

Table 10-1

TABLE 10-1 Information Processing by the Sensory Division	
STIMULUS PROCESSING IS USUALLY CONSCIOUS	
SPECIAL SENSES	SOMATIC SENSES
Vision	Touch
Hearing	Temperature
Taste	Pain
Smell	Itch
Equilibrium	Proprioception
PROCESSING IS USUALLY SUBCONSCIOUS	
SOMATIC STIMULI	VISCERAL STIMULI
Muscle length and tension	Blood pressure
Proprioception	<ul style="list-style-type: none"> Distension of gastrointestinal tract Blood glucose concentration Internal body temperature Osmolarity of body fluids Lung inflation pH of cerebrospinal fluid pH and oxygen content of blood

Table 10-2

TABLE 10-2 Types of Sensory Receptors

TYPE OF RECEPTOR	EXAMPLES OF STIMULI
Chemoreceptors	Oxygen, pH, various organic molecules such as glucose
Mechanoreceptors	Pressure (baroreceptors), cell stretch (osmoreceptors), vibration, acceleration, sound
Photoreceptors	Photons of light
Thermoreceptors	Varying degrees of heat

Figure 10-1

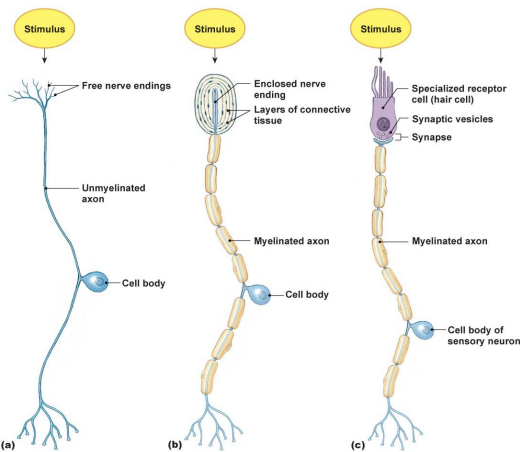


Figure 10-2, overview

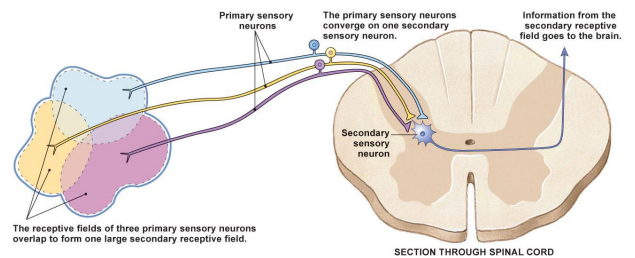
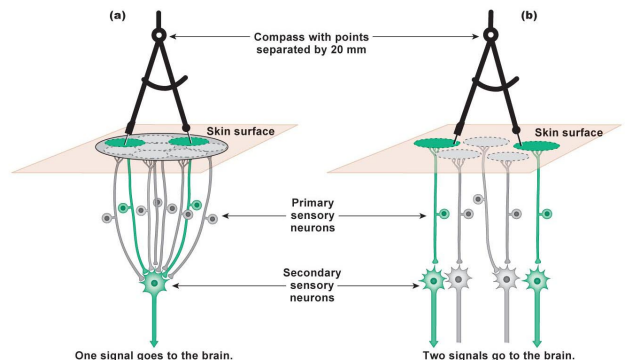


Table 10-3

TABLE 10-3 Sensory Pathways

	STIMULUS	
	FINE TOUCH, PROPRIOCEPTION, VIBRATION	IRRITANTS, TEMPERATURE, COARSE TOUCH
Primary sensory neuron terminates in:	Medulla	Dorsal horn of spinal cord
	Path crosses midline of body.	Path crosses midline of body.
Secondary sensory neuron terminates in:	Thalamus	Thalamus
Tertiary sensory neuron terminates in:	Somatosensory cortex	Somatosensory cortex

