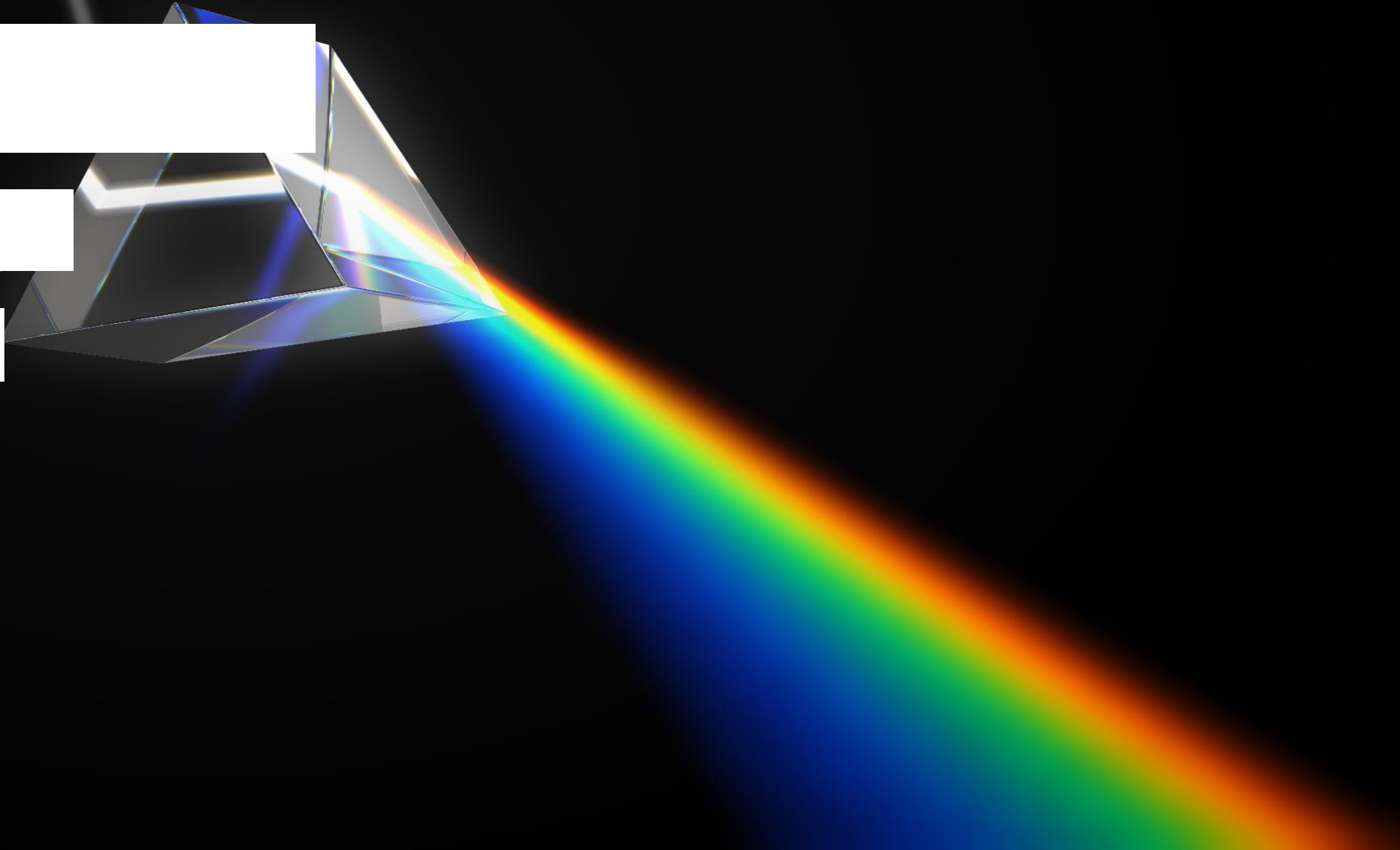


Light

YEAR 3

Summer 1



LESSON 5

Where do different colours come from?



Do Now – Retrieval Practice

1. Match the part of the eye to its function

Pupil	Carries signals from the eye to the brain
Lens/Cornea	Focuses light onto the retina
Retina	A hole through which light enters the eye
Optic nerve	Cells that sense light and convert it into electrical signals

2. Which instrument can we use to measure the amount of light found in a given place? _____

From last cycle:

3. What kind of scientist studies rocks?

- a. A palaeontologist
- b. A geologist
- c. A chemist

4. What is the difference between intrusive and extrusive igneous rock?



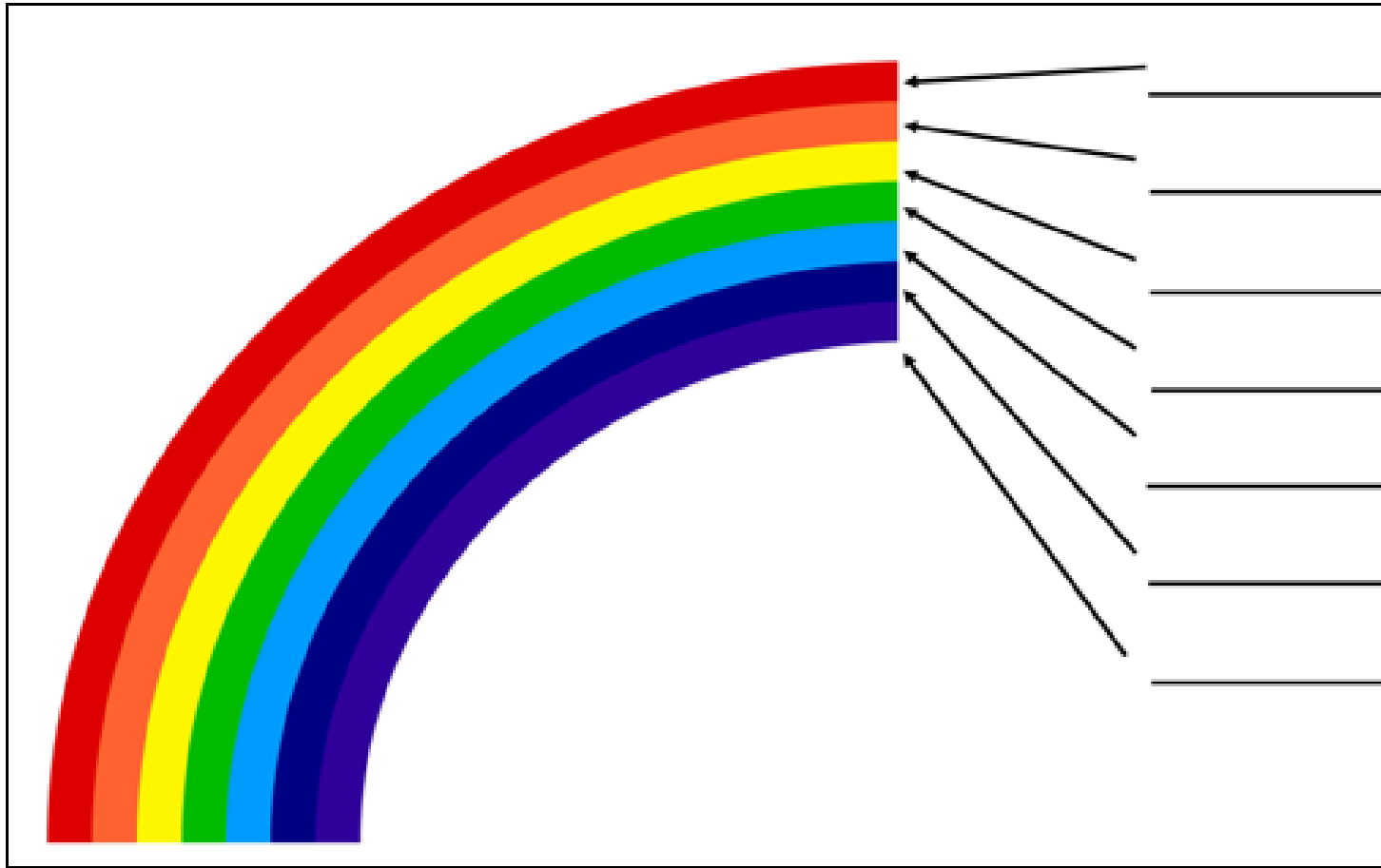


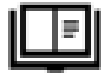
Write down the names of as many colours as you can:

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Label the colours of the rainbow below





Read the following passage about colours of light

White light is actually a mixture of colours combined to make white light. This was first discovered by Isaac Newton in an experiment that is now famous. He used a prism (a triangular piece of transparent material) to split white light into all the colours of the rainbow. In fact, a rainbow is made by water droplets in the air splitting the Sun's light into a range of colours.




