

UNIT 1 Study Guide

You can find the answers to the study guide in your lectures, textbook, reading guides, in-class activities, and labs. You may also use the internet. ***On the test, you may use this study guide.***

TERMS TO KNOW

Sonar	Mutualism	Continental Drift	Upwelling
Habitat	Commensalism	Plate tectonics	Diffusion
Population	Parasitism	Passive margin	Osmosis
Community	Trophic Level	Active margin	Lithogenous sediments
Primary Production	Food Chain	Heat capacity	Biogenous sediments
Niche	Food Web	Salinity	Endotherm
Predation	Primary consumer	Coriolis effect	Ectotherm
Symbiosis	Secondary consumer	Gyre	Poikilotherm
Competition	Tertiary consumers	Downwelling	Homeotherm

1. Describe how ecology and marine biology relate.

2. a) Define limiting factor: _____

b) Identify 3 limiting factors in marine communities. _____

3. In the following scenarios, decide whether they are describing one of the following: **mutualism, commensalism, parasitism, predation, or competition.**

a) _____ The Imperial shrimp and the sea cucumber can be seen as fast friends of the sea. The Imperial shrimp utilizes the sea cucumber for its locomotive purposes, hanging tight through waters filled with the shrimp's food source, only disembarking to have a bite, and then climbs aboard to further its travel to the next feeding ground. The sea cucumber is not harmed or helped in this situation.

b) _____ A most striking balance is struck between the decorator crab and the sponges it, well, decorates itself with. The decorator crab does so as a means of defense, snipping bits of sponges to cover its shell as camouflage. The sponges continue about their lives, filter feeding as they normally would attached to coral or any other surface. The crab can also benefit by toxins that may be inherent to the species of sponge it chooses, as well as feeding on the algae growing around the sponge. The sponge benefits much in the way of the previous "hitchhikers", by being exposed to many feeding opportunities based on the crab's movements.

c) _____ A dumbo octopus will swallow bivalves, crustaceans, and worms whole as a form of nourishment

4. Describe the difference between a fundamental niche and a realized niche. Give an example.

5. Using the diagram to the right to answer the following questions.

a) Is this a food web or a food chain? _____

b) On average, how much of the original energy from the sun moves to the next trophic level?

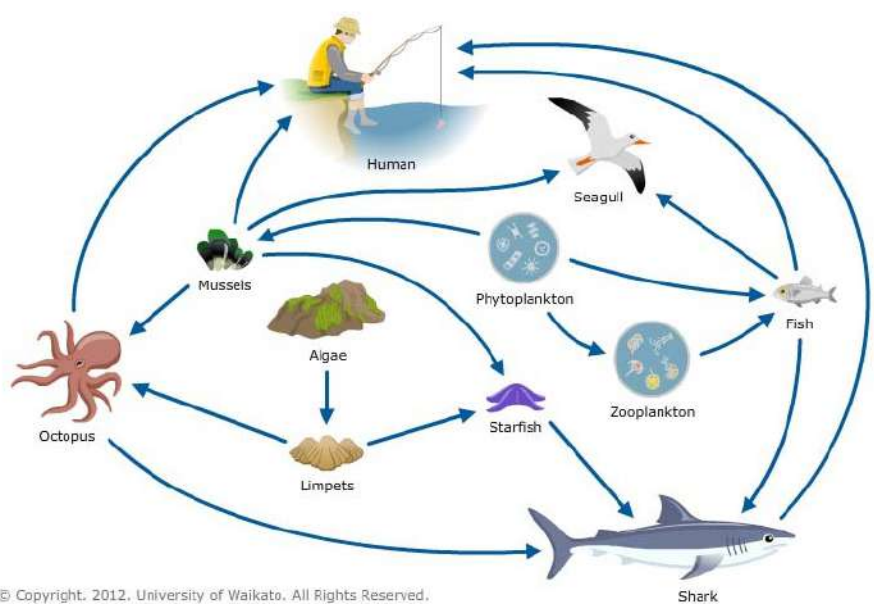
c) Identify a primary producer.

d) Identify a primary consumer.

e) Identify a secondary consumer _____

f) Identify a tertiary consumer _____

g) Describe what would happen to this community if the fish was removed. Include which organisms would be affected and how.



