**Visible Light and Colour**

Most light we use (like sunlight or ceiling lights) is what we call **\_\_\_\_\_\_\_\_\_\_\_\_\_** light. It is light, that when shone onto a white background, with look white. We can look at what white light is made of by using the property of **\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.

**Refraction:**

Example: Refraction of visible light

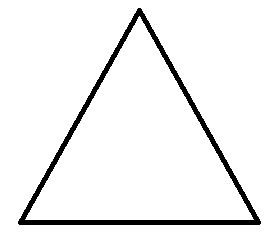
Red Green Blue

Wavelength

Refraction

**Isaac Newton’s Experiment**

People believed that colour was something an object added to white light. So, when white light strikes a blue shirt, the shirt would give the blue colour to the light. Newton made an experiment to see whether this was right or wrong.



What is the colour of the prism?

What colour could the prism give to light?

What results do we get?

What does this mean?

**Reflection and Colour**

Our eyes see by having light go into them.

**Thought experiment**: If you were placed in a cell 30 m underground through windy passages and sealed into a room with no lights inside, would your eyes adjust to the darkness so you could see a little bit?

If there is no light, you will **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.

If there is a little light, you will **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.

Light rays make it into our eyes by **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** off an object and heading into our eyes. How would this help us see colour if we are shining white light on an object?

When light hits an object, the object will absorb most of the coloured light, and reflect the rest. Remember, we can only see the light that is reflected.

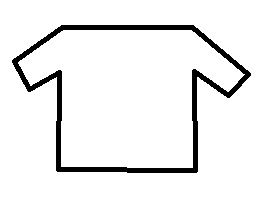
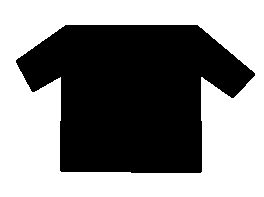
So:

A blue shirt will reflect **\_\_\_\_\_\_\_\_\_\_** light and absorb **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

A red hat will reflect **\_\_\_\_\_\_\_\_\_** light and absorb **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

A green booger will reflect **\_\_\_\_\_\_\_\_** light and absorb **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Absorbing light will make **\_\_\_\_\_\_\_\_\_\_**. Compare wearing a white shirt and a black shirt in the sun.



**Combining Light**

We can combine coloured light to make different colours of light. Write the result of each combination:

Green light + Blue light =

Green light + Red light =

Red light + Blue light =

Green light + Red light + Blue light =

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