



WATER WORKS

TRAINER'S GUIDE

Water Works

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Objective: Children will investigate how water moves around various shapes, adding to their understanding that water flows differently according to its surroundings.

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Objective: Children will use a model to explore capillary action, and how it facilitates the movement of water from the roots, to the stem, and the leaves of a plant.

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APEX Science Curriculum Overview



Standards and Objectives: Water Works

	National Science Education Standards	Objectives
Water on the Move	<p><i>Abilities necessary to do scientific inquiry</i></p> <ul style="list-style-type: none"> Observe and record the patterns formed in water as it flows past various shapes. Use observations to formulate explanations. <p><i>Properties of objects and materials</i></p> <ul style="list-style-type: none"> Water has observable and measurable properties. The fluid nature of liquid water has observable properties such as laminar and turbulent flow. 	Children will investigate how water moves around various shapes, adding to their understanding that water flows differently according to its surroundings.
A Chilly Situation	<p><i>Abilities necessary to do scientific inquiry</i></p> <ul style="list-style-type: none"> Use a thermometer to gather data. Use data to formulate explanations. <p><i>Properties of objects and materials</i></p> <ul style="list-style-type: none"> Water has observable and measurable properties. Temperature and states of matter can affect physical properties. 	Children will explore how temperature affects the speed at which water molecules move.
A Penny for Your Drops	<p><i>Abilities necessary to do scientific inquiry</i></p> <ul style="list-style-type: none"> Use measuring tools, such as a dropper to collect data. Use data to formulate explanations. <p><i>Properties of objects and materials</i></p> <ul style="list-style-type: none"> Water has observable and measurable properties. Added substances can affect the physical properties of water. <p><i>Types of resources</i></p> <ul style="list-style-type: none"> Water is a necessary limited resource necessary to meet the needs of populations. <p><i>Understanding about science and technology</i></p> <ul style="list-style-type: none"> Water that is free of pollutants can become a limited resource through the actions of careless or uninformed human activities. Pollution can influence the health, survival, or activities of organisms. 	Children will explore how adding soap affects some of water’s physical properties, and consider how soap and other substances may have detrimental environmental effects.
Moving Up	<p><i>Abilities necessary to do scientific inquiry</i></p> <ul style="list-style-type: none"> Observe and record the patterns formed in water as it flows through materials Use data to formulate explanations. <p><i>Characteristics of organisms</i></p> <ul style="list-style-type: none"> Plants have structures that transport water. Water is necessary for plant survival. <p><i>Properties of Earth materials</i></p> <ul style="list-style-type: none"> Water has observable and measurable properties. The fluid nature of liquid water has observable properties capillary action. 	Children will use a model to explore capillary action, and how it facilitates the movement of water from the roots, to the stem, and finally the leaves of a plant.