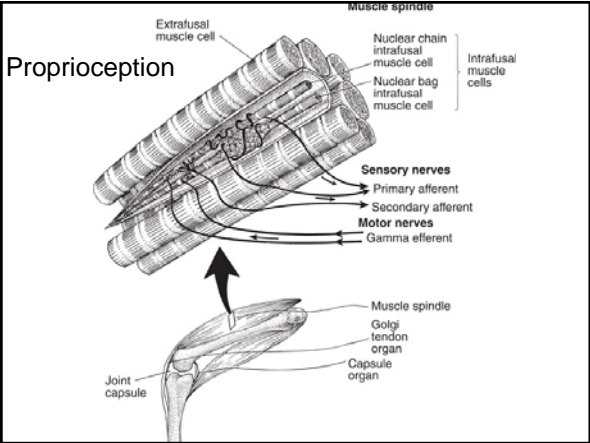
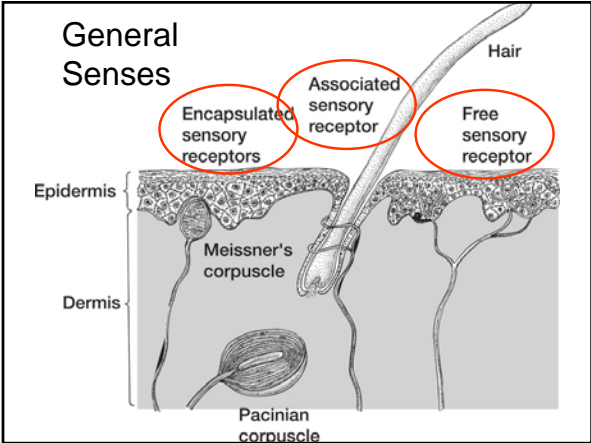
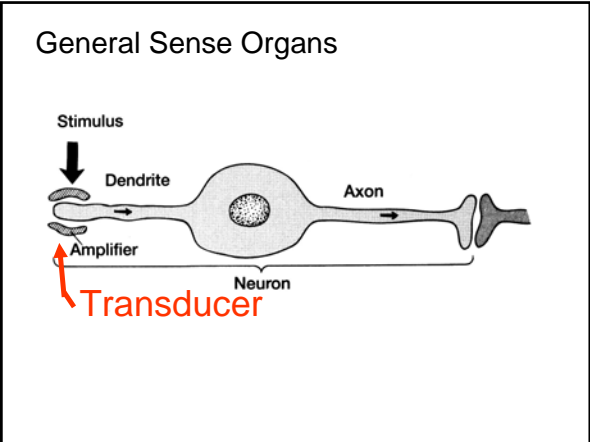


Sensory receptors



Law of specific nerve energies

Pattern theory of sensation

Special Sensory Organs (localized)

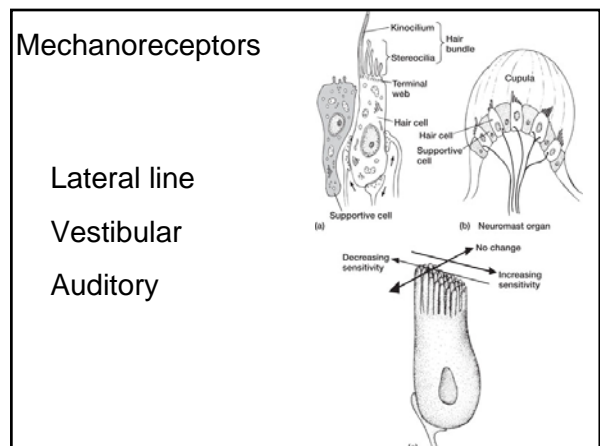
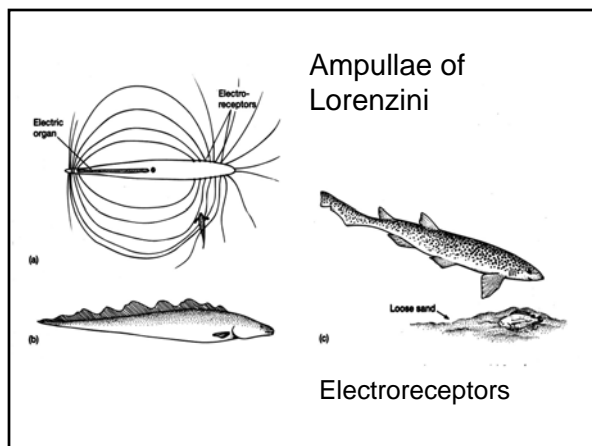
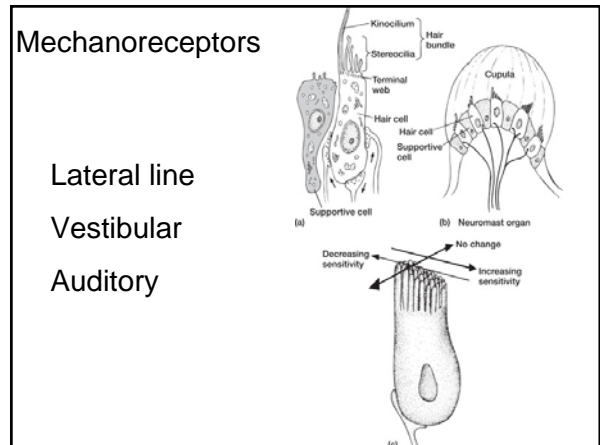
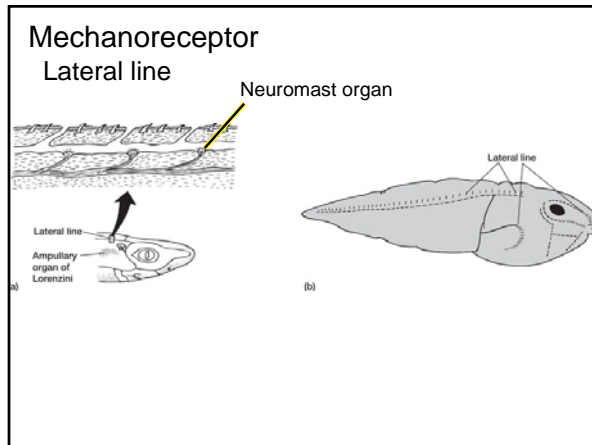
- Mechanoreceptors
- Chemoreceptors
- Photoreceptors

