

Jack Hartt's Tides and *Currents*

Pop Quiz!

1. Where is the moon right now from where we are in class? What phase is it in?
2. How often do we have a full moon? Where is the sun during a full moon?
3. How big is the moon, and how far is the moon from us? How big is the sun, and how far away is the sun?
4. What has more of an impact on the tides: the sun or the moon? How much more?
5. Can there be a spring tide in summer, fall, or winter?
6. Why is there a tidal bulge on the side of the earth that is opposite the moon?
7. If a high tide today is at noon, around what time will it be high tide tomorrow?
8. What is meant by a higher low tide, and a higher high tide?
9. Why are there 2 highs and 2 lows almost every day around Whidbey?
10. Can you read a calendar tide chart?
11. What does the moon look like when the tides are lowest for the month?
12. If the moon is overhead will it be high tide where you are standing?
13. Should we have tidal power energy generation in Admiralty Inlet?
14. Where is the nearest amphidromic point to Whidbey Island?
15. Why are the lowest tides in June and December?
16. What is the time difference between a low tide at Neah Bay and Olympia?
17. How fast does the current move in Deception Pass? In Admiralty Inlet?
18. Why are winter low tides at night and summer low tides during the day?
19. During the first hour of a flood tide, how much will the tide rise?
20. Seriously, nineteen questions before class even begins?

Answers:

1. _____.
2. Every 29.5 days. The opposite side of the planet.
3. 2000 miles diameter (one quarter of earth); one quarter million miles; the sun is almost a million miles in diameter, and about 93 million miles away
4. Moon. Twice.
5. Yep
6. Tractive force is weaker opposite the moon compared to earth's acceleration toward the moon. Or, gravitational attraction squeezes it to both sides.
7. About 52 minutes later, give or take quite a bit
8. Where we live, one of the two high tides is higher than the other; same for the lows.
9. Because of the tilt of the earth and the angle of orbit of the moon, and other factors.
10. You will by the end of this class!
11. Either full or new
12. It could be, but probably not. They are not related. Well, they are related, but...
13. Yes? No? Maybe a little?
14. Northeast Pacific
15. Sun and Moon at maximum declinations.
16. Four hours or more
17. D Pass: Faster than most of us can run. Admiralty: a fast walk.
18. Tilt of the earth in relation to the tides and sun.
19. About 1/12th of the total rise.
20. Twenty, actually, but yep. Good morning! And how did you do?