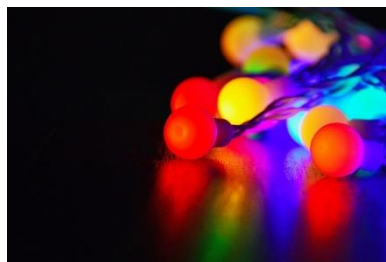


Colour & Light STEAM Incursion for Years 1-6

Incursion Outline



Your Incursion

Offered to primary schools in the St George and Sutherland Shire regions of Southern Sydney, the Colour & Light STEAM Incursion is delivered to your classroom by experienced and passionate science educators.

Requirements for this incursion are as follows:

- The incursion requires 45 mins set-up time and 30 mins pack-down time.
- The presentation uses PowerPoint and requires an appropriate projection system.

For further enquiries or to book this incursion, contact the ANSTO Education Team:

Phone: 02 9717 3090

email: education@ansto.gov.au

Overview

We start with an exciting presentation that introduces light and its properties, colour theory and how our eyes detect both light and colour. We discuss why objects are coloured and differences between coloured light and pigment. Students then engage in two hands-on STEAM activities of choice that encourage further learning and creative exploration.

In the first STEAM activity students explore how colour filters affect how we perceive colour. They experiment with after-images (and learn why these occur) and explore the intriguing effects of light bending (refraction) as it passes from air into water.

For the second STEAM activity, students explore colour mixing. They create their own colour spinning disk to mix colours with their eyes. They also create a unique artwork from coloured cellophane which can be shared with the class using a projector.

Students make predictions and investigate coloured pigments applying the science of *chromatography* in the third hands-on STEAM activity. Using marker pens, paper towel and coffee filters we show students how to reveal hidden colours and make colourful creations. Applications of chromatography in the real world are discussed.

For single class incursions, additional STEAM activities may be available.

Format Summary

Component	Suggested timings (mins)
Introductory presentation	30
+ Choice of two STEAM Activities:	
1. Colour & Light Perception	45
2. Colour Mixing	45
3. Separating Colours with <i>Chromatography</i>	45

A 2-hour duration is recommended for this incursion. Timings can be adjusted to suit your school schedule.

Group size: Limited to 30 for each STEAM activity.

Content Summary:

- Light energy and colour spectrum
- Primary and secondary colours of light and pigment
- Why objects are coloured
- How our eyes detect light and colour
- Colour filters and perception of colour
- After-images
- Refraction of light
- Colour mixing
- Colour separation with chromatography
- Research using light at ANSTO

Links to NSW Science and Technology K-6 Syllabus 2017:

Stage 1 – Physical World

Outcomes:

A student:

Describes common forms of energy ST1-8PW-S

Content

Energy comes in different forms that can be detected

Inquiry question: What are the different forms of energy around us and how can we detect them?

Students:

- identify sound, light, heat, electricity and movement as forms of energy (ACSSU020)
- explore sound, light and heat from various sources, using the senses (ACSSU020)
SciT

Stage 2 – Physical World

Outcomes:

A student:

Describes the characteristics and effects of common forms of energy, such as light and heat ST2-8PW-ST

Content

Energy makes things happen (heat, light and electricity)

Inquiry question: How do heat, light and electrical energy make things happen?

Students:

- investigate the behaviour of light, for example: (ACSSU080) SciT
 - light reflecting in a mirror and on a variety of different surfaces
 - shadows resulting from interruption of light by an object