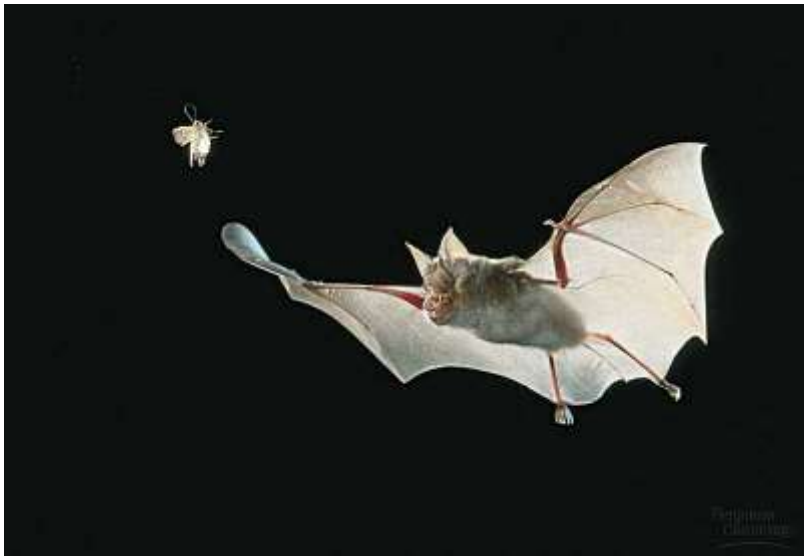
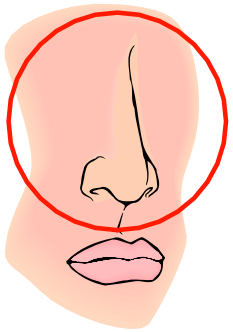
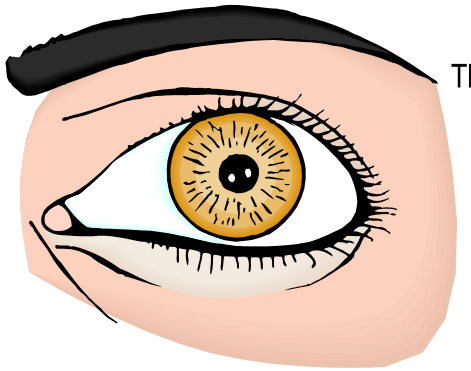