Figure 10-3



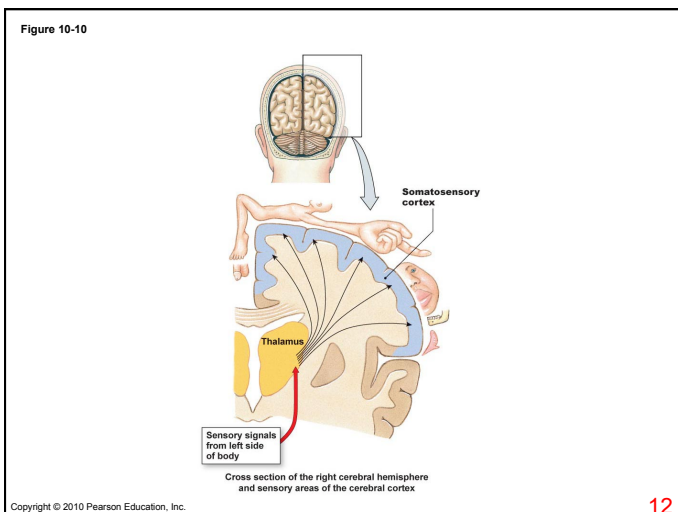
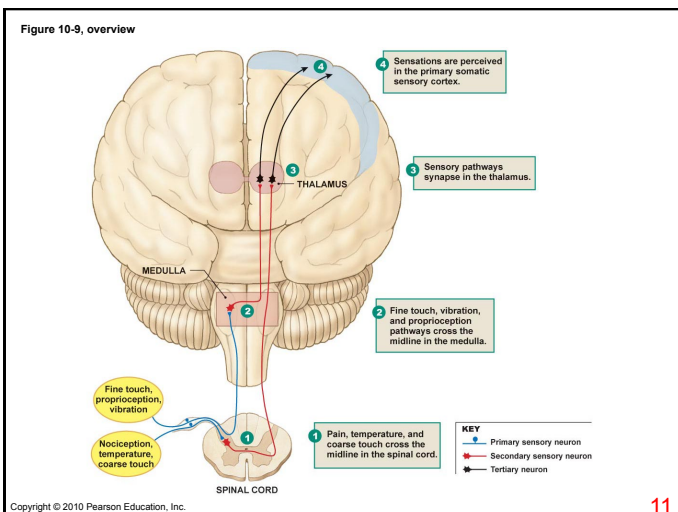
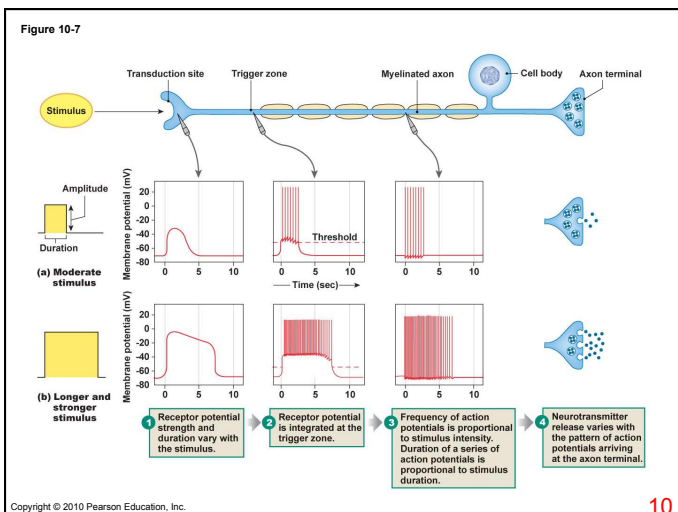
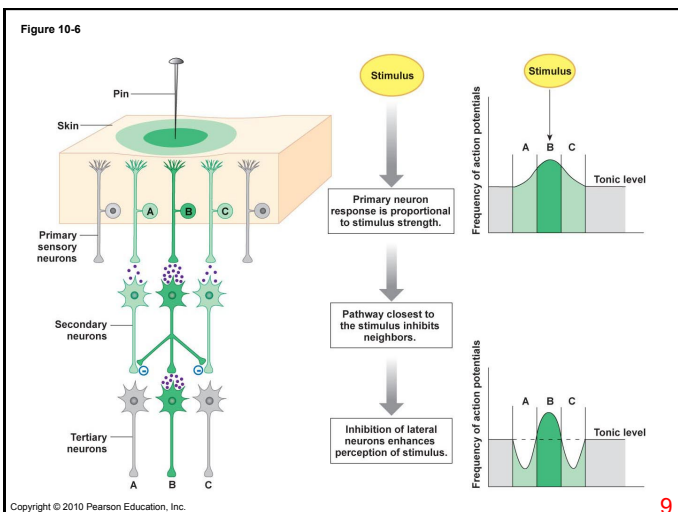
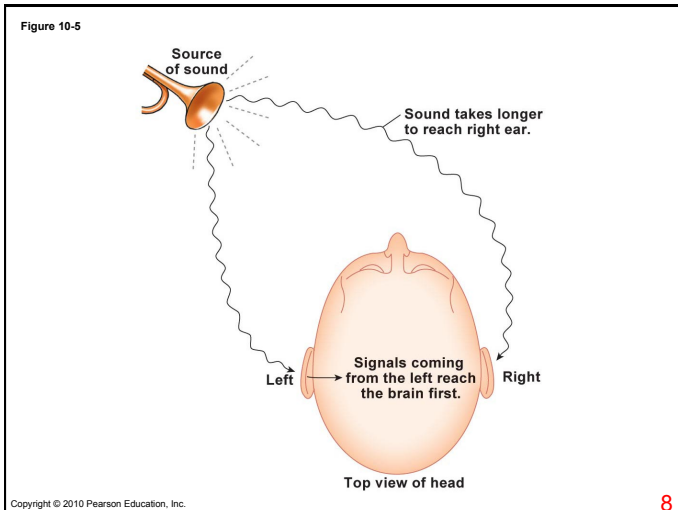
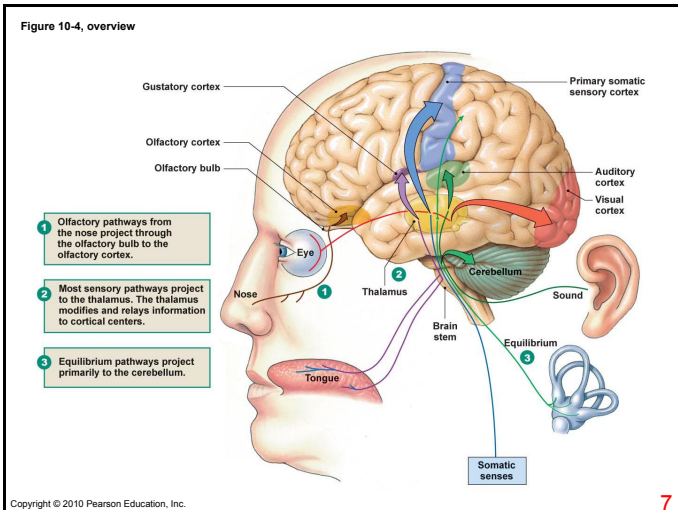