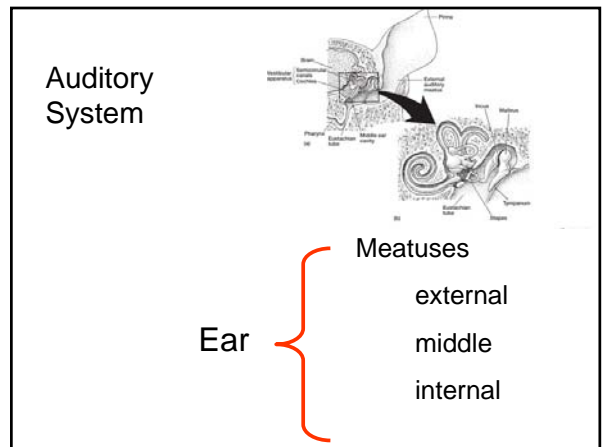
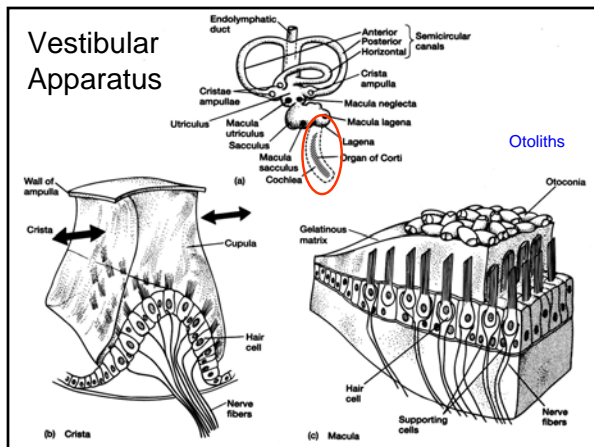
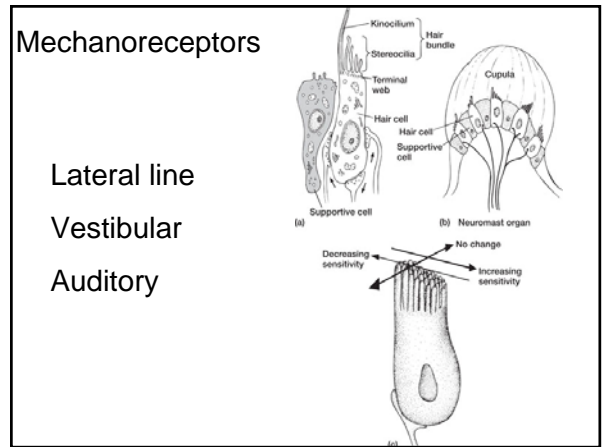
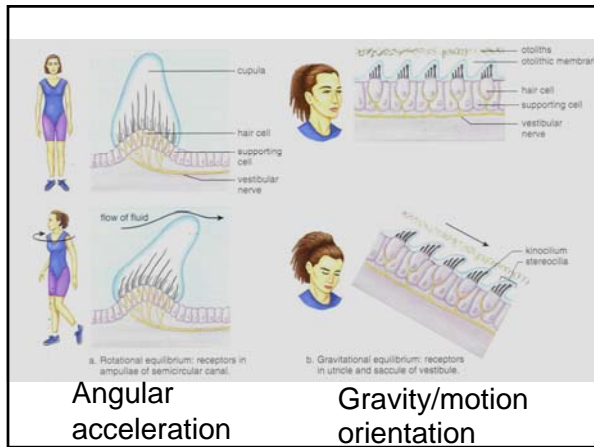
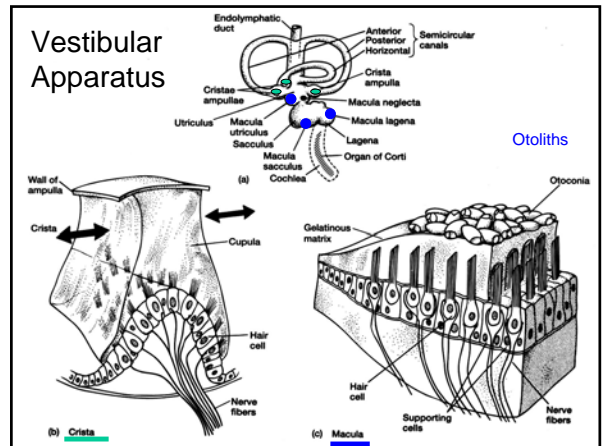
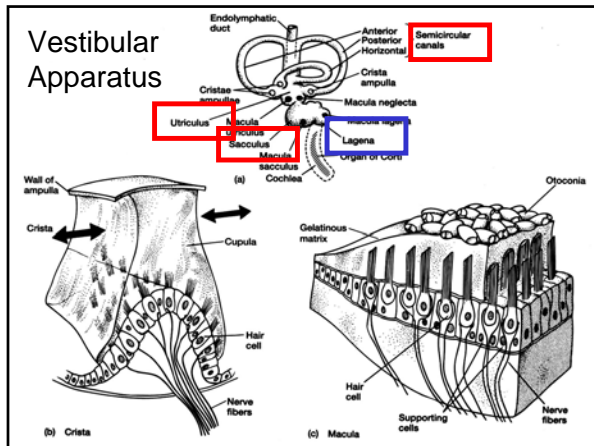
Mechanoreceptors

