



Mitzi's PONDERABLES

Subject: Discussion Questions

Grade Level: 5-12

Time Required: 1 classroom period, format may vary teacher to teacher, written vs. oral

Maine Learning Results Standards:

Science and Technology: Elem B1, B4, D3; Middle B3, D3, G5, M4, M6 Sec B1, B3, D3, D7, F2, I2, M2; all of K and L for all grade levels

English Language Arts: Middle A2, E2, E3, H1; Sec E2, E4, H8, H10

Student Learning Objectives

1. Demonstrate understanding of coastal biology, sea level, and tides.
2. Choose appropriate and relevant evidence to support argument/explanation.
3. If format is oral in nature, students should be able to converse among themselves, listen and respond courteously to fellow student points of view.

Background

Ponderables : To provide a stimulus - or spark an interest - for the student. A class may learn a great deal through thoughtful discussions of questions that may not have an obvious or defined answer. It is an avenue for students to demonstrate their understanding of rocky shore ecological concepts. It is also a good exercise in conversation among peers to show support, provide evidence, courteously disprove or argue conflicting points of view.

Materials

- 1 classroom period
- writing materials-i.e. paper, computer, pen
- resources such as field guides, literature, Internet for providing evidence

Questions

1. How might the current tidal biology change were the mean ocean levels to rise - say 10 feet?
2. How might coastal biology change if - the moon- were suddenly removed from our solar system? Would coastal biology become less diverse, etc?

CROSS-CURRICULAR IDEAS

- **English/writing**-teaming up with the English/writing teacher, these questions could be prompts to fulfill a technical writing activity. See MLR standards fulfilled in English.

Assessment

An oral and a written rubric are provided for this activity. See corresponding PDF files. May require modification for grade level appropriateness.

Resources

<http://www.pol.ac.uk/psmsl/puscience/> for frequently asked questions about sea level

Vocabulary

Sea level: the average height of the surface of the seas after tidal and wind effects are removed.

Tides: The rhythmic, alternate rise and fall of the surface (or water level) of the ocean, and of bodies of water connected with the ocean such as estuaries and gulfs, occurring twice a day over most of the Earth, and resulting from the gravitational attraction of the moon (and, in lesser degrees, of the sun) acting unequally on different parts of the rotating Earth.

Questions generated by Fred Shair