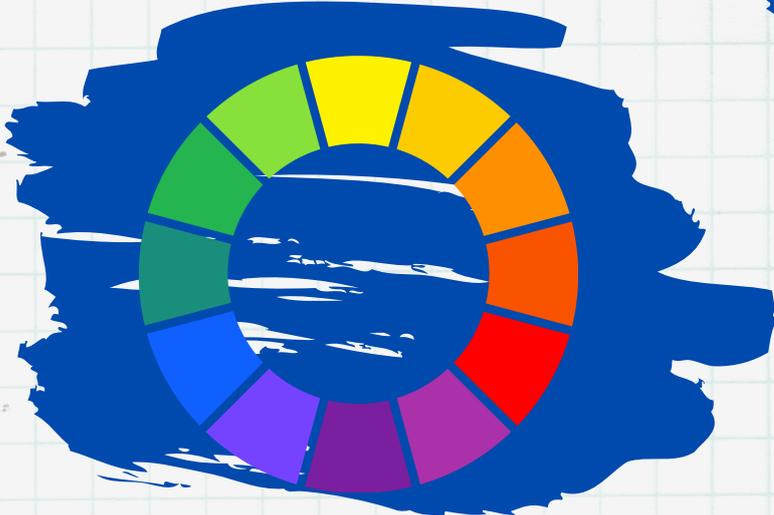
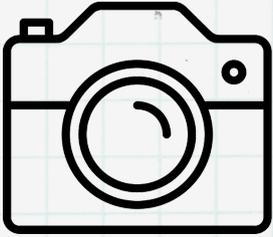


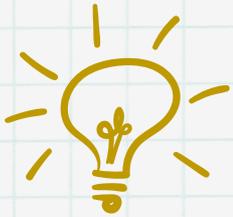
SCIENCE OF FILMS





SCIENCE OF FILMS

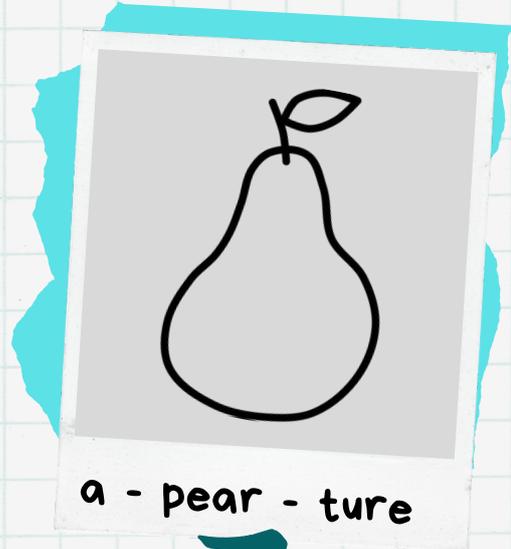
To take a photo,
a camera must let in



LIGHT

This is called

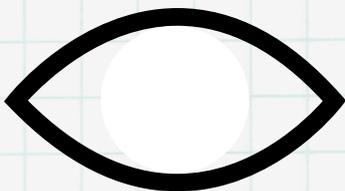
APERTURE



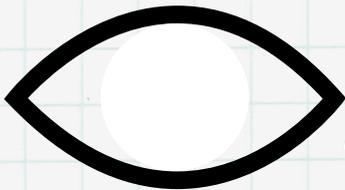
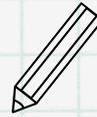
Our eyes work the same way

You'll need an adult to help with this, and a pen or pencil!

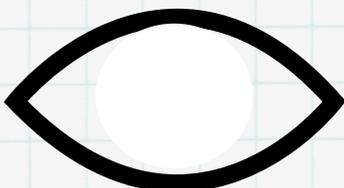
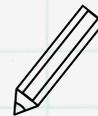
What does your pupil look like when...