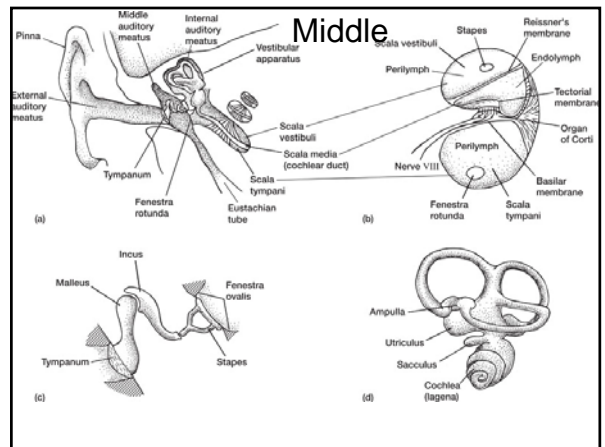
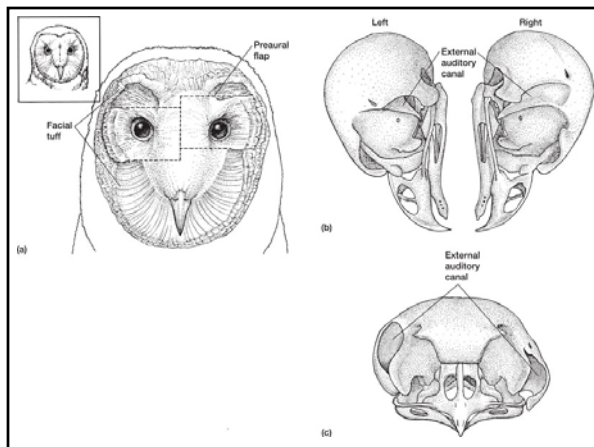
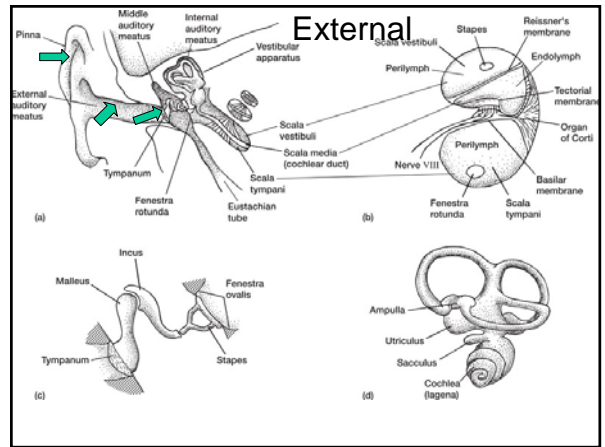
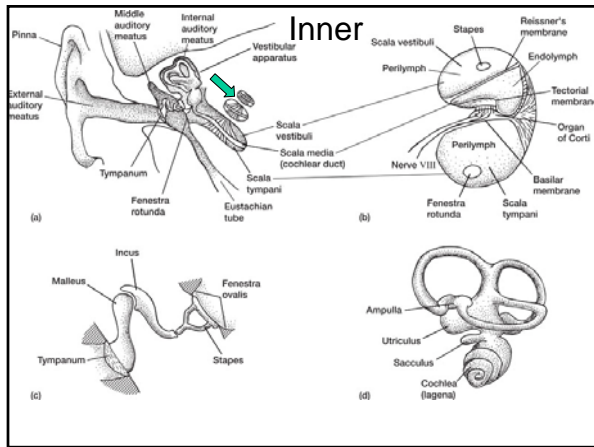
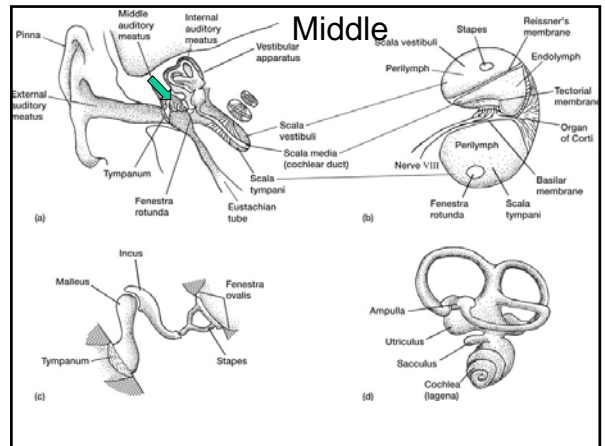
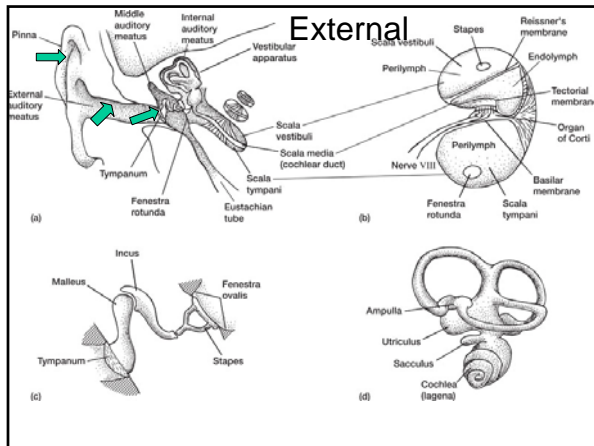
lateral line
vestibular system
auditory system

