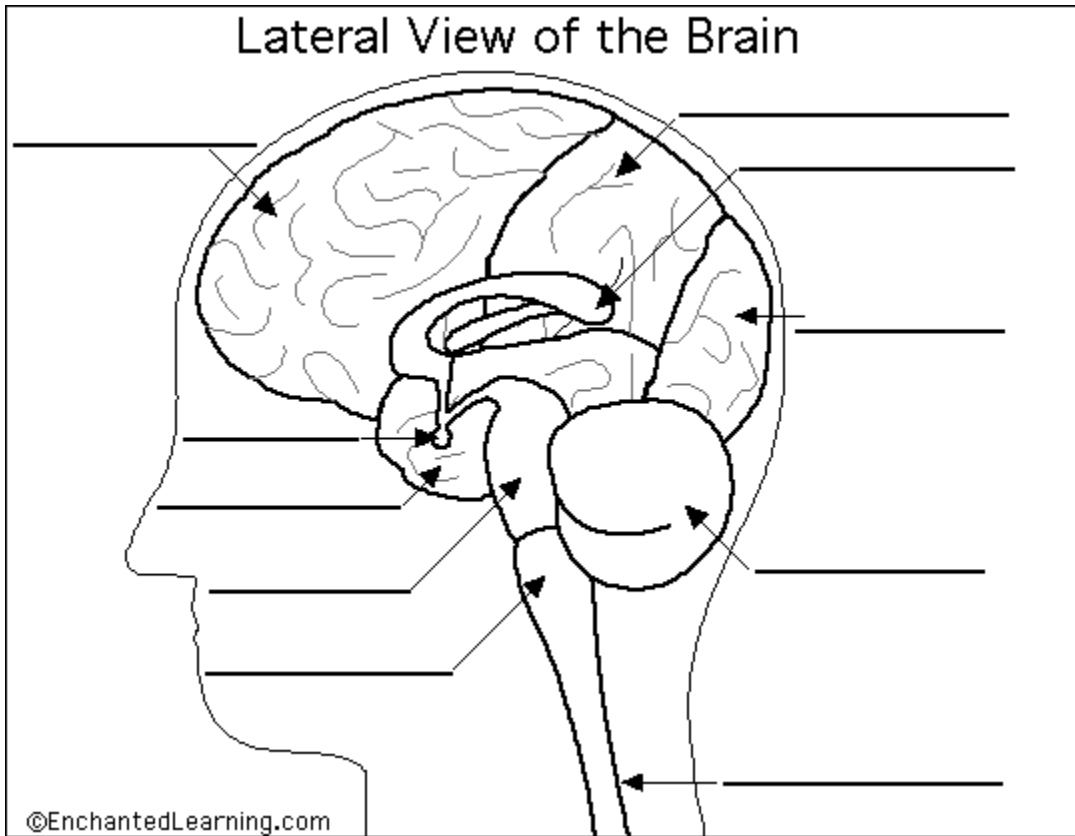


Anatomy/Physiology 1

Lab Exercise 5

1. Label the diagram

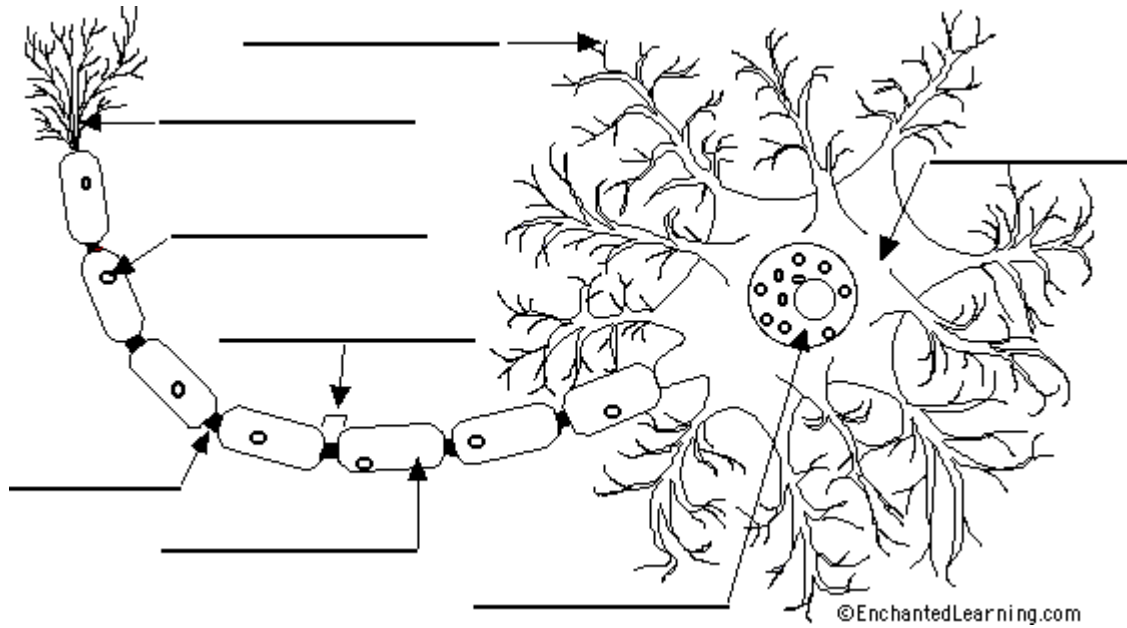


Read the definitions below, then label the brain anatomy diagram.

<p>Cerebellum - the part of the brain below the back of the cerebrum. It regulates balance, posture, movement, and muscle coordination.</p> <p>Corpus Callosum - a large bundle of nerve fibers that connect the left and right cerebral hemispheres. In the lateral section, it looks a bit like a "C" on its side.</p> <p>Frontal Lobe of the Cerebrum - the top, front regions of each of the cerebral hemispheres. They are used for reasoning, emotions, judgment, and voluntary movement.</p> <p>Medulla Oblongata - the lowest section of the brainstem (at the top end of the spinal cord); it controls automatic functions including heartbeat, breathing, etc.</p> <p>Occipital Lobe of the Cerebrum - the region at the back of each cerebral hemisphere that contains the centers of vision and reading ability (located at the back of the head).