

Oregon



Agriculture in the
Classroom Foundation

Developed By:

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Summer Ag Institute Lesson Plans

Title of Lesson: Why The Ocean Is Salty

Academic Subject: Science

Theme: Plant Nutrition – Nitrogen, Potassium, and Phosphorous

Grade level: Grade 3

CIM/CAM Standards:

1. Unifying concepts and processes/3rd grade Benchmark/Identify examples of change (5-2).
2. Unifying concepts and processes/3rd grade benchmark/describe how some things change and some things remain the same (5-8).
3. Scientific Inquiry/3rd grade benchmark/ask question about objects, events that are based on observations and can be explored through simple investigations (5-36).
4. Scientific Inquiry/3rd grade benchmark/plan a simple investigation (5-38).
5. Scientific Inquiry/3rd grade benchmark/collect data from an investigation. Use data collected from an investigation to explain the results (5-40).

Learner Objective: (the student will)

1. Use the scientific process to explain why the oceans are salty.

Vocabulary:

1. Salt – a compound found in nature, mineral – not organic or from living things.
2. Potassium – a part of some common salt found in water and ground.
3. Evaporation – process where water/liquid turns to vapor/gas.

Anticipatory Set: Have you ever wondered why the ocean is salty? Or the Great Salt Lake? Why don't rivers and most lakes taste salty? How did the seas get salty?

**Instructional Outline
(Teaching Content)**

Give feedback and guide thoughts of class toward concepts of salt being carried and deposited in ocean by rivers, flowing water.

Explain to class, drawing a picture on board as you go that salt is found naturally in the ground. Show how rain can wash it into a stream and river. Where will it flow? Into a lake or sea eventually. Show how most lakes have a flow in and out. Ask, "Do rivers flow out of the ocean?" "Where does all that water go that flows in, what keeps it from rising?" Picture should show salt in ground, rain and water carrying salt to ocean, and evaporation turning water to vapor and cloud. Guide class to evaporation.

Experiment:

Ask, "Does the salt evaporate?" Guide class to set our salt water in cup to evaporate.

Closure:

Based upon what we now know, will the ocean get more or less salty over time? Why or why not?

What might happen if we replaced salt with sugar, food coloring, oil etc.? Consider trying another substance.

**Strategies
(What to do, explain or have students do)**

Let students brainstorm and share their thoughts and guesses.

Class listens to explanation and draws picture of water cycle including salt in ground. Copy from board into journal.

Class writes prediction in journal whether salt will evaporate or not.

Students measure height of water each day and record results using a chart (in journal).

Students conclude that salt does not evaporate upon observing salt in cup after water evaporates.

Resources:

Student journals/notebooks

Glass or cup

Salt and water (ocean water)

Ruler

Evaluation:

Students should have written in their journal:

- Picture of water cycle, labeling salt, rain, water flow direction, lake, stream, river, ocean, and evaporation.
- A prediction to the experiment (salt will or will not evaporate).
- A chart showing days and height of water.
- Conclusion – salt did not evaporate.
- Response to concluding question: “over time, will the ocean likely become more or less salty?”