Linking Conductivity to Tides *Student Handout*

INSTRUCTIONS:

1. Go to the website: www.Pinellas.WaterAtlas.org. Go to the bottom where it says New Near Real Time Data Mapping Application. You are looking at the sites where live data is collected in Pinellas County. On the left pane you will see options to filter the view of the Atlas data stations. Filter by atlas for all atlases. Click Filter. You should now see the entire state of Florida with many stations.

2. On the Hillsborough County side of Tampa Bay, find the area of the map labeled Gibsonton. You may have to zoom in and center the page to see the stations.

3. Click on the green bubble for "Alafia River at Gibsonton Fl-02301721".
   a. What data does this station record? _____
   _____

   b. Open a new window, type in the address bar www.hillborough.wateratlas.org. Look under the search engine at the top right of the page click HELP, then select the link for Glossary and search for Specific Conductance. What is specific conductance?
   _____
   _____
   _____

   c. Click the link "Salinity Learn More". Under the salinity heading, click the link "learn more about salinity". How does specific conductance relate to salinity?
   _____
   _____
   _____
   _____

4. Now close that window and go back to the Datamapper and answer the following questions.

   a. At high tide at this station, would there be a higher or lower flow of freshwater, why? _____
   _____

   b. How would this impact salinity? _____
   _____

   c. What does this mean in terms of conductance? _____
   _____

   d. Explain how the wet season vs. the dry season would affect conductivity. _____
   _____
   _____

   e. In the last 30 days how many high tides have there been? What are the elevations of the highest and lowest tides? _____
   _____
   _____

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5. Using the space below, draw the position of the earth and moon during high and low tides.

6. Open a new window, type in the address bar www.hillborough.wateratlas.org. Look under the search engine at the top right of the page click HELP, then select the link for Glossary and search for Tides. Under the tide heading, click the link "learn more about tides". Explain the relationship between gravity and tidal cycle.

Name: Date: