BLANTON MUSEUM OF ART

Check-In Form – UT Visiting Groups

Upon arrival, please have ONE PERSON in your group/class complete this form and present it to the Visitor Services desk.

Group/Course Name UGS 302 "The Science of Happiness"

Professor/Primary Contact Name Iverson

Professor/Primary Contact Email iversonb@austin.utexas.edu

UT School Natural Sciences

Visit Date 9/25/25 Visit Time 11 (am) / pm

Total Number of participants 20

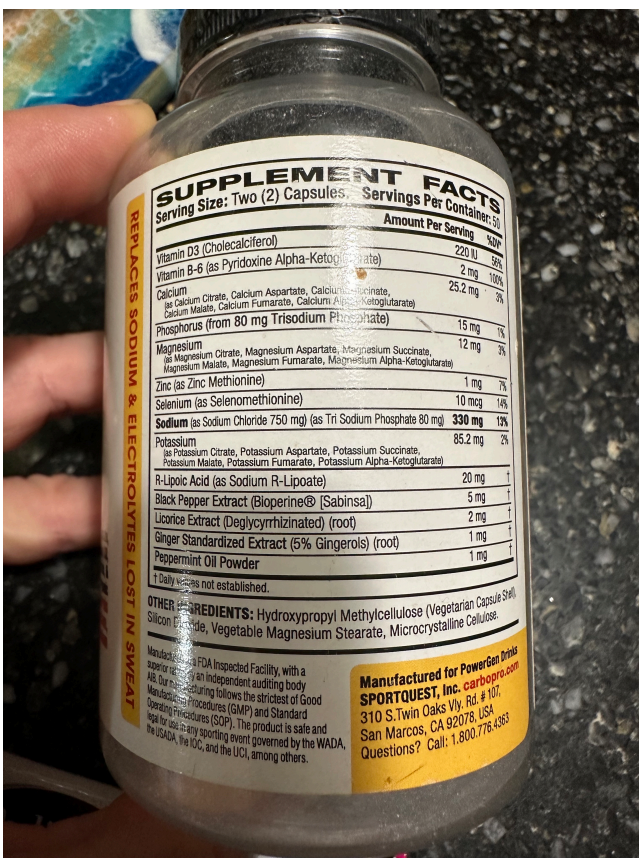
This Visit is: (please Circle one) (Blanton-Guided) **Self-Guided** **Both**

Please specify any special needs:

Thank you for your assistance.
We hope that you enjoy your visit to the Blanton Museum of Art!