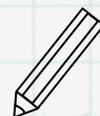
You sit inside

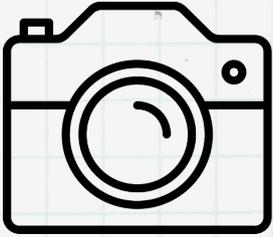


You go outside in the sun



You put a blanket on your head



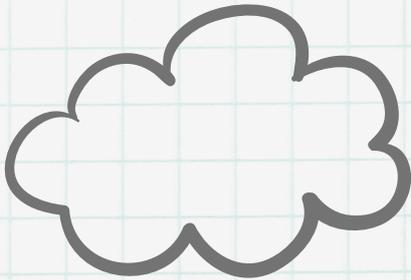
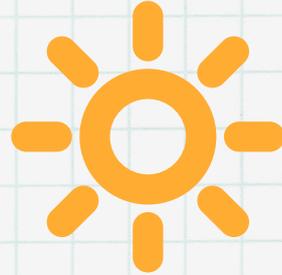


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What did you find out? Circle your answer!

The brighter the light,

the bigger smaller the pupil.



The darker the light,

the bigger smaller the pupil.

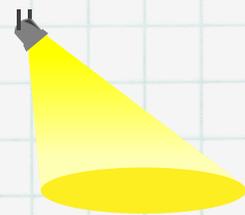
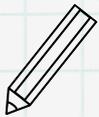
When there is **lots of light**

The aperture needs to be **smaller**

• Like on a stage

• And _____

• And _____



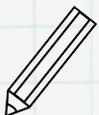
When there is **not a lot of light**

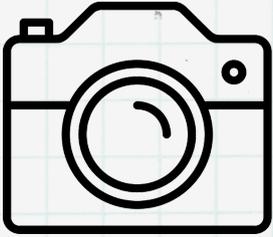
The aperture needs to be **BIGGER**

• Like in a cave

• And _____

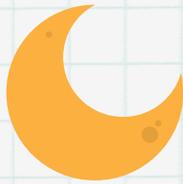
• And _____





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Can you help Eli and Ellie?



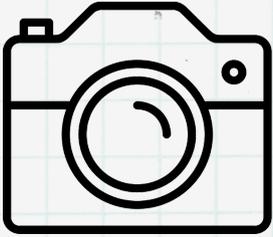
Eli wants to take a picture of their friend at night time but doesn't know what size aperture they should use.

What size aperture should they use and why?

Ellie wants to take a picture of her cat in the garden while it's sunny, but when she takes the photo it's too bright!



Why did this happen?



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You will need colouring pens or pencils, a regular pen, and an adult!

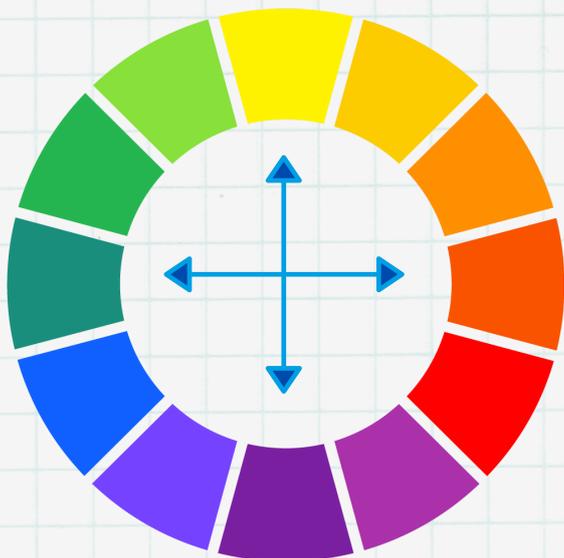
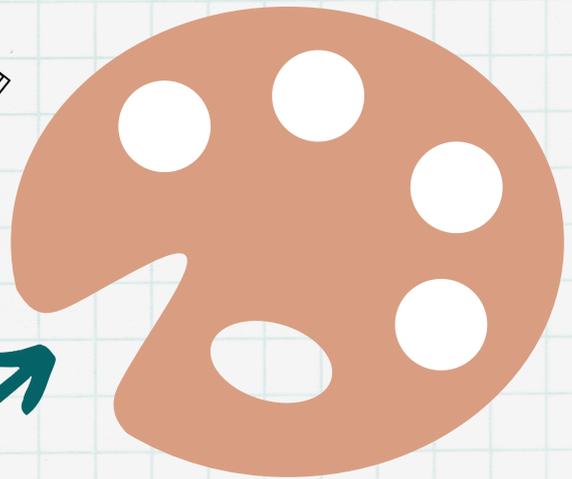
COLOUR