</p>	<p>Parietal Lobe of the Cerebrum - the middle lobe of each cerebral hemisphere between the frontal and occipital lobes; it contains important sensory centers (located at the upper rear of the head).</p> <p>Pituitary Gland - a gland attached to the base of the brain (located between the Pons and the Corpus Callosum) that secretes hormones.</p> <p>Pons - the part of the brainstem that joins the hemispheres of the cerebellum and connects the cerebrum with the cerebellum. It is located just above the Medulla Oblongata.</p> <p>Spinal Cord - a thick bundle of nerve fibers that runs from the base of the brain to the hip area, running through the spine (vertebrae).</p> <p>Temporal Lobe of the Cerebrum - the region at the lower side of each cerebral hemisphere; contains centers of hearing and memory (located at the sides of the head).</p>
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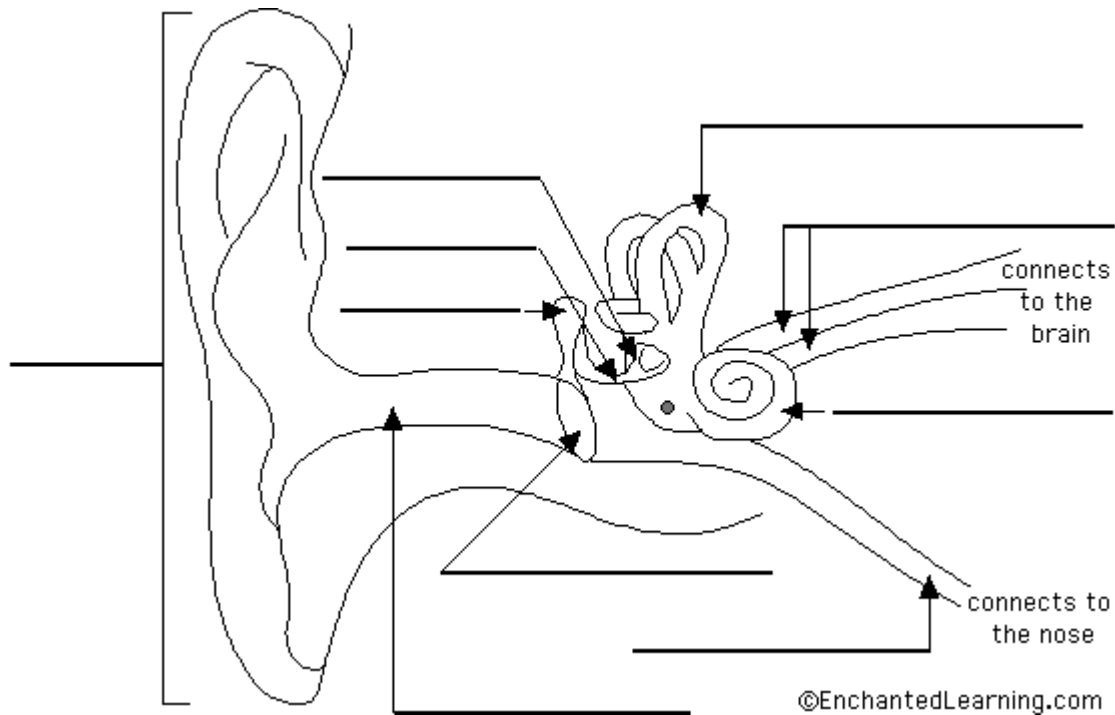
2. Using the terms Label the diagram below