What did Newton discover about white light?

As white light can be split into a range of colours of light, it is also possible to make white light by mixing colours of light together. By using what we call the 'primary colours of light' red, blue and green and combined light of each type, we can make white light. Or if we mix just two of these primary colours of light, it is possible to make 3 more colours which we call

the 'secondary colours of light': yellow, magenta and cyan as shown in the diagram below.



 Using your teacher's help, label yellow, cyan and magenta in the diagram above.

When we shine white light on coloured objects, we only see the colour of the object. The reason for this is that the object reflects the colour you see and absorbs (which means 'takes in') all other colours from the white light.

For example, a red book will reflect red light and absorb everything else. A blue pencil will reflect blue light but absorb all other colours. However, white objects reflect all colours of light and black objects absorb all colours and do not

reflect any colours of light which is why they look dark.



A red object reflects red and absorbs others colors of white light



A white object reflects all colors of white light equally



An object is seen as black if it absorbs all colors of white light

 What happens to white light when it hits a red object?

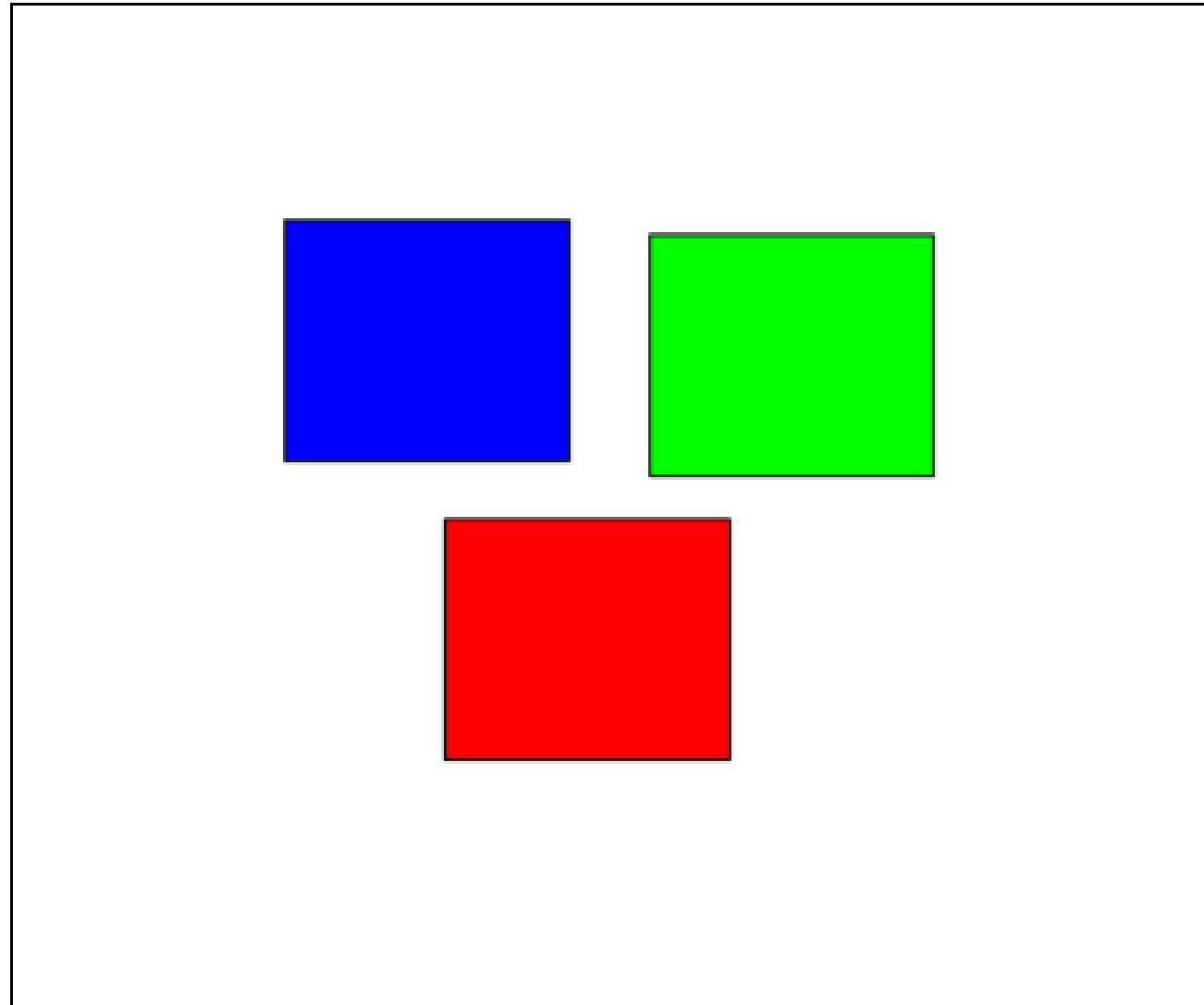


Watch the demonstration of colours being mixed

(from 1:00 to 3:20) <https://www.youtube.com/watch?v=KZ-mEddsYqo>



Watch the demonstration by your teacher. Add notes to the diagram below to show your observations.



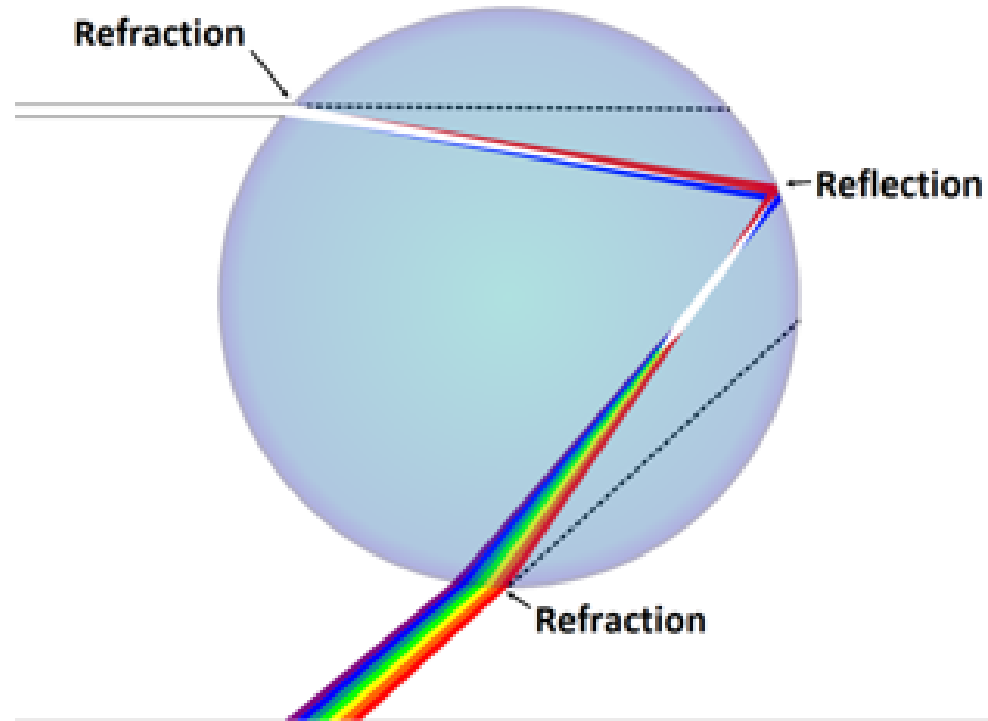


Fill in the gaps to explain how a rainbow is created

Light from the sun comes into rain droplet and changes direction (which means r_____ has taken place).

The colours of light start to spread out before they all bounce off the back of the rain droplet (which means r_____ has taken place).

The colours spread further as they change direction when they leave the rain drop (which means r_____ has taken place again). As this happens to millions of rain droplets in the air, a r_____ is created which is why rainbows are created when sunshine meets rain.





How does the person in the video create a light show with lots of different colours? <https://www.youtube.com/watch?v=eKj1EwJ7THU>