

Review Quiz for Atmosphere-Ocean Interaction

National Weather Service, Shreveport, LA



1. Which of the following is *not* a good reason for studying atmosphere-ocean interaction?
 - a. Over half of the world's population lives within 2 hours of the coast.
 - b. Seventy-one percent of the earth is covered by water.
 - c. Water plays a role in our planet's climate.
 - d. Over half of the world's population lives within 1 hour of the coast.
2. There are four oceans on the earth. Defined in 2000, which is the "newest"?
 - a. Arctic
 - b. Antarctic
 - c. Southern
 - d. Indian
3. **TRUE** or **FALSE**: Seas are at least partially enclosed bodies of water that must have a method of "communicating" with the ocean.
4. What is the most important ocean current to our region?
 - a. South Equatorial
 - b. North Equatorial
 - c. Gulf Stream
 - d. Canary
5. _____ currents are responsible for _____% of heat transport across the earth.
 - a. Deep water, 40
 - b. Wind-driven, 50
 - c. Deep water, 50
 - d. Wind-driven, 40
6. Wave size depends on three things. Which of the following is *not* one of them?
 - a. Fetch
 - b. Swell
 - c. Wind speed over the waves
 - d. Duration

7. Known as the saltiest body of water on earth, the _____ is actually a large _____. Its surface is more than 1300 feet below sea level.
- a. Red Sea, lake
 - b. **Dead Sea, lake**
 - c. Dead Sea, ditch
 - d. Dead Sea, part of the Red Sea
8. Match the following oceans with an interesting fact about them. Some oceans may have more than one answer.
- b, e _____ Atlantic Ocean
 - d, c _____ Pacific Ocean
 - a _____ Indian Ocean
- a. Forty percent of offshore oil production is found here.
 - b. Provides some of the earth's most heavily trafficked routes.
 - c. Has the most coastline.
 - d. Home of the Mariana Trench and over half of the world's annual fish catch.
 - e. The "biggest" ocean.
9. What is the average salinity of an ocean?
- a. 3 grams per liter
 - b. **3.5 grams per liter**
 - c. 2.5 grams per liter
 - d. 4 grams per liter
10. During the afternoon, the _____ results in a breeze blowing _____ the shore. Because the ground heats faster than water, this results in slightly cooler temperatures along the immediate coast when compared to inland areas.
- a. **seabreeze, toward**
 - b. landbreeze, toward
 - c. seabreeze, away from
 - d. landbreeze, away from

11. Insert the word in the proper spot. Some words may be used more than once, while others are not used at all. The following is a list of words from which to choose: sun, moon, earth, semi-diurnal tides, neap tides, diurnal tides, spring tides. Tides are a result of the gravitational pull of the (a) on the (b). This is because the (c) is closer to the (d) than the (e). When little difference is seen between high and low tides, (f) are said to occur. Meanwhile, when gravitational effects are maximized, (g) occur.

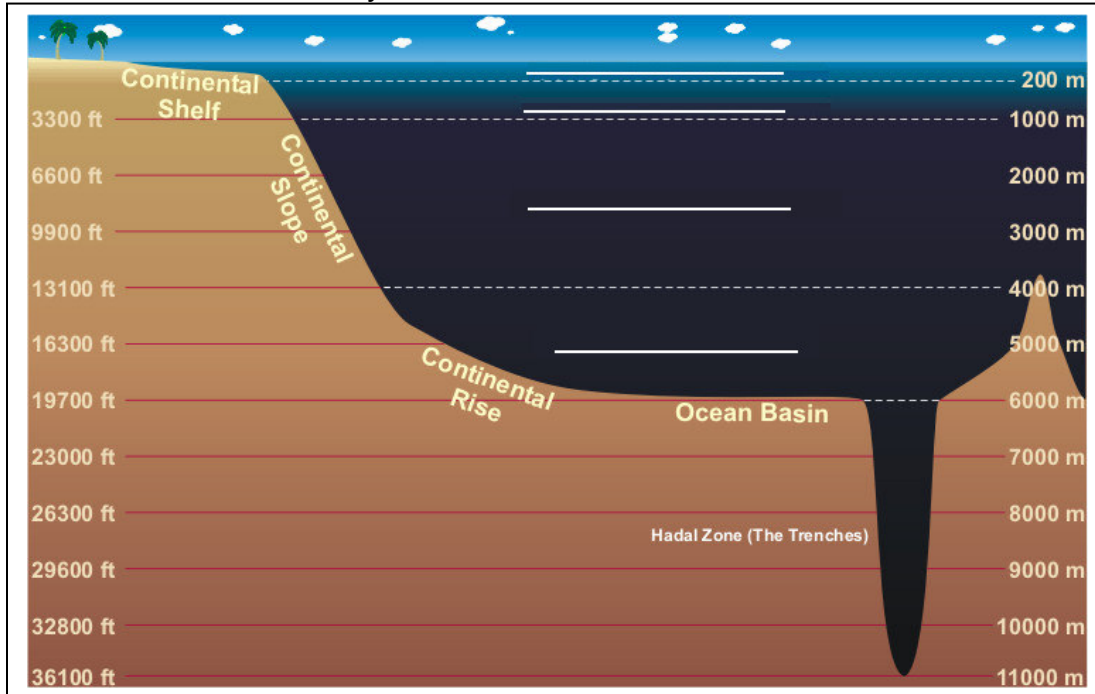
- a. moon _____
- b. earth _____
- c. moon _____
- d. earth _____
- e. sun _____
- f. neap tides _____
- g. spring tides _____

12. Match the following oceans with the corresponding smaller body of water contained within the ocean's basin.

- c _____ Atlantic Ocean
- a _____ Pacific Ocean
- b _____ Indian Ocean

- a. Gulf of Alaska
- b. Red Sea
- c. Mediterranean Sea

13. Just like the atmosphere, the ocean has layers. On the image below, label each of the ocean's layers with both their scientific and "common" name.



Blanks in the diagram above are numbered consecutively 1-4 from the top. For example, the blank in the near surface layer is BLANK 1.

- a. Abyssopelagic Zone --- BLANK 4
- b. Bathypelagic Zone --- BLANK 3
- c. Hadalpelagic Zone
- d. Mesopelagic Zone --- BLANK 2
- e. Epipelagic Zone --- BLANK 1
- f. "The Abyss" --- BLANK 4
- g. "Midnight Zone" --- BLANK 3
- h. "Sunlight Zone" --- BLANK 1
- i. "Twilight Zone" --- BLANK 2

14. Some coastal locations experience one tide cycle daily, while others experience two. Those that experience two tide cycles are said to have what kind of tides?

- a. Neap tides
- b. Diurnal tides
- c. Spring tides
- d. Semi-diurnal tides

15. Where do the largest tidal ranges in the world occur?

- a. Bay of Fundy
- b. Lake Pontchartrain
- c. Marianna Trench
- d. Challenger Deep

16. El Niño events occur when the Equatorial Countercurrent strengthens and _____ waters off the coast of Peru. Across our part of the United States, this produces a weather pattern which typically brings us _____ and _____ conditions.
- a. warms, cooler, drier
 - b. warms, cooler, wetter
 - c. cools, warmer, drier
 - d. cools, cooler, wetter