

Rainbow Collectors

What are the seven colours of the rainbow and how can we see them?

What IS a spectrum?

Look at this page to find out about the colours of the spectrum and how to spell some important words:

[7 Colours of the Rainbow | Vocabulary](#)

The next page explains about colours we can't see and what makes black and white:

[Colours Vocabulary | Vocabulary](#)

Finding out more about the colours of the spectrum

Going further - find out about the Electromagnetic Spectrum

[The Science of Light and Color for Kids: Rainbows and the Electromagnetic Spectrum - FreeSchool](#) (4:37)

If the weather is too bad to go outside today you could watch this video about 'The colours of life' with Dr.Helen Czerski

[Colour: The Spectrum of Science - Colours of Life \(2 of 3\)](#) (58mins)

What is making colours of the spectrum appear in these examples?

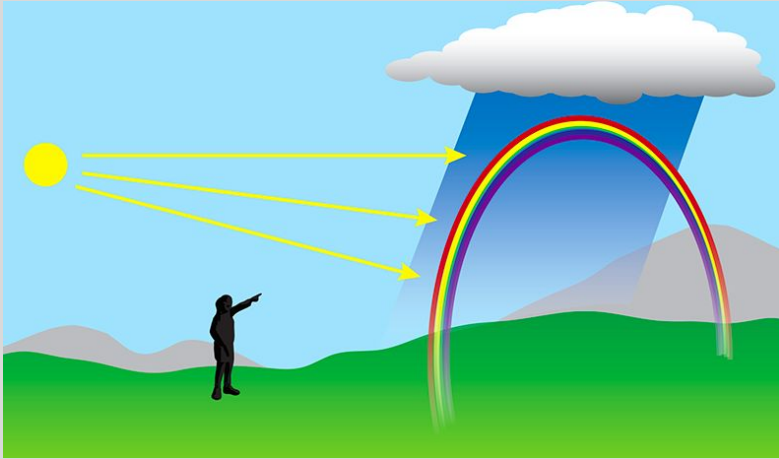


Look at the photographer's shadow - where is the sun and where is the rain when you see a rainbow?



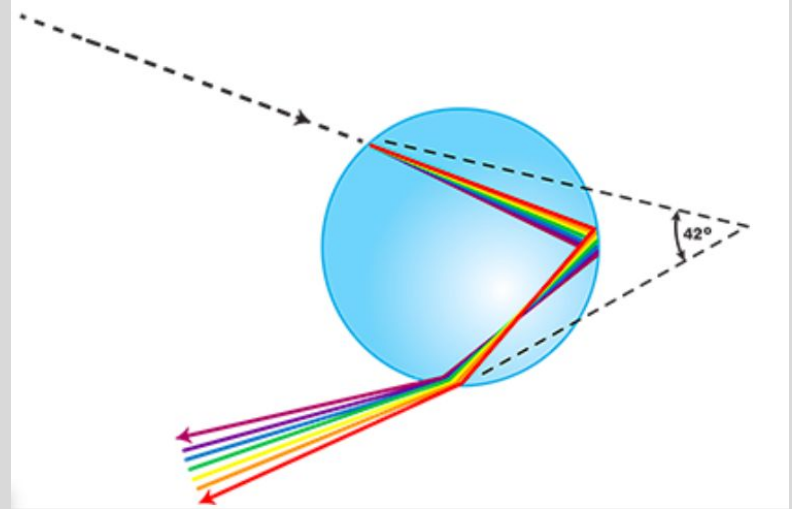
This called a sun dog. The wispy clouds are very high up where it is very cold - what do you think will have happened to the raindrops? Sundogs usually come in pairs, one each side of the Sun

Why do rain drops and ice crystals make rainbows?



Were your answers right about the photographs on the last slide? Where is the sun and where is the rain when you see a rainbow?

From: <https://scijinks.gov/rainbow/>



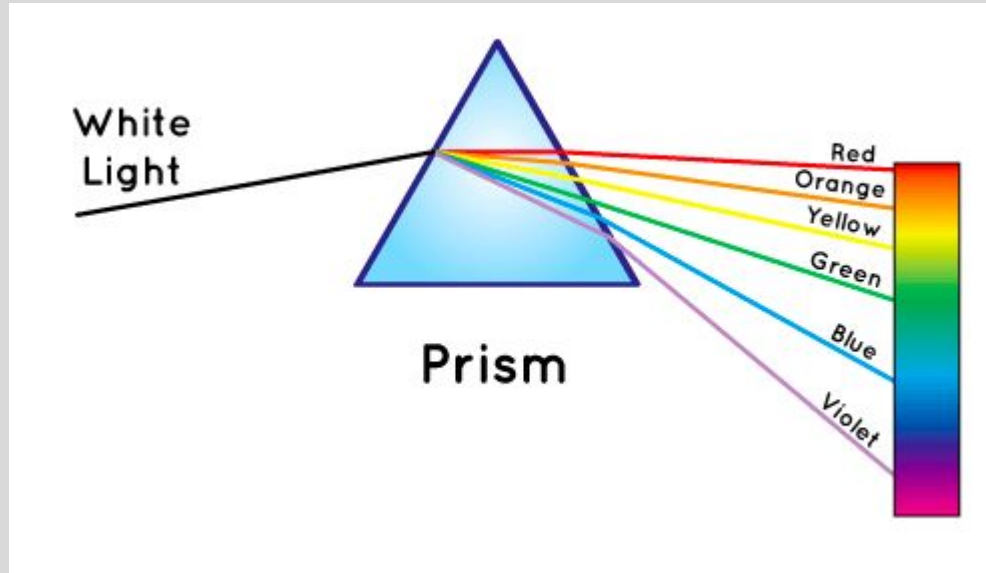
This explains what happens. Sunlight goes into the raindrop (or the ice crystal if it's up high), the rays of light are bent as they pass from air into the water or ice and reflect from the back of the drop or crystal. Different colours bend by different amounts and the colours separate out so we see a RAINBOW!



Time to make
some
rainbows!

Check your rainbow - are your colours OK?

[How to Color a Rainbow step by step](#) (Video 2mins)



From

<https://spaceplace.nasa.gov/blue-sky/en/>

More things to think about doing - especially if you like a challenge!

- Write a report or design a wall poster to display your rainbow and to report on the colours of objects you collected - which were easy and which were hard to find?
- Research how rainbows are formed and add this to the report or prepare a presentation on this to explain it to an audience
- Look for different, transparent objects and test which ones make rainbows - investigate whether some shapes of containers, or parts of the containers, make better rainbows than others
- With a prism or the pieces of DVD, investigate whether different types of light make different spectral patterns
- Design a garden or a stage set using interesting lighting and colour effects - try to use all the colours of the spectrum