



TV - How do televisions work?

Fact

- Your television receives a signal from a transmission tower and changes the signal into pictures and sound.
- Inside your television is a cathode ray tube which has three light guns in it (one's for the colour red, one's for green and one's for blue) and they work like torches shining their light onto the inside of the screen (The screen is the part of the telly that you watch)
- The screen is made up of lots of dots and when the signal is received by the television it tells the guns what dot to shine their lights on.
- The coloured lights shining on the dots on the screen make up the picture that we see.

Do you know

- Your television screen is coated with a stuff called phosphor that lights up when the light guns shine on it.
- The light that shines from the guns isn't coloured – it's the phosphor that's coloured but the different lights make the phosphor colour glow.
- The picture on your television screen changes 25 times per second so those guns work really fast changing which dot they're shooting light at.

Experiments you can do

Shine a torch onto a light background – like a white wall and see what colour the light makes. Then hold up pieces of different coloured cellophane in front of the torch one at a time and see what happens. Try two colours at once – does it change the colour? What does it do?

Other Investigations

Sometimes programmes from other countries can look a bit blurry compared to the programmes we make here in New Zealand. You can really notice the difference when you see news items on an event in America compared to news items of events in New Zealand. That's because America uses a different system for their televisions. They use NTSC and we use PAL. In New Zealand we have more dots making up our TV screens so our picture can be clearer. Watch closely and see if you can notice the difference.