

# The Technology of Turf

## Drainage Experiment

Conduct an experiment to test the drainage qualities of the materials used on the MCG arena.

## Equipment

- 3 shallow trays of equal size with a drainage hole in the bottom of each
- 4 measuring flasks
- A timer
- Equal quantities of clay, gravel and sand.

## Method

- Set up three shallow trays tilted to allow for drainage with a measuring flask placed under the drainage hole of each tray to capture the run off.
- Fill each tray with clay, gravel and sand respectively.
- Pour a standard amount of water (eg., 1 litre) into the top of the first tray.  
(Hint: The amount of water will depend on the size of the tray)
- Record the time taken for water to begin to drain from drainage hole of the tray.
- Repeat the procedure with the other trays.
- Measure and record the amount of water that drained from each tray and the time taken to complete drainage into the run off flasks.

## Record Your Results

- Create a table to record your results.
- Draw bar graphs to show the amount of water captured in the drainage flasks for each material and the time taken to commence and complete drainage for each material.
- Write a paragraph to describe your findings.
- Find out about the qualities of clay, gravel and sand from references in your library or from your local plant nursery. Explain why you think the MCG arena uses a combination of clay, gravel and sand on the arena surface.

## FACT FILE

*A high-tech approach has been used to produce one of the best playing surfaces in the world on the MCG arena. A network of over 7 kilometres of drainage pipes lies under the arena surface and 95 sprinklers ensure that every blade of grass is watered just the right amount! A clay base with drainage pipes is covered with a layer of gravel. A layer of sandy topsoil with nylon mesh strips to enhance durability completes the profile. The grass is a combination of couch and 3 or 4 different rye grasses. The wicket area is made up of different layers of materials and contains a heating element (i.e., like an electric blanket) about 15cm below the surface to encourage growth.*

