Network Supply Challenge

Activity for Primary Students Grades 2-6.

Equipment required

- ☐ Five buckets labelled as follows
  1. The reservoir
  2. Farms
  3. Shops/businesses
  4. Homes/buildings
  5. Murrumbidgee River
- ☐ Bio cups or reusable containers
- ☐ Water (10 litres) to fill the reservoir

Inquiry lesson

Start by asking students the following questions.

Q: What do we use water for in the ACT region?

(Drinking, showering, washing dishes, cooking, cleaning clothes, flushing, gardening, growing plants and veggies, watering pets and animals)

Q: Where does our drinking water come from?

Water in the region is supplied from the three Cotter River Catchment dams (Corin, Bendora and

Cotter) and from the Queanbeyan River Catchment via Googong Dam in NSW.

Q: How do you think the water from water treatment plants gets to the taps in our homes, shops and buildings?

Treated water is sent to our reservoirs located across Canberra and Queanbeyan (on the top of hills). Water is distributed from the reservoirs to our homes and buildings via an underground network of pipes.

Instructions

This activity explores the water network system and how it supplies water for different users.

1. Get the students to form four teams:

- ☐ The river – water flowing to maintain natural processes
- ☐ Home owners and people who live in the city
- ☐ Industry people who need water for their businesses and operations
- ☐ Farmers

2. Spread out the buckets at equal distances from a common bucket – the reservoir.

Start with a full bucket of water in the reservoir.

3. The aim of each group is to supply water from the reservoir to their buckets. The only rule is they can only grab a cupful of water at a time.

To run this as an inquiry session give each group a couple of minutes to brainstorm how they will best achieve getting water to their bucket (e.g. one team might line up behind their bucket and race one at a time or form a network branch line to pass water along from cup to cup).

Alternatively for a competitive approach, get each group to spread out in lines from the reservoir bucket to their group bucket. Then ready… steady... flow… the race is on!

4. After a time when activity has slowed, stop and gather the group buckets together and determine with your students:

Q: What is the level of the reservoir?

Q: Which bucket received the most water?

Q: What is the most efficient and fastest way to get water to the bucket?

At first there should be enough water going into the buckets to supply the four groups.

Ask the students to brainstorm what is the best method to get water from the reservoir to their buckets.

Q: How much water should be allocated to each bucket?

Q: What is the most equitable (fairest) way to distribute the water?

5. The activity can be run again with different scenarios.

The students can change how they form the pipes. If time permits you can include a drought scenario with half the amount or very little water available in the reservoir bucket.

In summary

This activity explores the water network system. Explain that the lines the students form represent the pipes that carry treated drinking water underground throughout Canberra.

The ACT Government has permanent water saving measures in place. Ask the students to find out what they are and come up with ideas on how to save water in the home and at school.

More information can be found at www.iconwater.com.au/PWCM