

# Husborne Crawley Camera Club

14<sup>TH</sup> NOVEMBER 2023

MEETING 2



# Our Meetings and Aims

- ▶ We will meet once a month on the 2<sup>nd</sup> Tuesday at 7pm in St James' church.
- ▶ The meetings are open to all regardless of whether your 'camera' is a smart phone, a digital SLR or box Brownie. The important thing is you can take and share photos.
- ▶ Initially there will be no subscriptions but donations towards the church would be appreciated. We will discuss regular subscriptions once established.
- ▶ Meetings will open with any news followed by a talk on an aspect of photography. This will be followed by a break for refreshments. The second half of the meeting will focus on members photographs where we will share thoughts and offer positive advice. We may also include some practical aspect of photography
- ▶ The meeting will close with the setting of project for the month. Members will be encouraged to take photos on a particular theme through the coming month and then share them at the next meeting. We will aim to finish by 9pm

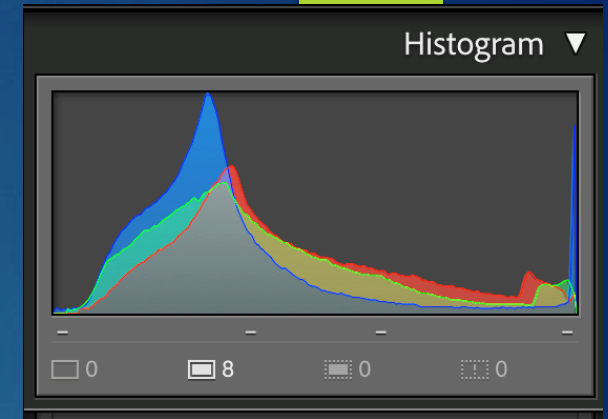
The one thing every photographer hates to hear....

“That’s a lovely photograph, you must have a great camera!”

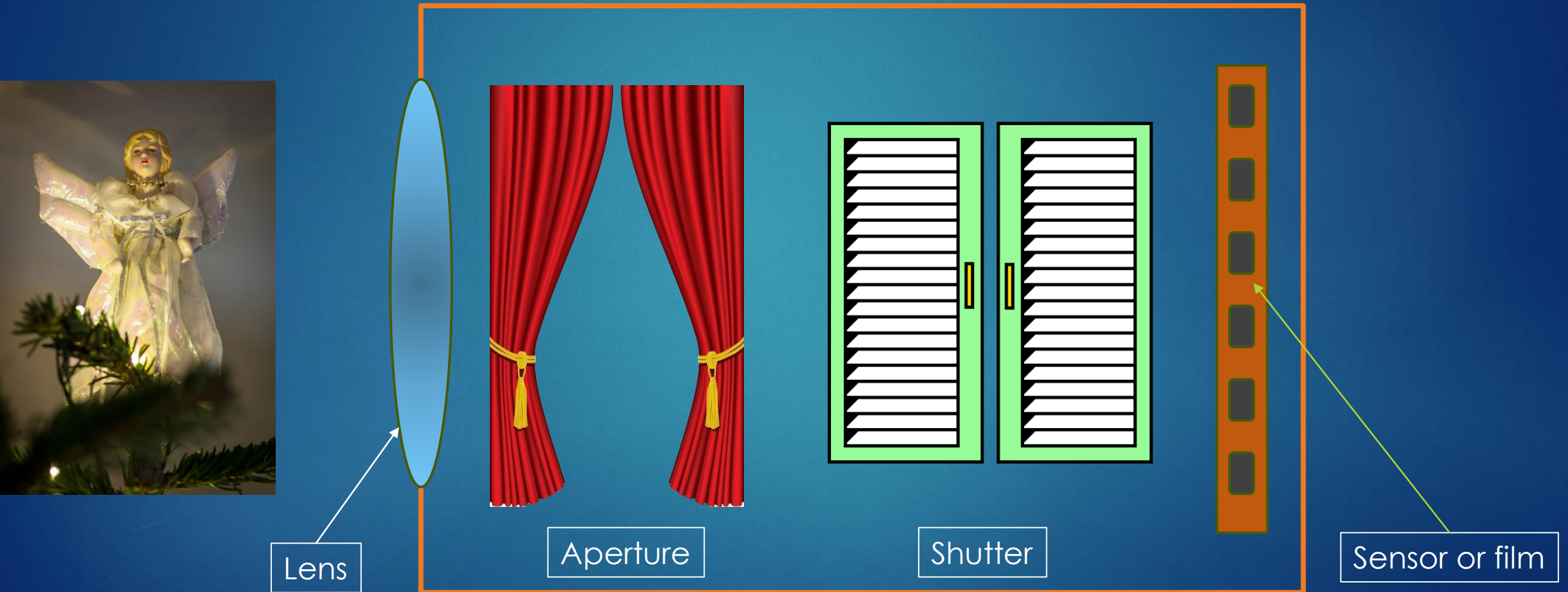
*Remember, you take the photograph. The camera is just a glorified box with a hole in it!*

