The Heat's On!

You need

- freshly mown grass clippings
- a thermometer
- a wheelbarrow and rake
- a tarpaulin and 3–4 pieces of 100 x 50 mm timber, about 1 m long, or a large garden bag
- a computer spreadsheet/graphing program
- classmates

Maru, Amy, and Ryan are watching the grass at school being cut. They wonder how hot it gets in the middle of a large heap of grass.

FACT

In Victorian England, glasshouses were heated with rotting horse manure!

Activity

1. The next time grass at your school is mowed:
   - i. Choose a sheltered spot with some bare ground. Rake up the grass clippings and put them into a heap (or into a large garden bag). You will need 6–10 barrow-loads of grass.
   - ii. Put a thermometer into the centre of the heap and read and record the temperature. Then cover the heap with the tarpaulin and weigh down the edges with the timber.
   - iii. At the end of each school day for 2 weeks, measure the temperature again and note the appearance of the clippings.

2. a. What do you notice about the temperature of the heap?
   - b. What do you think is causing this?
   - c. What do you notice about the appearance of the heap?

3. a. Record your results in a computer spreadsheet. Create a graph that shows the change in temperature over time.
   - b. Discuss the shape of your graph and how it relates to the changes in appearance that you have observed.
   - c. What could you do to increase the temperature of your heap? Try your idea and see what happens.

Focus Collecting measurement data and making and interpreting graphs