

MYSTERY OF THE BEACH FIND

GRADES: 4-5



CLASSROOM BASED ACTIVITY



1-2 CLASS PERIODS

FOCUS: Observation, critical thinking, inference and creativity



MATERIALS

- “Mystery Beach Find” photos or real objects (shells, bottle caps, driftwood, nurdles, etc.)
- Beach Find Clue Card worksheet (for recording observations, hypotheses, and final ID)
- Magnifying glasses (optional)
- Chart paper or whiteboard
- Access to research materials (books, internet, classroom resources)

RESOURCES

- Harte Research Institute Beachcombing YouTube Playlist
- Harte Research Institute Facebook: Beach Finds Friday
- NOAA Marine Debris Program Education Resources
- Marine Debris Tracker App (optional digital extension)

Lesson Overview

Students become Beachcomber Detectives investigating mystery objects that have washed ashore. Using observation, questioning, and research, they identify what each item is, where it came from, and what story it tells about our ocean. The lesson encourages students to think like scientists – collecting clues, forming hypotheses, and backing up ideas with evidence – while sparking imagination and creativity.



Lesson Objectives

Students will:

- Use observation and reasoning to analyze unknown objects.
- Make inferences about an object’s origin, material, and journey.
- Communicate findings using evidence and scientific vocabulary.
- Connect beach finds to environmental issues such as marine debris and ocean currents.

Background for Teachers

This activity mirrors the inquiry skills real scientists use during field studies. Beachcombing items—like shells, sea beans, plastics, or driftwood—tell stories about the ocean’s interconnected systems and human impacts. Students apply both logic and creativity to uncover those stories.

Optional pre-lesson tie-in: Show a short clip from the Harte Research Institute Beachcombing YouTube Playlist to introduce real beach finds.

Procedure

Day 1 – The Investigation

1. Hook (10 min) – Show a few photos of unusual beach finds. Ask:
2. “What clues could help us figure out what this is and where it came from?”
3. Observation (15 min) – Give each student or group a mystery find and a Clue Card worksheet.
 - Students record what they see, feel, and smell (if applicable).
 - They sketch the object and list any markings, colors, or textures.
4. Questioning (10 min) – Students write three “detective questions” about their object (e.g., “What is it made of?” “How far did it travel?” “Was it once alive?”).
5. Hypothesis (10 min) – Students make an educated guess about what their find might be and how it ended up on the beach.
- 6.

Day 2 – The Reveal and Reflection

5. Research (15–20 min) – Using books, videos, or the internet, students research their item and find supporting evidence for their hypothesis.
6. The Big Reveal (10 min) – Share real answers (teacher reveals or students look up in a “Beachcombing Field Guide”).
7. Reflection (15 min) – Students discuss:
 - What clues helped the most?
 - What surprised them?
 - How can learning from beach finds help protect our oceans?

Get Involved!

- Observation detail and effort on Clue Card
- Logical reasoning and use of evidence
- Participation in discussion
- Creativity and curiosity in final presentation

Optional: Students can turn their “Mystery Find” into a short article for The Daily Drift!

Extension Ideas

- Art Connection: Create “Beach Find Trading Cards” for each mystery object.
- Writing Extension: Turn their discovery into a Daily Drift mini-feature.
- STEM Extension: Map the journey of an object across ocean currents.

TEKS Connections

Science

4.3(A-C), 5.3(A-C)

Uses observation, investigation, and reasoning to identify unknown materials.

4.7(C), 5.7(C)

Examines processes that shape Earth's surface (waves, tides, currents).

ELAR

4.11-5.13

Plans, drafts, and presents information using evidence and research.

Social Studies

4.6-5.6

Identifies how people adapt to and modify coastal environments.



plastic float



sand dollar



pen shells



lightning whelk egg casing



clearnose skate egg casing



bottle caps

BEACH FIND – CLUE CARD

Student Activity – Worksheet

Name: _____ Date: _____

First Impressions

Where did you find it? (Describe the location or type of area.)

What does it look like?

Hard	Soft	Rough	Smooth	Shiny
Dull	Natural	Man-Made	Round	Not sure

Draw your mystery beach find:
(Include details like color, size, texture)

Detective Questions

What do you wonder about your beach find?

Your Best Guess

What do you think this object is?

Where do you think it came from?

How do you think it got to the beach?

Research & Evidence

Use books, videos, or the internet to find clues.

What did you discover about your object? _____

What evidence supports your guess? _____

The Story of My Beach Find

Now that you've solved the mystery, write a short news headline or story summary.

Headline:

Summary (2-3 sentences):
