Eye Insight

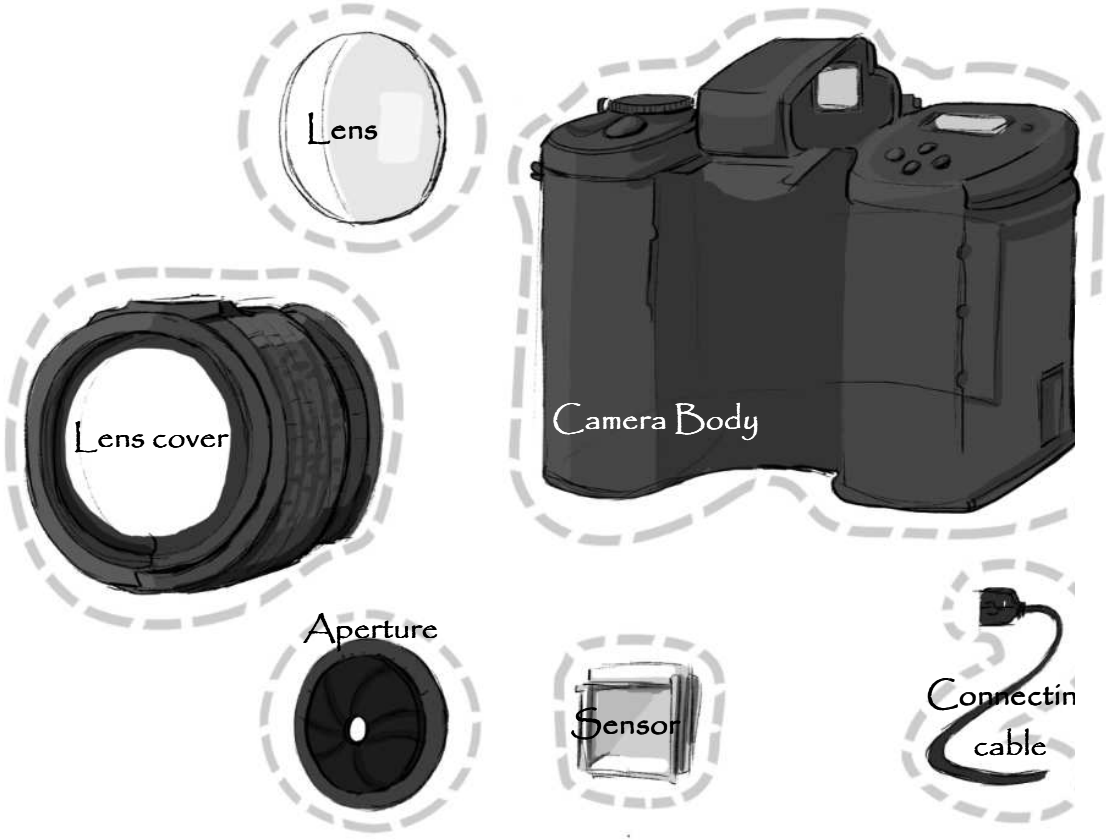
Our eyes give us the sense of sight and allow us to learn more about the world we live in than any of our other senses – you can read these words by virtue of your eyesight! But the working of the eye is a very complex mechanism, in fact it is much more complex than any camera you might have encountered. So how does the eye work? Let's find out...

The human eye is made up of six main parts. The eye focuses on an object by bending (refracting) the light rays coming from that object onto the retina. Just like with a camera, there are parts of the eye that control how the light is refracted, how much light enters the eye and how information about what you are seeing is transmitted to the brain. In fact the eye is the quintessential optical device and although your eye can do most things a camera can, scientists are still trying to design a camera that does everything your eye can – all within the size of an eyeball!

?1 **The puzzle on the next page** shows the parts of a digital camera and the parts of the human eye. But they are all mixed up! Cut out the different parts along the dashed lines and arrange them in order. Think about where light enters each one and what happens to light as it passes through the different parts. Once you have finished, check with your teacher whether you got it right! Then paste it in your notebook in the right order.

?2 **Once you have** all the parts in order, discuss in your group what each part does. First discuss about the camera and then discuss the eye. Jot your notes about each part below. You will see that many of the parts in the eye and the camera do similar things. But, there are also some differences. Can you work out what these are? (Hint: Think about fixed and moving parts.)

?3 **Do you think** the eye itself is enough to help us see? What other part(s) do you think helps us achieve our sense of vision? Discuss this within your group and jot down some ideas.


Lens
Camera Body
Lens cover
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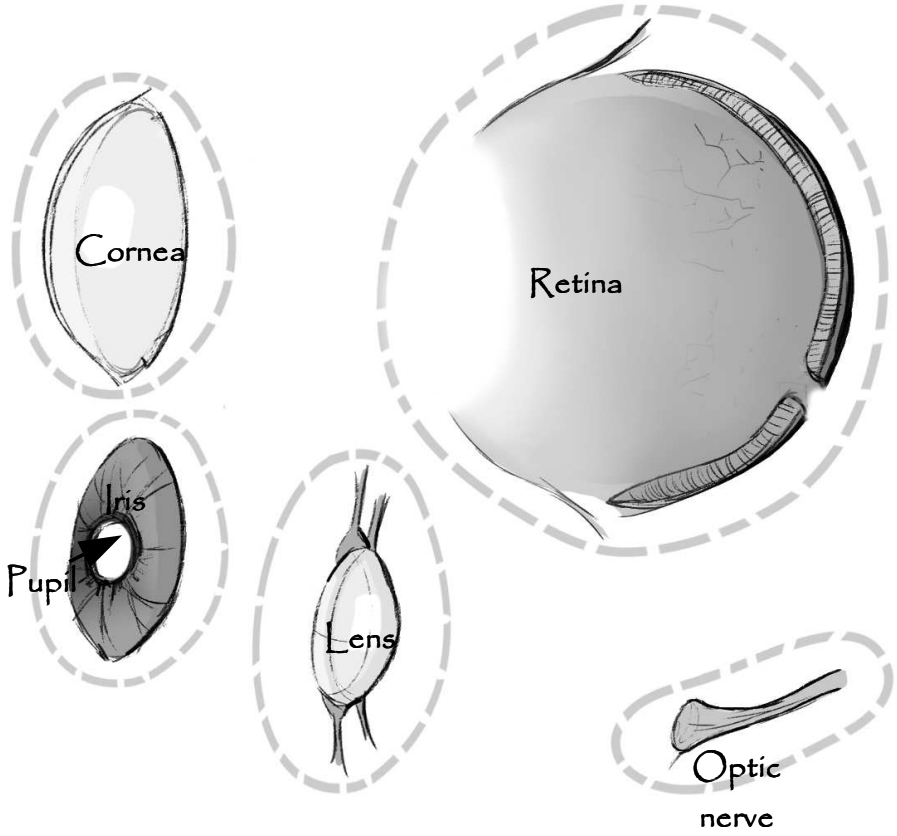
Cornea
Retina
Iris
Pupil
Lens
Optic
nerve