

Rainbow soap film



Location

First floor, Curiosity zone exhibition

In a nutshell

Create a huge soap bubble film canvas and let light reflect back from it to display a beautiful array of colours

What to do

Slowly pull the cord to make a sheet of soap film.

Time Required

KS1 & KS2 3-4 minutes per student.

What's happening?

The bubble film is a very thin layer of water sandwiched between soap molecules. As light hits the bubble film some wavelengths are reflected straight back while others travel through and some of these are reflected off the inside back wall of the soap film. The colours you see on the soap bubble film are more like the ones you see on some spilled oil on a wet pavement. That's because the same thing is happening to the light to create them. In an oil spill the oil forms a thin layer on top of the water on the wet pavement. We see these reflected wavelengths as colours and the way these waves interact with each other on their way to our eyes affects the vibrancy of colour we see. Some look really vibrant and shimmery - like the iridescent blue of a peacock feather or butterfly wing. While other colours are cancelled out and appear dull. This phenomenon is called 'thin film interference'.

Curriculum links

KS1/2	Science - Light
	<ul style="list-style-type: none"> - (Yr 3) recognise that they need light in order to see things and that dark is the absence of light - (Yr 3) notice that light is reflected from surfaces - (Yr 6) recognise that light appears to travel in straight lines - (Yr 6) use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye - (Yr 6) explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes
	English - Spoken language
	<ul style="list-style-type: none"> - use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas

Relates to:

Workshops & Theme Days	Shows	Trails	Other exhibits
<ul style="list-style-type: none"> • Colourful chemistry (KS2 upper) • Light and Shadow (KS2) 	<ul style="list-style-type: none"> • Light Fantastic (KS2) 		<ul style="list-style-type: none"> • Giant bubbles • Colour trickery • Spectra • Reflect it

