

5th Grade - Lesson 1.4

The Water Cycle

NGSS Alignment

Performance Expectations

5-PS1-1: Develop a model to describe that matter is made of particles too small to be seen.

Disciplinary Core Ideas

PS1.A: Structure and Properties of Matter

- Matter of any type can be subdivided into particles that are too small to see but even then the matter still exists and can be detected by other means. (5-PS1-1)

Students place room temperature water in a container covered with plastic wrap with ice on top as a model of the water cycle. Students see water droplets form on the plastic. An explanation is developed that water evaporated and then condensed on the cold portion of the plastic. These phenomena, observations, and explanations help students develop an understanding that matter is made from particles that are too small to be seen.

Science and Engineering Practices

Developing and Using Models

- Develop a model to describe phenomena. (5-PS1-1)

After seeing the water condense, molecular animations are shown to help students understand that tiny invisible particles are interacting in the process of evaporation and condensation.

Crosscutting Concepts

Scale, Proportion, and Quantity

- Natural objects exist from the very small to the immensely large. (5-PS1-1)

Students use molecular-level models to explain how water evaporates and condenses in their model and in the water cycle in the natural world. Students realize that their macroscopic observations are the result of processes at a tiny invisible scale.

Cause and Effect

- Cause and effect relationships are routinely identified, tested, and used to explain change.

Students develop an understanding that evaporating water molecules that cool and condense is the cause of water forming on the underside of the plastic.