



SQUEEZE AND COUNT

Timing: 2 hours spread over two days

Activity Type: Hands-on activity

Materials:

- Aluminium pie plates
- Water pitchers
- Sponges of different sizes and colours
- Downloadable image of the earth
- Sponge-counting worksheets
- Whiteboard or blackboard
- Coloured crayons
- Coloured chalk or whiteboard markers

Description: A math activity in which students will learn about the finite nature of water resources while practising graph making skills and predicting the outcome of an experiment.

Expectations:

Language: Oral Communication - 2, 4, 5, (p36)

Mathematics: Data Management and Probability - 25, 26, 27, 28

Science and Technology: Exploration and experimentation - 4, 9, 10

Teaching Strategies

1. Before class, draw a grid on the wipe-off board with upright rectangles, to make three columns.
2. Bring the class to sit in a circle; leave a water pitcher and two pie plates within reach. Take sponges out of a bag; discuss the different ways of sorting them - big or small, different colours, etc.
3. Ask what is special about sponges, what we use them for. When someone says the word 'water,' use the pitcher to pour water into one of the pie plates (be sure to pre-measure the water so you don't have too much).
4. Explain that we can use sponges to carry water from one plate to another. Ask the students to predict how it can do that. What happens when a sponge goes in water? Will it 'drink' all the water, or just some? How much?
5. Making sure everyone can see, transfer the water from one plate to the other with a large sponge, counting out loud each time you squeeze the water out. Do it again, this time with the whole class counting with you.
6. Go to the wipe-off board and choose a marker/chalk of the same colour as the sponge. Explain that you are going to colour in the number of rectangles to show how many times you had to squeeze water out, then write the number under the column.
7. Do the same for a smaller sponge, asking the class to predict whether it will need more squeezes, and if so, how many.

Application

1. At their work tables, the students will transfer water from plate to plate using three sponges of different sizes, then mark down the number of squeezes for each (by filling in the rectangles and writing the number). Make sure coloured crayons are stocked to match the colour of the sponges (this work could be done in pairs).
2. The next day, discuss what the class has learned. How, by looking at the charts, can we tell if a sponge was big or small? (The smaller sponges have more rectangles coloured in).
3. How can we change the outcome of this experiment? Ask what will happen if we leave the sponge in longer, or if we cut the sponge in half with scissors, for instance.
4. Show pie plate again, only this time with an image of the earth taped or glued to the bottom. Discuss the meaning of the colours ('blue is for water'). Pour water into the plate again, giving different sized sponges to two or three children. How can these children share this water equally? The children offer their suggestions.
5. If time permits, talk about ways in which we can limit our everyday water consumption.

Assessment

The teacher will use informal observation of how children answer and pose questions about their graph charts, as well as mark the answers in their individual work sheets.