Lake Landform

Earth & Space Science | Lesson Guide

Kindergarten

Photo Description

This image shows a calm lake surrounded by trees and land. We can see brown and orange leaves on the trees because it is fall. A large fallen tree branch is resting in the water, and the shoreline has sand and pebbles where the water meets the land.

Scientific Phenomena

Anchoring Phenomenon: Why do trees fall into lakes, and what happens to the land and water where they meet?

This image illustrates how landforms—the natural shapes of Earth's land—interact with water. Trees naturally fall due to wind, age, disease, or erosion. When they fall into water bodies like lakes, they become part of the landscape. The sandy/pebbly shoreline (the edge where land meets water) shows how water and weather continuously shape Earth's surface. Fallen trees slow water movement, provide habitats for aquatic life, and eventually decompose, returning nutrients to the ecosystem. This is a natural cycle that helps ecosystems function.

Core Science Concepts

1. Landforms and Water Bodies
   - Lakes are large areas of water surrounded by land (a type of landform).
   - Shorelines are the edges where water meets land, and they can be made of sand, pebbles, rocks, or soil.

2. Objects and Their Position in Nature
   - Trees and logs are natural objects that can be in different positions—standing, falling, or in water.
   - Objects interact with water and land in the environment.

3. Seasonal Changes
   - Fall brings changes in plants (leaves turn brown and orange, trees lose leaves).
   - These visible changes help us observe and learn about the world around us.

4. Erosion and Natural Change
   - Water and weather slowly change the shape of land over time.
   - Shorelines naturally change as water moves and objects move within it.

> **Pedagogical Tip:**
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> For Kindergarten learners, anchor all observations to what they can directly see, touch, and experience. Use repetitive language and encourage students to use their senses (observe colors, textures, shapes) before introducing abstract concepts like "erosion." Short field walks to local water bodies or water tables in the classroom create powerful concrete experiences that make this image meaningful.

UDL Suggestions:

Multiple Means of Representation: Show this image alongside real-world photos or video clips of local lakes. Use a sensory word bank with pictures (calm, bumpy, smooth, cold, wet) so all learners can describe the water and shore. Multiple Means of Action and Expression: Allow students to show understanding through drawing, building with blocks, or acting out "falling tree" movements rather than requiring verbal explanations only. Multiple Means of Engagement: Connect the lesson to students' personal experiences: "Have you ever seen water? Have you ever played in sand?"

Discussion Questions

1. What do you notice about the trees in this picture? (Bloom's: Remember | DOK: 1)
2. Why do you think the big tree fell into the water? (Bloom's: Analyze | DOK: 2)
3. How is the sandy shore different from the water? (Bloom's: Compare | DOK: 2)
4. What do you think lives in or near this lake, and why would they want to live there? (Bloom's: Evaluate | DOK: 3)

Extension Activities

1. Water Table Exploration
   Set up a water table with sand, pebbles, sticks, and containers of water. Let students build their own shorelines, place fallen "trees" (sticks) in the water, and observe how water interacts with land. Ask: "Does the sand stay still or does it move?"

2. Seasons Tree Collage
   Display this image and have students create a fall tree using brown, orange, and yellow paper or leaves. Compare their trees to trees outside the window. Discuss what happened to the leaves and why.

3. Nature Walk and Observation Sketch
   Take students on a short walk to a local park, pond, or stream (if available). Have them observe the shoreline, fallen branches, trees, and water. Return to class and draw or paint what they observed. Create a class "Nature Book" with their pictures.

NGSS Connections

Grade Band: K–2

Relevant Performance Expectation:
- K-ESS2-1: Use and share observations of local weather conditions to describe patterns over time.
- K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals and the places they live.

Disciplinary Core Ideas:
- K-ESS2.A Earth's materials (land, rocks, water) are all around us.
- K-ESS2.B Plants and animals depend on water, air, and land to grow and survive.

Crosscutting Concepts:
- Patterns Patterns in nature (seasons, water features, fallen trees) repeat and can be observed.
- Systems and System Models A lake is a system with living and nonliving parts that interact.

Science Vocabulary

* Lake: A large body of water surrounded by land.
* Shoreline: The edge where water meets the land.
* Landform: A natural shape or feature of Earth's land, like a lake, hill, or valley.
* Fall (season): The time of year when leaves change color and drop from trees; also called autumn.
* Erosion: The slow wearing away of land by wind, water, and weather.

External Resources

Children's Books:
- A Tree Is Nice by Janice May Udry (celebrates trees in all seasons)
- Come On, Rain! by Karen Hesse (explores water and weather)
- Seasons by Manya Stojic (observing seasonal changes in nature)

YouTube Videos:
- "What is a Landform? | Landforms for Kids" — A simple, colorful overview of lakes, mountains, and valleys. https://www.youtube.com/watch?v=nrjBs7Dz1d8
- "The Water Cycle for Kids" — Explains how water moves in nature and why lakes exist. https://www.youtube.com/watch?v=Bw4UZp6xOAw

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Teacher Tip: This image is rich with fall and water science concepts. Use it as a springboard for sensory exploration, seasonal observation, and outdoor discovery. Kindergarteners learn best through hands-on play—water tables, nature walks, and open-ended art activities will deepen their understanding far more than direct instruction alone.