

Don't drink the water!

Activity 1

Focus of activity: Comparing capacity by direct comparison.

Working together: conceptual understanding

- Show children a jug of water with green food colouring added. *This is water from an alien planet – we mustn't drink it!*
- Show children an empty small water bottle and an empty squash bottle. *Which of these do you think could hold more water?*
- Place both containers in a washing up bowl. Use a jug of coloured water to fill the water bottle (using a funnel). *Look it's full!* Then pour the water from the water bottle into the squash bottle. Discuss what happens, i.e. the water doesn't fill it. *So which bottle holds more?*
- Fill the squash bottle with coloured water. *What do you think will happen if I pour the water from the squash bottle into the water bottle?* Do this, and discuss how it overflows because the water bottle does not hold as much water as the squash bottle.
- Show two containers with different capacities and of different proportions, e.g. a tall narrow beaker and a short, wide mug. *Which do you think will hold more water?* Take children's guesses. Point out that it is quite difficult to tell as one container is tall and narrow and the other short and wide.
- Fill the larger container with coloured water and demonstrate pouring water into the smaller (through a funnel), letting the water overflow into a washing up bowl. *Which holds most water?*
- Pour the water from the full smaller container into the larger one and show how this does not fill the larger container.

Up for a challenge?

Show children a small plastic cup. *How many cupfuls of water do you think will fill the squash bottle?* Fill the cup and pour into the bottle to find out how many cupfuls it will hold to the nearest cupful.

Now it's the children's turn:

- Give each pair a jug of water with green food colouring added (alien water), a funnel and a washing up bowl. Put a range of containers on the table for the group to share. Children choose a pair of containers and guess which will hold most water. They fill one with water (using a funnel) and then pour this into the other container, over the washing up bowl. Were they right? Repeat with other pairs of containers.
- Go round the group and observe them as they estimate and compare capacities. As children are not recording, you may wish to make notes as a record of their work.

S-t-r-e-t-c-h:

If children cope well, ask them to count how many small cups of water will fit into the biggest bottle.

Things to remember

Remember that just because a bottle is taller, doesn't mean that it will hold more water than a shorter bottle! Ask children to share any surprises when they compared capacities.

You may want to add something that has emerged from the activity. This may refer to misconceptions or mistakes made.

Resources	Outcomes
<ul style="list-style-type: none">• Jugs of water with green food colouring added (please check for allergy issues)• Funnels• Washing up bowls• Small clear water bottle, empty squash bottle, tall narrow beaker, short wide mug• Range of plastic containers for children to use, e.g. different shampoo bottles, washing up liquid bottles, liquid soap bottles, bottles, mug, beaker, etc.• Small plastic cups to use as a measure	<ol style="list-style-type: none">1. Children can compare the capacities of two containers by pouring water from one to the other.2. Children begin to measure the capacities of containers using a uniform non-standard unit.

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Activity 1

Work in pairs

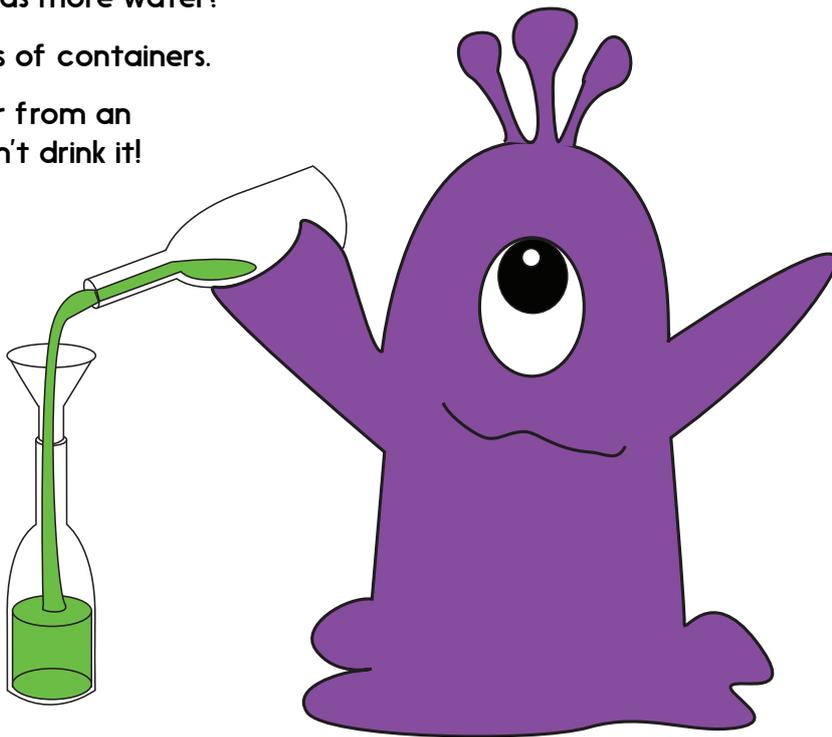
Things you will need:

- A jug of green water from an alien planet
- Funnel
- Washing up bowl
- Range of containers (bottles and cups)



What to do:

- Choose two containers. Which do you think will hold more alien water?
- Put the two containers in the washing up bowl to catch any spilled water.
- Fill the bigger container with water.
- Now pour the water from the bigger container through the funnel into the small container. Is there room left or did it overflow? So, which container holds more water?
- Repeat with other pairs of containers.
- Remember, this is water from an alien planet – we mustn't drink it!



S-t-r-e-t-c-h:

Count how many small cups of alien water will fit into the biggest bottle.

Learning outcomes:

- I can compare the capacities of two containers by pouring water from one to the other.
- I am beginning to measure how much containers can hold using a cup.