

Ocean Literacy Survey

Please respond to all questions. The attitude questions have no correct answers, and you will not be penalized for incorrect answers on the science questions. I will keep the surveys in a sealed envelope until after submitting your grades.

Name:

Educational Demographics:

Year: a) Freshman b) Sophomore c) Junior d) Senior

College (in NCSU):

- | | | |
|----------------------|----------------------|---------------------|
| a) CHASS | b) Ag & Life | c) PAMS |
| d) Management | e) Education | f) Engineering |
| g) Natural Resources | h) Design | i) Undecided or FYC |
| j) Textiles | k) Lifelong Learning | l) Other |

What is the main reason you are taking this oceanography course?

- a) this particular course is required for my major
- b) this course fulfills general education requirement
- c) simple curiosity and/or personal interest
- d) other _____

Sources of Information:

Circle the two or three ways you have learned most about the ocean (before this class):

- a) formal education: a whole course in ocean science
- b) formal education: just touched on ocean science in other courses
- c) informal education: aquariums and museums
- d) informal education: a camp or the Ocean Science Bowl
- e) personal experience: actually going to the beach
- f) friends and family: in conversation
- g) media: TV, magazines, etc
- h) other: _____

If the media are an important source of information, please list a few examples below:

Circle the range of numbers that best represent the how many times each year you visit the beach or shore.

<1 1-3 4-10 10-20 20-50 >50

How many times each year do you visit an aquarium, zoo or museum where you might learn about the ocean?

<1 1-3 4-10 10-20 20-50 >50

Ocean Science Questions

- 1) How deep is the ocean, on average?
a) 100 yards b) 1 mile c) 4000 meters
e) 20,000 leagues f) 6000 kilometers

- 2) Which of these scales is closest to the depth of the ocean?
a) the length of a football field
b) halfway across town
c) the size of the USA
d) as far away as the moon

- 3) Which of these statements best describes the depth of the ocean?
a) the ocean is as deep as the sky is high
b) the ocean is like a thin skin on the surface of the earth
c) the depth of the ocean is about 1/10 the diameter of the earth
d) the depth of the ocean is about 1/2 the diameter of the earth

- 4) Approximately how much of the Earth is covered with ocean?
a) 4% b) 34% c) 52% d) 67%
e) 72% f) 89% g) 97% h) 99.999 %

- 5) Approximately what fraction of the total water on earth is in the ocean?

a) 4% b) 34% c) 52% d) 67%
e) 72% f) 89% g) 97% h) 99.999 %

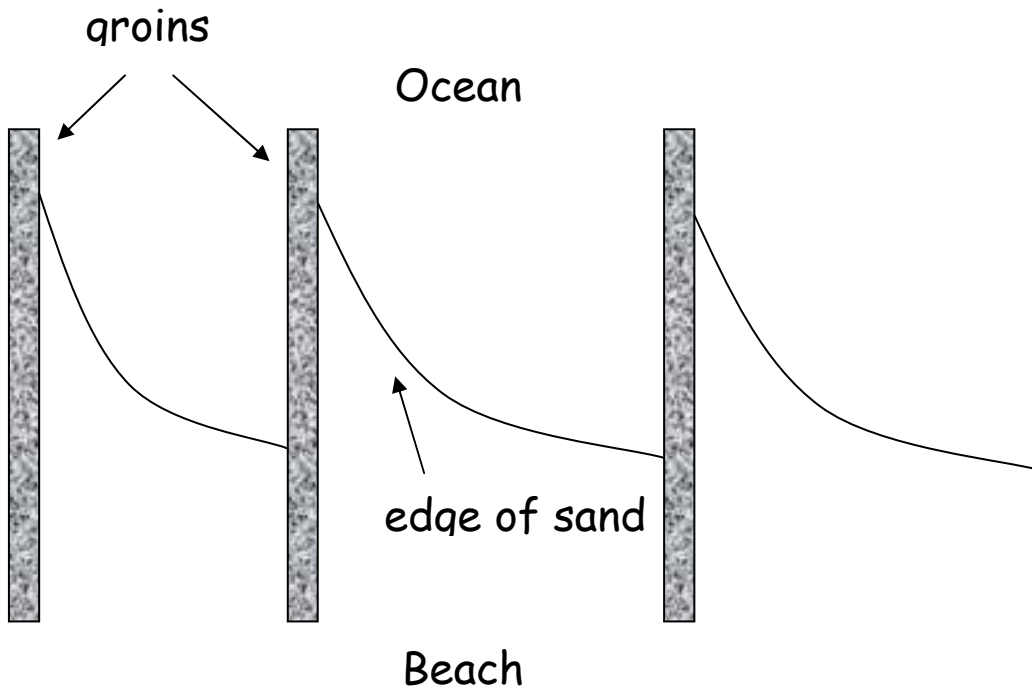
- 6) Approximately how much of the Earth's water is fresh and unfrozen (that is, neither ocean nor ice)?
a) > 50% b) 40-50% c) 20-30%
d) 10-20% e) 3% f) 1%

- 7) When your toilet flushes, the water swirls around. Would it swirl in the opposite direction in Australia?
a) yes b) no

- 8) What causes most of the waves in the ocean?
a) tides b) earthquakes c) wind d) tsunamis