Figure 10-11

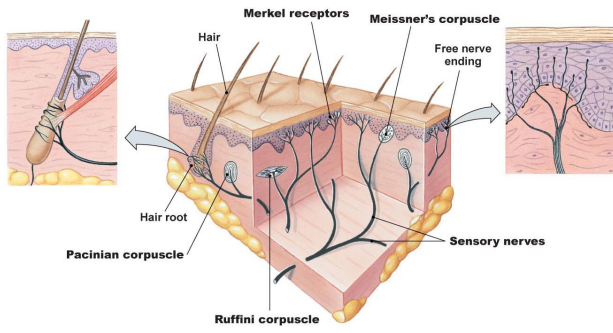


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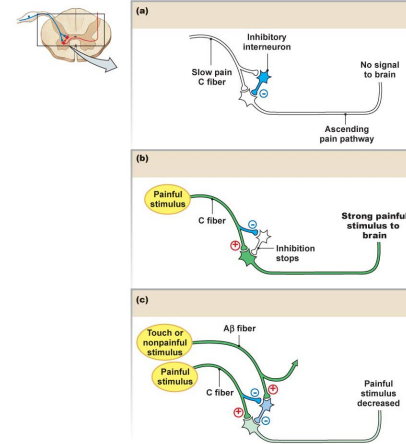


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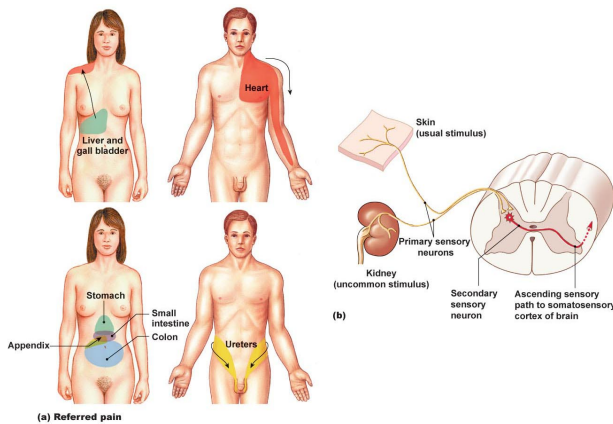


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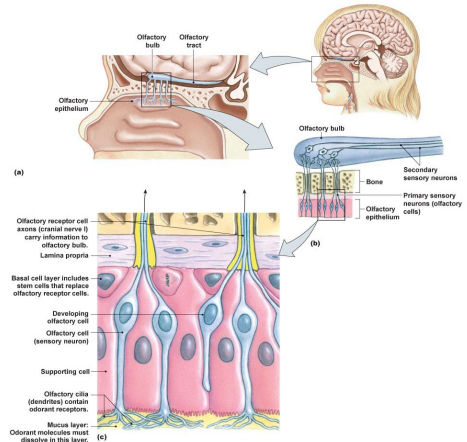


