

Name: \_\_\_\_\_

Period: 5

### Tidal Wave of Facts

Define Tide. The rise and fall of ocean waters

- rise for 6 hours
  - fall for 6 hours
- } tidal range  
distance/range b/w  
high and low tide

What causes tides?

The moon and sun's  
gravitational pull on Earth.

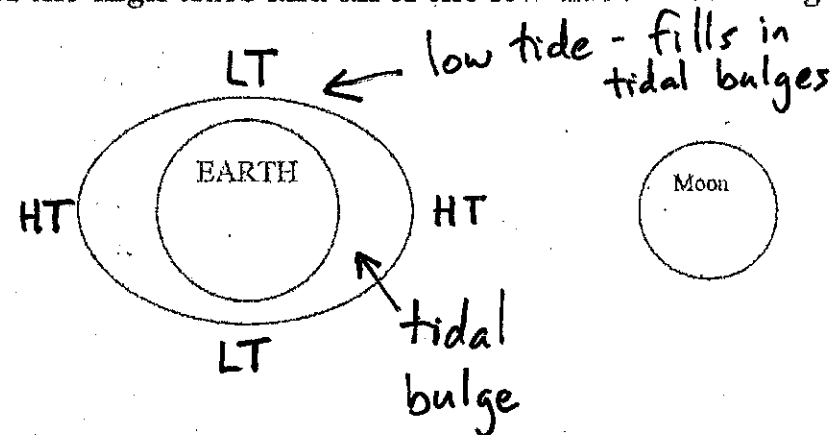
There are 2 High Tides and 2 Low Tides every day.

There are 2 Spring Tides and 2 Neap Tides each month.

Earth's  
rotation  
↓

↑  
moon's revolution  
around Earth

Label all of the high tides and all of the low tides in the diagram below.



Observe the animation of high and low tides. Record your observations below.

High tide follows the moon // opposite side, too.

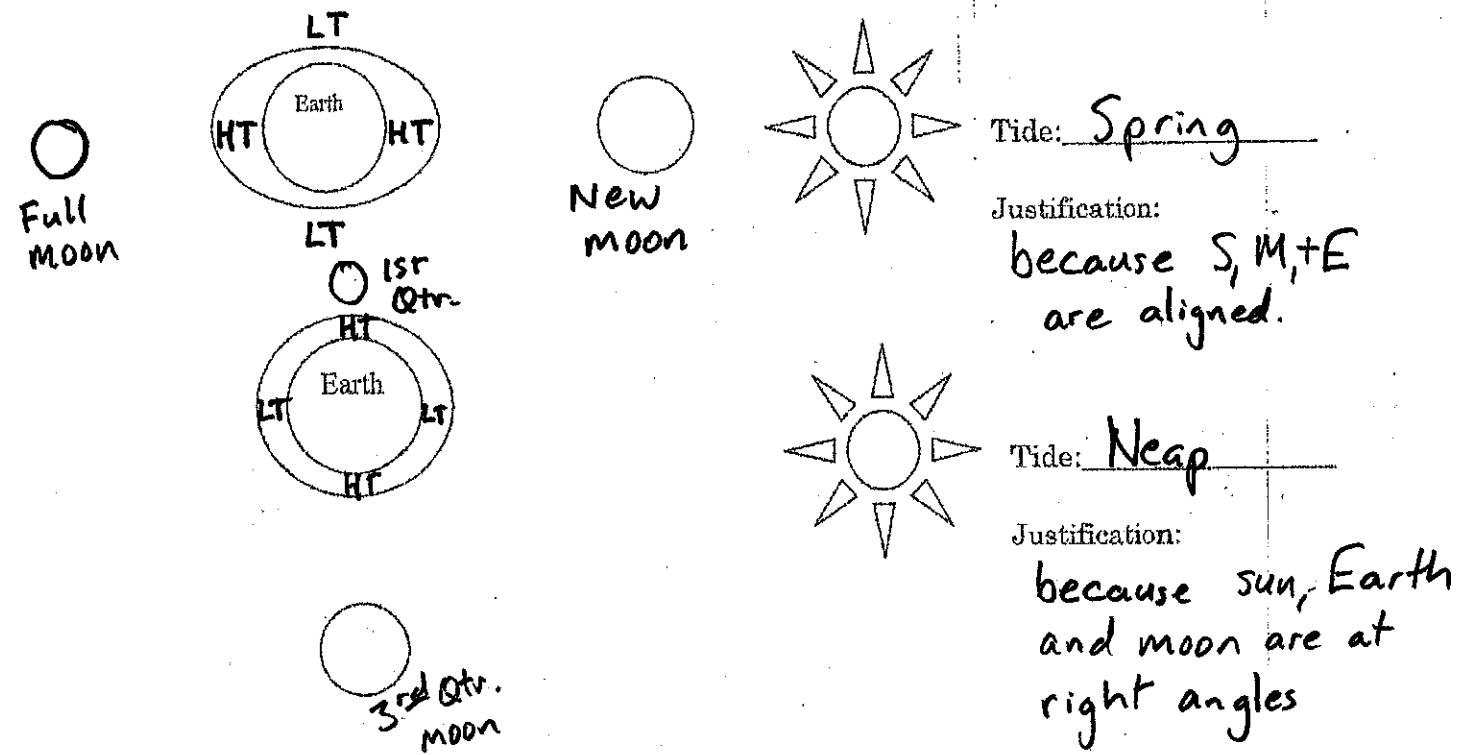
2 H + 2 L per 24 hr. day.

Earth rotates + moon revolves around us.

High tide > Earth rotates into moon's gravity.

Low tide > Earth rotates out of moon's gravity.

Label the Spring and Neap tides in the diagram below.



Observe the animation of Spring and Neap tides. Record your observations below.

Spring tides: New and Full moon - large tidal bulge and range

Neap tides: 1<sup>st</sup> and 3<sup>rd</sup> Qtr moon - smaller tidal range and bulge

Normal tides for rest of moon cycle.

Which phases of the moon cause Spring tides? Why?

New and Full moon b/c S, E, + M are aligned and pull together → higher high tides and lower low tides than normal.

Which phases of the moon cause Neap tides? Why?

1<sup>st</sup> and 3<sup>rd</sup> Qtr. moon because S, E, + M are at right angles. S + M pull opposite each other. Least difference b/w high + low tides.