## Sea Solids

Objectives:
The students will determine the percentages of materials dissolved in sea water.

The students will make a graph of the materials dissolved in sea water.

Materials:
Circles (hole punches) of green, pink, yellow, grey, blue, orange, and white card stock; 6 " by 9 " brown envelopes

Procedure:


1. Reach into the envelope (without looking) and remove 10 circles of paper. You may reach in more than once if you do not get 10 circles on your first try.
2. Make a bar graph of the circles you drew from the bag.
3. Add the data from the rest of the class to your graph.

| Results: |
| :--- |
| Number |
| 60 |
| 50 |
| 50 |
| 40 |
| 30 |
| 30 |

10

0

1. From your data, which of these materials occurs most frequently in sea water?
2. Add the class data to your bar graph. From these data, which material occurs most frequently in sea water?
3. Why do you need the data from the class to add to your bar graph?
4. What does the envelope represent?
5. Calculate the percentages of each of the materials from your bar graph.

6. What do the percentages tell you about the materials found in sea water?

## Sea Solids Teacher's Instructions

Objectives:
The students will determine the percentages of materials dissolved in sea water.

The students will make a graph of the materials dissolved in sea water.

Materials:
Circles (hole punches) of green, pink, yellow, grey, blue, orange, and white card stock; 6 " by 9 "
 brown envelopes, hole punch

Procedure:

1. Punch out the following number of holes in the associated colors:

| Chloride | Green | 54 |
| :--- | :--- | ---: |
| Sodium | Pink | 31 |
| Sulfate | Yellow | 8 |
| Magnesium | Grey | 4 |
| Calcium | Blue | 1 |
| Potassium | Orange | 1 |
| Other | White | 1 |

2. Make one envelope for each group of students. Encourage them to only remove 10 circles at a time. They may put all the circles back and repeat their draw if you would like for them to collect data more than once.