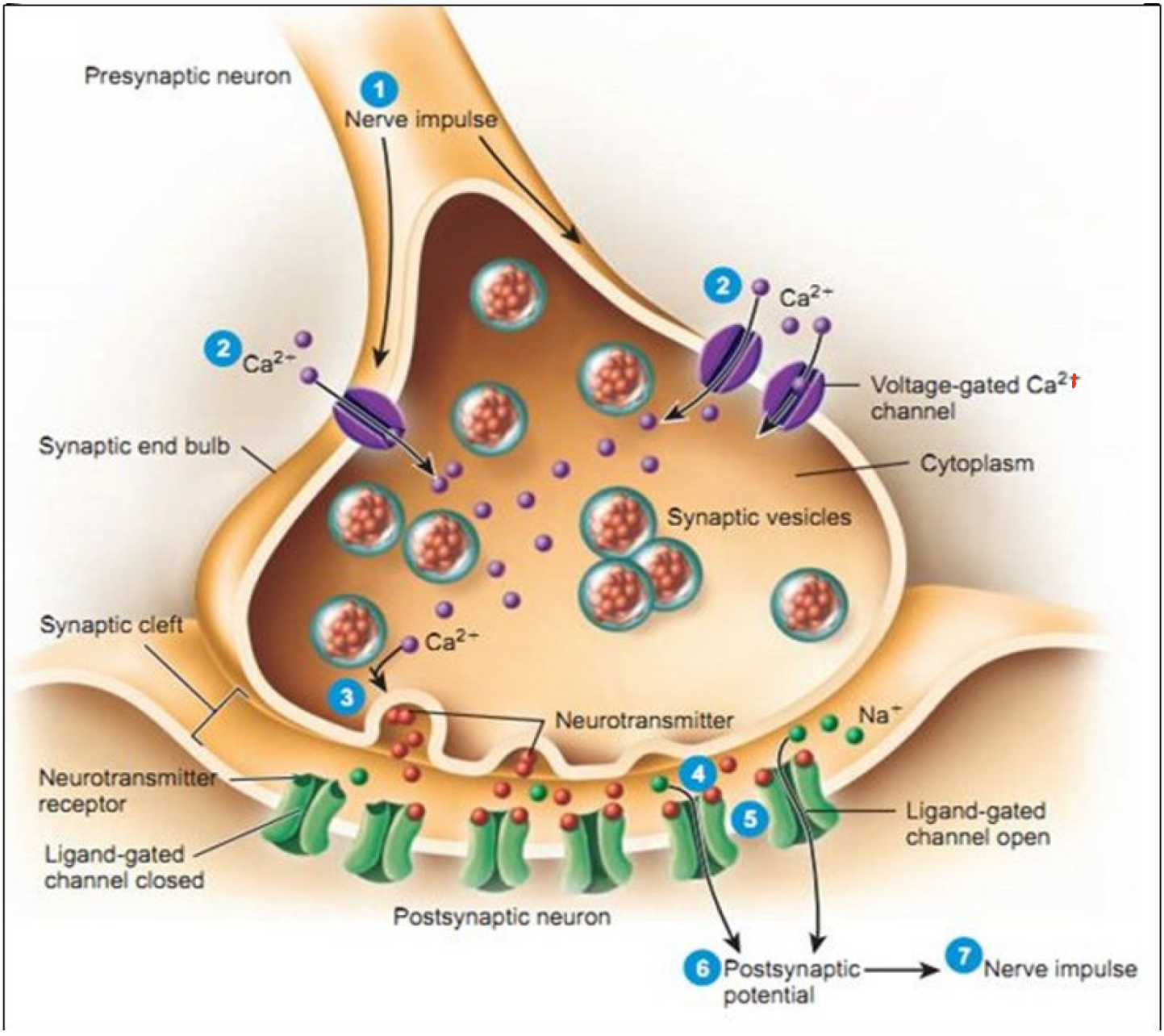

ADVANCED SODIUM/ELECTROLYTE-ANTIOXIDANT COMPLEX
THERMOLYTE
METASALT
[Thermogram of a Runner]
Dietary Supplement
100 Capsules
Pedialyte
TEAR HERE
NOT INTENDED FOR CHILDREN UNDER THE AGE OF TWO.
NET WT 0.3 OZ (8.5 g)
ELECTROLYTE POWDER
Add 8 fl oz water
STRAWBERRY
ARTIFICIAL FLAVOR


Pedialyte
NO FRUIT JUICE
Nutrition Facts
8 servings per container
Serving size 1 Packet (9g)
Amount per serving
Calories 30
% DV*
Total Fat 0g 0%
Sodium 260mg 11%
Total Carbohydrate 7g 3%
Total Sugars 6g
Incl. 6g Added Sugars 12%
Protein 0g 0%
Potassium 180mg 4%
Chloride 290mg 15%
Not a significant source of saturated fat, trans fat, cholesterol, dietary fiber, vitamin D, calcium, and iron.
*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.
INGREDIENTS: DEXTROSE, CITRIC ACID, MALIC ACID, POTASSIUM CITRATE, SALT, SODIUM CITRATE, NATURAL FLAVOR; LESS THAN 2% OF: CALCIUM SILICATE, SUCRALOSE, ACESULFAME POTASSIUM, RED 40, AND BLUE 1.
Manufactured for:
Abbott Nutrition, Abbott Laboratories

