Melting Ice Demonstration

Concept: Fresh water and salt water do not readily mix; if undisturbed, fresh water floats on salt water.

Materials: Two identical 1000 ml flasks, ice cubes, Kosher salt, glass stirring rod, food coloring, medicine dropper.

Hints: Color the water in each flask yellow initially (kids *love* thatl). Use Kosher salt to minimize the cloudiness that usually results from using regular table salt (Kosher salt has no impurities; it is pure NaCl).

Set this demonstration up at the beginning of a class period, and allow time for students' initial predications to be realized, or challengedl You may begin at step 4, if you have the flasks set up in advance. You may even choose not to let them know the contents of the flasks, to see if they can infer the physical differences between the two liquids.

Teacher does	**Students will**
1. Prepare demonstration when students are present to observe. Use tap water in each flask (the assumption is that the temperature in each flask is the same, but use a thermometer if the situation warrants more evidence). Stir about 100 ml. of salt into one of the flasks. 2. Ask students to share their observatic~ns with others, who may not have been watching. 3. Drop some yellow food coloring into each of the flasks. Stir.	Watch the assembly of the demonstration. May ask questions.
4. Drop the same number and size ice cubes in each flask. Ask students to predict what will happen.	Students may predict that the ice will melt more rapidly in the salt water, although others may disagree (though this would be rare). Students may offer explanations for their predictions.
5. As ice melts, ask students to describe what they see.	Students will report that the ice is melting more slowly in the salt water solution. Stuents may be confused as to why this is so.
6. Place a few drops of red food coloring in each of the flasks.	Students will observe that the red food coloring mixes in the fresh water, but stays at the top of the flask containing salt water.
7. Elicit ideas from students regarding the physical differences between fresh water and salt water. Connect this concept to oceanographic phenomena, or other real-world situations.	