GEOLOGY/OCEANOGRAPHY:

Properties of Rocks and Soils

- Discuss general properties: [lesson]
  Color, size, texture, weight, number of particles

- Chocolate Chip geology - compare chocolate chip cookies to rocks: [observational activity]

  Students each bring in a rock, are given a cookie and a magnifier
  Students observe their cookie
  Record the data (color, texture, number of particles)
  Evaluate the data - "Does everyone have the same kind of cookie?"

  Students perform the same activity with their rocks.

- Identify the rock: [observational activity]

  Using these same rocks, mark each one to identify the "owner".
  Students write down different properties of 5 to 10 rocks:

  Color, texture, number of different particles, size (using sizing squares)

  Teacher describes the characteristics of one rock
  Students attempt to identify the rock using their data

- Discuss minerals: [lesson]

  Use samples of granite which contains several minerals: felspar, mica, quartz, hornblend

- Demonstrate hefting - measuring the density or compactness of materials: [observational activity]

  Rocks should be approximately the same size but of different densities (i.e. pumice and granite).
  Put one in each hand and feel the difference in weight.
  "Which rock is the most dense?"

Sink/float - Density of liquids

- Soda straw hydrometer - relative density of different liquids: [experiment]

  Students observe, collect values for each liquid and decide what the unknown is from their data.

4 plastic cups marked "1", "2", "3", and "?"	3 food colors
hydrometer (soda straw, clay, beebees, nail)	isopropyl alcohol
salty water (4 parts water to 1 part salt)	tap water
measuring card (1 cm divisions marked on posterboard strip)	

"How high does the straw float in each liquid?"
Make measurements and record data.
Measure the mystery liquid and compare this value to those of other 3 liquids.
"What color should the mystery liquid be?" (be sure to add the color)
Note: Don't switch straw hydrometers between measurements or relative values may not be correct!