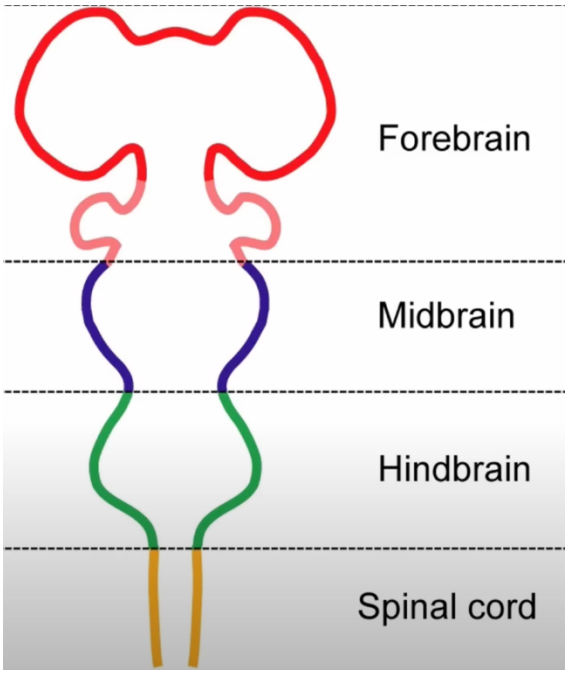

SUPPLEMENT FACTS
Serving Size: Two (2) Capsules
Servings Per Container: 50
Amount Per Serving
Vitamin D3 (Cholecalciferol) 220 IU 56%
Vitamin B-6 (as Pyridoxine Alpha-Ketoglutarate) 2 mg 100%
Calcium 25.2 mg 3%
(as Calcium Citrate, Calcium Aspartate, Calcium Succinate, Calcium Malate, Calcium Fumarate, Calcium Alpha-Ketoglutarate)
Phosphorus (from 80 mg Trisodium Phosphate) 15 mg 1%
Magnesium 12 mg 3%
(as Magnesium Citrate, Magnesium Aspartate, Magnesium Succinate, Magnesium Malate, Magnesium Fumarate, Magnesium Alpha-Ketoglutarate)
Zinc (as Zinc Methionine) 1 mg 7%
Selenium (as Selenomethionine) 10 mcg 14%
Sodium (as Sodium Chloride 750 mg) (as Tri Sodium Phosphate 80 mg) 330 mg 13%
Potassium 85.2 mg 2%
(as Potassium Citrate, Potassium Aspartate, Potassium Succinate, Potassium Malate, Potassium Fumarate, Potassium Alpha-Ketoglutarate)
R-Lipoic Acid (as Sodium R-Lipoate) 20 mg †
Black Pepper Extract (Bioperine® [Sabinsa]) 5 mg †
Licorice Extract (Deglycyrrhizinated) (root) 2 mg †
Ginger Standardized Extract (5% Gingerols) (root) 1 mg †
Peppermint Oil Powder 1 mg †
† Daily values not established.
OTHER INGREDIENTS: Hydroxypropyl Methylcellulose (Vegetarian Capsule Shell), Silicon Dioxide, Vegetable Magnesium Stearate, Microcrystalline Cellulose.
REPLACES SODIUM & ELECTROLYTES LOST IN SWEAT
Manufactured for PowerGen Brands
SPORTQUEST, Inc. carbopro.com
310 S.Twin Oaks Vly. Rd. # 107.
San Marcos, CA 92078. USA
Questions? Call: 1.800.776.4363

