# States of Water Characteristics

**Suggested Curriculum links (Grade 2)**

**Physical Science: Liquids and Solids**

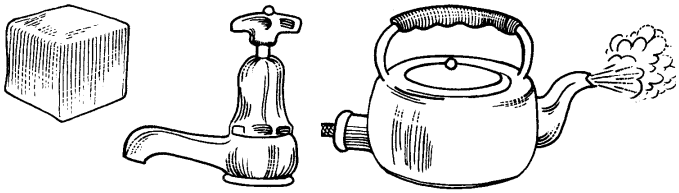
- **103-6** describe the characteristics of the three states of water and predict changes from one state to another
- **100-17** investigate and compare properties of familiar liquids and solids

**Language Arts**

- Students will be expected to use a range of strategies to develop effective writing and media products to enhance their clarity, precision, and effectiveness.

**Materials**

- Cue cards
- Tape
- Electric kettle
- Jar
- Water
- ice



***Overview***

*Water is a great way to explore the three physical states of solid, liquid and gas. In this activity, students brainstorm words to describe water and group words linked with each state.*

**Objectives**

- To identify characteristics of water as a solid, liquid, and gas.
- To group descriptors of water as a solid, liquid, and gas.

**Background**

Water naturally exists in three states throughout the planet. Solid water is in a ice or crystalline composition. This includes snow, hail, and ice. Liquid water freezes to become solid at 0°C.

Water is a liquid when it is between 0-100°C. It is found in rivers, lakes, oceans and even underground. Fog and clouds are liquid water and are made of tiny water droplets.

Water in gaseous form is when the fine particles of water are suspended in air. These particles are invisible to the eye generally. Water changes to a gas when enough heat is applied. We usually see it as steam. To see if there is water in the air, place a glass of ice water on a table and watch water condense from the air onto the glass.

**Procedure**

1. *Introduce/Review the water cycle.*
   Discuss the water cycle and the different states of water. Ask the students to brainstorm where each state of water is found naturally (solid-ice, gas-steam, liquid-water). Discuss how water changes from state to state through evaporating, melting and condensing.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**At the Fluvarium**
Join us for Water states and Wonders! *Students build on their understanding of the three states of water: solid, liquid, and gas, and investigate other interesting properties of this wondrous substance, such as water surface tension. Outdoors, the students gain hands-on experience in the use of thermometers in a practical measurement of air and water.*

2. *Brainstorm about the characteristics of ice, water and water vapour*.
   Show pictures and/or have examples of each water state in class. Have students examine each state brainstorm words that describe or relate each state. Have the class compare each of the states. Are there any words that describe more than one state?
3. *Make a brainstorm map*
   Post pictures of water in each state on a wall. Have the class write words that they brainstormed and/or **Water States Words** onto cue cards. Have the students create a brainstorm map by taping the descriptors around the appropriate picture on the wall.

**Extensions**

- Have the students draw a picture alongside their descriptive words.
- Have the students create individual brainstorm maps.
- Read the one of the suggested books to create discussion.
- Borrow the Fluvarium's *Water, States and Wonders kit* to further explore water.

**Resources**

**Books**

*Water, Water Everywhere*. Overbeck Bix, Cynthia. Sierra Club Books for Children. 1995.

## Water States Words

**Shapeless**

**Clear**

**Hard**

**Wet**

**Drip**

**Boiling**

**Frozen**

**Ice**

**Cloud**

**Rain**

**Lake**

**Snow**

**Fog**

**Moist**

**Crystal-like**

**Flow**

**Fixed-shape**

**Vapour**

**Steam**

**Condensation**

**Evaporation**

**Melting**

**Cold**