|  |  |
| --- | --- |
| **Subject:** | Science |
| **Title:** | World’s Largest Hockey Rink? |
| **Grade Level:** | 2 |
| **Purpose:** | Could the ocean freeze to be the World’s Largest Hockey Rink? Students discover why lakes, rivers and ponds freeze in the winter, but oceans do not freeze. |
| **Curricular**  **Connections:** | * Describe some properties of fresh water and salt water, and recognize the importance of water to living and nonliving things. |
| **Materials:** | * 2 liters (8 cups) water * 30ml (2Tbsp) salt * 2 large bowls * Freezer * Spoon |
| **Activity:** | 1. Ask students why oceans do not freeze. Discuss that in Canada and other places in the world, winter temperatures drop low enough to make rivers and lakes freeze. In those same parts of the world, the ocean water never freezes. Why not? Allow students time to discuss ideas. 2. Label the bowls “Bowl 1” and “Bowl 2.” 3. Measure out 1 liter (4 cups) of water. 4. Pour the water into Bowl 1. 5. Pour the remaining liter (4 cups) of water into Bowl 2. 6. Add 30ml (2 T) of salt to Bowl 2 a little at the time, stirring until the salt completely dissolves. 7. Leave both bowls in the freezer overnight. 8. Check to see if both bowls are frozen. 9. Record your results. 10. Water in Bowl 1 is frozen. Water in Bowl 2 is still liquid. 11. The water in Bowl 2 approximates the same concentration of salt found in the ocean’s water. Explain to students: The more salt in the water, the lower the temperature has to be for the water to freeze. This is why the ocean doesn’t freeze: there’s too much salt in it. Bodies of water located farther inland like islands and rivers have less salt in them, allowing them to freeze when the temperature drops to 0 degrees Celsius. |
| **Extension:** | * Repeat this experiment with several bowls of water of varying salt concentrations. Have students make predictions. Which ones freeze? Which ones remain liquid? * Ask students why salt is used to melt ice on sidewalks and streets and winter? |
| **Assessment:** | 1. Observe students as they complete science inquiry lab. 2. Check comprehension to verify students understand the salt concentration in water is what keeps oceans from freezing. |