# Exposure

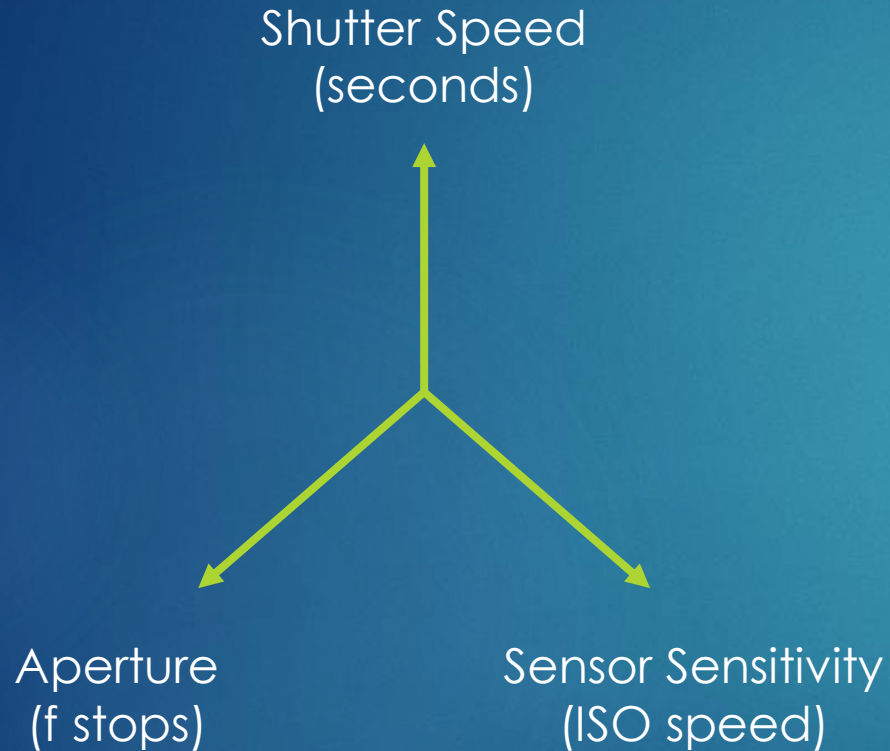
- ▶ I don't want us to dwell on the technical side of photography but there is one aspect you need to understand; Exposure.
- ▶ Put simply, exposure is about getting the right amount of light through the lens so that the film or sensor can record the brightest whites and the darkest blacks.
- ▶ Most cameras and phones do a reasonable job on 'auto', most of the time. We are not interested in average!



# The Basic Elements of a Camera



# Controlling the Light



- Getting the right exposure is a combination of these three parameters
- Assuming you have a 'right' combination, you can vary any one as long as you vary another in the opposite way.
- For example: If you halved the aperture you have to double the exposure
- If you halve the shutter speed you can double the sensor speed.
- Of course if you have control over the light source you could vary its brightness. Difficult with the sun however!