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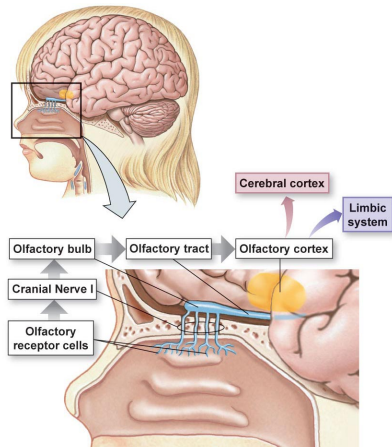
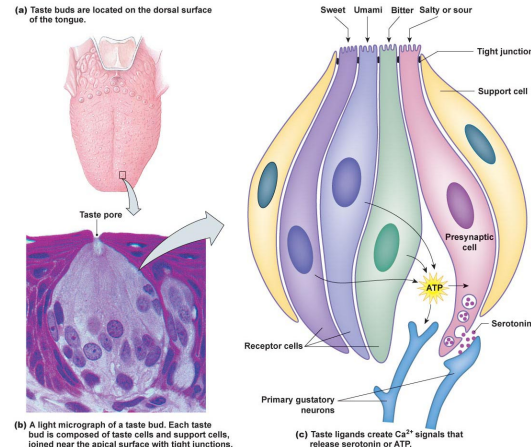


