

ROCKY SHORE HABITAT (LESSON 14)

The Bigelow Laboratory for Ocean Sciences in West Boothbay Harbor, Maine has included a section in their website that helps users to understand Maine's Marine Habitat.

1. Boot up your computer and type www.bigelow.org
2. Click on "Education" . . . 3. Click on "Online Resources" near the bottom of the left hand column
4. Click on "Maine Intertidal Zone Investigation" (MITZI)
5. Click on "next" at the top right corner of the page. . . 6. You are at "How to Navigate this Site"
7. Click on the hermit crab image at the left of your screen. The crab's name is _____.

8. Click on an "arrow". You should be back at "How to Navigate this Site". Spend some time reading how to navigate the site. Be sure to use the "Next" and "Back" arrows so you won't get "bumped out" of the site.

9. Click "Back arrow" to find "Did You Know?" Fill in the blanks.

In Maine, _____ people live in _____ coastal towns.

Maine's coastal wetlands support a _____ - _____ dollar commercial and recreational _____, _____, and _____ industry.

Shoreline areas are the single most important resource for _____ and _____ industry.

10. Click on the "Site Map" at the bottom of the page. The site map shows what is available in MITZI.

11. Click on "General Information". The following fill-in-the-blanks or questions are in the order of the 16 photos located here.

Click "Next" or "Back" to navigate from photo to photo, or click on a photo number.

Photo 1: If you lived in the rocky shore habitat, you would have to be able to find _____, protect yourself from _____ and breathe both _____ and out of _____. Maine's rocky shores are home to a large _____ of plants and animals.

Photo 2: The sea level or land level rises and falls over long periods of time due to _____

Click on "Site Map" at the bottom of the page. Click on "Glossary". Click on the letter "B".

Using the glossary section of the website, find and write down the definition of Bathymetry.

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Bathymetry means _____

(HINT: As you look at the diagrams in the next photos, it might help you to try to image the earth as being inside of a big water bubble or water balloon. Imagine that as the earth goes through its daily rotation it is spinning on its axis inside the water bubble.)

Photo 3: The tides that occur on the new moon and full moon are called _____ tides. The tides that occur on the 1st quarter moon and the 3rd quarter moon are called the _____ tides. The gravitational pull of the _____ and the _____ and the _____ of the earth combine to produce two bulges of water.

Look at the diagram. Notice the position of the earth, sun and moon in the New Moon (Spring Tide), First Quarter (Neap Tide), Full Moon (Spring Tide), and Third Quarter (Neap Tide) phases.

The **Spring Tide** water bulges are a little bigger than the **Neap Tide** water bulges. The **Spring Tides** are higher tides than the **Neap Tides**. Look again at the positions of the earth, sun, and moon. What do you think might cause the **Spring Tide** water bulges to be bigger than the **Neap Tide** water bulges?

Photo 4: Water is held on to the earth's surface by the _____ of the earth but the gravitational forces of the sun and moon cause the ocean water to pull out from the earth as shown in the picture.

Photo 5: Two tide bulges occur on the earth; one where the gravitational pull is the strongest and directly opposite where the gravitational pull is the _____

Photo 6: Many factors affect the tides. Coastal areas have one of 3 typed of tides:

Diurnal tides mean one _____ and one _____

Semidiurnal tides mean _____

Mixed tides which means two high tides and two low tides, but different _____ levels

Photo 7: There are _____ acres of Rocky Shore Habitat. Most of the rocky shore is located in the _____ region. This area provides a habitat for many. The Rocky shore provides _____ for seaweeds and _____ for marine life, habitat and nursery for _____ and _____, roosting areas for _____, and foraging and haul out areas for _____

Photo 8 and 9: The scheme of zonation pioneered by Scientists _____ and _____ names five zones on the Rocky Shore habitat.

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Photo15: Why do you think that high wave action affects the types of organisms living on rocky shores?

Why is there little open space?

Recruitment means

How does yearly recruitment affect the rocky shore?

Photo 16: How do algae help organisms on the protected shore? Why is there more open space on a protected shore?

In the next section of Rocky Shore Habitat, plants and animals will be researched. Still using the Bigelow website, **click on “Site Map”** at the bottom of the page. **Click on “Image Library”**.

Colleen to provide more information here do a species look for pictures that are in our are and in each level????

NAVIGATING MITZI ON THE BIGELOW WEBSITE

Do the matching below using information on this site:

- | | |
|------------------------|-----------------------------------------------------------|
| ___ Use the arrows | a. provides additional activities for your teacher to use |
| ___ Click on the image | b. roll over to change or highlight features |
| ___ Rollover images | c. provides a Table of Contents |
| ___ the Image library | d. takes you to another zone on the rocky shore habitat |
| ___ Site map | e. brings you back to How to Navigate this Site |
| ___ Help | f. links to the image library |
| ___ Teacher resources | g. a collection of pictures |



- ___ Shoreline profile h. navigates you forward or backward on the site



- ___ Maine Map i. often provides an enlarged and labeled version of the picture



- ___ Film icon j. tells the location of a picture