- 9) If an earthquake in Chile causes a tsunami, and the tsunami causes coastal flooding in Japan, does that mean that water from Chile travels to Japan?
a) yes b) no

- 18) What is the essential nature of barrier islands?
a) stasis and stability b) motion and change
- 19) Imagine a seawall built to protect a beach house from storms. What is the effect of that wall on the areas at either end of the wall?
a) increased erosion b) no effect c) decreased erosion
- 20) In the picture below, which direction is the longshore drift?
a) right to left
b) left to right
c) no idea



Essay Question: *Tell me what interests you about the ocean, and what you would like to learn about in this class. You may use your latest trip to the ocean as a starting point.*

Essay Question: *List 2-5 things you already do, or would be willing to do to protect the ocean. Try to describe the specific impact each action would have on the ocean.*

Attitudes about Oceanography

Here are a number of statements that may or may not describe your beliefs about learning oceanography. You are asked to rate each statement by selecting a number between 1 and 5 where the numbers mean the following:

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

Choose one of the above five choices that best expresses your feeling about the statement. If you don't understand a statement, leave it blank. If you have no strong opinion, choose 3.

- ___ Thinking like a scientist helps me understand the ocean.
- ___ The topics I study in oceanography are not related to each other.
- ___ I cannot learn oceanography if the teacher does not explain things well in class.¹
- ___ I study oceanography to learn knowledge that will be useful in my life outside of school.¹
- ___ Nearly everyone is capable of understanding oceanography if they work at it. ¹
- ___ To understand oceanography I discuss it with friends and other students. ¹
- ___ The subject of oceanography has little relation to what I experience in the real world.
- ___ To understand oceanography, I sometimes think about my personal experiences and relate them to the topic being analyzed. ¹
- ___ When studying oceanography, I relate the important information to what I already know rather than just memorizing it the way it is presented. ¹
- ___ A significant problem in learning oceanography is being able to memorize all the information I need to know. ²
- ___ I can usually make sense of how the ocean works. ²
- ___ Spending a lot of time understanding why the ocean behaves and reacts the way it does is a waste of time. ²
- ___ Learning oceanography changes my ideas about how the world works. ²
- ___ Reasoning skills used to understand oceanography can be helpful to me in my everyday life. ²

¹ CLASS

² CLASS - Geosciences

Attitudes about Ocean Stewardship

Here are a number of statements that may or may not describe your beliefs about learning oceanography. You are asked to rate each statement by selecting a number between 1 and 5 where the numbers mean the following:

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

Choose one of the above five choices that best expresses your feeling about the statement. If you don't understand a statement, leave it blank. If you have no strong opinion, choose 3.

- ___ My actions can have a significant effect on the health of oceans and coastal areas.
- ___ I have a personal responsibility to work for the health of the oceans and coastal areas.
- ___ I know some specific things I could do to help the ocean.
- ___ I am familiar with the environmental issues facing the coastal areas in my home state
- ___ I am familiar with the issues facing the global ocean.
- ___ I have enough background knowledge to write a substantive letter to my congressional representative about an issue affecting the ocean.
- ___ The oceans and coastal regions overall are so vast and healthy that they can continue to absorb pollution and other kinds of man-made stresses for the foreseeable future.³
- ___ Human-made stresses are endangering coastal regions and the ocean's ability to sustain itself and may well be leading to long-term damage and serious problems.³
- ___ The health of the oceans is essential to human survival.⁴
- ___ We do not need to worry about the health of the oceans, because we will develop new technologies to keep them clean.⁴
- ___ What I do in my life doesn't impact the ocean at all.⁴
- ___ Business and industry should be responsible for protecting marine environments.⁵
- ___ Government should be responsible for protecting marine environments.⁵
- ___ Individual citizens should be responsible for protecting marine environments.⁵
- ___ Agriculture and forestry should be responsible for protecting marine environments.⁵

³ AAAS Public Opinion Survey

⁴ Ocean Project Public Opinion Survey

⁵ Based on questions used for Minnesota Environmental Literacy Report Card

Listed below are statements about the relationship between humans and environment⁶. For each one, please indicate your agreement using the following scale: 5 = strongly agree, 4 = agree, 3 = neutral or unsure, 2 = disagree, 1 = strongly disagree

- ___ We are approaching the limit of the number of people the earth can support.
- ___ Humans have the right to modify the natural environment to suit their needs.
- ___ When humans interfere with nature, it often produces disastrous consequences.
- ___ Human ingenuity will ensure that we do NOT make the earth unlivable.
- ___ Humans are severely abusing the environment.
- ___ The earth has plenty of natural resources if we just learn how to develop them.
- ___ Plants and animals have as much right as humans to exist.
- ___ The balance of nature is strong enough to cope with the impact of modern industrial nations.
- ___ Despite our special abilities humans are still subject to the laws of nature.
- ___ The so-called "ecological crisis" facing humankind has been greatly exaggerated.
- ___ The earth is like a spaceship with very limited room and resources.
- ___ Humans were meant to rule over the rest of nature.
- ___ The balance of nature is very delicate and easily upset.
- ___ Humans will eventually learn enough about how nature works to be able to control it.
- ___ If things continue on their present course, we will soon experience a major ecological catastrophe.

⁶ New Ecological Paradigm: Dunlap *et al*, Journal of Social Issues, 56(3), 448-442, 2000.