Name: _____ Period: 3

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 + low tide

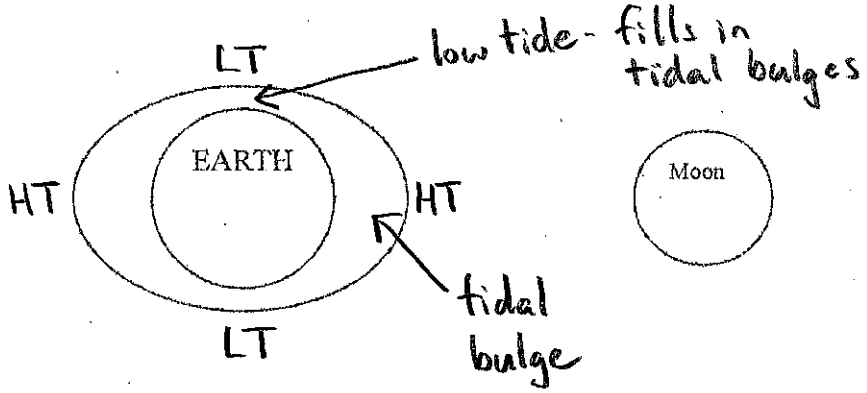
What causes tides?

The moon and sun's gravitational pull.

There are 2 High Tides and 2 Low Tides every **day**. (Earth's rotation)

There are 2 Spring Tides and 2 Neap Tides each **month**. (Moon's revolution around Earth.)

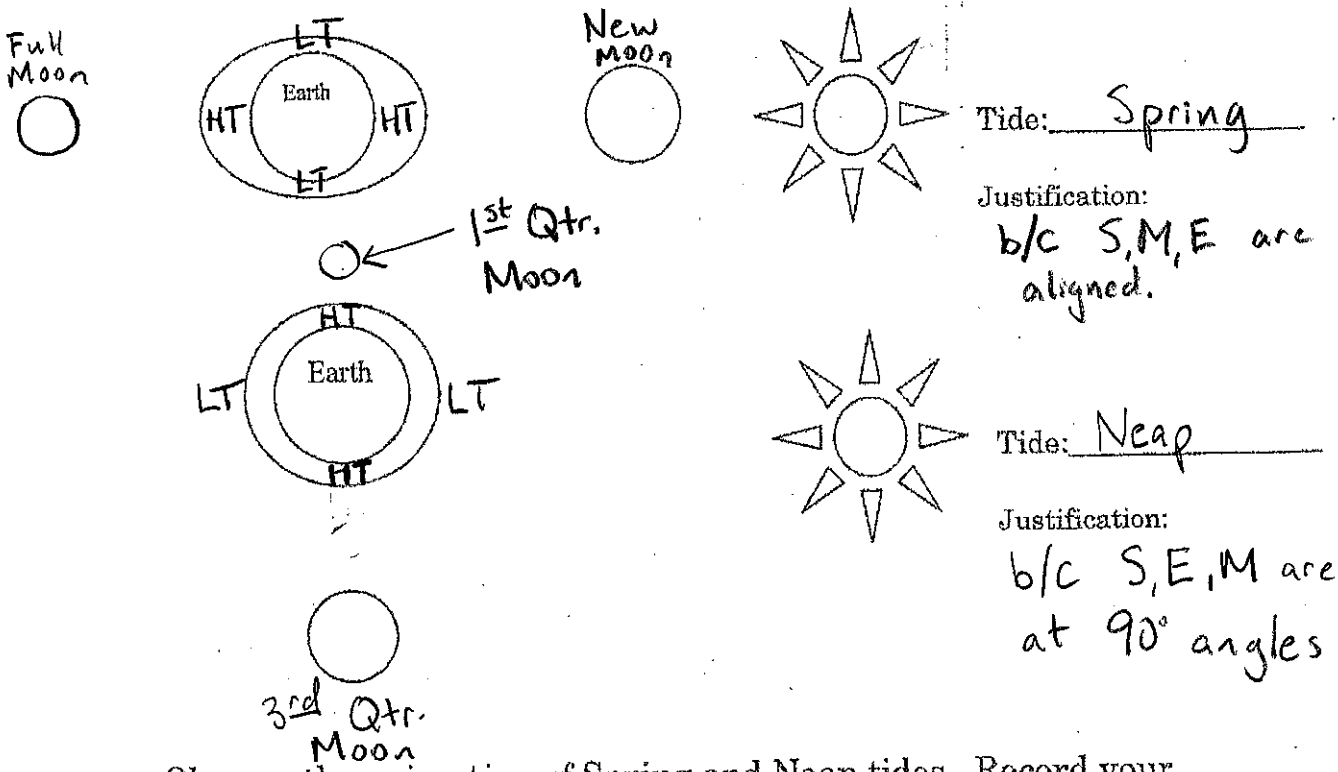
Label all of the high tides and all of the low tides in the diagram below.



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

- High tide follows the moon / opposite side, too.
  2H + 2L per 24 day.
- Earth rotates + moon revolves around us.
- High tide when Earth rotates <u>into</u> Moon's gravity.
- Low tide when a place on Earth rotates <u>out of</u> 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 + Full Moon - large tidal bulge + range

Neap tides - 1st + 3rd Qtr. Moon - small tidal bulge + range

Normal tides for rest of Moon cycle

Which phases of the moon cause Spring tides? Why?

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

Which phases of the moon cause Neap tides? Why?

1st and 3rd Qtr. Moons because S, E, M are at right (90°) angles. S + M pull opposite each other. Least difference b/w high + low tides.