

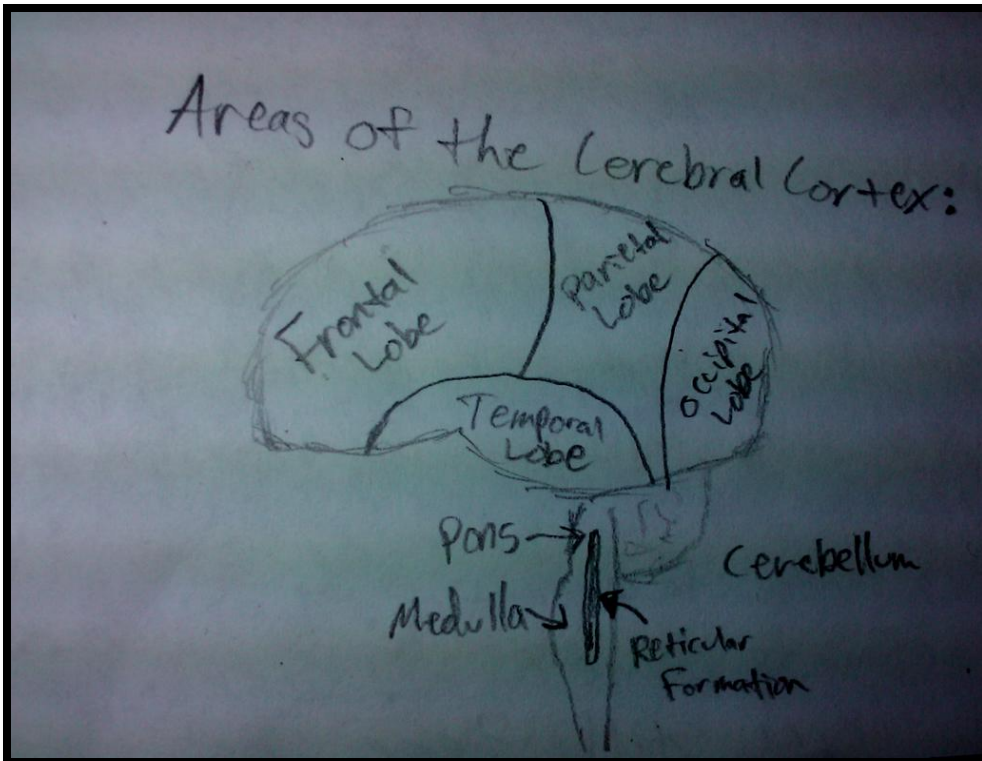
# The Cerebral Cortex:

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The cerebral cortex is the outer-most tissue layer of the brain. It measures approximately 1/8" to 1/4" thick at any given point and extends across the surface of both hemispheres of the brain. Its resemblance is close to that of a crumpled up newspaper in that it has folds and creases, called sulci and gyri, but is essentially a "planar form" were it able to be flattened. The cerebral cortex is composed of four major areas or "lobes." These are the frontal, parietal, temporal, and occipital lobes respectively.

The frontal lobe is involved with many brain functions, but is mainly involved in forethought,



the planning of actions and movements, as well as abstract thought and judgment.

The parietal lobe is mainly involved in the perception of "touch." It aids in the spatial location of extremities and assists the

body in navigation. Because of this lobe, we don't have to continue to stare at our feet to reassure ourselves that they're still attached to our bodies.

The temporal lobe is the home of the Primary Auditory Cortex. It is involved in the perception of hearing and language. Both Broca's area and Wernicke's area are found mainly in the temporal lobe.

Finally, the fourth and remaining lobe of the cerebral cortex is the occipital lobe. The Primary Visual Cortex is found therein. The occipital lobe is involved in the perception of “vision.” Light enters the eye and falls on the retina and images are projected “up-side-down.” That doesn’t matter, however, because we “see” with our occipital lobes, not our eyes. Some of this “light” or electromagnetic radiation gets absorbed by rods and cones contained in the eye. By a process called transduction, these physical energies get converted into electric “messages” or signals to be sent afferently (from the eye to the brain). These signals travel through the optic nerve and form synapses in the thalamus and are then sent to the occipital lobe where the actual perception of “sight” takes place.