Activity Name: Separating a Mixture

Target Subject: Physical Science

Purpose: To explore means of physically separating a mixture using dissolving, filtration, and evaporation.

Background Information: Separating a sand/salt mixture is a common experiment in physical science class that requires almost no adaptation for students with visual impairments. This activity also provides experience in popular laboratory techniques of dissolving, filtration, and evaporation.

Preparation: Assembling the required supplies and equipment described in the materials listed below is the only preparation required.

Materials:
- Trays
- Containers of sand and salt mixture
- Water
- Stirring rods or spoons
- Funnel stand
• Filter paper
• Containers to collect the water under the filter stand
• Evaporation dishes
• Heating unit (optional)

Procedure:
1. Given a container of sand and salt, try to separate the substances by physical means.
2. Note if the sand and salt particles can be separated by hand and how long it might take to do so.
3. Add water to the sand/salt mixture, stirring for several minutes.
4. Line the funnel with filter paper.
5. Carefully add the salt, sand, water mixture to the funnel. Allow water to drain into the collection dish.
6. The sand stays in the filter because the holes in the filter are too small for the sand particles. But the molecules of salt are so small they easily travel through the holes in the filter paper. No one can actually see the holes in the filter paper except with high magnification.
7. Place a small amount of the water/salt solution in an evaporation dish. Allow the water to evaporate or use a heating element and a heat proof evaporation dish to speed evaporation.
8. Tactually examine the crystals in the dish after evaporation and cooling.
9. Visually the re-crystallized salt may appear tan or light brown; this may be coloring from the sand dissolved in the water being trapped inside the salt crystals.