

# What's where on the retina:

Simple observations that demonstrate the organization of the retina

Observation	What it means
3 colors enough to mix all colors	3 types of color receptors (cones)
Can't see color in dim light	Cones need bright light Other receptors (rods) used for low-light vision; only one type (not tuned)
Can't see dim star in center of vision	No rods in fovea
Resolving power of 1 arcminute in fovea, much bigger in periphery	Small receptive fields in fovea, bigger receptive fields in periphery Good resolving power (see above)
Clearest vision in fovea	Macula lutea absorbs blue light. Blue light is refracted more than green or red, and cannot be focused to a single point with light from the red end of the spectrum with the same lens.
Blind spot	Optic nerve and blood vessels exit through the retina, because retina is inside out
Small blue dot turns black in the distance; Small yellow dot on white background disappears.	No blue cones in fovea (blue light indistinguishable from no light) Macula lutea filters out blue light (difference between white and yellow is presence or absence of blue light).
Can't detect color of small dot in periphery	Fewer cones, and bigger receptive fields in periphery
Pattern of blood vessels visible through closed eyelid when light shines on it	Blood vessels are inside the eye, blocking the light on its way to the retina
No blood vessels visible in center of visual field	At least this is made right! Center of visual field is not blocked by vessels.
Floaters	Humors are gels
Twinkling of bright uniform surface	Individual red blood cells pass through capillaries in front of retina