



Sensors - How do automatic doors know when to open?

Fact

- Automatic doors use sensors to know when someone is walking towards them.
- A detector box above the automatic doors send out invisible rays to the area in front of the doors
- If someone moves in front of the doors the invisible rays bounce off them and back to the sensors in the detector box – a bit like an echo bouncing back.
- The sensors send a message to the automatic door motors telling them to open the door for you.

Do you know

- The invisible rays that the sensors send out are usually infrared rays – the same kind that are in your TV remote control.
- Burglar alarms can work in a similar way.
- Simple sensors that are triggered by movement have been used for hundreds of years

Experiments you can do

Sensor Echoes

Most sensors work a bit like echoes which are sounds that bounce back at you.

What you need:

A large clean bucket or plastic container or solid rubbish bin

The help of a friend

A blindfold

What you do:

Put the blindfold on and have your friend hold the large bucket up near your head.

Yodel and see if the sound bounces back. Turn a little and yodel again. Keep turning and yodelling until you yodel into the bucket and hear it bounce back to you.

Swap with your friend so they can see if they can find where you're holding the bucket.

Other Investigations

What other things use sensors?

Have a look around your house and see if you can find things that use sensors. Look in your lounge, your kitchen, your garage. Some are safety items (one lets you know if there is smoke around ;o)

Think about large machines and types of transport that might use sensors like radar

Jokes

Knock, knock

Who's there? A little old lady A little old lady who?

I didn't know you could yodel