- *Sensory Mechanisms*

QOD #4



The Nose

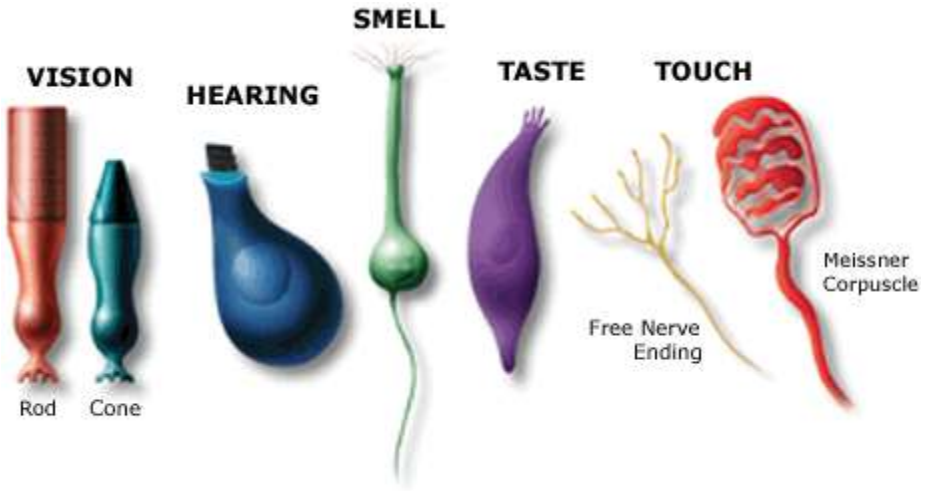


The Human Eye

The Palm

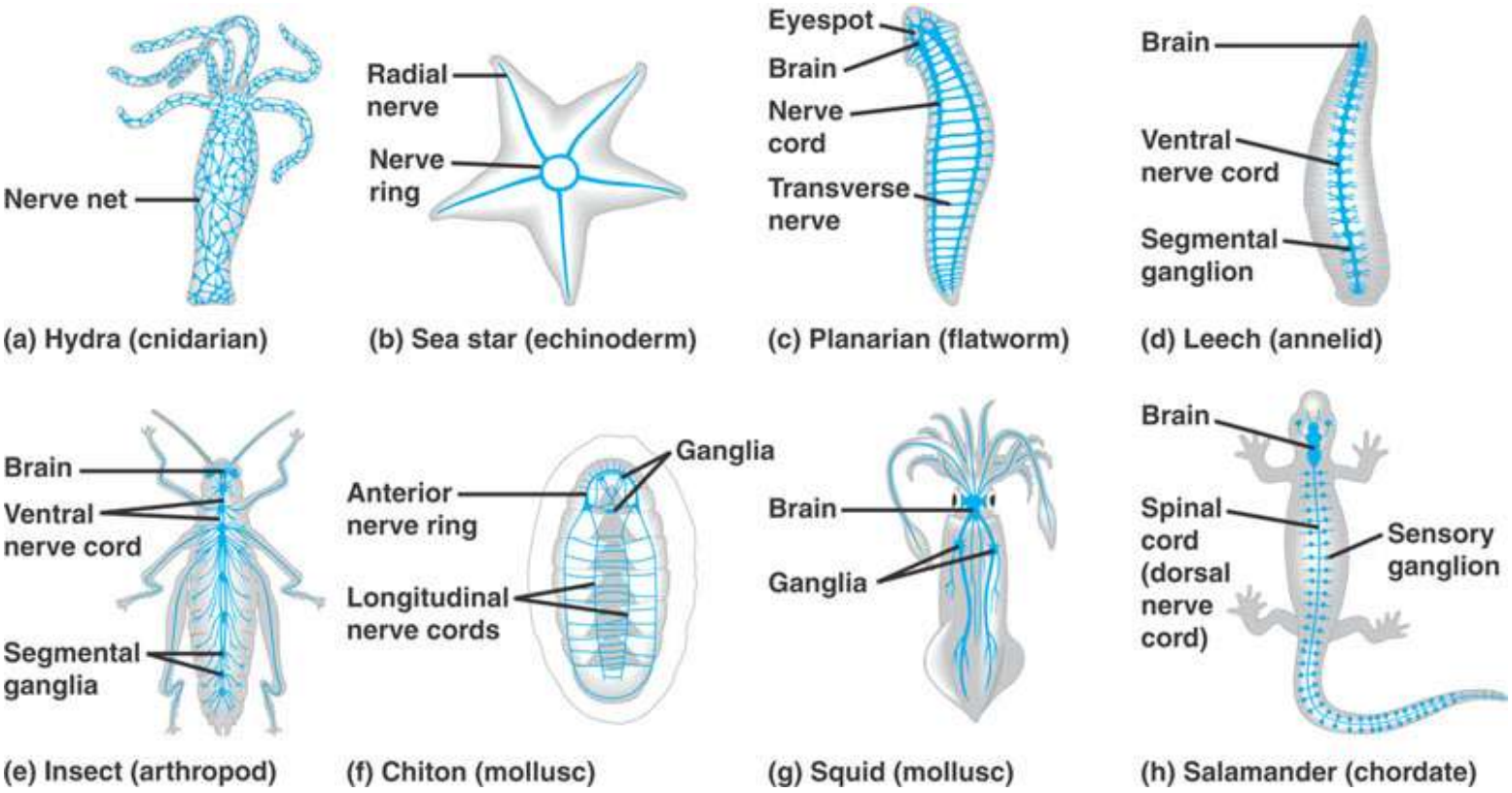
- What is the evolutionary advantage of sense organs?

