

## Year 7 science

### What's in our river water

#### Story of a river

##### Australian Curriculum links: Year 7 Science

Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques (ACSSU113)

In this activity, students use the **Story of a river** demonstration to explore the impacts of various land uses on the ecological health of a river.

As the run-off from rain events drains into the river, substances from both the natural environment and human land uses become dissolved or suspended in the run-off and then in the river. These are the contaminants or waste in river water that need to be removed when treating the water for drinking. This demonstration provides a useful context to introduce the topics of mixtures and separating techniques.

#### Equipment

For the class

- see **Story of a river**

#### Preparation

- see **Story of a river**

#### Lesson steps

1. Review student ideas about the local catchment/s that supply drinking water for your area. Display a map of the area to discuss the extent of the catchment, its key features and land uses.
2. Ask students to predict what effect the different land uses in a catchment would have on the quality of water in the river or dam. Talk about the kinds of materials that rain would pick up as it runs off the surface of the catchment.
3. Demonstrate the 'Story of a river'. This is a whole-class activity in which you start with a large clear container of water displayed in front of the class. Read the 'Story of a river'; it describes the effect that different land uses in a catchment have on the quality of the rainwater run-off that finds its way into the river.
4. As each land use is mentioned, a student pours a sample representing the contaminants from that land use that could find its way into the river. For instance, as you read about the 'national park', a student tips a canister of mulch into the container of water.
5. Ask students to consider the idea that the final mixture in the bowl might be the source for the drinking water for the town downstream. Discuss the types of substances that might be in the source water and what treatment processes might be required to make it clean and safe to drink.

<sup>1</sup> © Australian Curriculum, Assessment and Reporting Authority (ACARA) 2010 to present, unless otherwise indicated. This material was downloaded from the Australian Curriculum website ([www.australiancurriculum.edu.au](http://www.australiancurriculum.edu.au)) (Website) (accessed [insert date]) and [was][was not] modified. The material is licensed under CC BY 4.0 (<https://creativecommons.org/licenses/by/4.0>). Version updates are tracked on the 'Curriculum version history' page ([www.australiancurriculum.edu.au/Home/CurriculumHistory](http://www.australiancurriculum.edu.au/Home/CurriculumHistory)) of the Australian Curriculum website.

ACARA does not endorse any product that uses the Australian Curriculum or make any representations as to the quality of such products. Any product that uses material published on this website should not be taken to be affiliated with ACARA or have the sponsorship or approval of ACARA. It is up to each person to make their own assessment of the product, taking into account matters including, but not limited to, the version number and the degree to which the materials align with the content descriptions and achievement standards (where relevant). Where there is a claim of alignment, it is important to check that the materials align with the content descriptions and achievement standards (endorsed by all education Ministers), not the elaborations (examples provided by ACARA)

