BRAIN

3 three main divisions:	Forebrain (prosencephalon) (2 subdivisions telencephalon (endbrain) and diencephalon (interbrain).					Midbrain (mesencephalon)			Hindbrain (rhombencephalon) (2 subdivisions metencephalon (afterbrain) and the myelencephalon (marrowbrain)		
	Cerebrum: is the largest part of the brain and is composed of right and left hemispheres - joined by corpus callusum.	**Diencephalon**	**Cerebellum**: is located under the **cerebrum**. ...	**Brainstem:** connects cerebrum and cerebellum to spinal cord. Controls lungs heart & blood pressure. Sits @ top of spine/receives messages from the rest of the body.	**Occipital lobe**	**Temporal lobe**	**Parietal lobe**	**Frontal lobe Body movement (motor strip)**	**Cerebral cortex (Neocortex layers of the cerebral cortex)**	**Pons** control areas for eye and face movements **/ Medula** contains important control centers for the heart and lungs	**Notes**
Functioning %											
Infection											
Reflux											
Energy blocks											
	Pre-frontal cortex	**Hypothalamus**	**Thalamus**	**Pituitary gland**	**Pineal gland**	**Amygdala** (integrative centre for emotions, emotional behaviour, and motivation)	**Hippocampas** (regulates stimulation, emotion, learning, and memory)	Basal ganglia: **includes the caudate, putamen and globus pallidus**	**Archicortex & paleocortex** (part of the cerebral cortex) - cortical parts of the limbic system	**Central Canal**	**Notes**
Functioning %											
Infection											
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	Limbic System this system: cingulate gyri, hypothalamus, amygdala (emotional reactions) and hippocampus (memory)	**Spinal Cord (large bundle of nerve fibers)**	**Cranial nerves (1-12)** originate from brainstem, exit skull through holes called **foramina,** travel to the body. **(10 vagus)**	**Foramen magnum** (the brainstem exits the skull through the FM)	**Anterior, middle and posterior fossae** (in 3 regions)	**Ependymal cells,** which form a structure called the **choroid plexus (CSF produced within this).**	**Brain parenchyma** (ventricles) located within the BP	**Rate CSF entering and leaving ventricles**	Ventricles structures that produce CSF, and transport it around the cranial cavity. Communicating network of cavities filled with CSF. **2 lateral ventricles, 3rd ventricle, the cerebral aqueduct, 4th ventricle**. **Choroid plexuse**s are located in the ventricles produce CSF, fills the ventricles and **subarachnoid space**, following a cycle of constant production and reabsorption.		**Notes**
Functioning %											
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	Foramen of Monro	**Aqueduct of Sylvius**	**Subarachnoid space** (CSF bathes and cushions the brain)	**Superior sagittal sinus** called **arachnoid villi.**	**Cisterna Magna**	**Neocortex,** set of layers (mammalian cerebral cortex), higher-order brain functions-sensory perception, cognition, generation of motor commands, spatial reasoning, language.		**Mid-brain colliculi**	**Mid-brain tegmentum**	**Mid-brain cerebral peduncles**	**Notes**
Functioning %											
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	Meninges membranous coverings of the brain and spinal cord. **3 layers meninges, dura mater, arachnoid mater and pia mater.**		**Common carotid artery** up the neck divides into the internal and external carotid arteries	**Vertebral arteries (L+R)** posterior circulation is fed right and left vertebral arteries join together to form the basilar artery.	**Circle of Willis** (two systems connect)	**Vertebral-basilar systems**	Anterior communicating **(Acom)** and posterior communicating **(Pcom)** arteries	**Venous circulation** of the brain	**Venous sinuses** collect blood from brain, pass to jugular veins	**Superior and inferior sagittal sinuses** drain the cerebrum	**Cavernous sinuses** drains the anterior skull base	**Notes**
Functioning %											
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	Sigmoid sinuses all sinuses eventually drain to SS	**Jugular veins** (only drainage of the brain)	**Neurons** consist of: **cell body, dendrites and an axon** (where sacs containing neurotransmitters open into the **synapse** (tiny gap NTs 'talk'). **Neurotransmitter molecules** fit into special **receptors** on receiving nerve cell, stimulates that cell-pass on message.			**Glia cells**-glue cells of brain: provide neurons with nourishment, protection, and structural support (common with brain tumour)		**Astroglia/astrocytes** - caretakers — regulate blood/brain barrier. Control homeostasis, neuronal defense, repair, scar formation, affect electrical impulses		**Oligodendroglia cells**-create fatty substance (myelin) insulates axons – allows electrical messages travel faster	**Notes**
Functioning %											
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	Ependymal cells line the ventricles, secrete cerebrospinal fluid (CSF).		**Microglia**: brain's immune cells, protect from invaders, clean up debris. Prune synapses		**Astroglia/astrocytes** - caretakers — regulate blood/brain barrier. Control homeostasis, neuronal defense, repair, scar formation, affect electrical impulses		**Oligodendroglia cells**-create fatty substance (myelin) insulates axons – allows electrical messages travel faster	**Ependymal cells** line the ventricles, secrete cerebrospinal fluid (CSF).		**Microglia**: brain's immune cells, protect from invaders, clean up debris. Prune synapses	**Notes**
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