Receptors

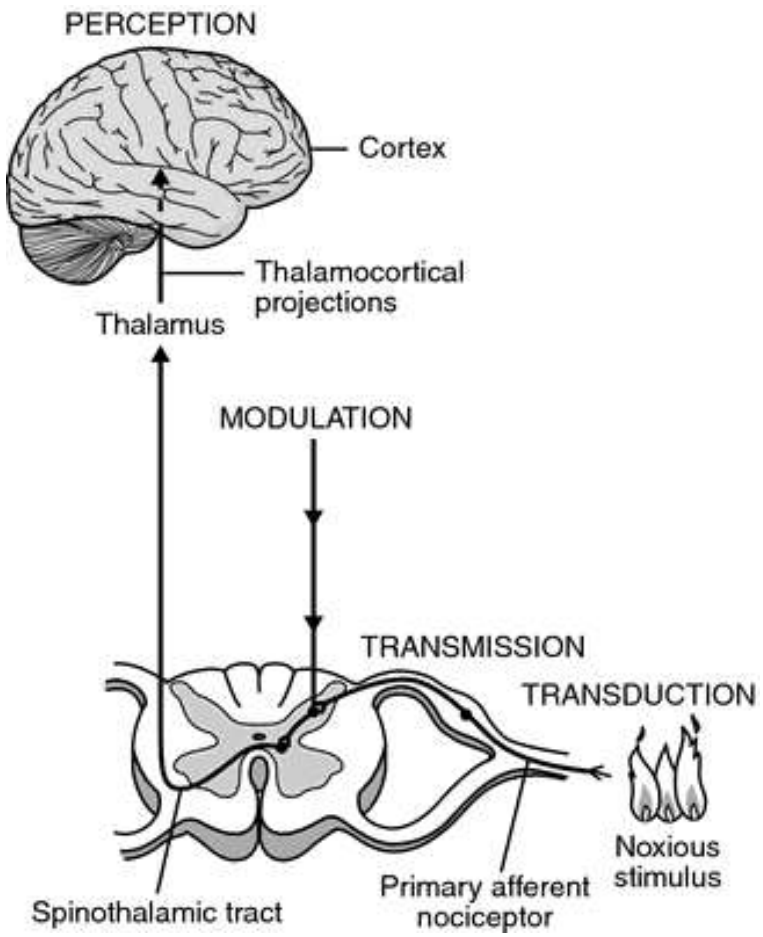


- There are many types of specific receptors. Choose your favorite and explain what is senses and why you like it best