- Colour is a very important part of films
- It makes them fun to watch and nice to look at

What's your favourite film?



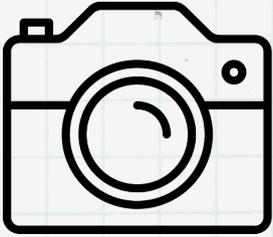
What colours are in it?



Opposite colours on the colour wheel work together

these are called

complimentary colours



SCIENCE OF FILMS

What colours do you think work together?



red

and

green

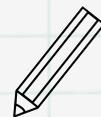
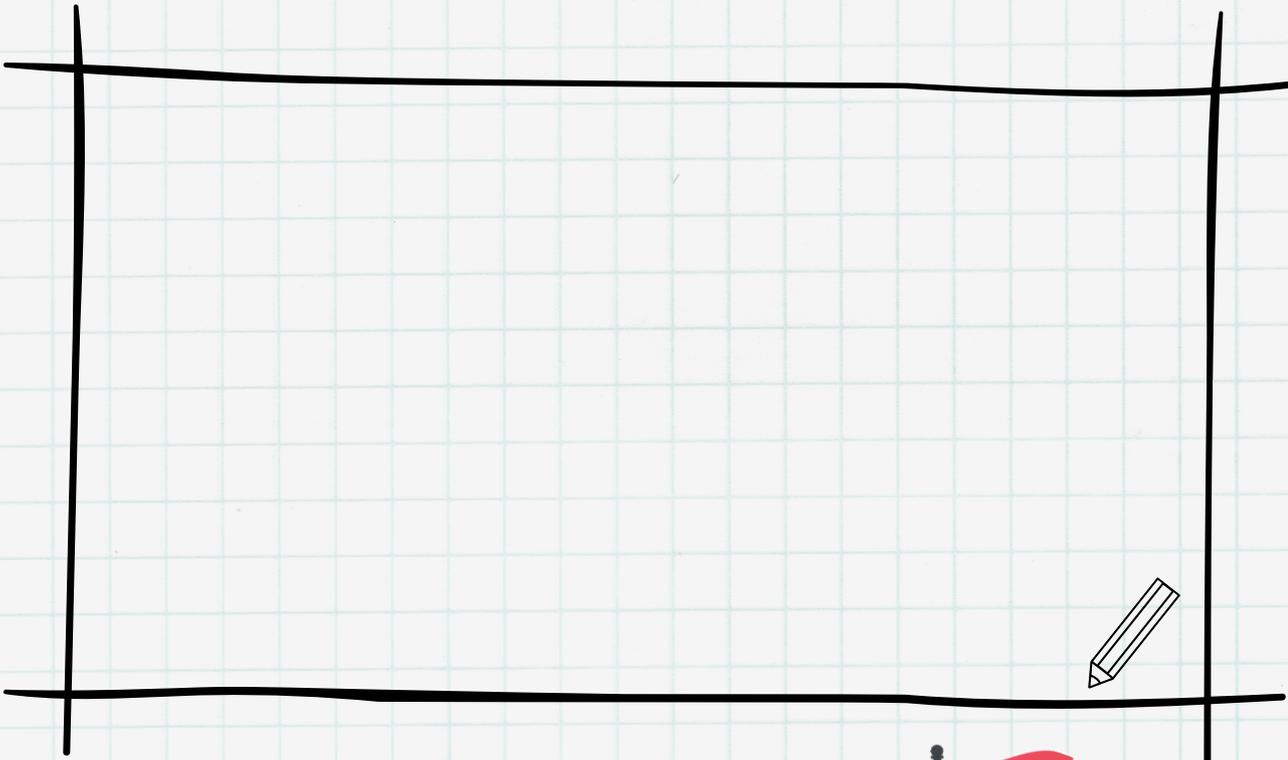
and