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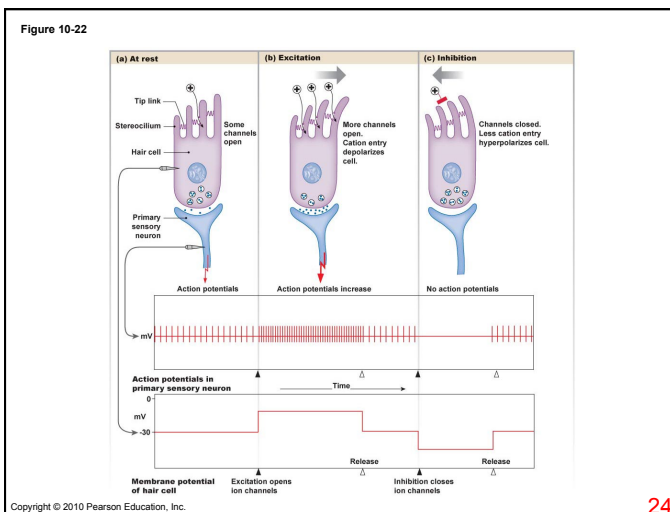
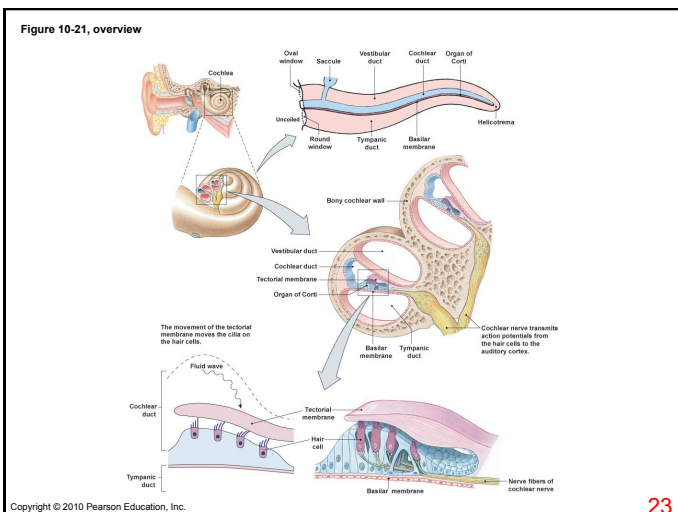
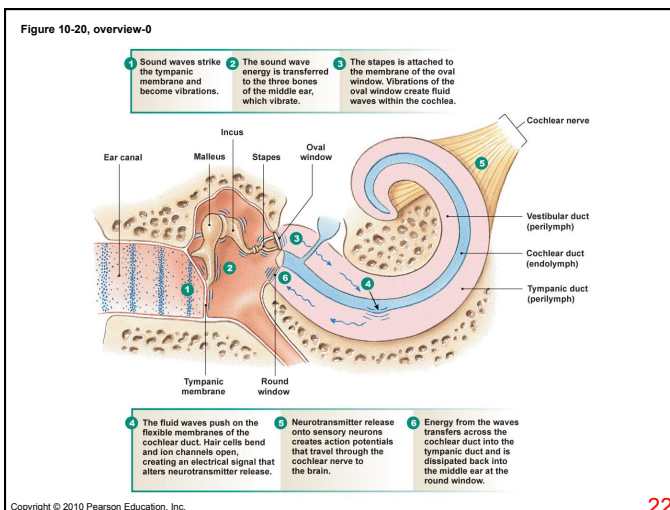
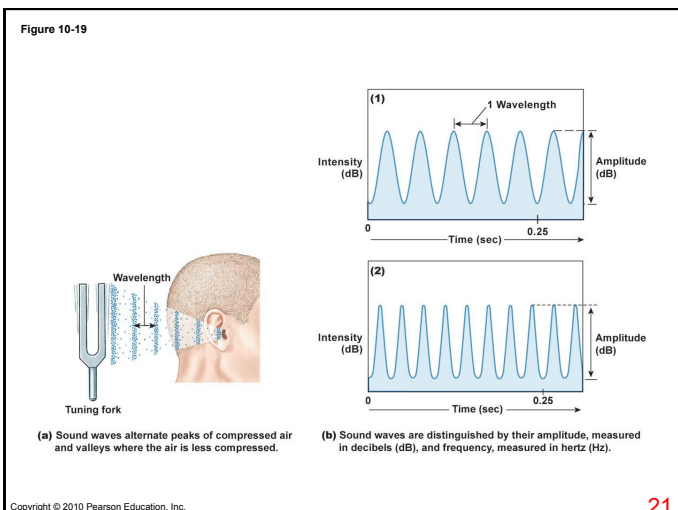
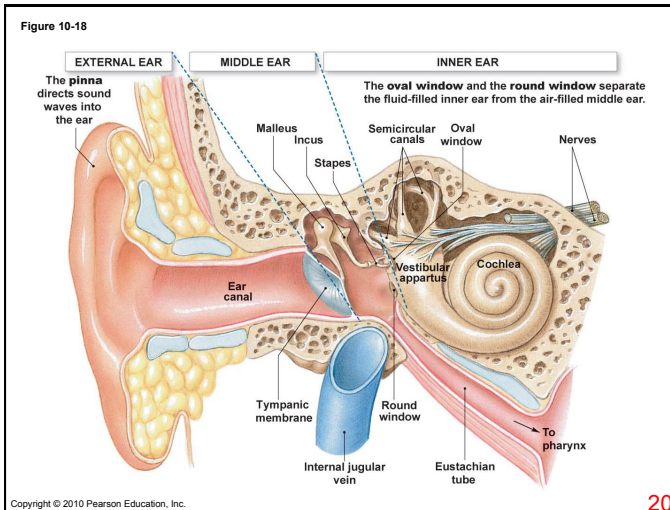
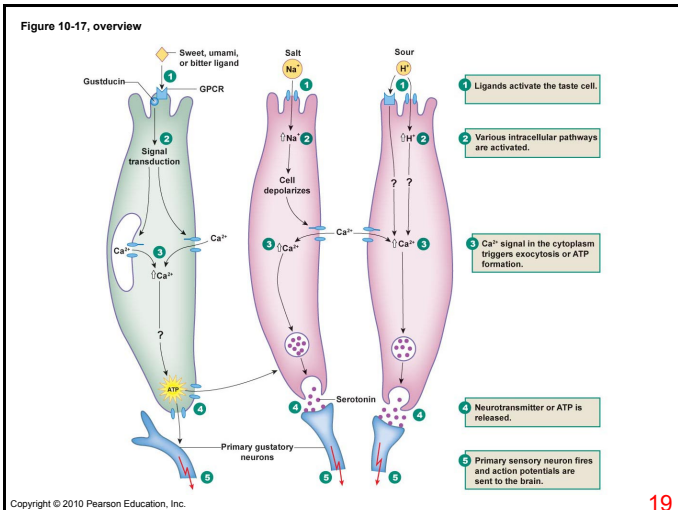


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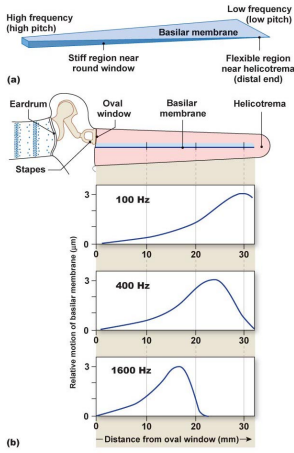


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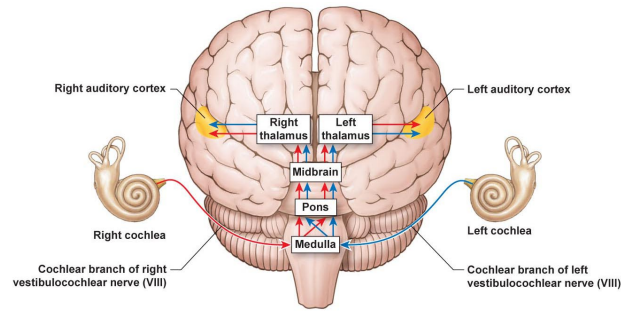


