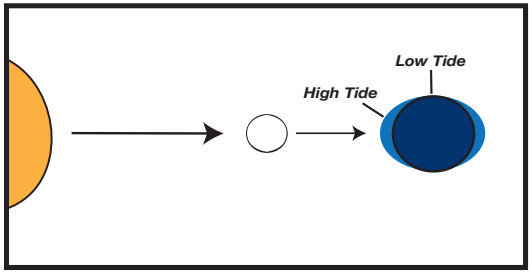
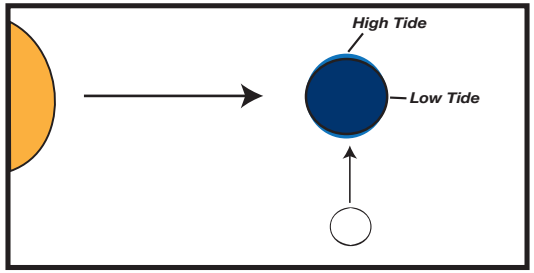
How do Tides Work?

Tides are the rise and fall of the ocean due to the gravitational pull of the sun and the moon. The orientation of the sun and the moon has an effect on the height of the tide; for example, if the sun and moon are pulling in the same direction their combined pull will have a greater effect than if they were pulling in different directions.

How do tides happen?



A Spring Tide is when the sun and moon pull together in the same direction. Spring tides have very high and very low tides.



A Neap Tide is when the sun and moon pull in different directions. Neap tides have less extreme high and low tides.

Activity: Graph Changes in the Tides

DAY	HIGH TIDE 1	HIGH TIDE 2	LOW TIDE 1	LOW TIDE 2
1	+3.3 12:13pm	+5.4 10:28pm	-0.7 5:23am	+2.2 4:15pm
2	+3.3 12:55pm	+5.4 11:04pm	-0.8 6:00am	+2.3 4:54pm
3	+3.4 1:39pm	+5.3 11:43pm	-0.9 6:39am	+2.4 5:37pm

In the table to the left are sample data collected from Monterey, California that measures the tide levels for each high and low tide over three days. The points for day 1 have already been plotted for you. Plot the points representing each high and low tide for days 2 and 3 in the appropriate place below. Then complete the curved line from day 1, connecting it to the points you plotted for days 2 and 3.