Take Home Lessons from Today

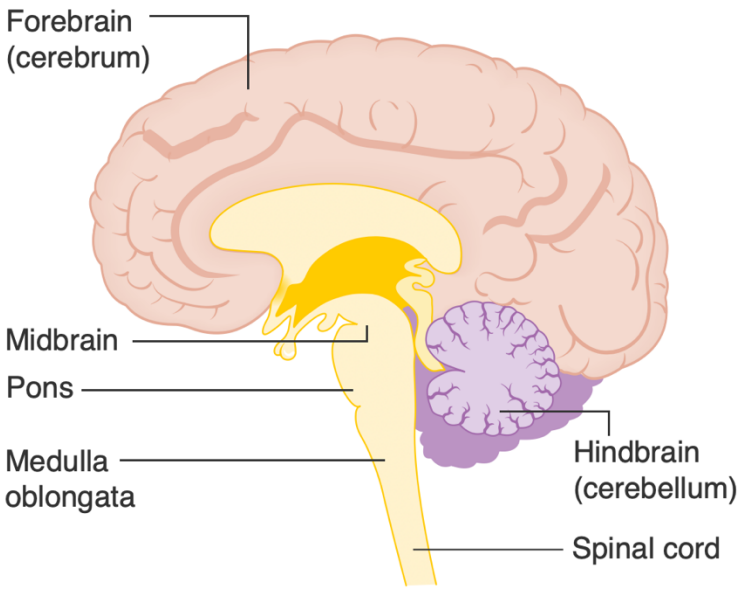
1. Brain anatomy basics: There are four general areas in all animal brains; starting bottom to top, they are the **spinal cord, the hindbrain, the midbrain and the forebrain**. In human brains, the hindbrain is called the cerebellum and the forebrain is called the cerebrum. The human cerebrum is much larger than other animals. It has an outer layer called the cerebral cortex that has four lobes; **the frontal lobe, the temporal lobe, the parietal lobe and the occipital lobe**.
2. Underneath the cerebral cortex there are many other distinct areas of the brain including the limbic lobe, the corpus callosum, the thalamus, the hypothalamus, the mamillary body, the pituitary gland, the medulla oblongata, the pons, and the pineal gland, among several others we are not mentioning.
3. **The key concept about brain anatomy is that specific areas of the brain are responsible for specific functions.** These have been mapped accurately and include areas associated with planning, attention, decision-making, movement, speech, smell, touch, taste, hearing, vision, movement coordination, memory processing, emotion, heart rate and breathing.
4. **Neurons interconnect all of the functional areas of the brain in complex ways**, facilitating communication and allowing for coordination between the different functions.
5. **A neuronal signal enters the brain, generally from the senses, is processed in the appropriate area then after it is interpreted, a signal is forwarded to different areas that generate an appropriate response or action.** The various connections between neurons facilitate appropriate responses through direct axonal connections. **These connections are created during brain development in the first years of life. Connections that are used survive, neuronal connections that are not used during development are "pruned".** Early experiences leave permanent pathways and connections in the brain.
6. For our study of happiness, the limbic system in the interior of the brain is important. **The limbic system controls the release of the neurotransmitters important for emotions, mood and reward**.
7. **Rewarded behaviors are reinforced through release of neurotransmitters such as dopamine, serotonin and oxytocin from specific areas of the limbic system.** The neurotransmitters spread through other appropriate areas of the brain, thereby modifying how those neurons respond to inputs in their dendrites and how they fire. This is the mechanism in which behavior, mood and feelings are controlled based on experience.
8. These neurotransmitters, especially dopamine, ocytoxin and the endorphins create the perception of happiness. **The release of these molecules in the limbic system of the brain is the physical source of feeling happy.**
9. We cannot cause the release of these neurotransmitters directly, they are released automatically in response to what is happening around us, based on our previous life experiences.
10. **People behave in ways that are reinforced by these neurotransmitter reward mechanisms, leading to repeated rewarded behaviors.**
11. **Addiction occurs when these reward pathways are stimulated directly or indirectly by a substance.** Often the direct stimulation process replaces and blocks the reward mechanism for normally rewarded behaviors, explaining why addiction often leads to collapse/loss of everything that makes non-addicted people happy.


Presynaptic neuron
1
Nerve impulse
2
Ca2+
2
Ca2+
Voltage-gated Ca2+ channel
Synaptic end bulb
Cytoplasm
Synaptic vesicles
Synaptic cleft
Ca2+
3
Neurotransmitter
Na+
Neurotransmitter receptor
4
5
Ligand-gated channel open
Ligand-gated channel closed
Postsynaptic neuron
6
Postsynaptic potential
7
Nerve impulse

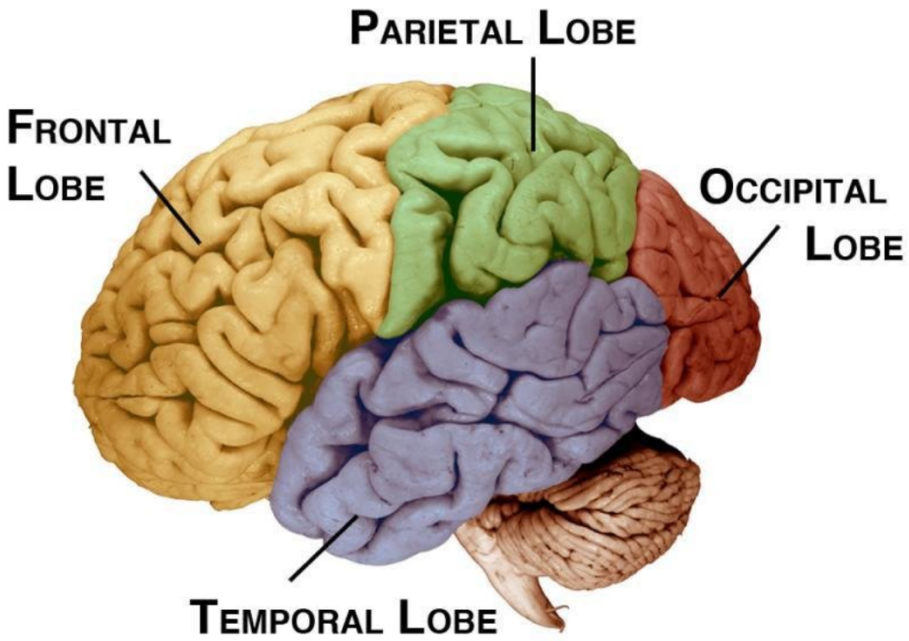
Basic Components of all animal brains.