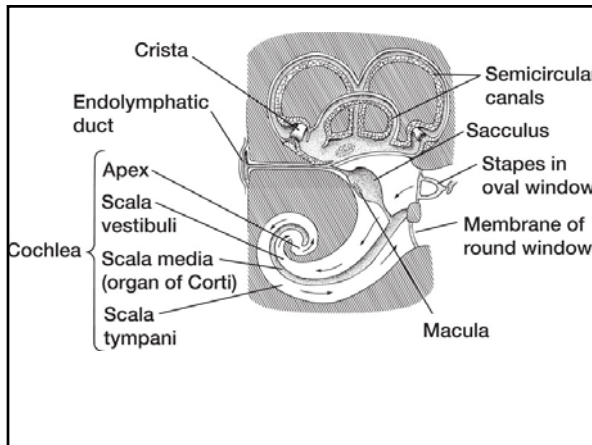
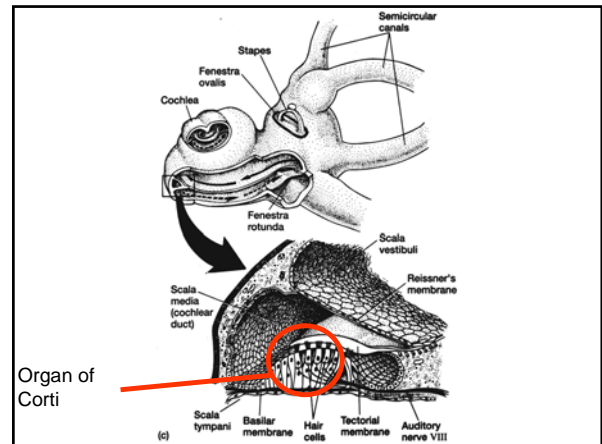
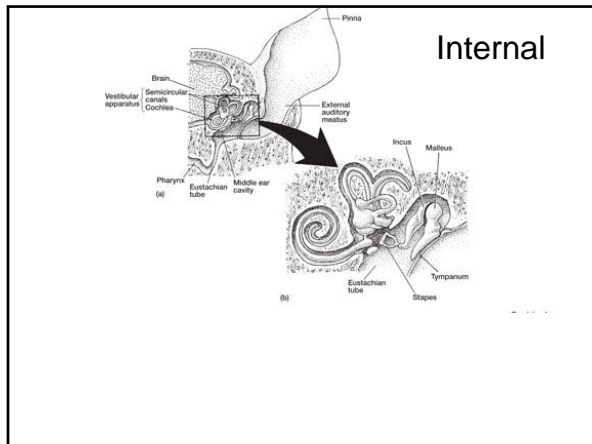
Mechanoreceptors

lateral line
vestibular system
auditory system









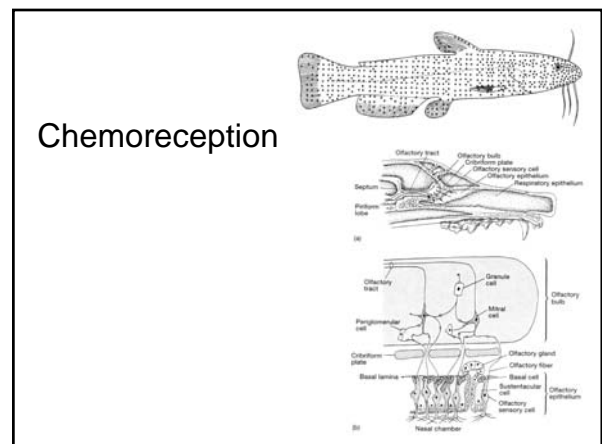
External Auditory Meatus
Gather

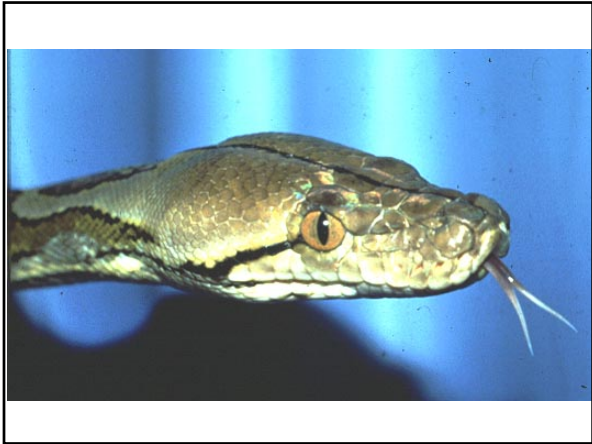
Middle Auditory Meatus
Transmit
Transform
Amplify

Internal Auditory Meatus
Detect

Special Sensory Organs (localized)

