



Water break down experiment

The aim of this experiment is to investigate the breakdown rates of a range of common litter items in salt water and in fresh water.

What you will need:

- 14 clean glass jars (with lids if possible)
- 12 litter items, trimmed to approximately 3cm x 3cm. Try to select a mixture of organic (living or growing) and inorganic materials. Examples of these are:
 - Banana skin
 - Paper bag
 - Apple core
 - Cardboard
 - Orange peel
 - Plastic bag
 - Plastic bottle
 - Aluminium can
 - Glass
- Scales (to measure the salt and water)
- Two litres of distilled water
- 35 grams of table salt
- Water break down observations sheet
- Camera (optional)
- Black marker and/or sticky labels (optional)



Method

1. Answer the 'Before the experiment' questions on the 'Water break down observations' sheet.
2. Create a 3.5% saline solution, by adding 35 grams of table salt to one litre of distilled water. This is the same salinity as sea water.
3. Pour the saline solution into 7 of the jars, filling $\frac{3}{4}$ of the way to the top.
4. Fill the remaining 7 jars $\frac{3}{4}$ of the way to the top with fresh water.
5. Add one litter item to 6 of the salted water jars and 6 of the fresh water jars. The remaining 2 jars are your control jars so students can see how litter changes the water clarity over time.
6. Label each jar if you wish, and put on lids if you have them.
7. Place the jars in a location where they will receive direct sunlight for most of the day.
8. Photograph the jars and make initial observational notes on the 'Water break down observations' sheet.
9. Gently stir the jars each day.
10. Once a week, photograph each jar and record your observations on the 'Water break down observations' sheet. Continue your observations for an entire term and then complete the questions on the observations sheet.