<p>axon - the long extension of a neuron that carries nerve impulses away from the body of the cell.</p> <p>axon terminals - the hair-like ends of the axon</p> <p>cell body - the cell body of the neuron; it contains the nucleus (also called the soma)</p> <p>dendrites - the branching structure of a neuron that receives messages (attached to the cell body)</p>	<p>myelin sheath - the fatty substance that surrounds and protects some nerve fibers</p> <p>node of Ranvier - one of the many gaps in the myelin sheath - this is where the action potential occurs during saltatory conduction along the axon</p> <p>nucleus - the organelle in the cell body of the neuron that contains the genetic material of the cell</p> <p>Schwann's cells - cells that produce myelin - they are located within the myelin sheath.</p>
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3. Read the definitions below, then label the ear anatomy diagram.

Sound is collected by the pinna (the visible part of the ear) and directed through the outer ear canal. The sound makes the eardrum vibrate, which in turn causes a series of three tiny bones (the hammer, the anvil, and the stirrup) in the middle ear to vibrate. The vibration is transferred to the snail-shaped cochlea in the inner ear; the cochlea is lined with sensitive hairs which trigger the generation of nerve signals that are sent to the brain.



anvil - (also called the incus) a tiny bone that passes vibrations from the hammer to the stirrup.

cochlea - a spiral-shaped, fluid-filled inner ear structure; it is lined with cilia (tiny hairs) that move when vibrated and cause a nerve impulse to form.

eardrum - (also called the tympanic membrane) a thin membrane that vibrates when sound waves reach it.

