



# Activity 9.1

## STUDYING A WATERWHEEL

### Aim:

When you have completed this activity you will have used a waterwheel to examine the relationship between potential energy and kinetic energy.

### You will need:

Cork  
4 safety razor blades  
Knitting needle

### Procedure:

- Push a knitting needle through the centre of a long cork. With your teacher's supervision, insert the sharp sides of the safety razor blades into the cork.
- Adjust a tap to produce a continuous stream of water. Hold the knitting needle with one hand on each side of the cork. Hold your waterwheel near the tap outlet so that the falling water hits the blades. Note the speed of turning. Move the waterwheel down so that the water is still hitting the blades. Note any change in the speed of turning.
- Hold the waterwheel under the tap in a fixed position, for example, half the distance between the tap outlet and the sink. Turn the tap on harder and note any change in the speed of turning.
- What do your observations tell you about where to site a hydroelectric power plant?

