



Activity 11. A taste of salt

Aim

To allow students to taste water of known salinity concentrations and to compare these with little known salinity levels from various catchments.

Background

A measure of salinity is the concentration of salt ions in the water. Concentration is often expressed as microsiemens per centimetre ($\mu\text{S}/\text{cm}$). To the uninitiated, concentration figures may be meaningless. This activity aims to overcome that hurdle, by inviting you to taste solutions of varying concentrations. It is guaranteed to capture your interest and serves as a useful introduction to the topic of salinity. It also serves as a timely reminder of just what salty water is really like!

Materials required

- distilled water (6 L)
- table salt
- six 1 L containers
- laboratory scales
- disposable cups (enough for each member of the class)

Procedure

1. Prepare six solutions by adding one litre of distilled water into each 1 L container and the amounts of salt mentioned in Table A.

Table A

| Container | Salt added (grams) | Environment simulated |
|-----------|--------------------|---|
| 1 | 0 | Control – distilled |
| 2 | 0.15 | Upper limit of fresh water – 250 $\mu\text{S}/\text{cm}$ |
| 3 | 1 | Upper limit of marginal fresh water – 1 667 $\mu\text{S}/\text{cm}$ |
| 4 | 3 | Upper limit of brackish water – 5000 $\mu\text{S}/\text{cm}$ |
| 5 | 35 | Sea water – 58 333 $\mu\text{S}/\text{cm}$ |
| 6 | 130 | Once recorded salinity of a saltwater pool in Barr Creek, a tributary of the Murray River – 216 666 $\mu\text{S}/\text{cm}$ |

Note: One level teaspoon holds about five grams of salt.

2. Taste each of the six solutions in turn. Cups should be rinsed out after each tasting.