Diversity of Nervous Systems

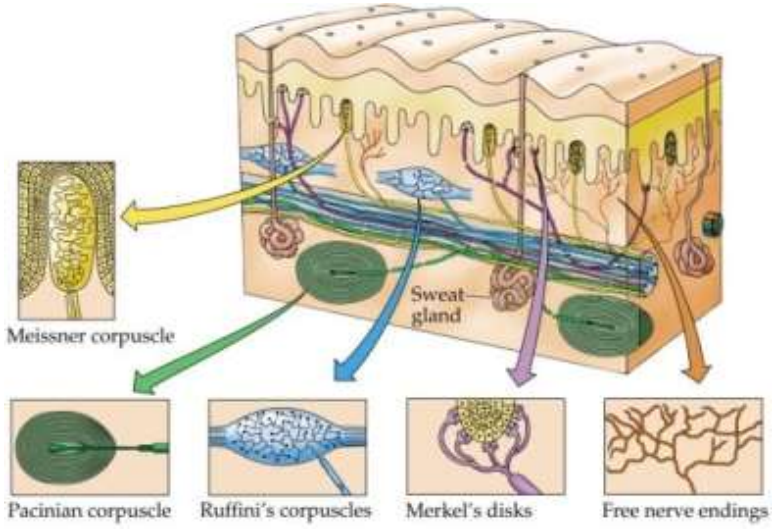


Sensory Pathway



- Stimulus
- Transduction
- Transmission
- Interpretation

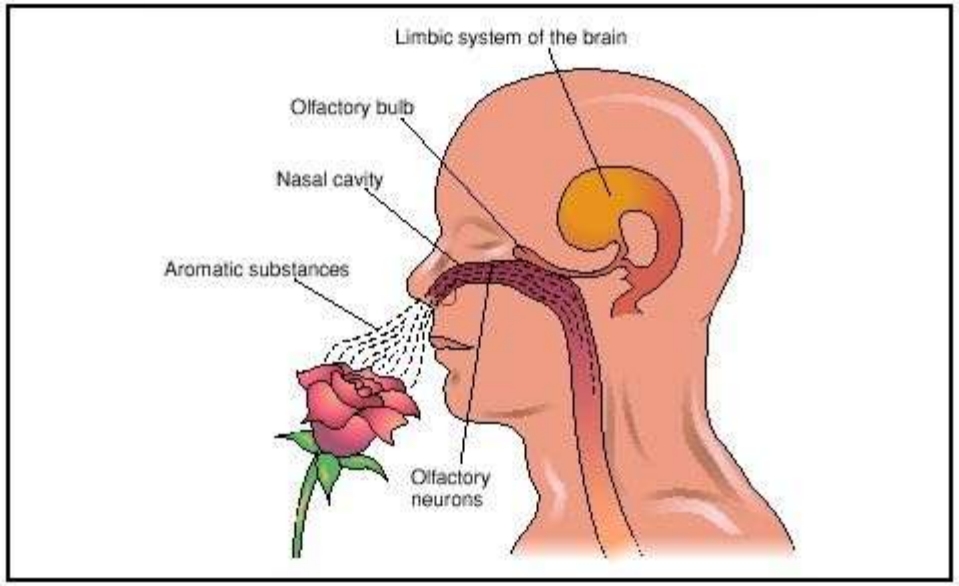
Mechanoreceptors



- Nocipreceptors – pain
- Thermoreceptors – temperature
- Merkle cell - touch pressure
- Meissner corpuscle – fine touch
- Ruffini corpuscle – touch and duration
- Pacinian corpuscle – deep pressure

Chemoreceptors

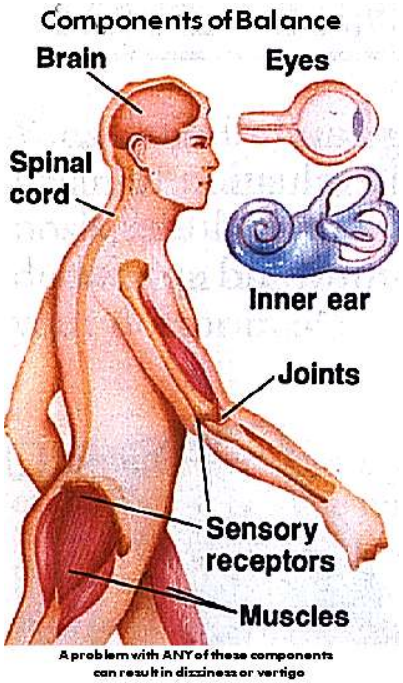
- Taste
- Smell



Electromagnetic receptors

- Eels, sharks, bees, birds
- Navigation

Balance


Components of Balance
Brain
Eyes
Spinal cord
Inner ear
Joints
Sensory receptors
Muscles
A problem with ANY of these components can result in dizziness or vertigo

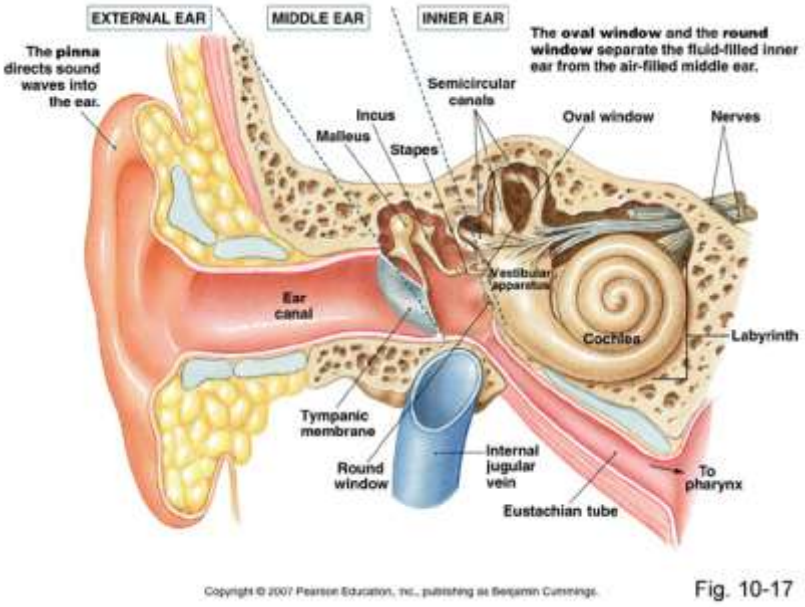

EXTERNAL EAR
MIDDLE EAR
INNER EAR
The pinna directs sound waves into the ear.
The oval window and the round window separate the fluid-filled inner ear from the air-filled middle ear.
Semicircular canals
Incus
Malleus
Stapes
Oval window
Nerves
Vestibular apparatus
Ear canal
Cochlea
Labyrinth
Tympanic membrane
Round window
Internal jugular vein
To pharynx
Eustachian tube
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Fig. 10-17

Jigsaw

Each group should:

1. Provide a visual image
2. Explain the evolutionary advantage
3. Describe the structural unit
4. Explain how this sense works

1. Hearing
2. Taste
3. Smell
4. Vision
5. Balance
6. Special Senses

Chemistry of Smell

- http://www.nsf.gov/news/special_reports/chemistrynow/chem_smell.jsp