GROUNDWATER WORKSHEET 3b:
EXPLORE IT! ACTIVITIES SANDCASTLES

PURPOSE: TO EXPLORE HOW GROUNDWATER HELPS STABILITY

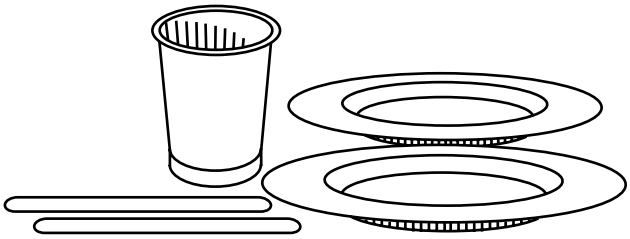
Class materials

- Scoops (one for dry sand, one for damp sand)
- One bucket with dry sand* (one cup per group)
- One bucket of damp sand* (one cup per group)

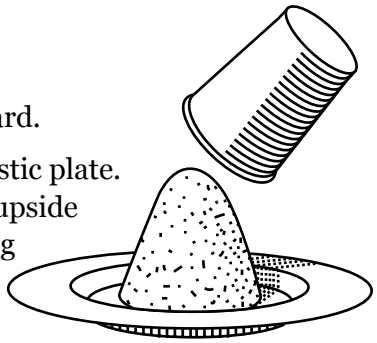
A sand/clay mix will not work for this experiment. Beach sand is great.

+ Materials per two students

- One plastic cup
- Two small plastic plates
- Two icy pole sticks



Method



Step 1 Fill your plastic cup with dry sand. Pack it in nice and hard.

Cover the top of the plastic cup with an upside down plastic plate. Hold the plate onto the cup full of sand and gently turn upside down (without spilling). Carefully lift off the cup, keeping the sandcastle as tall as possible.

Describe the shape of the dry sandcastle.

Step 2 Now fill the cup again using the damp sand. Cover the top of the plastic cup with an upside down plastic plate. Hold the plate onto the cup full of sand and gently turn upside down (without spilling). Before removing the plastic cup, squeeze the sides of the cup very gently to separate the sand from the cup. Carefully lift off the cup, keeping the sandcastle as tall as possible.

Describe the shape of the damp sandcastle.

Step 3 Balance two icy pole sticks lengthways across the top of the sandcastles and record what happens over the next few days as the sand dries out.

Discussion

- Does dry, damp or wet sand hold its shape best?
- What would happen if you built a house on damp sand and the sand dried out?
- A holiday activity: Next time you are at the beach, dig a hole near the edge of the sea. Dig until there is a pool of water at the bottom of the hole. Can you empty the water out? What happens when you try? Imagine lots of people were holes into an aquifer to try to take water out. Would there be any problems? How would you try to fix them?

wetrocks
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