

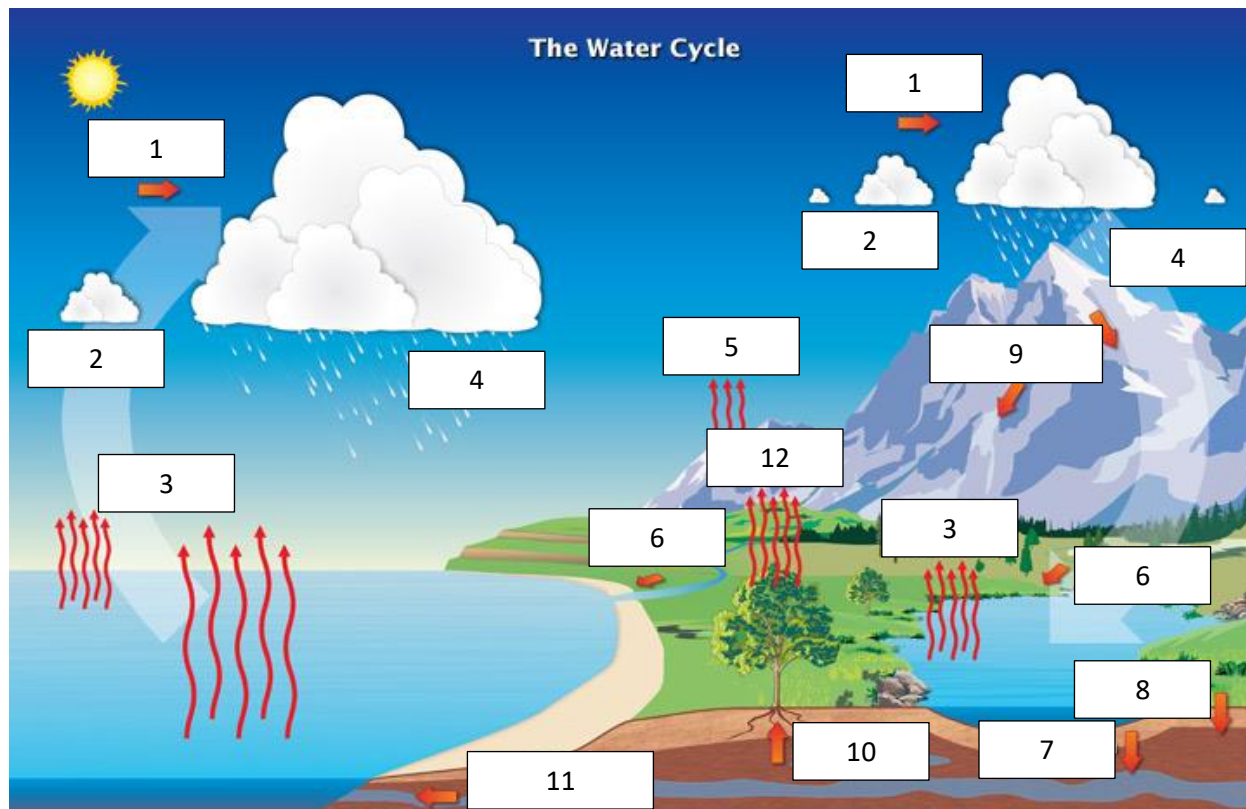
Montgomery Blair High School WQ Practice Test

Name: _____

Total Score: ____/100

SECTION I: MARINE AND ESTUARY ECOLOGY (33 pts total)

1. Label the elements of the water cycle (11 pts, 1 pt per number)



- | | |
|------|-------|
| - 1: | - 7: |
| - 2: | - 8: |
| - 3: | - 9: |
| - 4: | - 10: |
| - 5: | - 11: |
| - 6: | - 12: |

2. Describe and explain the purpose of coagulation and flocculation (4 pts):

3. Define nutrient cycling and why it is important to productivity of an ecosystem (6 points):

<https://www.sciencedirect.com/topics/earth-and-planetary-sciences/nutrient-cycling>

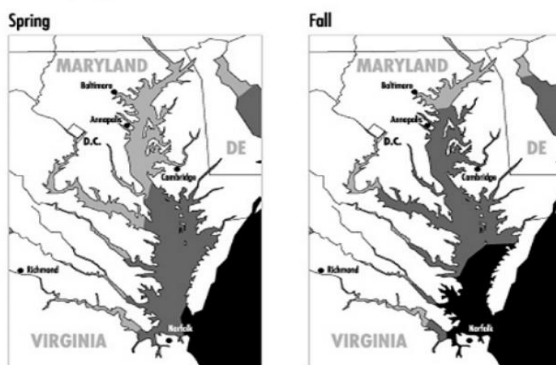
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4. Problems sedimentation pollution causes include (3 pts):

- I. Lack of sunlight
 - II. Lowered fish resistance to disease
 - III. Stripping nutrients from the river
- a. I
 - b. I & III
 - c. II & III
 - d. II
 - e. I & II

Salinity: Spring and Fall

KEY: Salt in parts per thousand 0-10 10-20 20-30



5.

