



## Day 10 Activity

### Introducing Water Quality

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#### Materials

Per group:

2 glasses jugs or clear containers

1 glass or container per ingredient

tap and waterhole water

texta and masking tape tp label jugs and glasses

teaspoons

ingredients to represent pollutants eg soil, fertiliser, salt, cooking oil, laundry powder, ammonia, rubber bands, vinegar (add others as you think of them)

Student Sheet - Introducing Water Quality

#### Preparation

Collect about 2 litres of waterhole water per group from a local waterhole

Collect a large jug (approx 2 litres) of water from a tap at school

Copy the student sheets

#### Activity Instructions

Place both jugs of water in clear view of all the students and explain what is in each. Ask which they would rather drink?


(Taste, appearance and health are important for drinking water quality. Both jugs may have clear water but tap water is treated therefore we know it is high quality water that is safe to drink. Waterhole water may not be as clear and may have obvious pollutants in it.)

Explain that our tap water has come from underground, just as water in many of our waterholes does via springs. (Note: Some waterholes are filled by run off from rain events, but much rain in our catchments soaks into the ground and can recharge the underground supply.) Water is collected from underground and carried in pipes to the a storage tank and then to the school, homes and workplaces.

Organise the class into small groups (or you can do one class display if you want to). Distribute materials - if different groups have different materials they can share their results. Discuss what each material represents.

Soil, fertiliser, salt can represent pollutants from farms and gardens

Laundry powder and ammonia can represent household pollutants



Oil, vinegar, plastic bag, rubber bands can represent industrial pollutants. You can add others eg food colouring may represent chemicals, vinegar might represent acid from mining processes, sunscreen and toilet paper can also be pollutants, as can leaves or other natural materials.

Pour a glass of tap water for every pollutant. Doing them one at a time, add approx 1 teaspoon of pollutant to each glass, labelling as you go.

Discuss how each pollutant may get into the system.

Look for changes to the water as each pollutant is added. Write up observations in a list or table.

Put the jars on a sunny window sill or a protected place outside and record observations over time. Summarise observations after 5 days. (Some items will disappear, dissolve or break down, some will not. The water may change colour in some cases.)

NB Some water, especially that collected in rain water tanks, looks brown because of natural tannins. This water is not necessarily unhealthy but people want to drink clear water. Some water authorities install expensive equipment to remove this colouring from town water supplies.

Now repeat this activity using the waterhole water you have collected.