

School Name: _____ Team Number: ____ Team Names: _____

Dynamic Planet Test

This test is worth 100 points, and there are 25 questions. You will have 50 minutes to complete all the questions. Answer each in the blank space given and write LEGIBLY. You do not need to answer in complete sentences.

1. The chlorinity of a sample of seawater is 19.2 ppt. Find the salinity of the seawater in ppt. Show all work. (3 points) **TIEBREAKER #1**

2. Name and number the pelagic zones of the ocean, with #1 being the uppermost layer. (5 points)

3. Fill in the blank: The _____ effect causes _____, or rotating currents, to rotate clockwise in the northern hemisphere and counterclockwise in the southern hemisphere. (2 points)
4. What plate boundary/boundaries associated with these landforms? (4 points)
 - a. Submarine trench:
 - b. Mid-ocean ridge:

5. Name the three types of breaking waves and the shape of the wave and slope associated with each. (6 points)

6. What is a thermocline, pycnocline, and halocline? (3 points)

7. Define each of the terms below (3 points)
 - a. Wave Crest:
 - b. Amplitude:
 - c. Wave Height:

8. Describe what a turbidity current is and how it is triggered. (2 points)
9. Write the full name for these acronyms. (5 points)
- a. MSL:
 - b. SST:
 - c. ITCZ:
 - d. ENSO:
 - e. SONAR:
10. What is the Wilson Cycle and what occurs in the stages? (4 points) **TIEBREAKER #2**
11. At which of the following pH levels of seawater would coral most likely die? (Assume all other factors are within range for healthy coral) What be the most likely cause of the change in pH? Explain. (5 points)
- a. 7.8
 - b. 8.1
 - c. 8.5

Cause of pH change:

12. Explain how atolls form. Who was the person who presented the theory? (5 points)
13. How is upwelling caused? Describe the water brought up to the surface. (5 points)

14. What is the CCD? What does it stand for? (4 points)

15. How many meters does one have to go below sea level to have another atmosphere of pressure on them? How many pounds per square inch (psi) is one atmosphere? (2 points)

16. What is the difference between active and passive margins? (5 points)

17. Black and white smokers are both _____ vents. How are they different? (4 points)

18. What is the description for 0, 5, and 12 on the Beaufort scale? (3 points)

19. What does Forchhammer's Principle state? (3 points)

20. What is the Bay of Fundy is known for what concerning tides? (2 points)

21. What is thermohaline circulation? (3 points)

22. What is the difference between a guyot and a seamount? (2 points)

23. What causes tsunamis? (2 points)

24. After what ratio between wave height and wavelength is exceeded does the wave break? (2 points)

25. Define each of the terms below (16 points)

- a. Spring tide:
- b. Semi-diurnal tidal cycle:
- c. Ebb:
- d. Diurnal tidal cycle:
- e. Neap tide:
- f. Flow:
- g. Amphidromic point:
- h. Mixed tidal cycle: