

Name: _____ Date: _____ Class: _____

Understanding Tides – Earth Science Assignment

This assignment requires online access for completion. The 2 websites you will read will further your knowledge about tides, their causes and their frequency. One site will provide you with basic concepts and at the other site you will interpret tidal graphs.

Directions: Access and read each website, observing all illustrations, then answer questions 1-10 placing your answers on the blanks and in the text boxes provided.

Website for questions 1-7: TIDES: What Causes Tides to Change in the Ocean?

1. What causes daily tides? _____

2. Which of these factors has the greatest influence on Earth's tides? Give a reason for your choice. _____

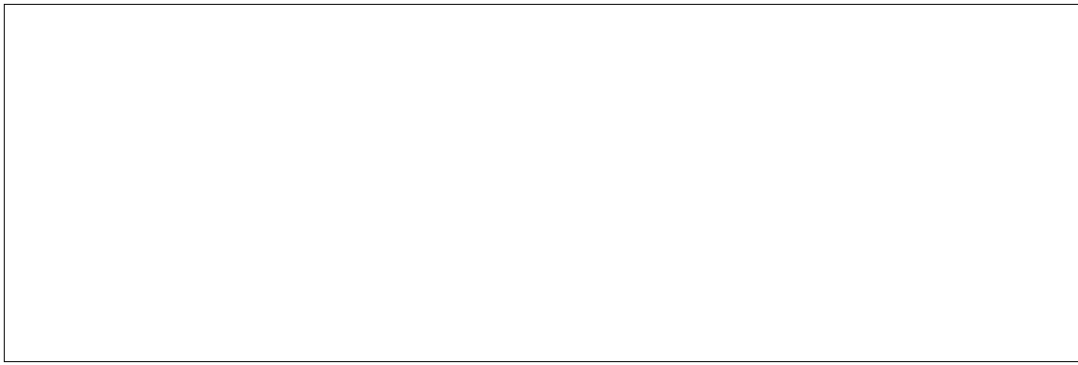
3. Generally, how many high tides and how many low tides occur each day? How many minutes later do tides occur each day? _____

4. How long is one complete "tidal cycle"? Why is this so? _____

5. TWO tidal bulges occur during high tide. One occurs on the side of the earth FACING the moon, but one also occurs on the OPPOSITE side of the earth. Based on your reading of this page, explain why this occurs.

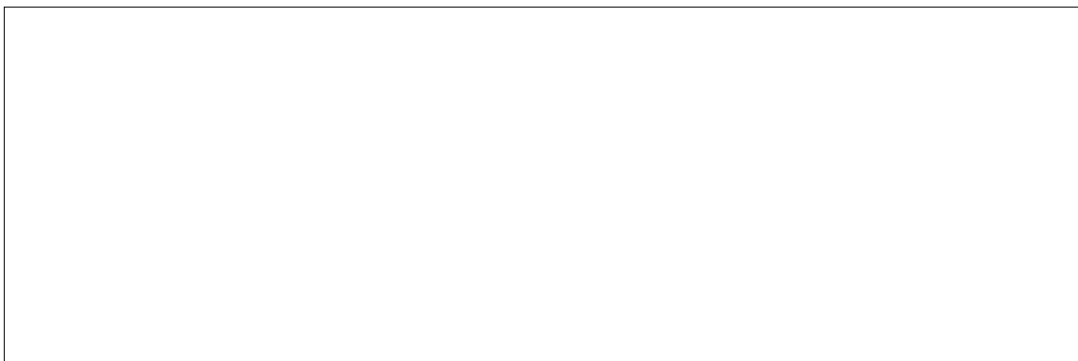
6a. Describe a **SPRING TIDE** including and commenting on: tidal height, the phases of the moon during which a Spring Tide occurs and also the positions of the moon and sun with respect to earth.

6b. In the box below, draw an illustration showing the positions of the earth, moon and sun during a Spring Tide.



7a. Describe a **NEAP TIDE** including and commenting on: tidal height, the phases of the moon during which a Neap Tide occurs and also the positions of the moon and sun with respect to earth.

7b. In the box below, draw an illustration showing the positions of the earth, moon and sun during a Neap Tide.



Website for questions 8-10: [Free Tide Tables.com](http://FreeTideTables.com)

On the webpage linked above you will see a NOAA Tide Station graph of high and low tides recorded on the east coast of the United States. Based on your observations of the graph, answer the following questions.

8. How many high tides and how many low tides do you see in this area on one given day? _____

9. Calculate how many hours are between each high tide and the next high tide and then find the AVERAGE time between high tides each day. _____

10. Calculate how many hours are between each high tide and the next low tide and then find the AVERAGE time between high and low tides each day. _____

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