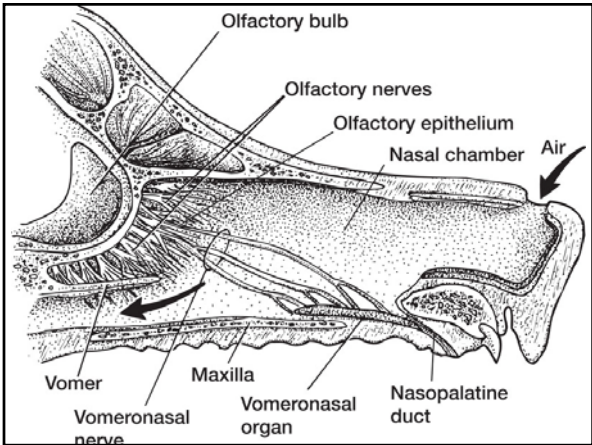
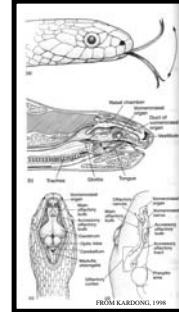
- Mechanoreceptors
- Chemoreceptors
- Photoreceptors





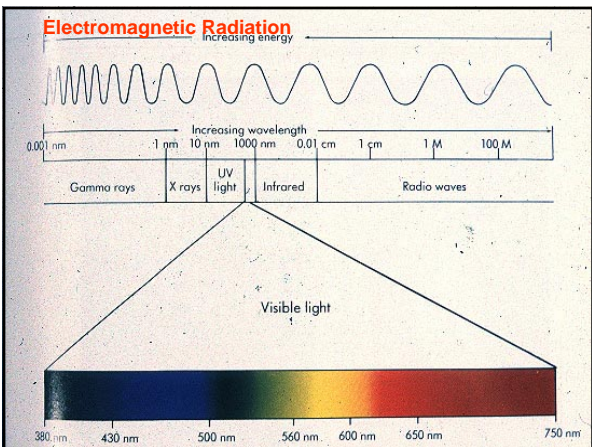
Sensory Systems

Olfactory epithelium
 Vomeronasal organ
 (=Jacobson's organ)



Special Sensory Organs (localized)

- Mechanoreceptors
- Chemoreceptors
- Photoreceptors

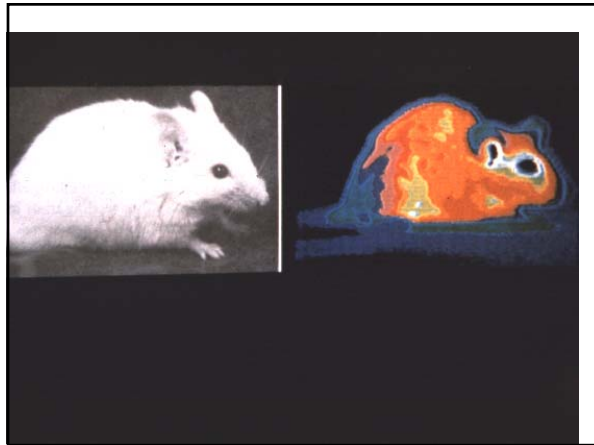
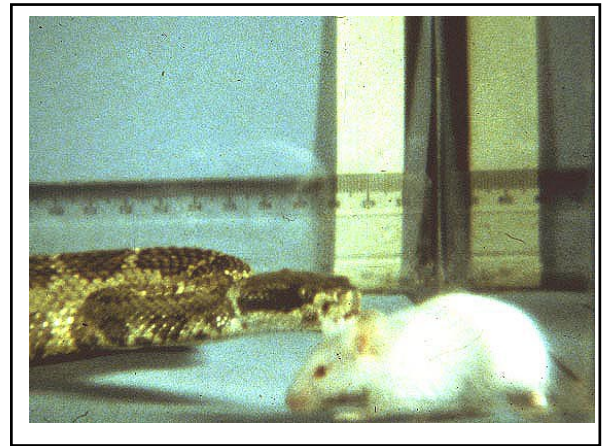
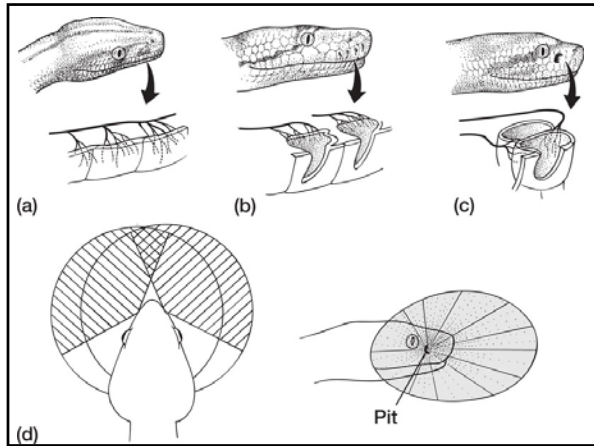