# A Water Analogy

Tap turning on and off = Shutter Speed

The shower represents the light coming through the lens

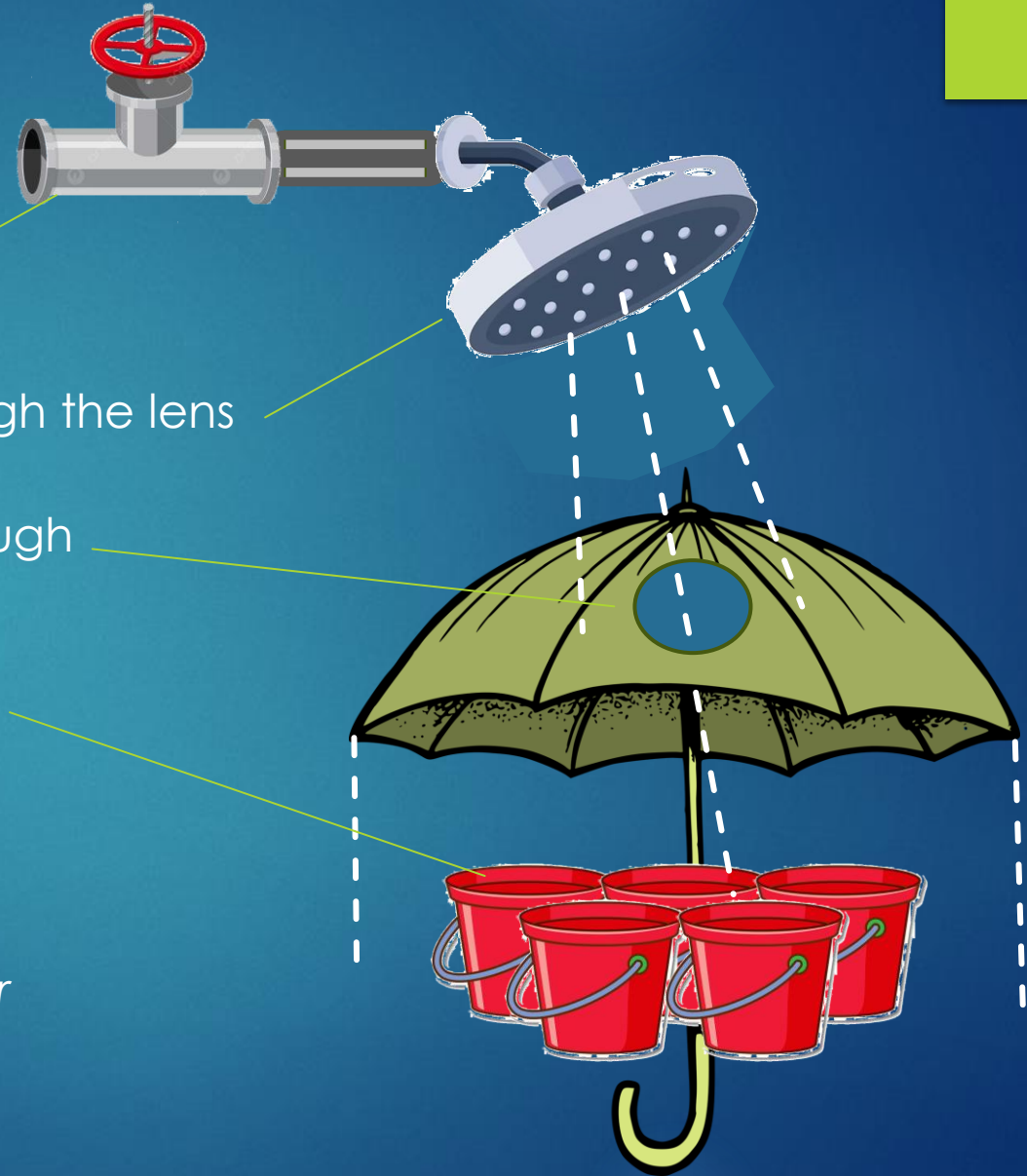
The umbrella with a hole = the aperture, through which the water spray can pass

The buckets represent the pixels in the sensor.

