

# Play with Light?

## LIGHT LAB



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

## Overview for adults

This room is full of light. In this room you can explore some of the effects that light has on you, your clothes and the objects in the room. The box has several experiments around the sides for you to try out and discover different effects.

## What's the science?

The lights in the ceiling are all coloured, but the room looks as it would normally under sunlight. That is because all the colours of the rainbow mix together in sunlight to create 'white'.

The exhibit in the centre of the room uses reflection, refraction and coloured filters to change the way you experience light. Experiment to find the different effects.

## Science in your world

Instagram filter effects are similar to the filters on one side of the exhibit – they allow you to change the temperature of the image. Try reds for warm, blues for cold.

Convex and concave mirrors make your appearance change dramatically. Convex lenses stick out, and concave bend inwards (just like a cave, which is a good way to remember the difference). You might use these mirrors in a bathroom or in a magnifying glass.

Diffraction grating on one side of the exhibit splits white light up to make rainbows appear – You might also notice this effect on a CDs surface.

## Things to think and talk about ...

- How do you look under different coloured light?
- By moving the sliding filters what different colours can you make?

## Things to investigate ...

- How big or small can you make yourself appear in the mirrors? Which mirror works best?
- Have a look at your clothes; do any of them appear different under colours? Why?

## Museum links

The very first colour film is on display downstairs in the Kodak Gallery – they used coloured filters in red, green and blue to make the images move in colour.

## Did you know...?

The colour pink isn't in the light spectrum – it is created by mixing red and violet light. But naturally, these wavelengths of light never meet because they're at opposite ends of the rainbow.

Pink obviously does exist, but not in a rainbow. Check that out next time you see one.