Sensory Systems

- Radiation receptors
- Photoreceptors
- Infrared receptors



KARIDING AND BERKOWITZ, 1999



Eye

sclera
scleral ossicles
cornea

choroid
vascular
iris
ciliary body—lens
tapetum lucidum

retina
rods and cones
(B&W) **Color**

Chambers



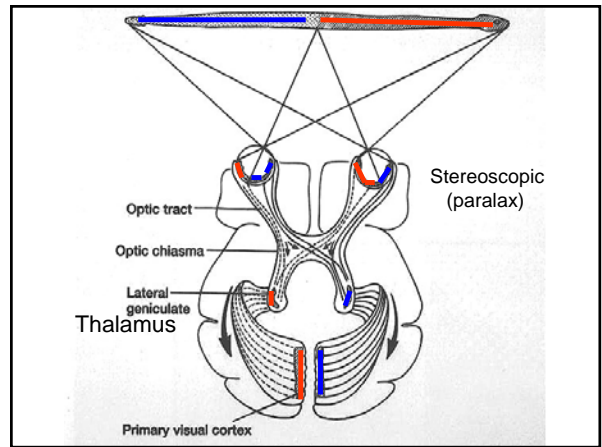
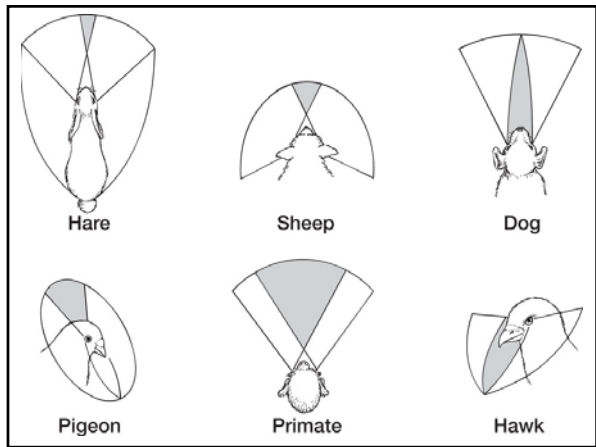
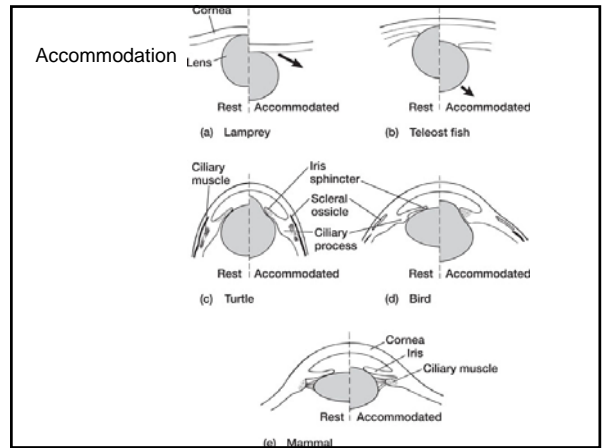
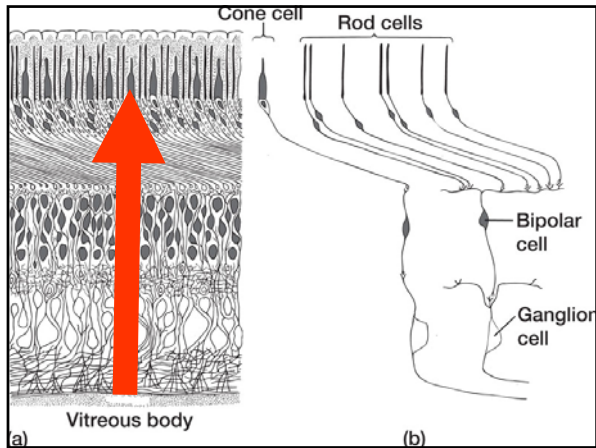
Eye

sclera
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(B&W) **Color**

Chambers



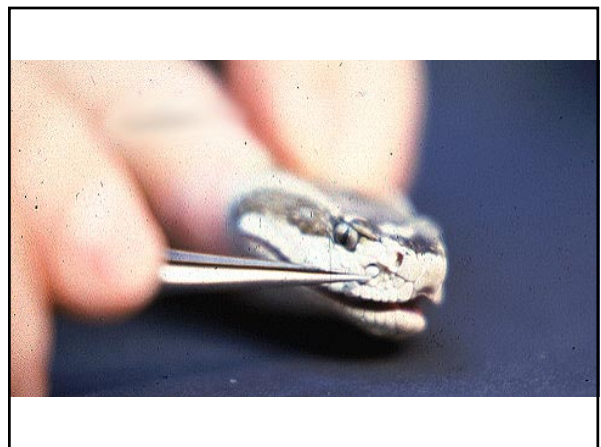
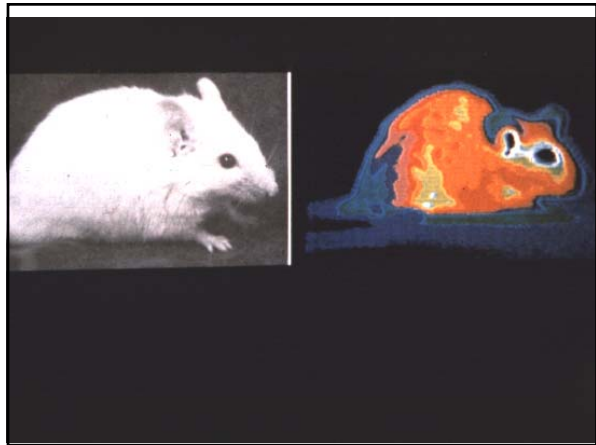
Sensory Systems

