What are rainbows made of?

A rainbow is more than just a splash of colour. It's a hidden code waiting to be cracked. In this light-filled investigation, students use prisms to split white light and explore how colours are arranged, reflected and refracted. It's science with serious wow-factor!

Curriculum Links

Foundation - Years 5–6 (v9):

AC9S6U04
Light from a source can be absorbed, reflected and refracted

AC9S6I03
Accurately observe, measure and record data

AC9S6H01
Use scientific knowledge to pose questions and plan investigations

Activity Idea:

Rainbow Chasers

Theme link: Decoding energy and light through colour

You'll need:

- [ ] Right Angle Prism – 90 x 45 x 45°
- [ ] White light torch or flashlight
- [ ] White surface (paper, wall, cardboard)
- [ ] Observation sheet or notebook
- [ ] **Optional:** colour paddles or filters

1. Begin with the question: What's really inside a beam of light?
2. Use a **Right Angle Prism** and a white light source (torch, LED) to refract light across a white surface or wall.
3. Observe: What colours appear? In what order? What happens when you tilt the prism or change the light?
4. Ask: Why does red appear on one end, and violet on the other?
5. Students record observations, sketch the spectrum, and learn how different wavelengths = different energy levels.

Extend

Discuss where else we "see" these effects - in CDs, bubbles or even peacock feathers. Challenge students to build their own "mini rainbow projector."

Rainbow Chasers
Light & Colour Investigation

In this activity, you'll use a prism to explore what white light is really made of. You'll observe how light bends (refracts) and splits into different colours and record your discoveries.

You'll need:

- [ ] Right Angle Prism
- [ ] Torch or flashlight (white light)
- [ ] White wall, paper or cardboard surface
- [ ] This worksheet or a notebook
- [ ] A curious mind and a steady hand!

Observe and record

What happened when you shone the light through the prism?

What colours did you see? In what order?

What changed when you tilted the prism or moved the light?

Sketch your spectrum

Draw what the spectrum looked like when light passed through the prism:

Decode the rainbow

Which colour was bent the most? Which was bent the least?

What does this tell you about the energy of different colours of light?

Where have you seen rainbows or colour patterns like this in everyday life?

What would you like to investigate next with light and colour?