Understanding Tides - Analysis Essential Question: What causes the highest tides of the month?

Make sure to label the moon phases on both of your graphs

<u>Analyzing the Graphs</u> - Attach your 2 graphs <u>and</u> <u>Understanding the Tides</u> to this page when finished Answer the questions in detail. Use evidence from the graphs. Draw diagrams <u>if</u> it helps you to explain your point. Use extra paper if necessary. These are not 'why' questions. We will be getting to that next.

1. How does the <u>phase of the moon</u> affect the tides? Use evidence from your graph. Look carefully at full moon.

2. How does the <u>distance</u> between the Earth and the moon affect the tides? Think about why new and full moon would be different. Use evidence from your graph.

3. Does the <u>phase of the moon</u> or the <u>distance between the Earth and the Moon</u> have the biggest effect on the tides? Think about full moon being higher even though it's around apogee.Use evidence from your graphs.

4. What time (approximate) would the first high tide of 2014 be?

Highly Proficient Opportunity - also see rubric

5. At what 2 points in December 2013 are the <u>neap tides</u>. Explain why you think these happen at these points. Think about the positions of the Earth, Sun and Moon. Use gravity in your explanation. Draw a diagram of the phases when these occur.

<u>Earth in Space</u>: develop and use a model of the patterns in the Earth - Sun - Moon system.

Highly Proficient (4)	Proficient (3)	Close to Proficient (2)	Developing (1)
 Proficient, plus: all answers have evidence and detail. graphs represent the data at a high level. neap tides are explained using gravity. diagram is complete and correct. 	 analysis questions are complete and show thought. Graphs are complete, labeled and mostly correct. 	 Some questions are answered graphs are attempted. 	 no graphs questions are mostly incomplete.