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<b>Materials:</b>	Pre-selected web sites related to GRACE
	Internet access                      Markers
	Drawing paper                        Crayons

**Directions to Teacher:**

1. Introduce the class to GRACE using posters and the GRACE web site:  
<http://www.csr.utexas.edu/grace>
  2. Observe pictures of twin satellites (external/internal views). Point out shape, battery, antennas, solar cells, launch adapter, and orbit control.
  3. Locate websites with mission control  
<http://www.cnn.com/interactive/space/9907/mcc.tour/frameset.exclude.html> and observe the mission control. Discuss the technology and teamwork observed.
  4. Photocopy or trace a world map. Using a world map locate mission control centers in Germany, Russia, launch site, Austin, Texas, Greenland and Antarctic Ocean. Also locate any other areas that may have control centers that will assist mission control. Use the world map from the following website:  
[www.lib.utexas.edu/Libs/PCL/Map\\_collection/world\\_maps/World\\_0197.jpg](http://www.lib.utexas.edu/Libs/PCL/Map_collection/world_maps/World_0197.jpg)
  5. Look at images of the Earth as exploration of satellite objects. The following sites have many images:  
[http:// nix.nasa.gov/](http://nix.nasa.gov/)  
<http://www.images.jsc.nasa.gov/>  
<http://earth.jsc.nasa.gov/>  
<http://www.stsci.edu/EPA/Pictures.html>  
[http:// www.spaceart.com/solar/cap/](http://www.spaceart.com/solar/cap/)  
<http://www.nasa.gov/gallery/photo/index.html>  
<http://antwrp.gsfc.nasa.gov/apod/lib/aptree.html>  
[http://daac.gsfc.nasa.gov/CAMPAIGN\\_DOCS/OCDST/](http://daac.gsfc.nasa.gov/CAMPAIGN_DOCS/OCDST/)  
<http://Athena.wednet.edu/curric/oceans/index-text.html>
  6. Students will find information about the GRACE mission on the internet. They will use that information to make a poster about the Gravity Recovery and Climate Experiment. Display posters. Minimum items to include: launch date, location of launch, partners for the GRACE mission, mission objectives.
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**Extensions:**

Students will write a paragraph about a GRACE poster that is on display.

Have students find the location of the GRACE satellite on the internet.

Students will track the GRACE satellite at various times (given by the teacher).

**References / Resources:**

<http://www.csr.utexas.edu/grace>

<http://essp.gsfc.nasa.gov/grace/>

[http://op.gfz-potsdam.de/grace/index\\_GRACE.html](http://op.gfz-potsdam.de/grace/index_GRACE.html)

<http://octopus.gma.org/surfing/satellites/index.html>

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