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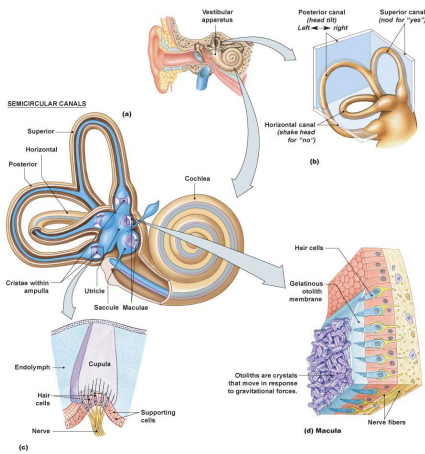


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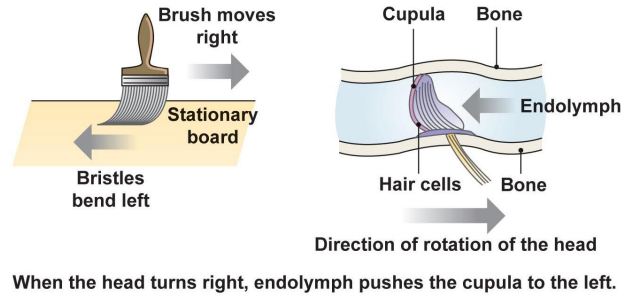


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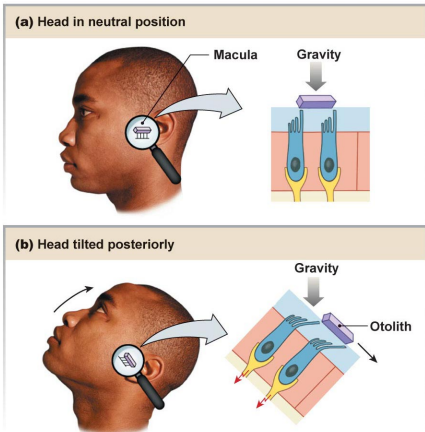


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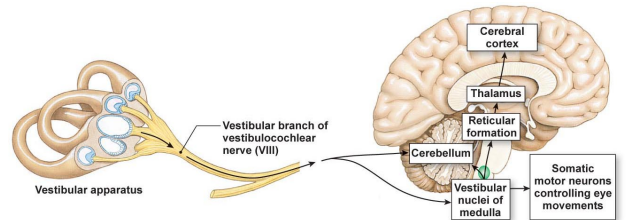
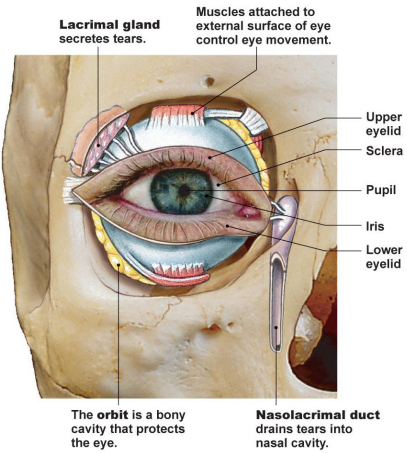
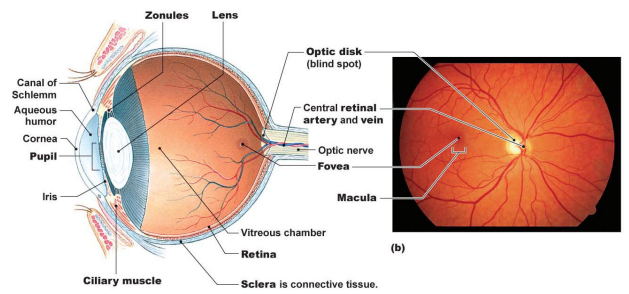


Figure 10-29



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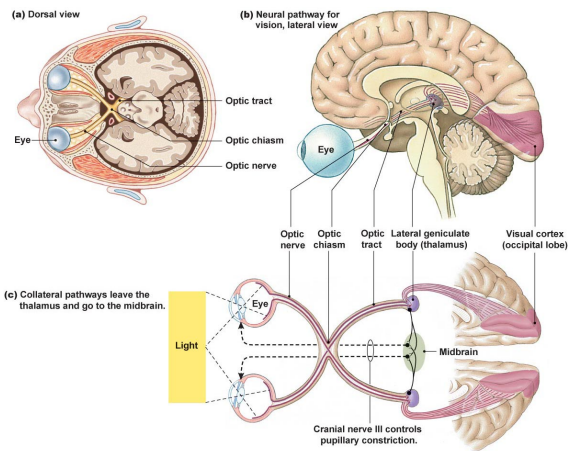
Figure 10-30



