**Marine Science Mid-Term Review Sp2017**

**Unit 1: General Science Review**

1. What is the internal structure of the earth?
2. What are the three states of matter?
3. Describe/define the 6 common phase changes.
4. What are the steps to the Scientific Method?
5. Describe/define the following plate boundaries:
   1. Divergent
   2. Convergent
   3. Transform
6. What is the name of the line at 0˚ longitude? What city and country does it pass through?
7. What is the name of the line a 0˚ latitude?

**Unit 2: Ocean Exploration**

1. What are the following people(s) famous for?
   1. Polynesians
   2. Phoenicians
   3. Ferdinand Magellan
   4. Vikings
   5. Ptolemy
   6. Johannes Kepler
   7. Isaac Newton
   8. Christopher Columbus
   9. James Cook
2. How did World War II contribute to Marine Science?
3. Why did early civilizations first start exploring the oceans?

**Unit 3: Seafloor Features**

1. Why is Geology important to marine biology?
2. The oceans cover \_\_\_\_\_\_\_\_\_\_\_\_% of the globe.
3. What are the 4 largest ocean basins?
4. The continuous body of water that surrounds Antarctica \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Compare and Contrast Oceanic Crust and Continental Crust.
6. How are mid-ocean ridges formed?
7. Be able to identify the Earth’s Plates on a map
8. Describe the following seafloor features:
   1. Continental Shelf
   2. Continental Slope
   3. Submarine Canyon
   4. Abyssal Plain
   5. Oceanic Trench
   6. Guyot
   7. Fringing reef
   8. Barrier reef
   9. Atoll

**Matching**

a. Pacific Ocean k. crust

b. Atlantic Ocean l. basalt

c. Indian Ocean m. granite

d. Arctic Ocean n. plate tectonics

e. Southern Ocean o. mid-ocean ridge

f. World Ocean p. continental drift

g. big bang q. trenches

h. density r. sea-floor spreading

i. core s. lithosphere

j. mantle t. asthenosphere

1. the continental crust is made of this light colored mineral \_\_\_\_\_\_\_\_\_
2. the innermost layer of the earth \_\_\_\_\_\_\_\_\_
3. 2nd largest ocean basin \_\_\_\_\_\_\_\_\_
4. the layer outside the earth’s core\_\_\_\_\_\_\_\_\_
5. a continuous change of submarine volcanic mountains that encircles the globe like the seams on a baseball\_\_\_\_\_
6. the continuous body of water that surrounds Antarctica \_\_\_\_\_\_\_\_\_
7. Oceanographers often use this term to describe all the oceans together \_\_\_\_\_\_\_\_\_
8. smallest ocean basin \_\_\_\_\_\_\_\_\_
9. oceanic crust is made of this dark colored mineral \_\_\_\_\_\_\_\_\_
10. the outer most layer of the earth \_\_\_\_\_\_\_\_\_
11. a great cosmic explosion\_\_\_\_\_\_\_\_\_
12. a fairly rigid layer of the earth that is composed of the crust and the uppermost part of the mantle \_\_\_\_\_\_\_\_\_
13. the suggestion that all continents had once been joined in a single “supercontinent”, but have drifted apart. \_\_\_\_
14. a system of deep depressions in the seafloor \_\_\_\_\_\_\_\_\_
15. 3rd largest ocean basin \_\_\_\_\_\_\_\_\_
16. the process by which the sea floor moves away from the mid-ocean ridges to create new sea floor. \_\_\_\_\_\_\_\_\_
17. the process of the earth’s plates moving apart \_\_\_\_\_\_\_\_\_
18. the mass of a given volume of a substance\_\_\_\_\_\_\_\_\_
19. The largest and deepest ocean \_\_\_\_\_\_\_\_\_
20. the layer that the lithosphere floats on, it is the “plastic” layer\_\_\_\_\_\_\_\_\_

**Unit 4: Chemical and Physical Ocean**

**Chemical Properties of the Oceans**

1. Describe the atomic structure of water.
2. Why is water known as the universal solvent?
3. What factors affect the chemical properties of water?
4. What factors affect the salinity of the ocean?
5. The ocean is said to be layered or stratified because the densest water sinks. Compare and contrast deep water and shallow water.
6. Illustrate the three water profiles into which the ocean water is divided based on temperature.
7. Describe the pelagic zones of the water column.
8. Which is denser, cold seawater or warm seawater? Why?
9. At what depth can the main thermocline be found?
10. What is the average temperature of the main thermocline?
11. The upward motion of ocean water is called.

**Currents:**

1. What is the “Coriolis Effect”?
2. Wind is deflected to the \_\_\_\_\_\_in the Northern Hemisphere and to the \_\_\_\_\_\_in the Southern Hemisphere.
3. What is an Ekman spiral?
4. Which gyre would have clockwise circulation: North Pacific, South Pacific, South Atlantic, or the Indian Ocean? Explain.
5. Name and describe the three wind patterns associated with ocean currents starting at the equator and moving toward the poles.
6. MAP SKILLS: Review your maps. OR get a new one and label it for practice.
   1. Locate all the major currents on the earth. Which are cold ?
   2. Where is the Mediterranean Sea?
   3. Where are the Straits of Gilbralter?

**Waves**

1. Draw and label the following:

Crest trough wave length wave height

1. What is a swell?
2. When a wave “feels the bottom”, what happens?
3. What is a tsunami?
4. Tsunami is translated as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Describe the most devastating tsunami.
6. What makes a deep water wave?
7. The wave period is the time required for two successive \_\_\_\_\_\_\_\_\_\_ to pass a point in space.
   1. troughs
   2. wavelengths
   3. crests
   4. Both A and C are correct.
8. What is basic motion does water follow during the passage of a wave?

**TIDES**

1. What causes tides?
2. Compare and Contrast Spring Tides and Neap Tides using diagrams and explanations.