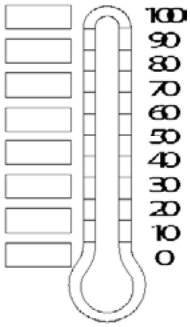
Using IT in... temperature and energy

Can you guess temperatures correctly?

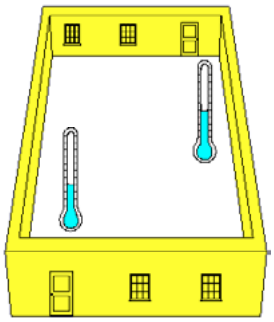


You might introduce **temperature sensors** with a simple activity such as this: ask the children to record the temperature of various things and places. They can try the radiator, the window, warm water, tap water and their hand. They can measure the temperatures using the computer and record their results on a poster sized thermometer. Can they guess temperatures well? How could they get better at guessing?

IT: Measuring

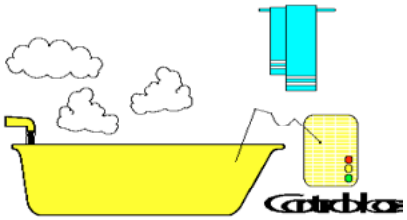
Where are the hot spots in the room?

You can use **temperature sensors** to survey the hot and cold spots around the room. This a stepping stone to learning about convection or that hot air rises. You will need to position the computer so that you can take temperatures near the window, the ceiling, the radiator and so on. The differences are slight - usually just a few degrees - but that's still important. They might record the results, by putting red and blue dots on a map of the room. Where did they think the hot spots would be? Can they suggest why some spots are hot and some are cold? What does this tell them about sitting on the floor? Does the room get warmer during the day? Why might this be?



IT: Measuring

Can you make a bath water tester?



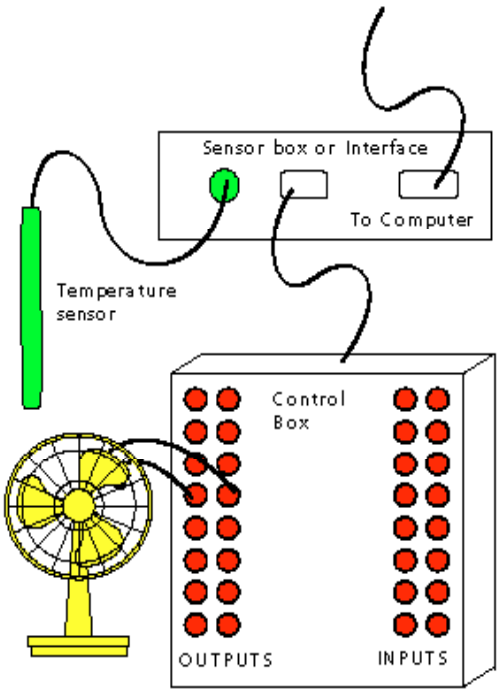
You can use your **control box** to make a bath water tester. It might test the temperature of water and tell you whether the water is too hot or too cold - perhaps using coloured warnings lights or buzzers. The children have to write a short control program to run the system, they will need to check it, refine it and evaluate the success of their project.

IT: Control

Can you get a fan to switch on automatically when it gets too hot?

You can use your **control box** to make a cooling fan. A sensor tests the temperature and switches on a fan if it goes too high. It keeps testing the temperature - and when it drops it switches off the fan. You can try other ideas - none are as difficult as they sound: make a sun-seeking solar panel, make a thermostatically controlled greenhouse or aquarium. See the Control section.

IT: Control



Section 3