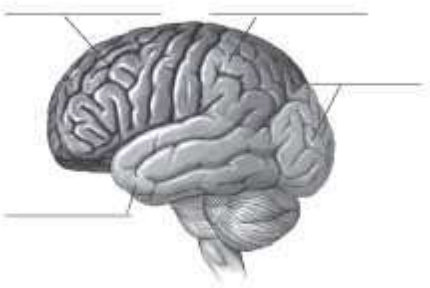
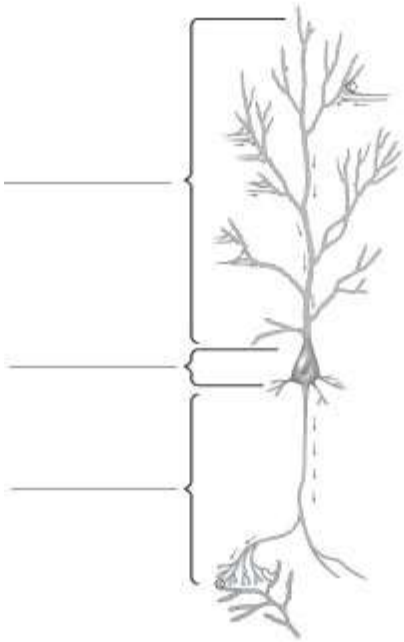
1. Label the four lobes of the cerebral cortex in the figure.



2. List two brain structures that are especially important for learning and memory. Briefly describe the involvement of each one.

3. Describe one piece of evidence that shows learning in invertebrates.

4. Label the parts of the neuron in the figure.



5. What was one of the problems with phrenology?

6. What is the difference between structural neuroimaging and functional neuroimaging?

1. Four people failed a difficult exam and are trying to forget about the experience. Which person will be MOST successful?
   A) Manny, who has been staying awake for the past three nights
   B) Jacob, who keeps thinking about how important this test was
   C) Joan, who has taken up meditation
   D) Bree, who enjoys listening to music, watching TV, and talking to her friends all at once

2. Early learning and memory researchers focused on behavior, rather than brain function, because:
   A) they did not think the brain was involved in learning and memory.
   B) they were not interested in how the brain was involved in learning and memory.
   C) technology wasn't yet available for studying the complexities of the brain.
   D) none of them knew how to study physiology.

3. The nervous system is:
   A) mainly involved in cooling the blood.
   B) considered the seat of learning and memory.
   C) a relatively simple anatomical system.
   D) devoted to the distribution and processing of information.

4. The central nervous system is made up of:
   A) nerves and muscles.
   B) sensory organs.
   C) sensory and motor neurons.
   D) the brain and the spinal cord.

5. If a friend pats one on the back, the neurons that carry the information from the touch receptors on one's back to one's brain are part of the:
   A) central nervous system.
   B) peripheral nervous system.
   C) left hemisphere.
   D) right hemisphere.

6. When one reaches to catch a basketball, the neurons that carry the message from one's brain to the muscles in one's arms and hands are part of the:
   A) central nervous system.
   B) peripheral nervous system.
   C) left hemisphere.
   D) right hemisphere.

1. If one stubs one's toe, the painful sensation is carried to the brain by neurons in the:
   A) occipital lobe.
   B) frontal lobe.
   C) central nervous system.
   D) peripheral nervous system.

2. Which lobe of the cerebral cortex is responsible for processing things that one hears?
   A) frontal
   B) temporal
   C) occipital
   D) parietal

3. *Comparative neuroanatomy* refers to the examination of the similarities and differences among the:
   A) brains of people of different ages.
   B) cerebral hemispheres.
   C) different lobes of the cerebral cortex.
   D) brains of different organisms.

4. The ability of worms and jellyfish to learn is notable because they each have:
   A) a CNS but not a PNS.
   B) no recognizable brain.
   C) no neurons.
   D) very large brainstems.

5. Which part(s) of a neuron send(s) signals to other neurons?
   A) dendrites
   B) the cell body
   C) the axon
   D) glia

6. Phrenology involves:
   A) scanning the brains of living humans using a magnetic field.
   B) associating deficits in mental abilities with damage to specific brain regions.
   C) associating bumps on the skull with abilities and personality traits.
   D) examining which parts of the brain are damaged after a head injury.