



## Mobile Phone - How does a mobile phone work?

### Fact

- A mobile phone works by sending radio signals through the air – like a radio walkie-talkie.
- When you talk on a mobile phone the message doesn't go straight to the person at the other end (like a walkie-talkie), the message goes to the nearest cell phone tower and into the telephone network. Then it's connected to the phone of the person you want to speak to.
- Each cell phone tower only covers a certain area so as you drive down the road you move from one cell phone tower range to the next. Some phones show you which cell phone tower you are nearest to.

### Do you know

- The telephone was invented by Alexander Graham Bell in 1876.
- There are approximately 425 million telephones in the world.
- There are cell phone towers all over New Zealand and because your mobile phone only has to send the signal to the nearest one, it doesn't have to be big and powerful. In fact some mobile phones are not much bigger than a chocolate bar.

### Experiments you can do

Make your own simple telephone.

#### What you need:

Two empty and clean yoghurt pots.

A long piece of string

A friend to help you use it

#### What you do:

Have an adult help you make a small hole in the base of each pot. Poke the ends of the string through and tie a knot so that the string cannot pull through the hole. Stand in one room with one of the yoghurt pots and have your friend walk into another room. Make sure the string is pulled fairly tight. You can then speak into one pot, while a friend listens through the other. Take turns at speaking and listening – you can't do both at the same time with this simple telephone system.

### Other Investigations

Next time you are out and about, try and see if you can spot some cell phone towers. Where is the one that's closest to where you live?

### Jokes

What did the big telephone say to the little telephone? You're too young to be engaged.  
From Marvelle