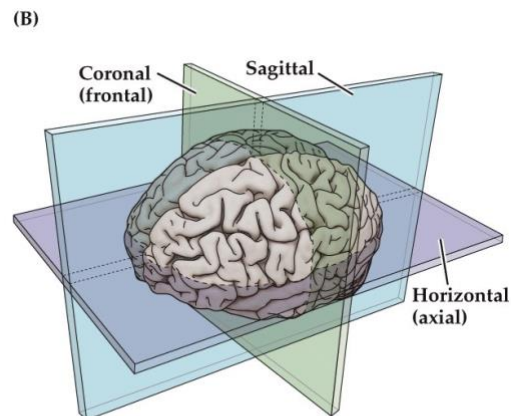
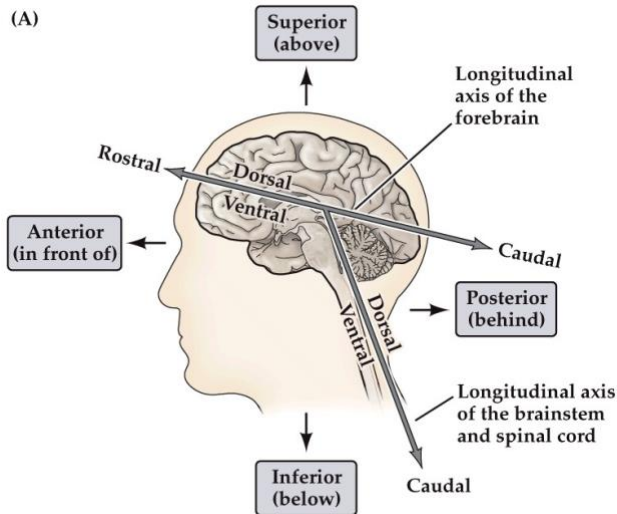
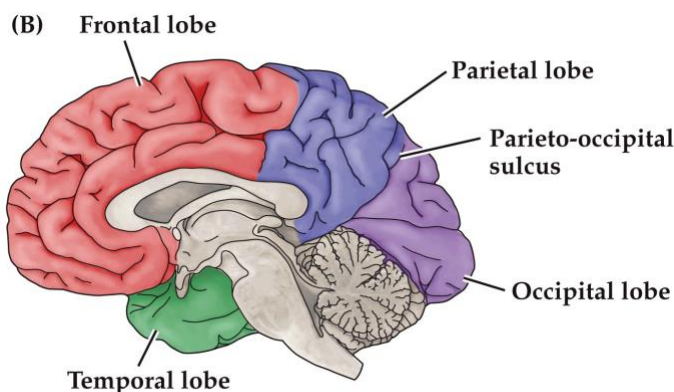


COGS100: Introduction to Cognitive and Brain Sciences

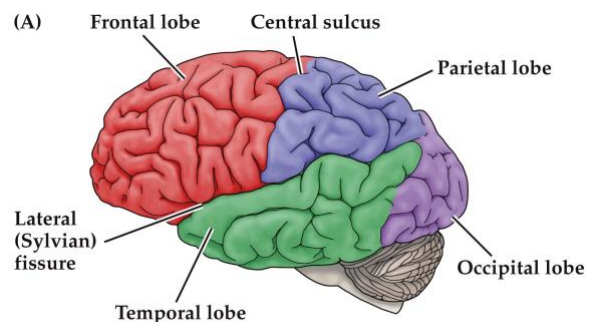
Neuroanatomy



- Surface anatomy of the cerebral hemisphere
- Super view of brain = dorsal (above)
- Inferior view of brain = ventral (below)
- Side of brain = mid-sagittal view



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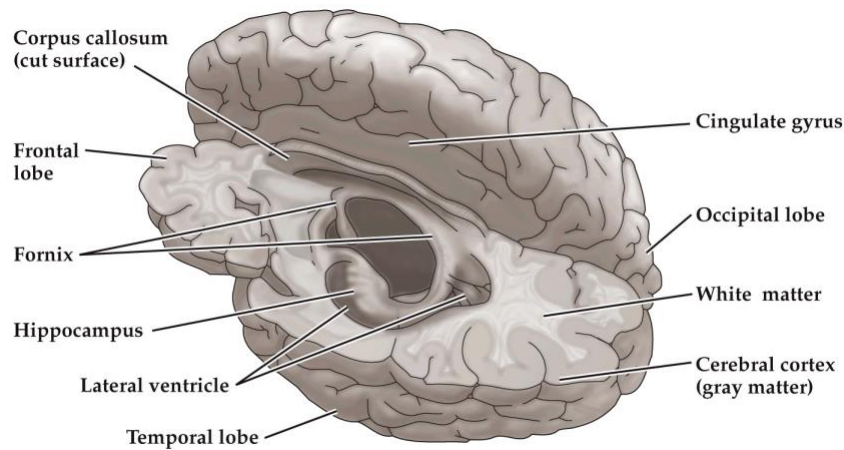
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Sections of the brain