Basic Components of human brains.



Lobes of the human forebrain (cerebrum)

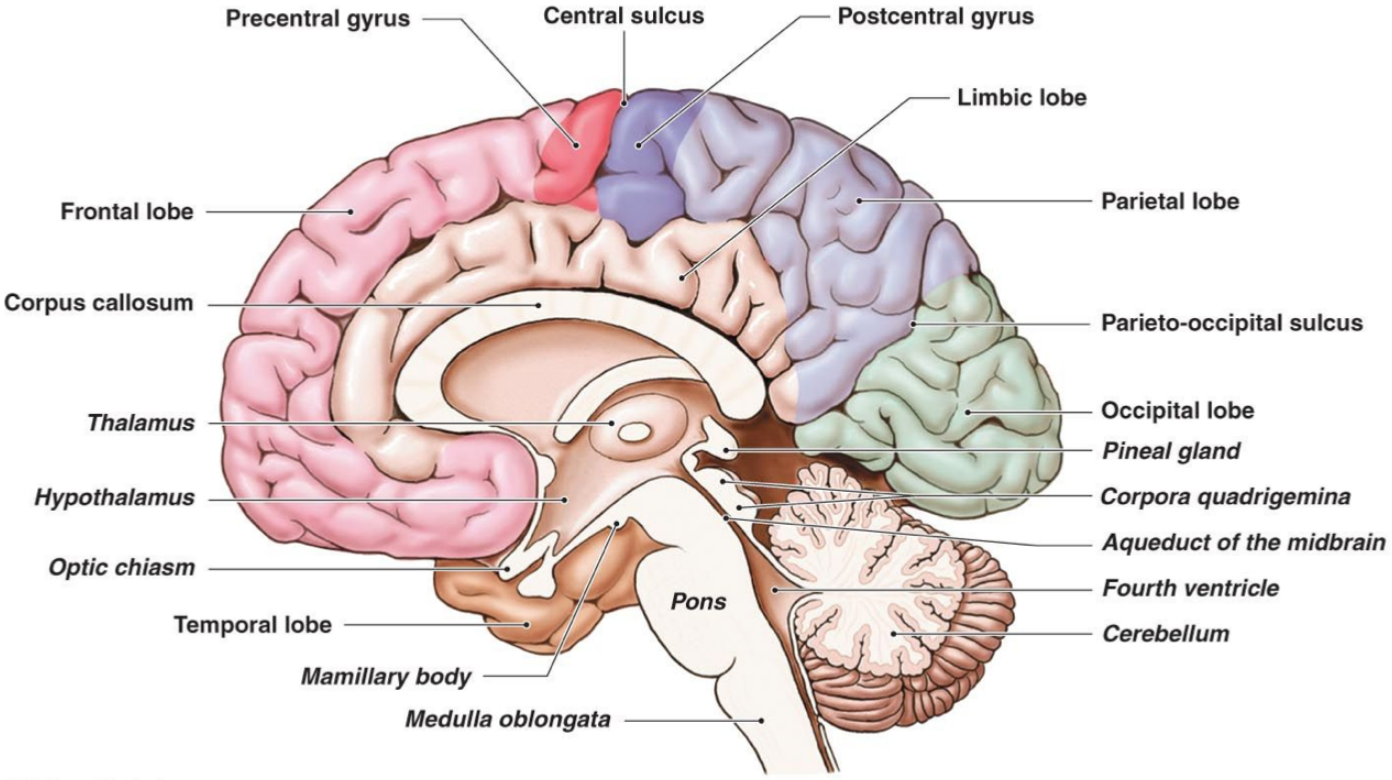


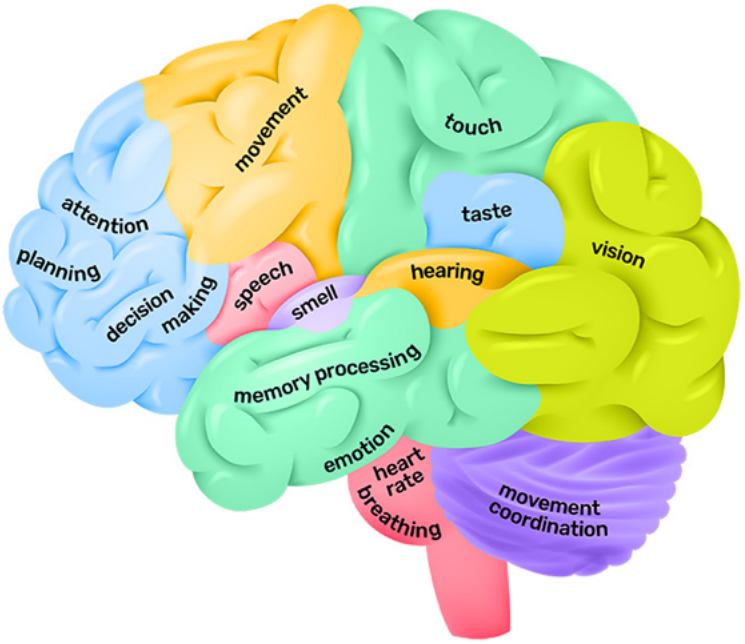
The four lobes which form the cerebral cortex [18].

Your Brain: An Introduction to Its Anatomy

By: Rachel Kimball

A midsagittal view showing the inner boundaries of the lobes of the cerebral cortex (Structures outside of the cerebrum are labeled in italics.)



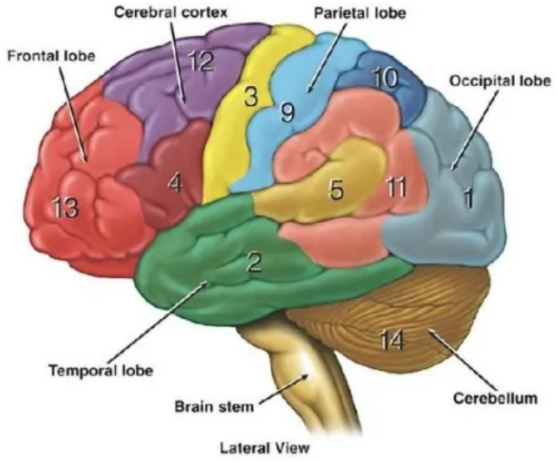


Functional Areas of the Cerebral Cortex

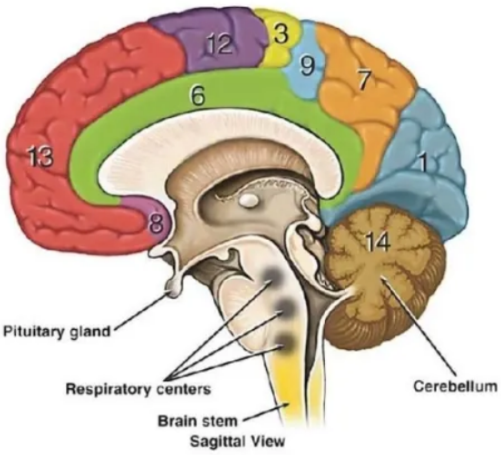
1. **Visual Area:** Sight, Image recognition, Image perception
2. **Association Area:** Short-term memory, Equilibrium, Emotion
3. **Motor Function Area:** Initiation of voluntary muscles
