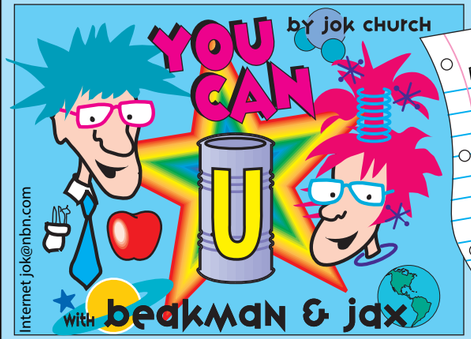


Dear Beakman,
Why is the sky blue?
Maria Isabel
Santo Domingo,
Dominican Republic

Dear Maria,
I don't think we'll ever know why it's blue. And why is what you asked about. But we can talk about how the sky gets its blue color.

White sunlight is really a lot of different colors of light mixed together. Some colors of light travel through air and dust better than others. Red goes a long, long way. But blue light gets bounced around a lot. Our blue sky is blue light that has been bounced out of sunlight by gazillions of molecules of air.

Beakman
Beakman Place

Take White Light Apart

WHAT YOU NEED: CD - bright sunshine

WHAT TO DO:
Use the silvery side of a CD like a mirror to bounce sunshine onto a white wall. Or look into the CD from close to its side in bright sunshine.

WHAT IS GOING ON:
All those colors you see are rainbows made by the CD taking sunlight apart into the different colors white light is made from.

SO WHAT:
Different colors of light behave differently. Each color bounces or bends differently from other colors.

When blue light hits something, it bounces at its own angle.

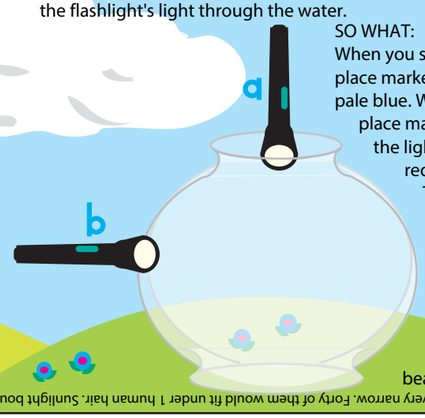
Notice that the different colors are lined up in a regular order. They're lined up according to the different bounces each color has.

That's why You Can see blue as a separate color on a CD and why You Can see it as one color in the sky.

Make A Tabletop Sunset

WHAT YOU NEED: Empty fish or turtle bowl or a large glass punch bowl - flashlight - milk - complete darkness

WHAT TO DO:
Fill the bowl with water. Add milk, drop by drop, until You Can notice the water has a slightly cloudy look. Wait until night, when the room is completely dark. Shine the flashlight down into the water. Next look at the flashlight's light through the water.



SO WHAT:
When you shone the light from the place marked A, the water looked pale blue. When you were at the place marked C and looked into the light at B, you saw a red and orange ball.

The blue light from the flashlight bounced off the bits of milk the way the sun's blue light bounces. The reds and oranges went farther, just like when we look through the air into a beautiful sunset.

P.S. from Jax: The tracks of a CD are very, very narrow. Forty of them would fit under 1 human hair. Sunlight bounces off these different grooves, and the different colors all bounce at different angles.