purple

and

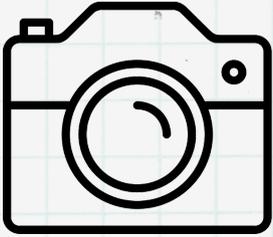


Draw your own film scene by following the complimentary colour rule!



Tip: if you can't decide what colours to use, it could be rainbow like a Pride Flag!





SCIENCE OF FILMS



Make your own rainbow!

You will need:

- An adult
- A glass of water
- A small mirror that can fit in the glass
- Sunlight
- A wall



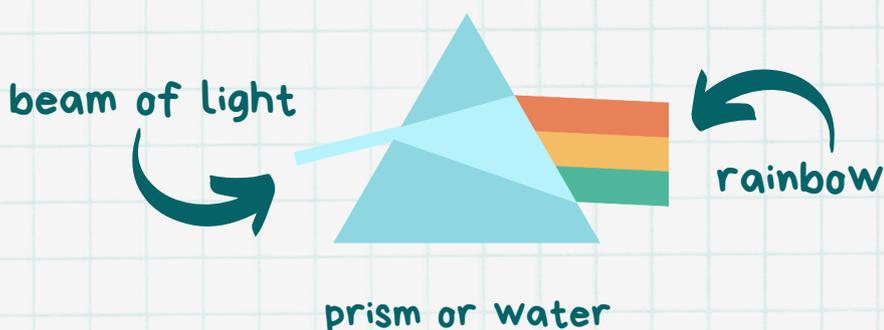
Tip: Get an adult to help you adjust the mirror!

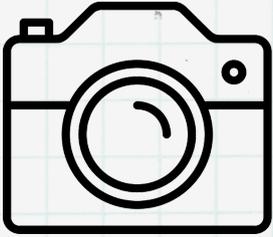
How to:

1. Put the mirror into the glass at an angle
2. Make sure sunlight is pointing directly at the mirror
3. Look for a reflection on the wall
4. Adjust the mirror until you see a rainbow!

Why does this happen?

A rainbow is formed when light is **reflected** in water or a glass prism, and then **refracted** out of the other side.





SCIENCE OF FILMS

Answer Sheet! psst, no cheating!

Light:

1) Sat inside, your pupil should look like this:



Outside in the sun, your pupil should look like this:



With a blanket, your pupil should look like this:



2) The brighter the light, the **smaller** the pupil
The darker the light the **bigger** the pupil

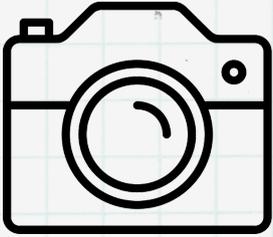
3) Places with lots of light can include: in the sun, on the beach, in a stadium etc..

Places with not a lot of light can include: outside at night, somewhere with no artificial light etc..

An adult will help you with this!

4) Eli should use a big aperture to let as much light into the camera as possible.

Ellie used a big aperture rather than a small aperture when she was photographing her cat, which is why the photo was too bright



SCIENCE OF FILMS

Answer Sheet! psst, no cheating!

Colour:

- 1) There is no right or wrong answer!
If your favourite film is Toy Story, the main colours in the film would be; blue, brown, green and red
- 2) The colours that go together are:
 - Red and Green
 - Yellow and Purple
 - Orange and Blue
 - Pink and Light Green
- 3) You can draw anything as long as the colours go together, like on the colour wheel or like the pairs above!

