Epistemic Insight

Why is the sky blue?

INVESTIGATING BIG QUESTIONS

Science
Psychology
Geography
History
Theology, Religious Studies
English
The Arts
Philosophy
Computer Science
Mathematics

Have you ever wondered why the sky is blue?

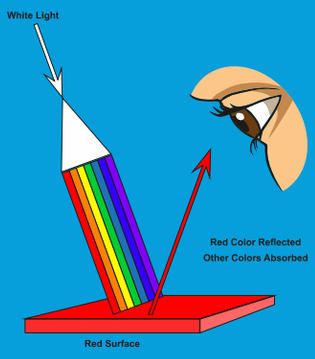
Or looked at a bubble and seen colours on its soapy surface?

Can science help us to explain colour?

Activity

What do you predict you will observe if you look at a red sheet of paper through the diffraction glasses?

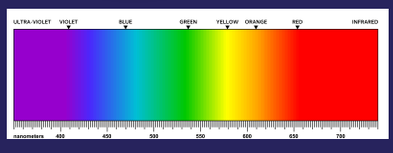
Write down your prediction on your sheet. Now put on the glasses and observe the paper.



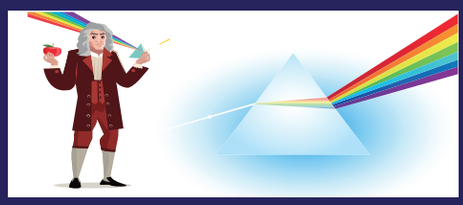
Were your predictions right?

When you look at a red sheet of paper only the red light is reflected to your eye – and you see the paper as red.

Science tells us that everyday light contains all the colours of the rainbow.



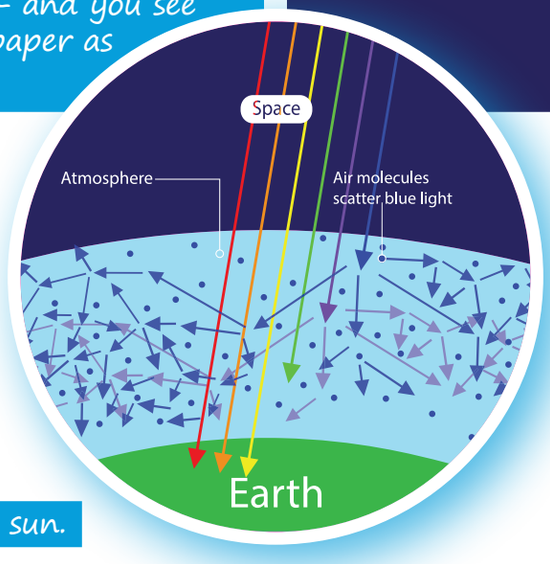
Sir Isaac Newton (a scientist who lived over 300 years ago) discovered he could split up the colours in light using a prism.



When sunlight passes into a bubble, the bubble bends the rays of light and splits the colours.

So why is the sky blue?

Sunlight (containing all the rainbow colours) reaches Earth's atmosphere and is scattered in all directions by the gases and particles in the air.



Blue light is scattered more than the other colours. By the time it reaches your eyes, it seems to have come from all over the sky.

Remember – never look directly at the sun.

Canterbury Christ Church University

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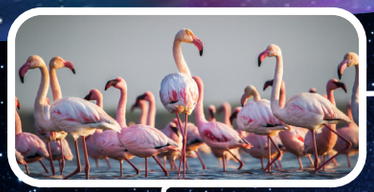
Our Perfect Planet

INVESTIGATING BIG QUESTIONS



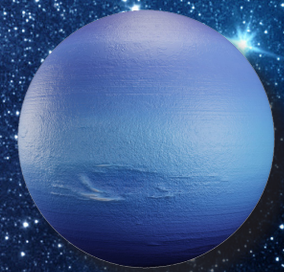
Scientists say that the Earth is 'just right for life.

Get ready to find out how perfect we are!

We live in the 'Goldilocks zone' from our star. This is the zone where water is a liquid.

Planets that are closer than we are to the Sun are hotter. Any water boils away.

On Neptune the temperature is minus 200 degrees Celsius. Too cold!



Our planet is the only planet in our solar system that is teeming with life.

Our planet has been protected from meteor strikes by Jupiter – a giant planet that has a stronger gravitational field than ours.

PERFECT

Luckily we are in the space in between two spiral arms.

The spiral arms of our galaxy are risky places to be – because of the risk of stellar collisions.

It means there has been enough time for complex life to evolve on the Earth.

Large stars have short lifetimes but our star, the Sun is the right size for a long stable life.