The diagram above depicts the change in salinity of different portions of the Chesapeake. Explain why this occurs and what affect it has on the organisms within the ecosystem (4 pts):

6. Why is global warming considered a factor in coral death? What is the second greatest threat to coral and what effects does it have(3 pts)?

7. When was the last mass bleaching event and what percent of coral died (2 pts)?

SECTION II: CORAL REEF MACROFLORA AND FAUNA ID (4 points per ID), 34 pts total



1.

- a. ID:
- b. Food:
- c. Importance to the reef:

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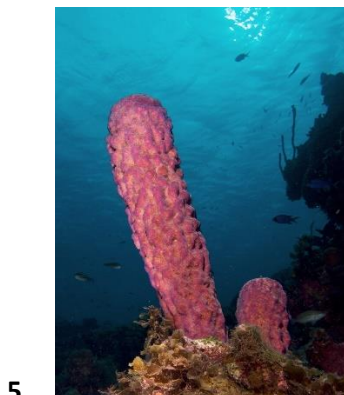
- a. ID:
- b. Food:
- c. Importance to the reef:



- a. ID:
- b. Food:
- c. Reproduction:



- a. ID:
- b. Significance of reef in reproduction method:
- c. Location found:



- a. ID:
- b. Formation and growth:
- c. Where do carnivorous sponges tend to exist?

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6. Why are giant clams often used as a measure of water quality in the ocean (3 pts)?

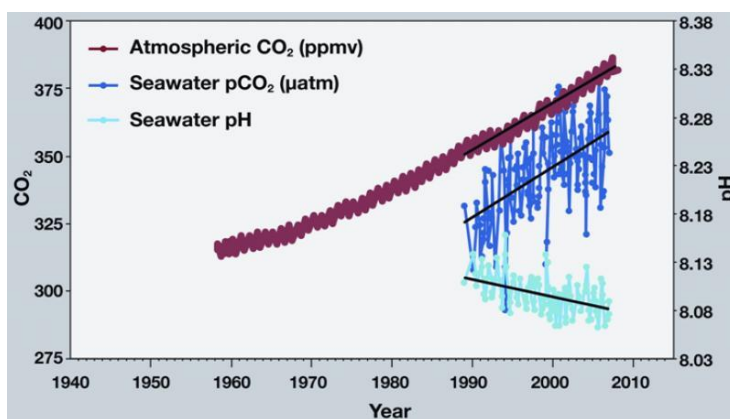
7. Why is the diet of the parrotfish different than other herbivorous fish in the reef and why is it important (3 pts)?

8. How can sea urchins be used as indicators of reef health? How does their population affect the reef in larger or smaller numbers (4 pts)?

9. What would an abundance of fleshy macroalgae indicate about the reef (list 2) (4 points)?

SECTION III: WATER MONITORING AND ANALYSIS (33 pts)

1. Why is aragonite used as an indicator of ocean acidification (4 pts)?



2.

What does this graph show about the effect of carbon emissions on the ocean? What affect does this have on shelled organisms and coral development (6 pts)?

3. Water is tested at a location and the salinity is measured to be 20 ppt. What type of water was this sample taken from, and what is an example of a body of water of this type (2 pts)?
4. Match the data type to the testing method (6 pts):

1. Dissolved Oxygen	A. Spectrophotometry
2. pH	B. CTD Instrument
3. Nitrates	C. (RDO) Luminescence Quenching
4. Salinity	D. Membrane Filter Method
5. Phosphates	E. Potentiometry
6. Fecal Coliform	F. Ascorbic Acid Method

5. Which two units do we use to measure turbidity (2 pts)?
6. What is the measurement of total solids composed of, and what is an example of each (4 pts)?
7. If there is an abnormally high concentration of nitrates, which of the following could occur (2 pts):
- Fish death
 - Algal bloom
 - Purple water
 - Increased biodiversity
8. If the shells of crustations are extremely thin and underdeveloped in a region, what problem might the water have (2 pts)?
9. What would an excess amount of phosphates in water cause (list 2) (4 pts)?
10. Did you bring a salinometer 😊 (1 pt)