

Grade 3 - Unit 4 - Earth's Water

Content Area: **Science**
Course(s): **Science 5, Generic Course**
Time Period: **Marking Period 4**
Length: **6 - 8 weeks**
Status: **Published**

Established Goals/Standards

SCI.3-4.5.1.4.A.2	Use outcomes of investigations to build and refine questions, models, and explanations.
SCI.3-4.5.1.4.A.3	Use scientific facts, measurements, observations, and patterns in nature to build and critique scientific arguments.
SCI.3-4.5.1.4.A.a	Fundamental scientific concepts and principles and the links between them are more useful than discrete facts.
SCI.3-4.5.1.4.A.b	Connections developed between fundamental concepts are used to explain, interpret, build, and refine explanations, models, and theories.
SCI.3-4.5.1.4.A.c	Outcomes of investigations are used to build and refine questions, models, and explanations.
SCI.3-4.5.1.4.B.1	Design and follow simple plans using systematic observations to explore questions and predictions.
SCI.3-4.5.1.4.B.4	Communicate and justify explanations with reasonable and logical arguments.
SCI.3-4.5.1.4.B.a	Building and refining models and explanations requires generation and evaluation of evidence.
SCI.3-4.5.1.4.B.d	Reasoning is used to support scientific conclusions.
SCI.3-4.5.1.4.C.3	Present evidence to interpret and/or predict cause-and-effect outcomes of investigations.
SCI.3-4.5.4.4.G.1	Explain how clouds form.
SCI.3-4.5.4.4.G.2	Observe daily cloud patterns, types of precipitation, and temperature, and categorize the clouds by the conditions that form precipitation.
SCI.3-4.5.4.4.G.3	Trace a path a drop of water might follow through the water cycle.
SCI.3-4.5.4.4.G.4	Model how the properties of water can change as water moves through the water cycle.
SCI.3-4.5.4.4.G.a	Clouds and fog are made of tiny droplets of water and, at times, tiny particles of ice.
SCI.3-4.5.4.4.G.b	Rain, snow, and other forms of precipitation come from clouds; not all clouds produce precipitation.
SCI.3-4.5.4.4.G.c	Most of Earth's surface is covered by water. Water circulates through the crust, oceans, and atmosphere in what is known as the water cycle.
SCI.3-4.5.4.4.G.d	Properties of water depend on where the water is located (oceans, rivers, lakes, underground sources, and glaciers).

Essential Questions

- How can we save and protect water?
- How does drinking water vary?
- How does nature move water?
- How does water pollution move from place to place?

- What can happen to clean water?
- What happens to water in pipes?
- What things in water can be harmful?
- Where are sources of fresh water found?
- Where is water found on Earth and Why is water important?

Enduring Understanding

- As water moves through the water cycle, it changes state as heat energy is added or taken away.
- Materials dissolved or suspended in water may make it unfit to drink.
- Our freshwater supplies come from surface water and ground water.
- The flavor and other properties of drinking water can vary due to the dissolved mineral and chemical content.
- Water must be conserved - and pollution cleaned up and prevented - in order to insure that there is enough safe fresh water for everyone's basic needs.
- Water pollution - caused by agricultural run off, industries, and home septic systems - can be reduced.
- Water pollution that reaches, or is released into, the oceans is dispersed by tides and currents.
- Water pressure allows water to flow through pipes; because water expands as it freezes, pipes can break.
- Water, which covers almost three-fourths of Earth's surface and is essential for sustaining life, is used by people in many ways.

Content

The students will be able to:

- state the percentage of Earth's water that is liquid fresh water
- define natural resource
- list the uses for water
- define matter
- explain the three states of matter
- explain to change the stage of matter you must add or take away heat
- describe the stages of the water cycle
- define and explain the process of desalination
- explain how people in different parts of the world solve the problem of obtaining fresh water
- list different sources of surface and ground water and explain where water is stored and accessed
- define reservoir

- define water pressure
- explain factors that change water pressure as water flows
- describes the steps as water moves from its source to homes
- explain how dissolved minerals found in water affect the taste of water
- define hard, soft, and distilled water
- analyze the tiny living things in air, water, and soil
- describe the steps in the process of treating water to remove germs and bacteria from water
- explain how water becomes polluted and how pollution and a growing demand for water make clean water an increasingly valuable resource
- describe what causes waves, tides, and currents and how such movements of ocean water can carry pollution around the world

Assessment

Resources

- Discovery Works textbook
- ActivBoard flipcharts
- Labs:
 - The Water Planet
 - Disappearing Act
 - The Water Cycle Diagram
 - The Pressure's On
 - Tower Power
 - Water Taste-Test
- Kidspiration
- Unitedstreaming video clips