



BODY ATLAS: "VISUAL REALITY"

The eyes are the window to our intelligence, consciousness and our soul. As Gary, a videographer, films Caroline painting a still life, we learn how the eye and a camera see differently and similarly. This film studies how our amazing eyes function and how the brain interprets what we see.

Outline of Major Concepts:

We look for edges, _____, _____ and _____. The eye, working with the brain, analyzes what we see.

Eyes have successive lines of defense; _____ block dirt, _____ wash it away, and lower lid glands produce _____, which mixes with water from the air to form a protective film, and a bactericide to fight infection. Dirt and germs flush into a tube that drain into the _____.

Blinking makes the protective system efficient. Blinking closes our eyes _____ min. a day, though less when we concentrate.

Light enters through a 3-layered smooth-surfaced window, the _____, the middle layer of which is tough and renews itself weekly from inside out. Dead cells are carried away by tears.

Visible blood vessels supply the whites of the eye with oxygen and nourishment but stop at the edge of the cornea.

The _____ is the most distinctive. Its color and pattern, as unique as fingerprints, are inherited. In it are the muscles which affect the _____, adjusting it to the amount of light falling on it.

The smaller the pupil's opening the greater area in focus.

The iris is surrounded by water fluid which flows constantly through the pupil to bathe the cornea. The fluid is replenished every _____ hours by glands behind the iris.

Inside the iris is the _____, which is held in place by fibers. It is ringed by muscles which squeeze to adjust its shape and _____.

The lens becomes _____ to focus on near objects. In aging, its cells die off making focus harder, causing _____.

Light rays are bent by the curvature of the front of the eye and pass through a clear jelly to focus _____ on the _____. At the back, specialized cells soak up light and send electrical signals through the nerve cells to light receptors.

Two kinds of receptors are mixed together in the retina. Long thin _____ cells see in dim light, but only in black and white. _____ cells detect color but need more light.

In the middle of the retina is a crater, packed with cone cells to see the finest detail. Sunlight can burn these cells.

We see reflected _____, _____, and _____ light. Cones blend them.

Fibers do not connect to the hole in the center of the retina causing our _____ spot. The brain fills in that spot, as well as turning the picture on our retina right side up.

Like all hunting animals, our eyes are at the front of the head so that we can see in three _____ and judge _____.