(a) Sagittal section of the eye

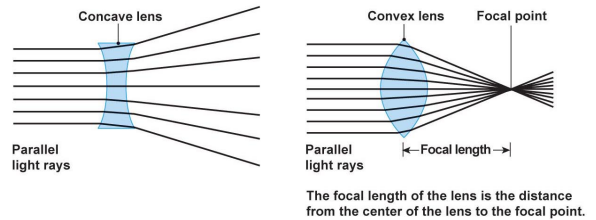
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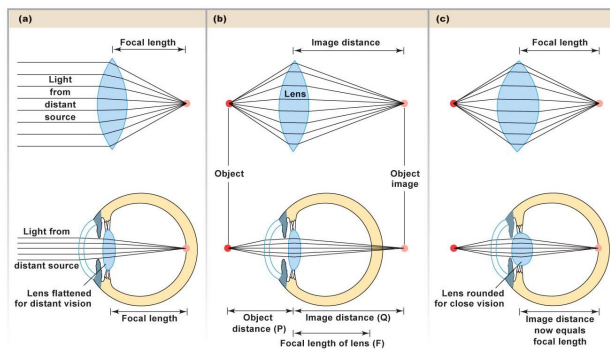


(a) A concave lens scatters light rays.

(b) A convex lens causes light rays to converge.

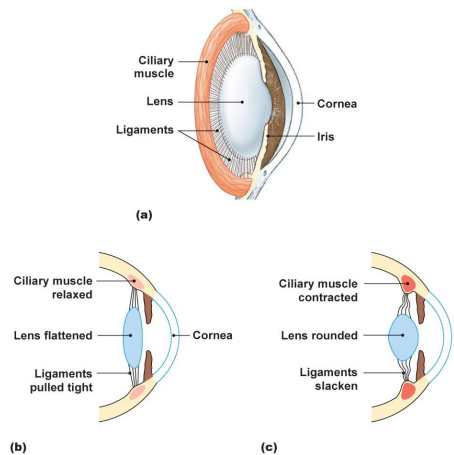
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Figure 10-33



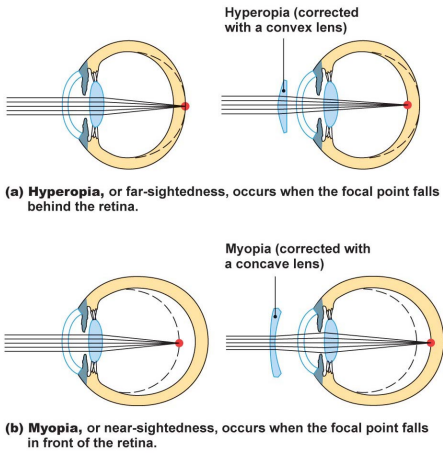
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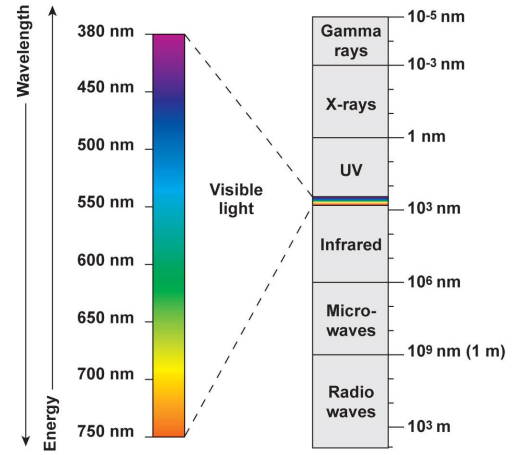
Figure 10-35



