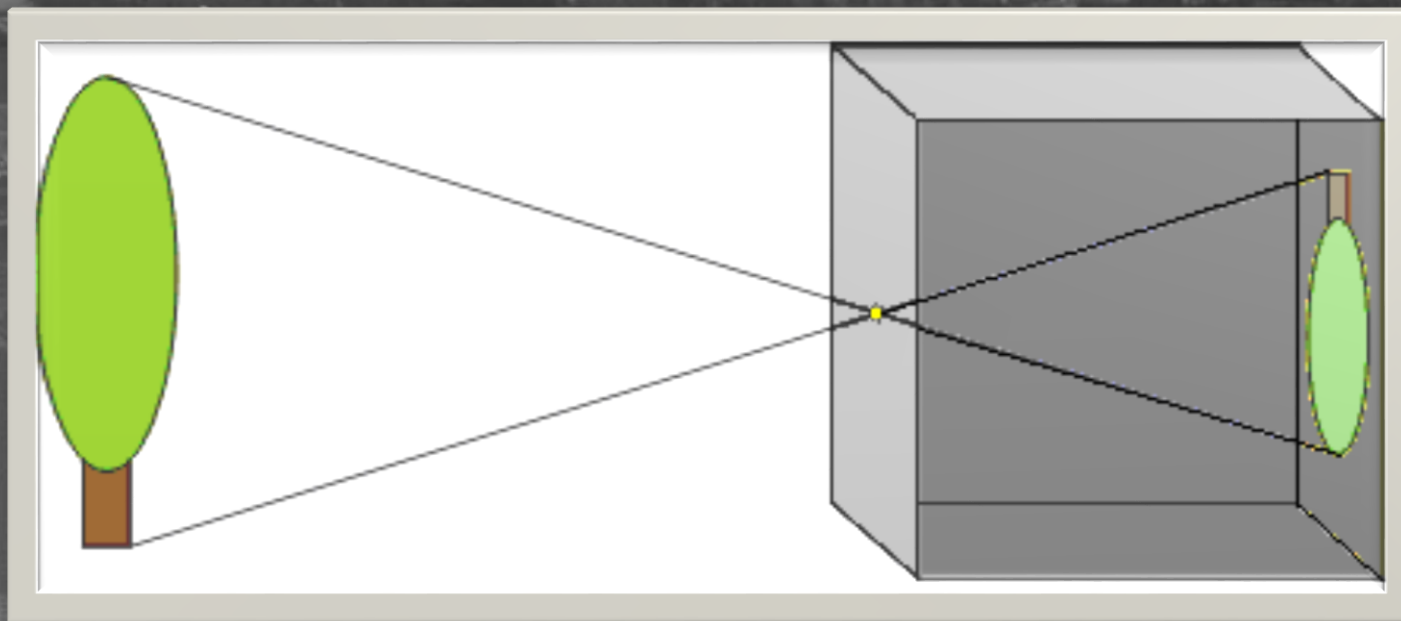
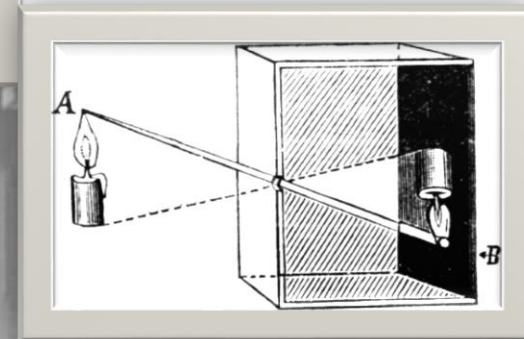


THE CAMERA OBSCURA...



WHAT IS THE CAMERA OBSCURA?

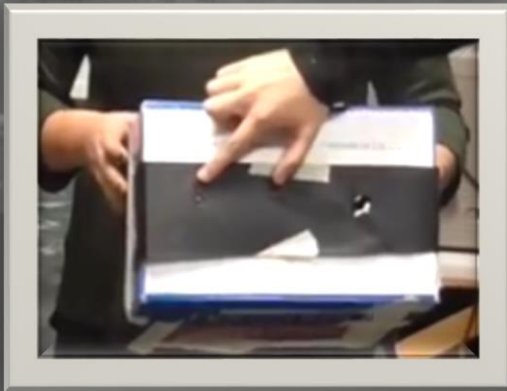
- -The camera obscura is the first type of camera in photography.
- -It's an instrument (a box) with only a hole in one of its walls, through which the light penetrates and creates an inverted image of objects from the outside.
- -The hole of the wall is called "estreonotopo"



“CÁMARA ESTENOPEICA”

It's the same as a camera obscura:

- ✓ Is a camera without any type of lens
- ✓ Handmade by us



Small box used as a “Cámara estenopeica”



This kind of “Cámara estenopeica” represents a human eye in real size



This is a special tube used as a “Cámara estenopeica”

A SPECIAL CAMERA OBSCURA

With this camera we can measure sun's length.

If we know the distance between the earth and the sun, and the length of our camera obscura we can obtain by similarity of triangles sun's length.