4. **Broca's Area:** Muscles of speech
5. **Auditory Area:** Hearing
6. **Emotional Area:** Pain, Hunger, "Fight or flight" response
7. **Sensory Association Area**
8. **Olfactory Area:** Smelling
9. **Sensory Area:** Sensation from muscles and skin
10. **Somatosensory Association Area:** Evaluation of weight, texture, temperature, etc. for object recognition
11. **Wernicke's Area:** Written and spoken language comprehension
12. **Motor Function Area:** Eye movement and orientation
13. **Higher Mental Functions:** Concentration, Planning, Judgment, Emotional expression, Creativity, Inhibition

Functional Areas of the Cerebellum

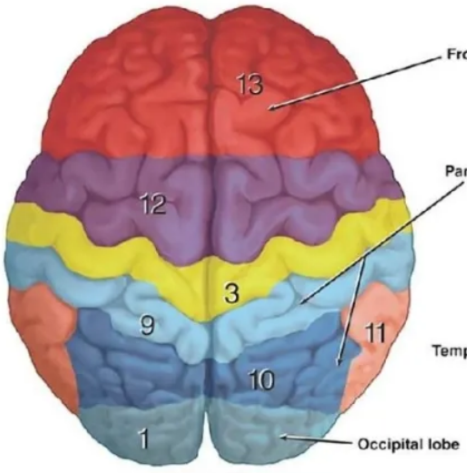
14. **Motor Functions:** Coordination of movement, Balance and equilibrium, Posture



