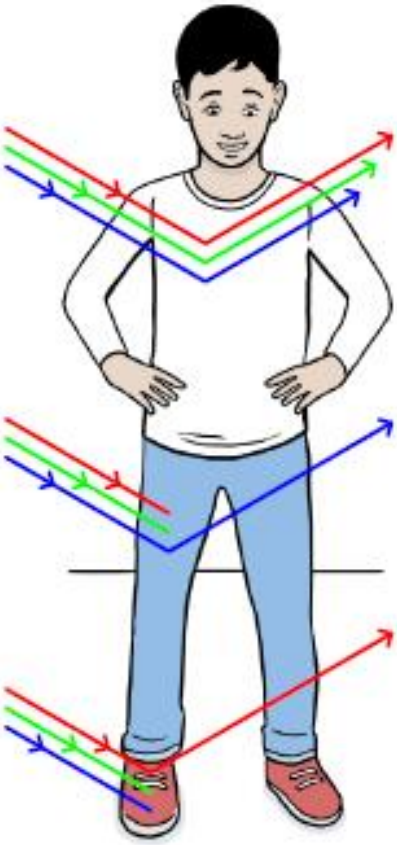
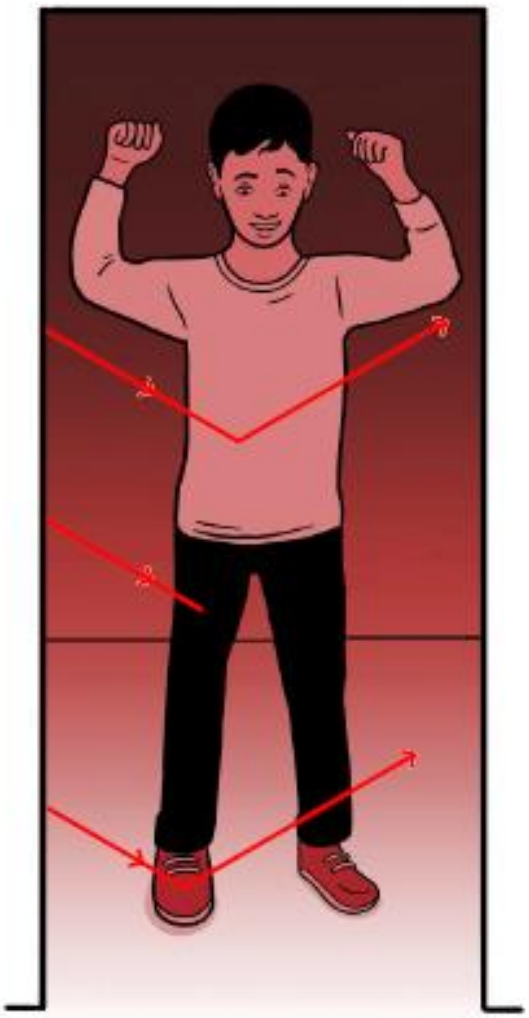
Why do you see colour?

COLOUR ROOM





(Type)	Ages	Topic	Time
Science background	3-14	Light	<10 mins
	Skills used		
	Observation - Curiosity		

Overview for adults

This room is full of colour changing lights. As the colours change from red to green to blue, the colours of the objects in the room change and the pictures on the wall appear and disappear.

What's the science?

We see the world around us because light reflects off of everything into our eyes. White light is actually light of all colours, but most objects don't reflect all the colours of light equally. Red objects appear red because they mainly reflect red light. If you shine blue light on a red object, it doesn't reflect the blue light and so it appears black. The colour room uses this effect to make the pictures on the wall appear and disappear.

Red, green and blue are the primary colours of light. You can make other colours by mixing them together. Purple is a mixture of red and blue, which means it reflects both red and blue light. The colour room uses this effect to make the objects in it appear to change colour.

Science in your world

We see colours because inside our eyes we have rods and cones which detect certain wavelengths of light. Humans have red, green and blue cones, so we see predominantly in those colours. Other animals have different cones and see colour differently. Cats have green blue and violet cones so they can't see red.

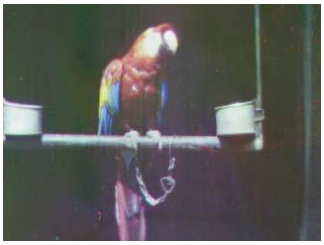
Things to think and talk about …

- What colour are your clothes? How do they change under the different coloured lights?
- How many parrots can you see flying across the walls. Why do they seem to appear and disappear?

Things to investigate …

- What colours are the birds you can see in the room?
- Have a look at them under white light, were you right?

Museum links



This scarlet macaw was filmed through red, green and blue filters to make the first colour film in 1899. The process the filmmakers used was really complicated and it never took off. This film was only rediscovered in our archives 110 years later. You can see the film and the equipment they used in the Kodak Gallery.

Did you know…? The animal that can see the most colours is a shrimp.