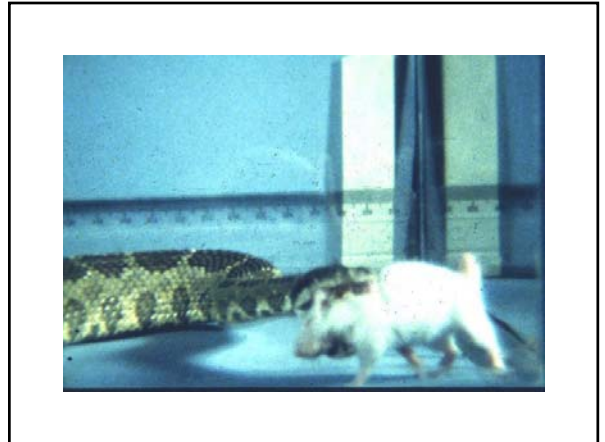
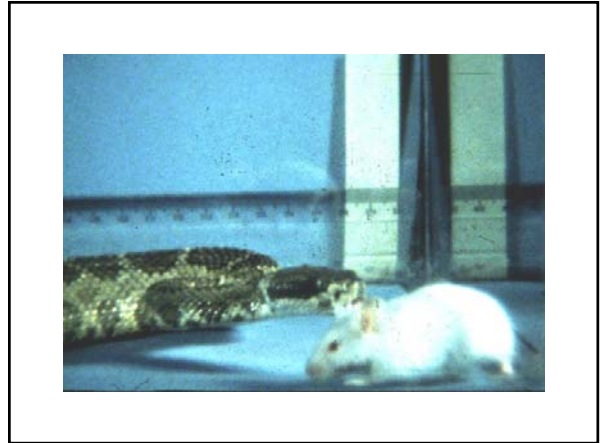
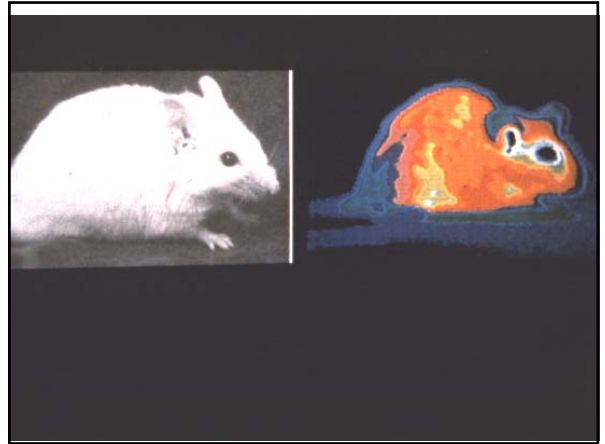
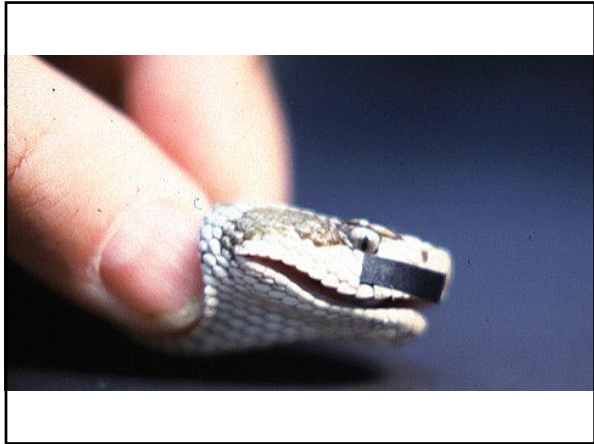
- **Chemosensory receptors**
- Olfactory epithelium
- Vomerinasal organ (=Jacobson's organ)

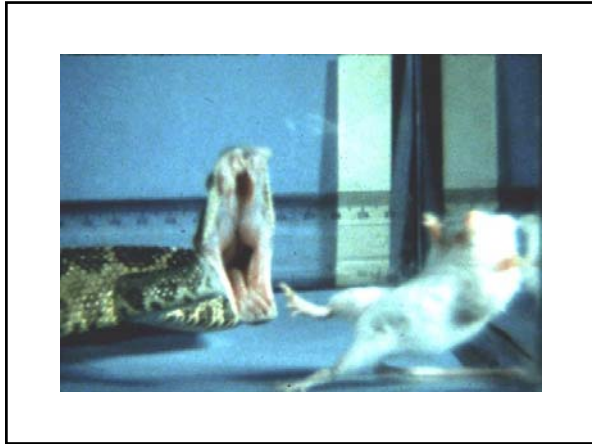
Diagram illustrating the location of chemosensory receptors in a snake's head. Labels include: Olfactory epithelium, Vomerinasal organ, and Jacobson's organ. The diagram shows the snake's head with the location of these receptors highlighted.



<i>Scene</i>	<i>Phase</i>	<i>Stage</i>
PRESTRIKE	Placement	
	Alertness	
	Head Turning	
	Approach	
STRIKE	Preparation	
	Strike	Extend Contact Release Retract
POSTSTRIKE	Re-Approach	
	Head Searching	
	Swallow	