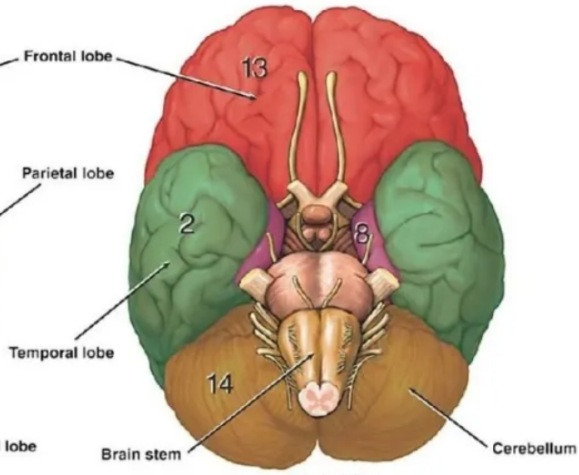
Lateral View



Sagittal View

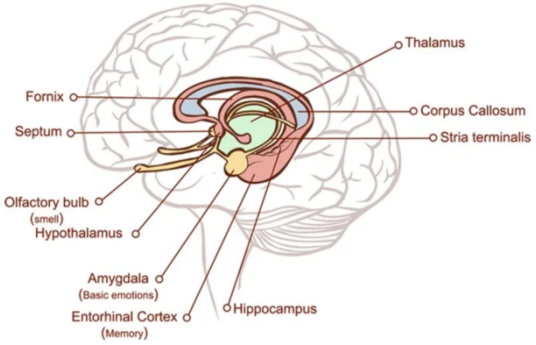


Superior View

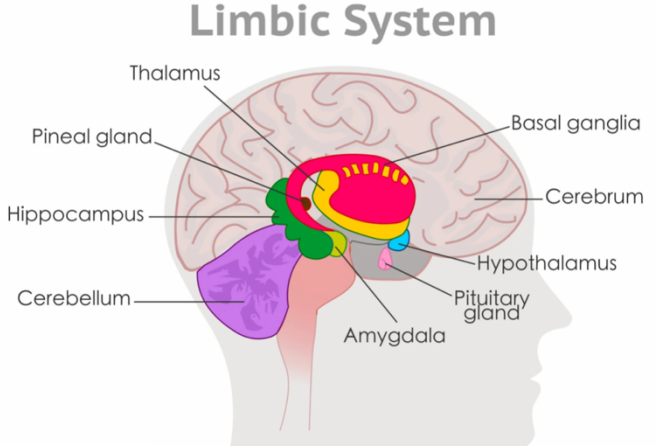


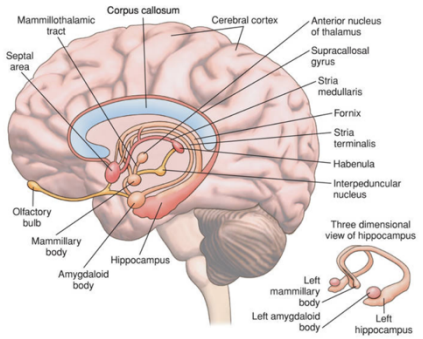
Inferior View

The Limbic System



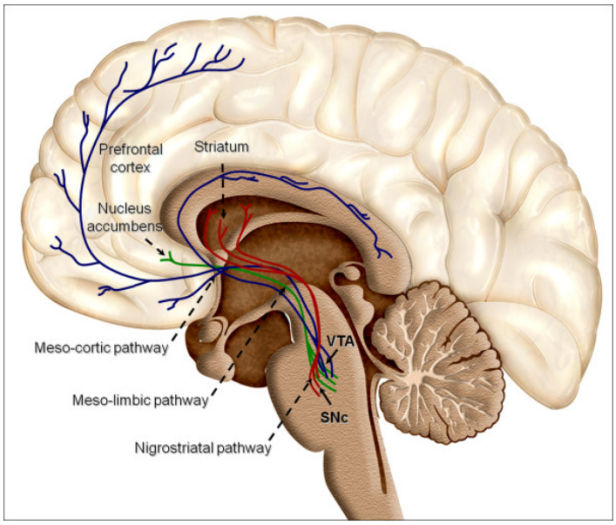
Limbic System





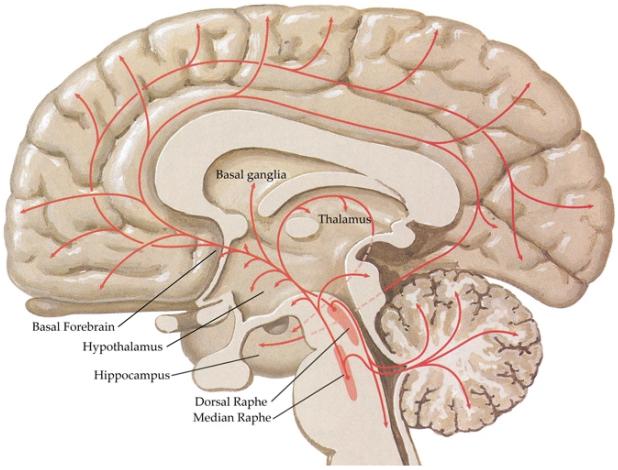
THE LIMBIC SYSTEM OF THE BRAIN

Dopamine Reward System

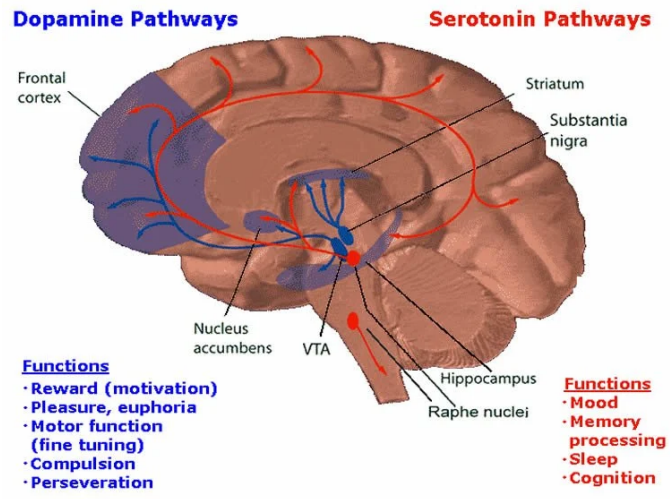


Overview of reward structures in the human brain. Dopaminergic neurons are located in the midbrain structures substantia nigra (SNc) and the ventral tegmental area (VTA). Their axons project to the striatum (caudate nucleus, putamen and ventral striatum including nucleus accumbens), the dorsal and ventral prefrontal cortex. Additional brain structures influenced by reward include the supplementary motor area in the frontal lobe, the rhinal cortex in the temporal lobe, the pallidum and subthalamic nucleus in the basal ganglia, and a few others.

