Too Much Water

You need

- results table (see copymaster)
- 8 same-sized plastic plant pots (with holes)
- 4 types of soil
- 4 buckets
- water
- a graduated kitchen jug or similar
- a timer or stopwatch
- classmates

Activity

Sometimes, instead of too little water, there is too much, for example, when it floods!

Davita has noticed that water often lies on the ground during heavy rain. She investigates what types of soil hold the most water.

1. Try Davita's experiment with a group of classmates.
   - i. Fill 4 plant pots with different types of dry soil (for example, sandy soil, clay, potting mix, topsoil, or stony soil).
   - ii. Put each pot on an inverted pot in a bucket.
   - iii. Pour half a litre of water slowly into the pot of soil.
   - iv. When the water has finished dripping, measure and record the amount that dripped through.
2. Next, thoroughly wet the soil in each pot by standing it in water for several hours. (The water level should not be higher than the pot. You may need to weigh the pot down with a stone.)

   Remove the pots from the buckets and let them drain overnight.

Repeat steps **ii–iv** from question **1**, this time using the pots of wet soil. Complete your copy of the table.

Retention of Water in Soil				
Soil	Dry soil	Wet soil	Percentage	
	Amount lost (mL) / Amount retained (mL)	Amount lost (mL) / Amount retained (mL)	Water held by dry soil	Water held by wet soil
Sandy Soil				

3. a. Which soil held the highest percentage of water when dry?
   b. Which soil drains the best when wet (is least likely to flood)?
   c. Which soil is most likely to flood in sustained rain?
4. Some houses are built on soils that don't drain well. What can be done to protect them from flooding?
5. What does your experiment tell you about freshwater supply in sandy regions?

Focus Using percentages to make comparisons