhere?:</i> Water availability estimation</p> <p><i>Stream Velocity:</i> Stream velocity measurement</p> <p><i>Nutrient Pollution:</i> Creation of nutrient pollution flow chart, nutrient pollution simulation experiment</p> <p><i>Water Turbidity:</i> Creation of turbidity sources list</p> <p><i>Fish:</i> Create a fish activity</p>	<p><i>Water, Water Everywhere?:</i> <u>Always a River</u> pg 140, <u>Adopt a Stream</u> pg 63</p> <p><i>Stream Velocity:</i> <u>Always a River</u> pg 114, <u>Adopt a Stream</u> pg 90</p> <p><i>Nutrient Pollution:</i> <u>Project Wild Aquatic</u> pg 130</p> <p><i>Water Turbidity:</i> <u>Adopt a Stream</u> pg 13, <u>Rivers Earth Science</u> pgs 126-135</p> <p><i>Fish:</i> <u>Project Wild Aquatic</u> pg 88, Shedd Aquarium website</p>
Area of Emphasis: Waterway Ecosystems		Big Idea #: Waterways	