



# WHAT'S SO SPECIAL ABOUT WATER: OVERVIEW

## OVERVIEW

Through hands-on science activities, learners acquire science-inquiry skills as they form hypotheses and test those hypotheses by asking questions, which leads them to more testing rather than seeking just one correct answer. At the same time youth will understand how water has different properties and characteristics. Important in this series is a tip sheet, "Science with Kids, Science by Kids," which encourages the helper to coach learners to explore science with hands-on activities rather than just explaining what is happening with the water. A visual with three science inquiry models is part of this tip sheet.

Included in this series are four activity plans that can be used as stand-alone activities or as part of a series. The "What's So Special About Water" activity plans in this series are:

- Absorption Activity
- Surface Tension Activity
- It's Ice, Water, Steam Activity
- Solubility & Density Activity

The goals and objectives of this series are a blend of the targeted life skills and project skills that complement and support the designated Wisconsin Academic Standards.

## TARGETED LIFE SKILL

In this series of activity plans, the targeted life skill of "Communicating – giving or sharing information and thoughts" was selected from a list of scientific thinking and process skills. (Targeting Life Skills Model, Iowa State University: <http://www.extension.iastate.edu/4H/lifeskills/homepage.html>.)

## PROJECT SKILLS

The project skills vary based on the objectives of each lesson and include:

- Youth create and test possible explanations why some objects repel, while others absorb (Absorption Activity)
- Youth discover chemical and physical properties of water (Surface Tension Activity)
- Youth discover chemical and physical properties of water (It's Ice, Water, Steam Activity)
- Youth discover chemical and physical properties of water (Solubility & Density Activity)

## WISCONSIN STANDARDS

Individual activity plans are intended to complement and support the Wisconsin Science Standards for grade 4 (Wisconsin Department of Public Instruction: <http://dpi.wi.gov/standards/sciintro.html>):

- Science C. 4.2. Use the science content being learned to ask questions, plan investigations, make observations, make predictions, test predictions, and offer explanations. (Supports the Absorption, Surface Tension, and Solubility & Density Activities)
- Science D. 4.3. Understands that substances can exist in different states – solid, liquid, gas. (Supports It's Ice, Water, Steam Activity)

<b>TIME</b>	Each lesson is planned to encompass 10-15 minutes with a total of one hour for the series of four activity plans.
<b>TEACHING TIPS</b>	<p><b>Getting the Most from the Activity Plans</b>  These lesson plans are designed for learners in grades 3-5. The “Additional Web Links” give the helper simple visual understanding of water properties.</p> <p><b>Talking It Over</b>  Questions emerge from the learner as they understand how to ask the broadening questions. The <i>Reflect</i> questions prompt the learner to ask those broadening questions.</p> <p>The <i>Apply</i> questions make the connections between the water experiments and communicating what youth see and observe with other learners. Discussion of these questions leads the learner and helper one step further in understanding why water is so special.</p> <p>Sample questions from the <i>Reflect</i> and <i>Apply</i> levels are included in each activity plan.</p> <p><b>Youth Exploration</b>  Look for ways the learners can share what is happening in their experiments. This allows youth to be the teachers and get further input from their peers for next steps with testing. The learners become the scientists and the helper the facilitator. The “<a href="#">Science with Kids, Science by Kids</a>” tip sheet illustrates techniques for such exploration by the learners.</p>
<b>EVALUATION</b>	<p>Included in this series is “What’s So Special About Water Evaluation Activity, Observation Worksheet, and Summary of Evaluation Data.”</p> <p><b>Life Skills</b>  Evaluation for the life skill of “Communicating by giving or sharing information and thoughts” allows learners to truly experience science inquiry. Their ability to verbalize questions and test the answers to those questions with these water experiments shows that they are beginning to gain the tools for experimenting.</p> <p><b>Indicators</b>  At the completion of this series, learners will demonstrate the following indicators:</p> <ol style="list-style-type: none"> <li>1. The ability to verbally communicate by giving and sharing information and thoughts about the water experiments with each other.</li> <li>2. The ability to verbally communicate by giving and sharing information and thoughts about the water experiments with family or friends.</li> </ol>