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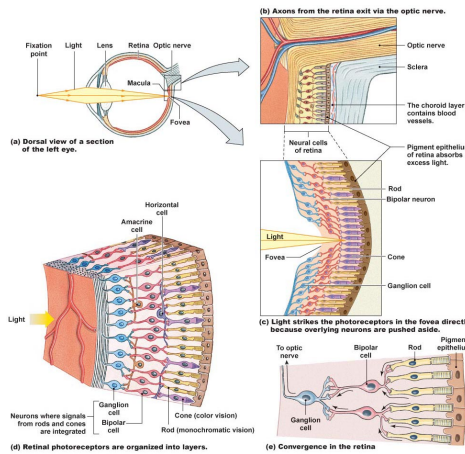
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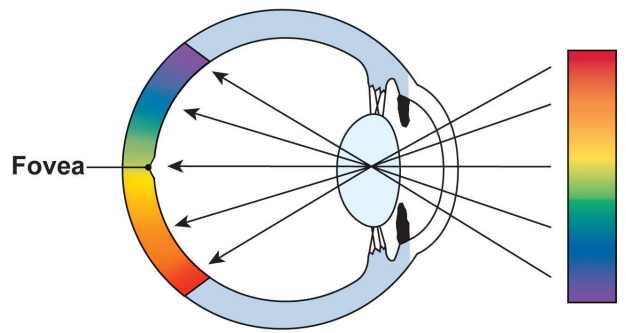
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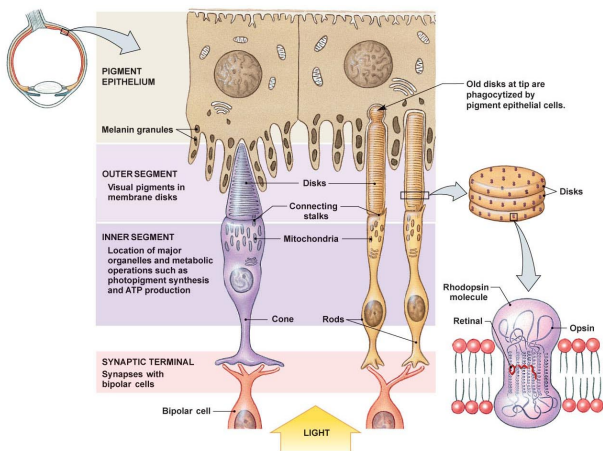


The projected image is upside down on the retina. Visual processing in the brain reverses the image.

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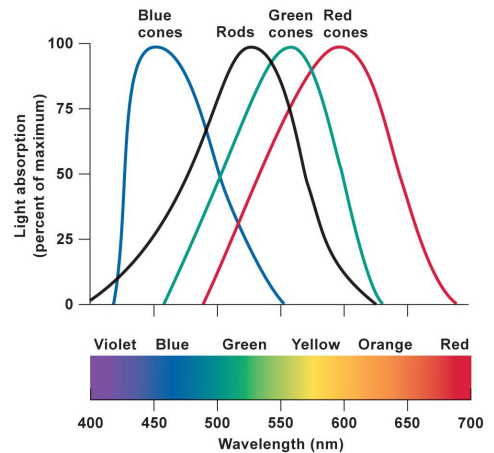
Figure 10-39, overview



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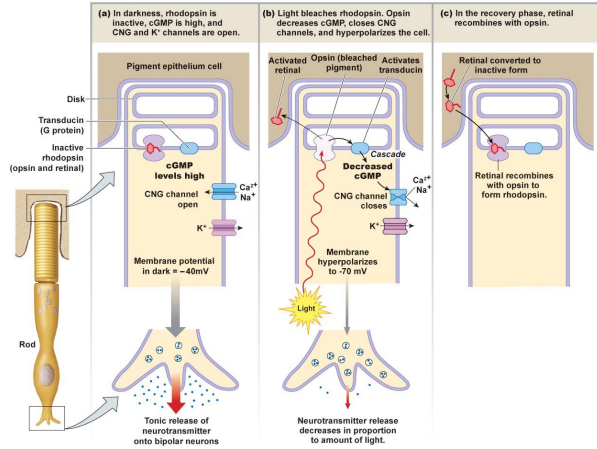
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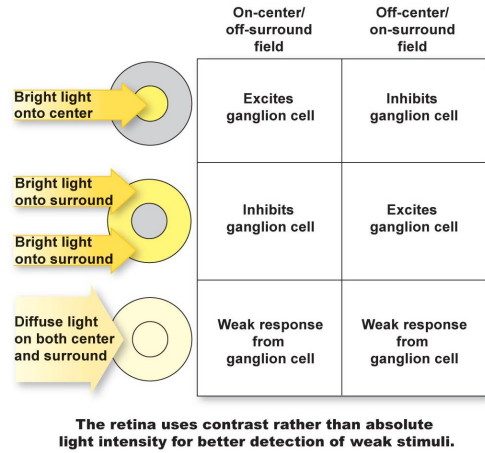
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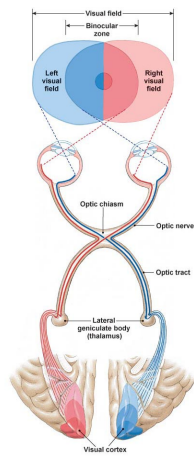
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