- Coronal → frontal
- Sagittal → across (vertical)
- Horizontal → across
- Midsagittal view (side)
- Calcarine sulcus runs down middle of occipital view
- Brain determines what we see → technically humans see things upside down → brain changes to right way

Fun facts:

- Damaged neurons remain dead
- Individual parts work independently when there is no connection between 2 parts
- Sulcus / sulci = in folds ('dips')
- Gyrus / gyri = out folds (top part)
- Fissure = completely separated, not connected (unlike sulcus)
- Corpus collosum = separates the 2 halves
- Lateral ventricles (fluids) are connected to the spinal cord + maintain equal pressure within the brain (keeps brain inflated)

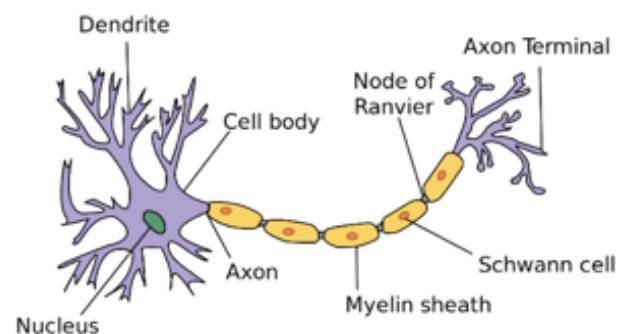


Grey matter = accumulation of cell bodies + white blood cells in brain / spinal cord

White matter = axon tracts (myelinated), commissures → connects parts of grey matter to each other

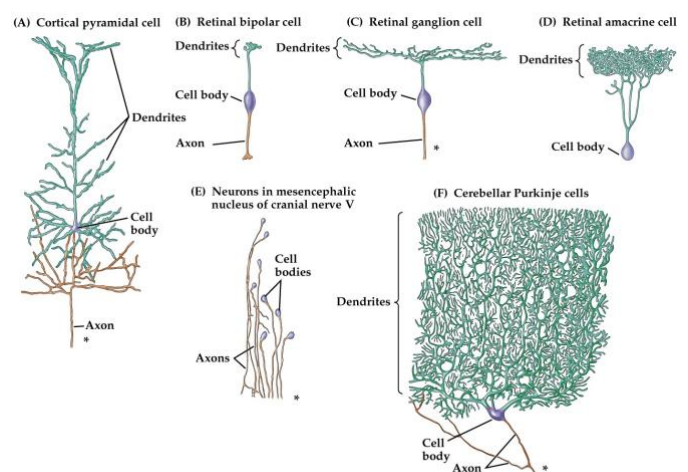
Neurons

- Definition: type of cell → long distance electrical signalling + intercellular communication by means of synapses. Salient includes an axon (sends messages) + dendrites (receives info)
- All neurons are identical (same morphology) BUT they are designed / structure to perform different tasks
- Specialise in intercellular communication & electrical signalling = fundamental function unit in nervous system
- Transmit information along axon → electrical impulse
- Components of neuron = axon, cell body, dendrite
- Contain positively charged sodium + potassium
- Negatively charged chloride + organic ions
- Afferent neurons = nerve cells carrying info from periphery TOWARDS brain /spinal cord
- Efferent neurons = nerve cells carrying info AWAY from the brain/spinal cord



Glial cells

- Definition: non-neuronal cells that maintain haemostasis (stopping blood flow) from myelin (fat) + provide support / protection for neurons in CNS/PNS
- Support electrical / chemical function of neuron
- Repairs damaged nervous system
- Remove cellular debris
- Cell body (soma)
- 'Factory' of neuron
- Half mass of brain, outnumbering neuron approx. 10 to 1
- 3 types:
 - Astrocytes
 - Oligodendrocytes
 - Microglia (located throughout spinal cord/brain)



NEUROSCIENCE 5e, Figure 1.2
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