

**Science 8**  
**Unit 1: Water Systems**  
**Worksheet 9: Tides**



**Tides:**

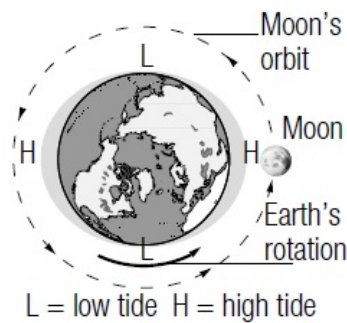
- refers to how ocean water rises and falls in a regular cycle.
- The upper and lower edges of a beach are determined by the high- and low- tide mark.



- Tidal Range refers to the difference in level between a high and a low tide.

***What causes tides?***

Tides are caused by the force of gravity of the Moon and the Sun pulling on our planet. The water on the side of Earth facing the Moon is pulled toward the Moon. This causes a bulge—a rise in the water level. This is a high tide. There is also a high tide on the side of Earth facing away from the Moon. The water between the two high tides is pulled toward the bulges. This causes the water level to fall in those regions. These are called low tides



**2 Types of Tides:**

1. Spring Tide:	2. Neap Tides:
<p>Occur when the Earth, Sun and Moon are in a line.</p> <p>Causes extra high and low tides</p>	<p>Occur when the Sun and the Moon are at right angles to one another.</p> <p>Causes the smallest tidal movements. There is little difference between low and high tides</p>

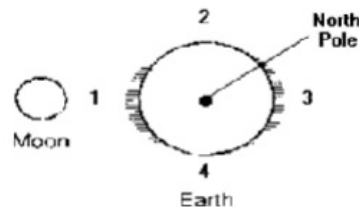
**PART A: MULTIPLE CHOICE.**

**Instruction: Circle the correct answer below each question. Also, transfer your answers to the bubble sheet provided.**

1. Which of the following refers to the regular rise and fall of ocean water?
  - (A) Breakers
  - (B) Swell
  - (C) Tides
  - (D) Tsunami
  
2. Tides are caused by
  - (A) The force of gravity of the Sun
  - (B) The force of gravity of the Moon
  - (C) Both of the above
  - (D) Neither of the above
  
3. What object has the greatest effect on Earth's ocean tides \_\_\_\_\_.
  - (A) Mars
  - (B) Moon
  - (C) Satellites
  - (D) Sun
  
4. Which term refers to the difference between the low and high tides?
  - (A) Neap
  - (B) Surf
  - (C) Tidal Difference
  - (D) Tidal Range

Use the diagram below to answer questions 5 and 6

5. Which tide occurs at 1 and 3?
  - (A) Low tide
  - (B) High tide
  - (C) Long tide
  - (D) Neap tide



6. Which tide occurs at 2 and 4?
  - (A) Low tide
  - (B) High tide
  - (C) Long tide
  - (D) Spring tide
  
7. Spring tides form when
  - (A) the Sun and the Moon are in line with Earth
  - (B) the Sun and the Moon are at right angles to each other
  - (C) both of the above
  - (D) neither of the above
  
8. Neap tides form when
  - (A) the Sun and the Moon are in line with Earth
  - (B) the Sun and the Moon are at right angles to each other
  - (C) both of the above
  - (D) neither of the above

9. Which of the following is true for Spring Tides?

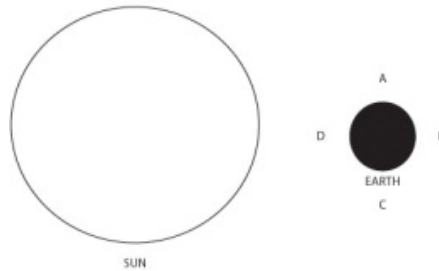
	Location of Sun And Moon	Type of Tide
(A)	Sun and the Moon are in line with Earth	Strong Tides
(B)	Sun and the Moon are in line with Earth	Weak Tides
(C)	Sun and the Moon are at right angles	Strong Tides
(D)	Sun and the Moon are at right angles	Weak Tides

10. We have the highest high tides during \_\_\_\_\_ and the lowest low tides during \_\_\_\_\_?

- (A) Spring tide, Neap Tide
- (B) Neap Tide, Neap Tide
- (C) Spring Tide, Spring Tide
- (D) Neap Tide, Spring Tide

11. What occurs when the Moon is at positions A and C?

- (A) Lunar eclipse
- (B) Spring tide
- (C) Neap tide
- (D) Solar eclipse



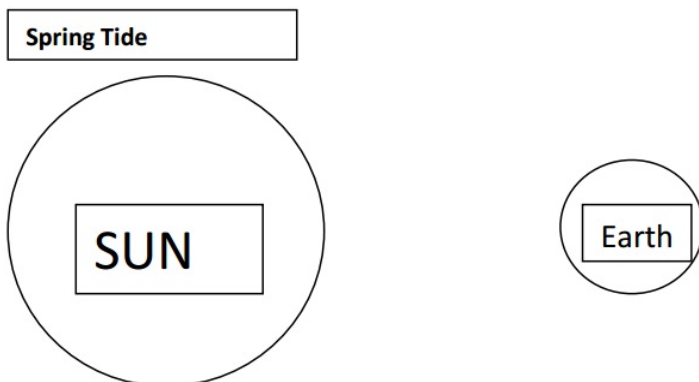
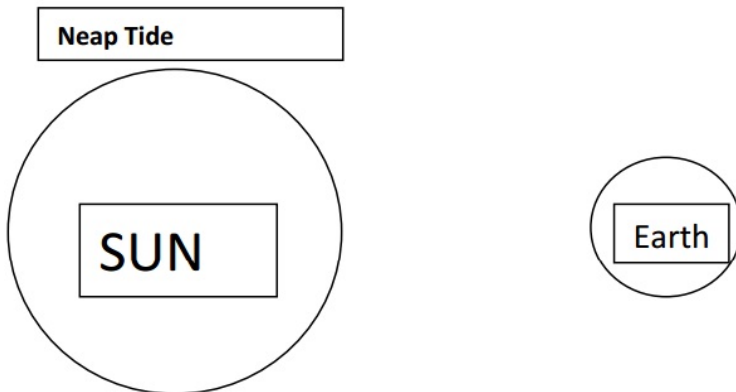
**PART B : MATCHING**

Match each Term on the left with the best Descriptor on the right. Each Descriptor may be used only once. Place your answer on the scantron.

Term	Descriptor
12. _____ Low Tide	A. Ocean water rises and falls in a regular cycle
13. _____ Neap Tide	B. When the Sun and the Moon are in line, high tides are even higher and low tides are even lower. It happens because the Sun adds its strong force of gravity to the Moon's.
14. _____ High Tide	C. When the Sun and Moon are at right angles to each other, the effect of gravity is less. As a result high tides are not as high and low tides are not as low.
15. _____ Tide	D. When a tide is at its lowest level.
16. _____ Spring Tide	E. When a tide is at its highest level.

PART C: Written Response

1. Draw where the moon would be located for each of the descriptions below



2. What is the difference between a spring tide and a neap tide?

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3. What is a tidal range?

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4. What causes a tide?

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