

<p>Eye anatomy - what are the structures? - what do they do?</p> <p>Image formation - what's the process? - refractive index - where's the greatest change in n?</p> <p>Accommodation - which structure adjusts? - how does it adjust? (hint: muscles, fibers)</p>	
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Near-sighted vs. far-sighted
- too much or too little
bending?
- what kind of lens corrects
it?

Photoreceptors
- two kinds
- compare and contrast

Dark current
- what ion is responsible?
- what's V_m inside a
photoreceptor?

Photopigments
- what colors?
- what wavelengths are they
most sensitive to?

Inner and outer retina: don't get confused by this!

Phototransduction
- describe the mechanism
- net effect: depolarization or hyperpolarization?

Adaptation: describe the mechanism

Rod and cone distribution: draw an approximation of concentration along the retina.

Characteristics of the fovea
- high/low density of cones?
- one/many cone(s) to each ganglion?
- how is it specialized for high-resolution vision.

Retinal circuits
- direct path
- indirect path
- which cells fire action potentials?

ON and OFF bipolar cells
- effects of light in direct and indirect paths for each?
- which neurotransmitter is used?
- what type of receptor is used for ON and OFF bipolars?

Define receptive field.

Types of ganglion cell receptive fields
- three types of cells
- approximate percentages?
- which are color-sensitive?

LGN

- describe what each LGN gets input from
- how many layers? What kind of input to each layer?
- what kind of input is ventral to each layer?
- what's the major input?

V1 anatomy

- how many layers?
- which layers are input? from which types of cells?
- which layers are output? To where?

Ocular dominance columns
- what layers are responsible?

Cytochrome oxidase blobs
- where is CO found? What does it relate to?
- are they color sensitive?
- what kind of input?

V1 receptive fields
- Layer 4C: what properties? Monocular or binocular?
- Other layers: what properties? Monocular or binocular?

Orientation selectivity
- describe using a diagram
of orientation vs. cell
response
- what type of perception
might this be useful for?

Motion selectivity
- how is it different from
orientation selectivity? A
diagram might be helpful.

Blob, simple, complex
receptive fields
- color sensitive?
- describe each type

Blob, interblob, magno/4B
receptive fields
- what types of receptive
fields?
- monocular or binocular?
- color sensitive?
- what type of perception
might each contribute to?

Parallel streams

- two types; describe each
- what is each responsible for?
- what general anatomical directions?

Areas IT and MT

- what stream is each part of?
- what might each area be responsible for?

Disorders of perception

- akinetopsia
- prosopagnosia