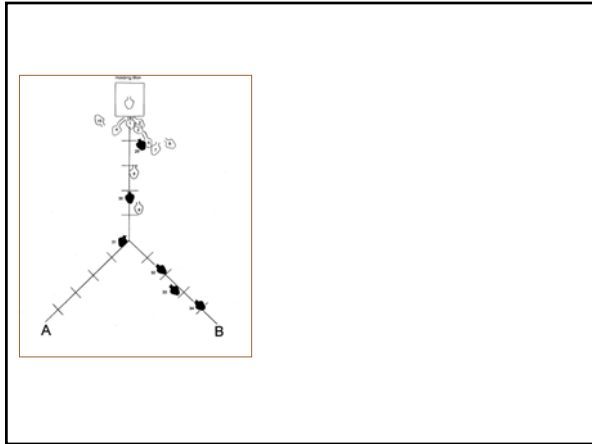
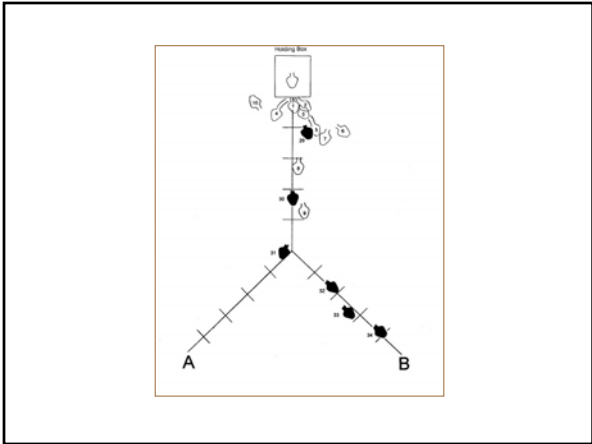
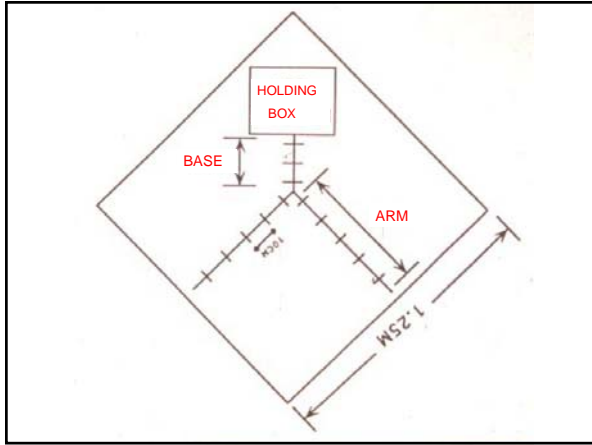




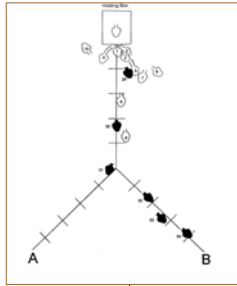


Environment

- Scampers off – dies
- Breaks visual contact
- Complex topography
- Multiple odor trails
- Scent decay
- Specific prey



Poststrike Trailing



1) Sn Struck > Unstruck

(venom) (no venom)
 same/different
 Memory Venom > Mouse Odor

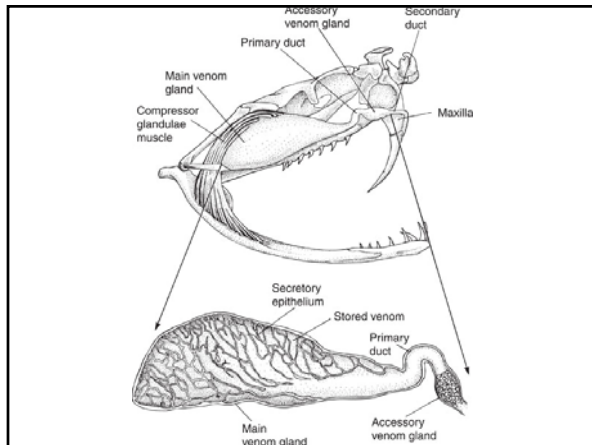
2) Sn Struck > Unstruck

(no venom) (no venom)

3) Sn Struck ≥ Hand Struck

(no venom) (no venom)

different mice: YES
 same mouse: NO Mouse Odor > Fang Puncture



1) Sn Struck > Unstruck

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 Memory Venom > Mouse Odor

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(no venom) (no venom)

3) Sn Struck ≥ Hand Struck

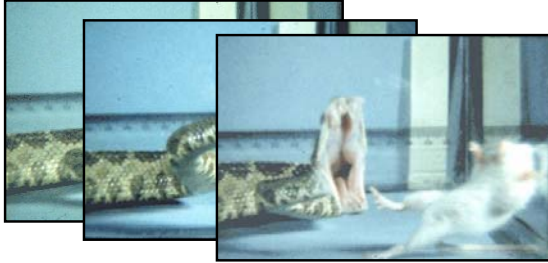
(no venom) (no venom)

different mice: YES
 same mouse: NO Mouse Odor > Fang Puncture

4) Venom > Mouse Odor > Fang

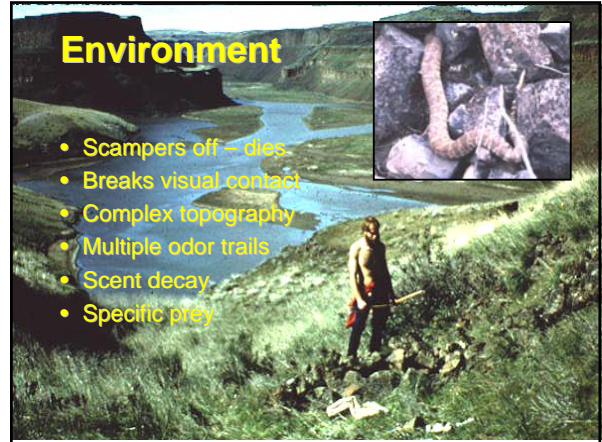
Conclusion

- Rattlesnakes strike and release their prey



Environment

- Scampers off – dies
- Breaks visual contact
- Complex topography
- Multiple odor trails
- Scent decay
- Specific prey



Sensory Systems

- 1) Radiation Receptors: Prestrike/Strike

Eyes ↔ Facial Pits

- 2) Chemosensory Receptors: Poststrike

Selective

Priority: Venom>Mouse>Fang

Chemical profile

Memory