

## BioArtAttack Competition 2014

### The Eye

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Shortlisted for the 11-18 years category

*“The eye is a very complex body part containing many different pieces each with diverse functions. However complex each individual tissue is, they are all for the one simple action of seeing. I have highlighted the 10 most important parts of the eye in my 3D model.*

*The outer layer is called the sclera (1), which gives shape to the eye. In humans, a thin black layer called the choroid (2) covers the sclera, this black layer is constructed out of millions of capillaries which oxygenate the back of the eye. The retina (3) contains rods and cones (photo receptors) which detect light and send a signal to the brain to create a visual image. A colourless jelly like substance called the vitreous humor (4) fills up the inside of the eye. Its function is simple, it applies pressure to hold up the choroid and retina, which are otherwise only held at the optic nerve. The fact that it is colourless is very important as it lets light through to the retina. The lens (5) is a hard but flexible sphere which focuses light. The ciliary muscles (6) and the suspensory ligaments (7) change the shape of the lens, by pulling or pushing it. A colourful layer on top, the iris (8), changes the light intensity by making the pupil (8) larger or smaller. The pupil is just an empty space which lets light through to the retina. The anterior cavity (9) maintains the eye shape like the vitreous humour. The cornea (9) is colourless and attaches to the sclera to also shape the eye. The last layer is a thin protective layer called the conjunctiva (10).”*





