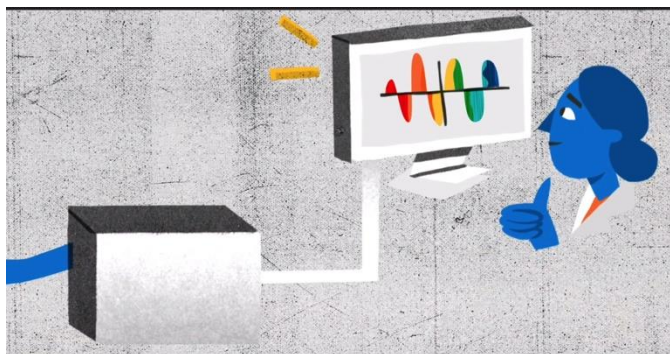


Key Stage 3

How to read a rainbow

Student worksheet



Spectroscopes

Spectroscopy is used to split light into its different colours. People use spectroscopy for a variety of tasks. Astronomers use spectroscopy to look at the light from stars; Jewellers look at light shone through gemstones to see whether the gem stones are real or fake.

Using your spectroscope

Use your spectroscope to look at as many different light sources as possible. Make sure you point the slit at the light; you may need to adjust the angle to see the rainbow/spectrum clearly.

- Try looking at the classroom ceiling lights and any other lamps/lights in your classroom.

<https://www.oxfordsparks.ox.ac.uk/content/what-are-quantum-rainbows>

- Try pointing it at the window to see what sunlight looks like (it doesn't need to be a sunny day for this to work).

IMPORTANT Do not look directly at the sun through your spectroscope as it will damage your eyes

You should find that light sources that all appear to be white light can look very different when you look at them through your spectroscope. In particular, light from fluorescent light bulbs will look different from sunlight.

Draw a sketch below of what two different light sources look like using your spectroscope. Compare your sketch with someone else's.

If you get a chance to, try looking at sodium lights (orange street lights) with your spectroscope. You should see one or two very bright orange lines.