*So the longer the tap/shutter is open, the more water is sprayed*

*The bigger the hole/aperture, the more water reaches the buckets*

*The smaller the buckets/ISO speed, the quicker they fill. Black = empty, Full = White*



# So why change the shutter speed?

- ▶ The faster the shutter speed the less likely movement in the subject will affect the image
- ▶ This may be desirable or intentional, such as leaves moving in the wind or car headlights trailed
- ▶ You may also want to avoid camera shake



# Ok, so why change the aperture

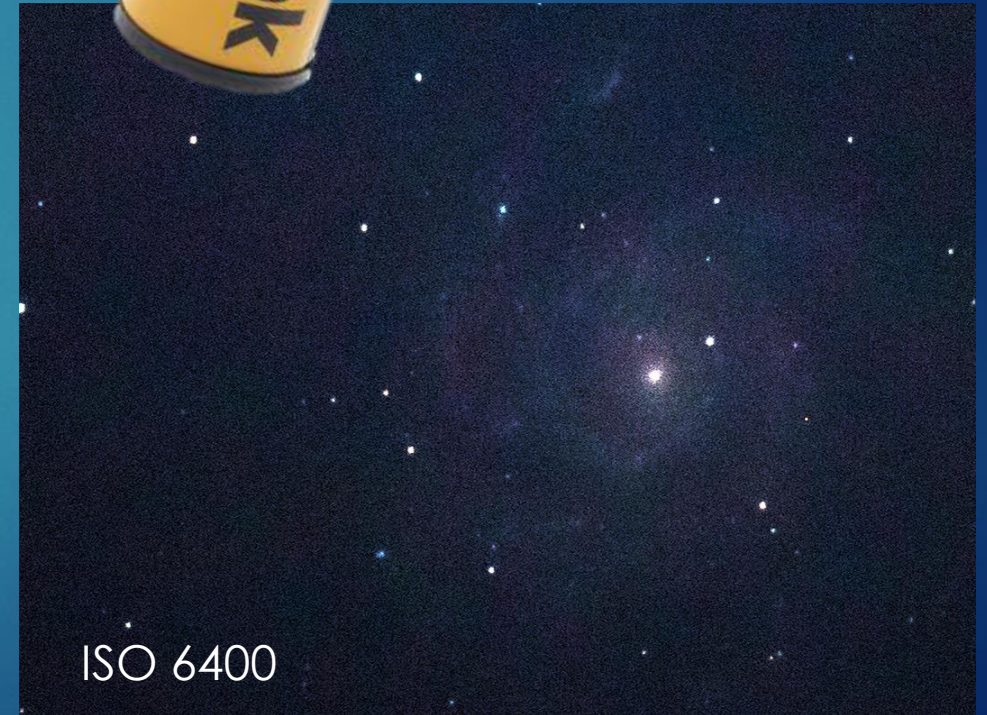


- ▶ As well as restricting the light it also changes the depth of field
- ▶ Depth of field is how much of the image is in focus from front to back
- ▶ This can be used isolate your subject from a distracting background
- ▶ The bigger the 'f number' the physically smaller the aperture and so less light.
- ▶ For each step, the f number is multiplied by 1.4 or 0.7! For example: f1.4, f2.0, f2.8, f4.0, f5.6, f8.0, f11, f16



