

# Activity card 9

## Renewable energy sources

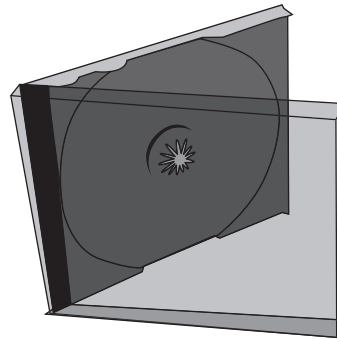
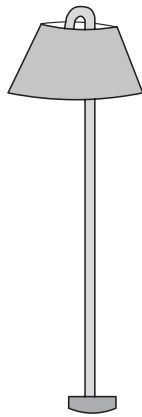
Solar energy and hydroelectric energy are two renewable sources of energy that are currently used in the UK to generate electricity without pollution. Solar energy can also heat water.

### A solar challenge

Solar heating works by using the Sun's energy to heat water in a flat panel covered in glass. It works like a mini-greenhouse, allowing light in but trapping heat.

An empty CD case is similar to a solar heating panel; it has a clear cover that will allow light through.

Your challenge is to design an experiment to find out if a CD case can work as a mini-solar panel.



### A hydro challenge

Hydroelectric power schemes work by trapping huge quantities of water behind strong concrete dams and then allowing some of the water through the dam, under pressure, to turn turbines. These are connected to generators, which create electricity. A two litre water bottle can act like a mini-dam, holding water. If a hole is made near the base of the bottle, water will flow out under pressure. Your challenge is to make this water turn a small turbine, which you need to design. You may need to do some research first!