



## Activity 14. Desalination

### ***Aim***

To understand the concept of desalination.

### ***Background***

Although 97% of the world's water is held in the oceans, it is of very little use to people except for recreation, waste disposal and for transportation. We cannot drink it because the taste is unpleasant and if consumed in sufficient quantities, it will make us sick. It cannot be used for washing, since most soaps will not lather in it. Machines and metals rust and decompose very quickly in salt water, so it cannot be used in industry.

It is possible to obtain fresh water from the oceans or other salty water. The process is called desalination. The following experiment illustrates this process.

### ***Materials required***

For each group carrying out the experiment prepare:

- A large beaker which does not have a pouring lip
- A small beaker (which will fit with a lot of room to spare in the large beaker)
- A concave dish which will fit over the top of the large beaker
- Some table salt
- A lead sinker

### ***Procedure***

1. Dissolve some salt, say three tablespoons, in a litre of water in the large beaker.
2. The students may care to place a little of the water on their tongues to determine how salty it is. If the water is not very salty, add a little more salt.

3. Sit the small beaker in the large one, ensuring that none of the saline water gets into the small beaker. The small beaker may start to float. Perhaps a lead sinker in the bottom of the small beaker will overcome the problem.
4. Place the concave dish face up over the large beaker.
5. Place the beakers in a sunny spot. Observe what happens over several days.
6. When the experiment has finished discuss with your group what happened. Write a report describing what you have observed and attempt to explain what has occurred.