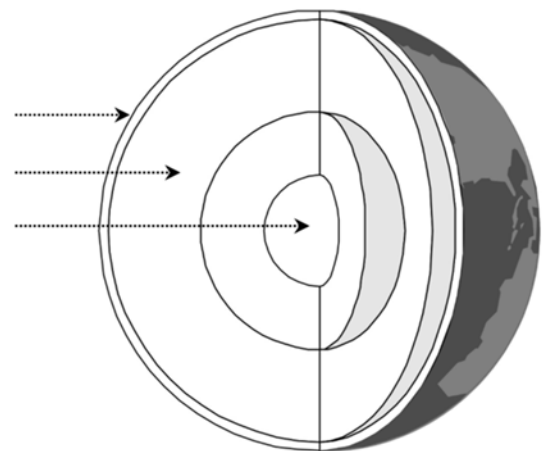
6. What is the difference between benthic and pelagic organisms? Include where these are organisms are found in and give examples of each.

7. a) In the diagram, identify the following structures: core, mantle, crust.

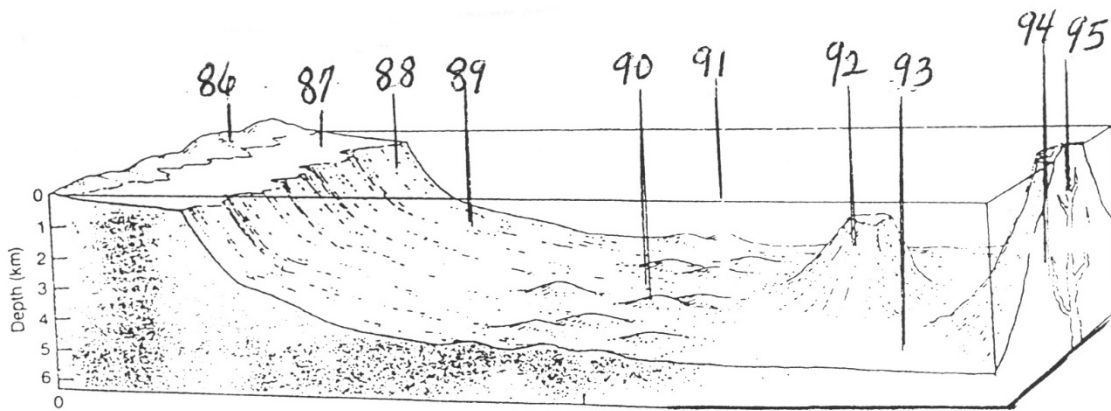
b) Identify what each layer is composed up of and the thickness of each layer.

8. Compare the oceanic crust and the continental crust.

9. Describe the 3 major pieces of evidence of plate tectonics.



10. In the picture below, identify the following features: abyssal plain, continental slope, trench, continental shelf, continental rise, continental crust, oceanic crust (NOTE: ignore the numbers)



11. Compare passive and active margins.

12. Describe 4 unique properties of water.

13. a. Is water or ice more dense? How do you know and why?

b. Why is the answer for “a” important to marine organisms?

14. What causes salinity in water?

15. How do conditions vary within the different layers of the ocean?

16. Identify 4 things that can be considered evidence of circulation.

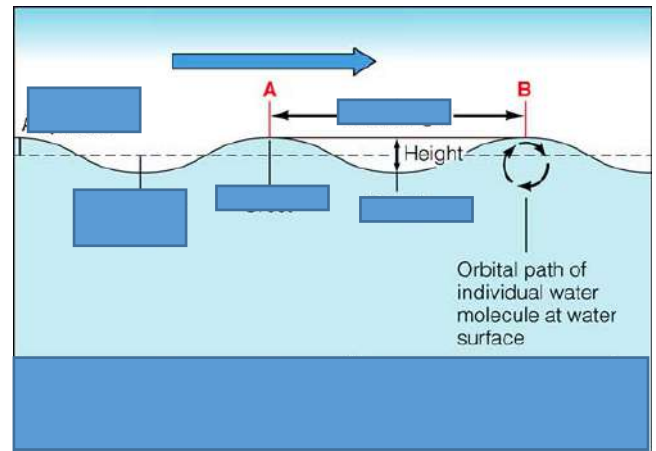
17. Describe how wind occurs.

18. a. What causes waves?

b. In the picture to the right, identify the wavelength, crest, and trough.

c. Define PERIOD:

19. What causes the surf?



20. What causes ocean currents?

21. What are the 3 stratified layers within the ocean? How deep are each layer? How much mixing of water goes on within each layer?

22. Compare upwellings and downwellings.

23. Describe what causes tides and what affects the size of tides.

24. Describe how osmoconformers and osmoregulators adapt to their aquatic environments.

25. Compare poikilotherm and homeotherms. Give an example of each.