# Right, so why change the film or sensor speed?

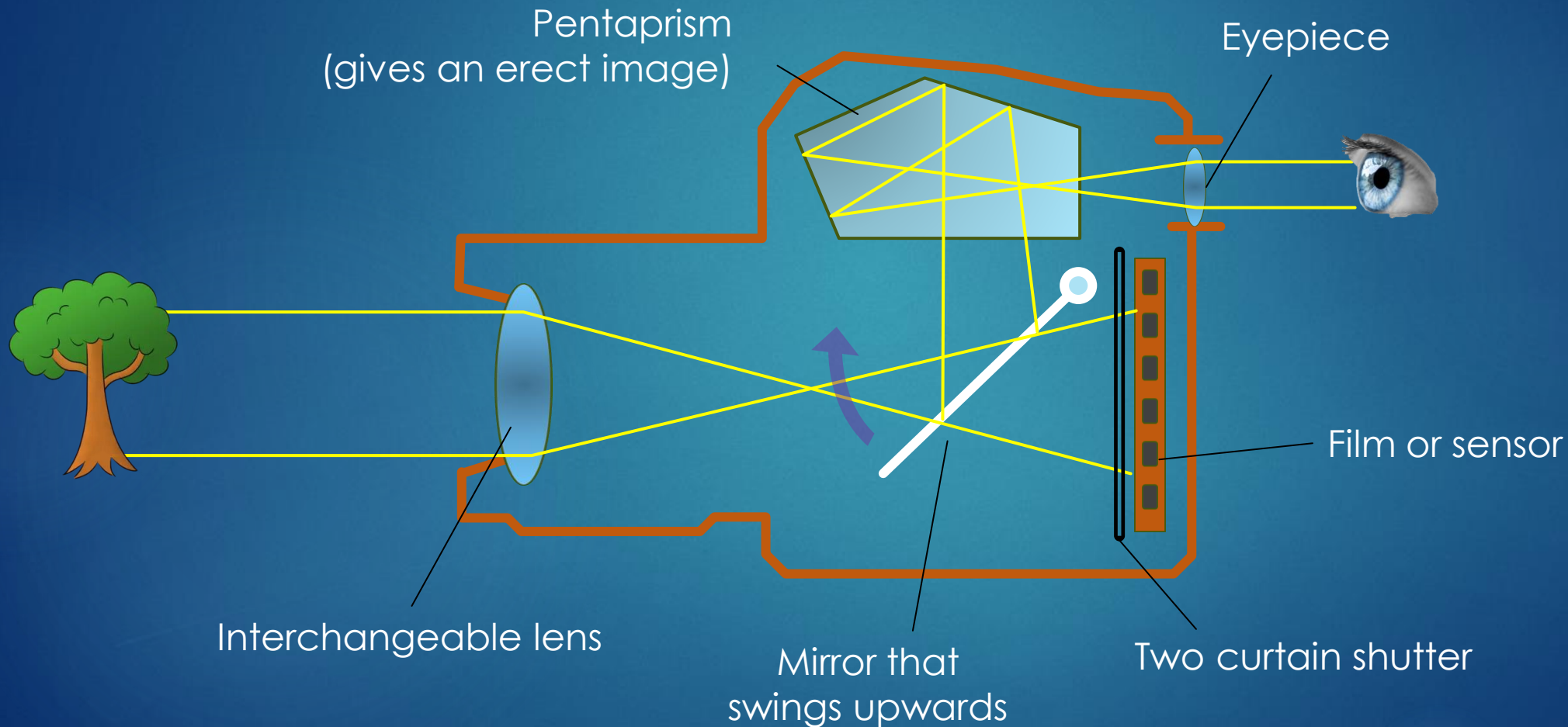
- ▶ Remember the buckets in the water analogy?
- ▶ A smaller bucket fills up more quickly and so is like a faster sensor.
- ▶ The fewer drops (or photons) required to fill a bucket means the total number which equals white is fewer. Therefore, lower resolution and subsequently more noise.
- ▶ To avoid noise, we want the lowest 'ISO speed' possible. Remember 'Kodachrome 400'?
- ▶ Sometimes a high ISO is the only way to get the image you want



# Smartphones can cheat!

- ▶ When taking long exposures some smart phones cheat by taking a series of shorter exposures and then using computer processing to overlay them, align them and add them together.
- ▶ This has the benefit of reducing camera shake and can reduce noise.
- ▶ This technique is borrowed from astro photography where objects in a telescope appear to 'boil' as if seen over a hot radiator
- ▶ Use it of course but remember the results may not be what you expect

# The SLR – Single Lens Reflex camera



# Example - Backlight



Under expose to make the shadows black.

Also allows a faster shutter speed to stop the motion of the fountains

1/500s ISO400

# Today's exercise - Motion

- ▶ Practice taking pictures of the toy train in motion
- ▶ Vary the shutter speed to either stop the motion or to record a motion blur
- ▶ Start with a shutter speed of  $\frac{1}{4}$  s, if you can.





# Panning

Using a slow shutter speed to blur the background

1/15s

# This evening's exercise, train spotting





# Time for Refreshments!

## Next month's meeting -

- ▶ Date: 12<sup>th</sup> December, 7pm at St James' (with heating?)
  - ▶ Subject: Printing, organising and archiving
  - ▶ Photo mission: Christmas Spirit and Motion
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- ▶ Subscriptions? Let's discuss, monthly subs? voluntary donations? Annual membership?
  - ▶ Future topics, what do you want?