Eustachian tube - a tube that connects the middle ear to the back of the nose; it equalizes the pressure between the middle ear and the air outside. When you "pop" your ears as you change altitude (going up a mountain or in an airplane), you are equalizing the air pressure in your middle ear.

hammer - (also called the malleus) a tiny bone that passes vibrations from the eardrum to the anvil.

nerves - these carry electro-chemical signals from the inner ear (the cochlea) to the brain.

outer ear canal - the tube through which sound travels to the eardrum.

pinna - (also called the auricle) the visible part of the outer ear. It collects sound and directs it into the outer ear canal

semicircular canals - three loops of fluid-filled tubes that are attached to the cochlea in the inner ear. They help us maintain our sense of balance.

stirrup - (also called the stapes) a tiny, U-shaped bone that passes vibrations from the stirrup to the cochlea. This is the smallest bone in the human body (it is 0.25 to 0.33 cm long).

4. Name all cranial nerves and give their functions.

- a.
- b.
- c.
- d.
- e.
- f.
- g.
- h.
- i.
- j.
- k.
- l.

5. Name the parts of a Reflex Arc.

6. Describe the following terms:

filum terminale:

cauda equine:

Conus medullaris:

7. Describe in detail and draw as best as you can the Cross-sectional Anatomy of the Spinal Cord. Don't forget to label your diagram.

8. Give the location of the following structures:

mamillary bodies:

corpora quadrigemina:

optic chiasm

pituitary gland:

septum pellucidum:

third ventricle:

vermis:

lateral ventricles:

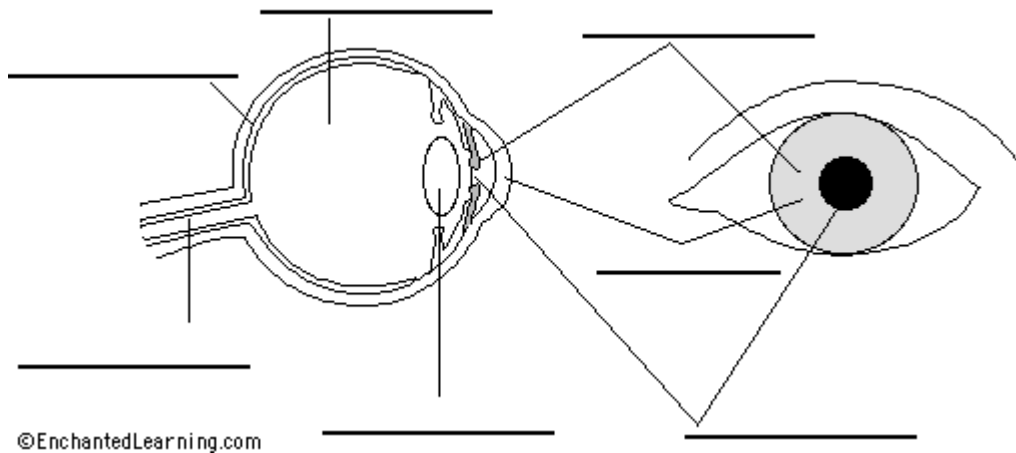
9. Name each type of Neuroglia cell in the body:

10. Name each layer of the meninges from the innermost:

11. Name and give an anatomical description of the 3 layers/tunics of the eye:

12. Label the diagram

<p>Cornea - the clear, dome-shaped tissue covering the front of the eye.</p> <p>Iris - the colored part of the eye - it controls the amount of light that enters the eye by changing the size of the pupil</p> <p>Lens - a crystalline structure located just behind the iris - it focuses light onto the retina</p> <p>Optic nerve - the nerve that transmits electrical impulses from the retina to the brain</p>	<p>Pupil - the opening in the center of the iris- it changes size as the amount of light changes (the more light, the smaller the hole)</p> <p>Retina - sensory tissue that lines the back of the eye. It contains millions of photoreceptors (rods and cones) that convert light rays into electrical impulses that are relayed to the brain via the optic nerve</p> <p>Vitreous - a thick, transparent liquid that fills the center of the eye - it is mostly water and gives the eye its form and shape (also called the vitreous humor)</p>
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13. What are the saccule and utricle:

14. What is the receptor for hearing:

15. The Dorsal nerve root carries_____ information.

16. The Anterior/Ventral root carries_____ information