3 | Beaches Over Time

Developmental Modifications: Focus on “trash timeline” as age appropriate.

**summary**

Students use their senses to discover what is at the beach, read a poem to discover how the beach might have changed over time and discuss what makes the Great Lakes shoreline an important place.

**objectives**

- Use senses to make observations at the beach.
- Differentiate between natural and human-made objects.
- Discuss historical differences in beach use over time.
- Discuss the importance of the Great Lakes to humans over time.

**prerequisite**

None, but this activity can be done with activities from the Human Communities units: Litter Tag, Garbage Investigation, and Adopt-a-Beach™

**vocabulary**

*Vessel*: boat  
*Algae*: a type of plant that lives in water  
*Pier*: a platform where boats are tied up  
*Haven*: a safe place  
*Mussel*: a mollusk with a hinged double shell; Great Lakes examples include the fingernail clam, the invasive zebra and quagga mussels

**setting**

OUTDOORS

outdoors, at a beach

**subjects**

Biology, Environmental Science, Social Studies

**standards**

This Great Lakes in My World activity is aligned to the Common Core State Standards and to state learning standards in:

- Illinois  
- Indiana  
- Michigan  
- Minnesota  
- New York  
- Ohio  
- Pennsylvania  
- Wisconsin

This alignment is available on your Great Lakes in My World CD in the “Standards” folder and on-line at http://www.greatlakes.org/GLiMWstandards.

**materials**

- Journals  
- Pencils  
- Clipboards  
- Garbage bags and gloves (optional)
background

The Great Lakes shoreline has seen many changes over time. During a beach visit, students will see a “snapshot” of the beach at a specific moment. During this activity, they will compare what they currently see with what might have been seen at earlier points in time. This will enable students to imagine a historical context and gain a new perspective for the beach.

A brief history of some commonly found garbage items is listed in this activity. Older students will better understand this timeline. For younger students, focus more on discussing the poem and the difference between natural and human-made objects. See “Trash Timeline” on the compact disc for an expanded version of the history of garbage, or go to BFI-Kids Trash Timeline:

http://www.bfi-salinas.com/kids_trash_timeline_frames.cfm

resources

BFI-Kids Trash Timeline
http://www.bfi-salinas.com/kids_trash_timeline_frames.cfm

A Timeline of Soft Drink History
http://inventors.about.com/library/weekly/aa091699.htm

A History of Plastics

procedure

1. Have students sit in a circle at the beach or near the lake and close their eyes. Direct them to use their senses of hearing and smell to take in all the information they can about where they are. Tell them they will have their eyes closed for 30 (or more) seconds. After students open their eyes, they should share what they heard and smelled.
2. Ask what kind of feelings students had while they had their eyes closed. Older students may be more comfortable recording their answers, not sharing them aloud. Some answers may include: peaceful, calm, relaxed, or anxious, depending on the student’s past experiences with the Great Lakes.
3. Now ask students how what they heard and smelled might have changed from 300 years ago. Ask them what would have been or lived here long ago. Depending on where you are, things may or may not have changed significantly. However, some areas of the shoreline have been reconstructed so that there are now cities. Many of the wetlands that were once here have been removed during development of the shoreline. Would people have felt the same way 300 years ago? Possibly. Answers will vary.
4. Read the poem Beaches Over Time. This can also be read prior to the visit, if it is easier for students to focus in the classroom. Talk about the things mentioned in the poem and tell students they can look for many of these things on the beach. Now the students will be using observation to discover what is on the beach and reflect on how it might have changed over time.
5. Students take 15 minutes, either on their own, or with a partner, to walk around the beach making observations. Students make a list of what they see, and use symbols to indicate whether items are natural or human-made. While they are walking, have them think about whether these same objects would have been here long ago. Younger students can make mental, instead of written, notes about what they see and make the list as a class.
6. Suggestion: Bring garbage bags and gloves to clean up the garbage that is found on the beach. It can be used for the Garbage Investigation activity in the Human Communities unit.
wrap-up

Bring students back together for a discussion.
1. Students share some of the items on their list. Items might include feathers, sand, rocks, sticks, cigarette filters, plastic bottles and aluminum cans.
2. Which of these items is natural and which is human-made? Separate the items with the students, or in small groups. Discuss how different types of garbage indicate different types activities at the beach including picnics, fishing and playing.

Caution: Only adults should handle sharp objects.
Everyone should wear gloves when touching garbage.

3. Discuss which objects students found that were mentioned in the poem. How do students think the Great Lakes have changed over time? How were they special for people in the past? How are they special for people now?

For older students (grades 3-4)
4. What is here that might not have been here 300 years ago?
   Generally, more human made garbage: cigarette filters, aluminum drink cans, plastic items, fast food containers.
5. What is not here that might have been here 300 years ago? Goods and containers from shipwrecks, remains of a campfire or other evidence of people camping there, such as bones or shells, Native American fishing nets or boats.
6. What makes the beach a unique and important place for us now? Drinking water, beauty, animals and plants that depend on the Great Lakes, transportation, recreation.
7. What might have made it a unique and important place for others long ago? Many of the same reasons, but for different lifestyles.
8. How might people long ago have viewed the Great Lakes differently from how we view them now? They might have seen them as more of a food source than we do today. They might have viewed them as bigger since they did not have aerial or satellite photos. Answers will vary.
9. What can students do to keep the beach healthy for the future? Keep garbage off the beaches, educate others about what a special place we live near, stay informed of changes in the community that might harm the beaches, take appropriate action if the beach or other parts of the shoreline are threatened.

assessment

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Beaches Over Time

My friend and I went To the beach today, To run around In the sand and play.

We jumped in the waves That lapped on the shore, And dug in the sand To make castles galore.

I found strings of Algae, shiny and green, To border my castle That sheltered my queen.

Fingernail clam shells Made windows and doors, And small, rounded pebbles Tiled the floors.

As I looked out For treasures washed on the shore, I found that the beach Was hiding much more.

Bubble gum wrappers And cans of soda pop Told me that others Had sat in this spot.

That was not long Before I came here today But what about kids Who came long ago to play?

Would a Native American Have found here instead Fishing nets floating In green algae beds?

Were old fire rings And birch bark canoes Left by hunters Of the water blue?

Would a child of Settlers living here Have witnessed ships Sailing from the pier?

And if I dove now Into the water deep, Would I find a ship On the bottom, asleep?

A large vessel that Carried spices and tea That sank in the stormy Freshwater sea?

Now it might rest Not far from my fort, A haven where fish And mussels cavort.

This beach could be Full of stories to tell, Like the pearly colors Inside of a shell.

If I let my mind wander Beyond my sand castle gate, I might hear the tale Of old times by this lake.

Author: Anne Richardson
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[1] What did you find at the beach? Make a mark next to the natural objects.

[2] Draw a picture of one item you found. Label it. Is it a natural object or did humans make it?

[3] What made the Great Lakes a special and important place for people long ago?

[4] What makes the Great Lakes a special place for you now?