¡ CÁMARA OSCURA !

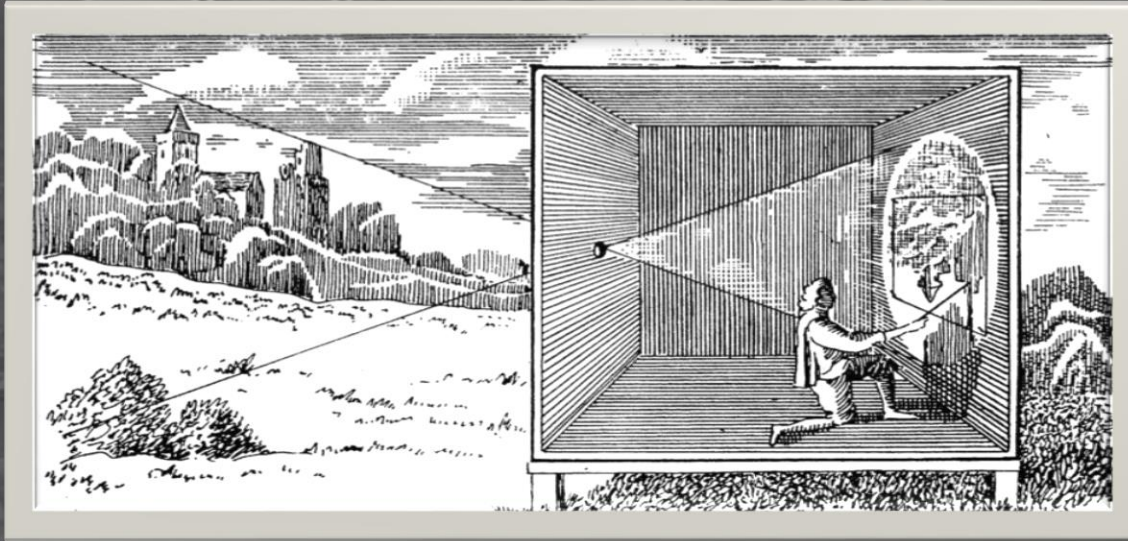
• Medir el tamaño del sol → SEMEJANZA DE TRIÁNGULOS

$$\frac{L}{S} = \frac{l}{s}$$
$$\frac{150 \text{ Mk} = 211 \text{ cm}}{S} = \frac{211 \text{ cm}}{2 \text{ cm}}$$
$$S = \frac{150 \cdot 2}{211} =$$
$$S = 1,42 \text{ Mill de Km.}$$

• Error = 2,1%
• Tamaño verdadero: 1,39 Mk.

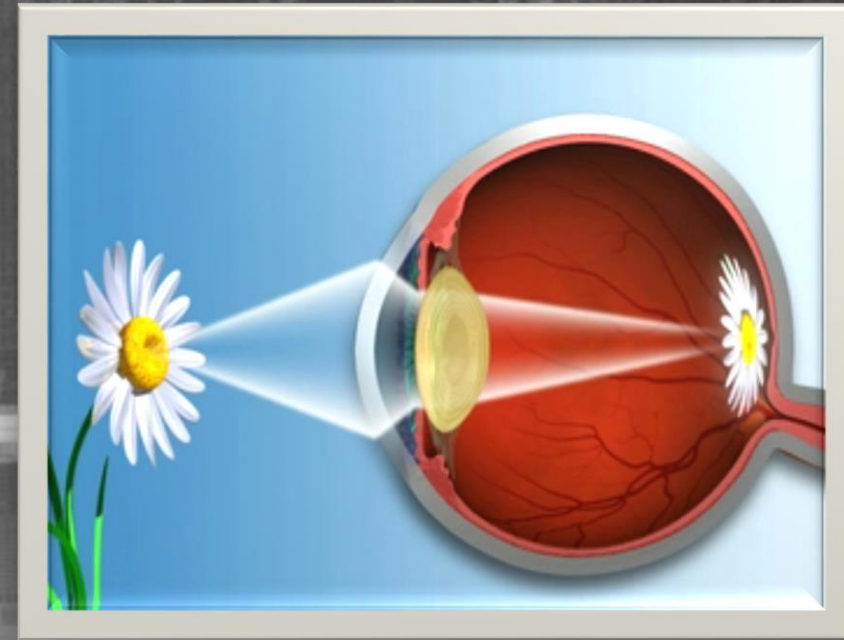
Diagram illustrating the camera obscura setup for measuring the sun's size. The sun (SOL) is shown at a distance of 150 Millones de km [L] from the camera obscura. The camera obscura is shown with a lens and a screen. The distance from the lens to the screen is 211 cm [l]. The image of the sun on the screen is a circle labeled 2cm, representing the "Sol" on "TIERRA".

LARGE CAMERA OBSCURA



HOW IT WORKS...

- High similarity with our eye.
- Light enters through the pupil (the hole) and the image is formed in the retina (the wall).



We also made a Camera Obscura in one class of our high school.