Serotonin Reward System

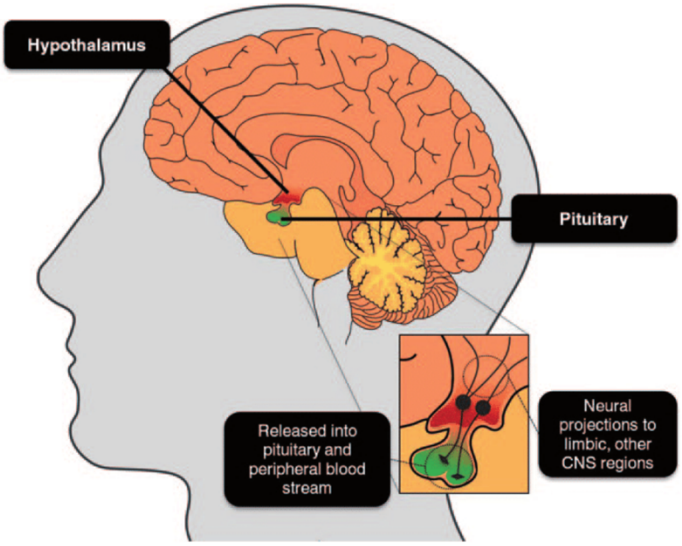


Dopamine and Serotonin Reward Systems



The brain's reward system is a group of structures – including the amygdala and the hippocampus – that reinforce beneficial experiences, are involved in memory and complex decision-making and have been implicated in the development of substance use disorders. NeuroscienceNews.com image is for illustrative purposes only.

Oxytocin Reward System



3 Oxytocin is produced in the hypothalamus. Neural projections release oxytocin to limbic regions and other areas of the brain. Oxytocin is also released into the pituitary, where it is then secreted into the peripheral blood stream and carried to the rest of the body (Bethlehem et al. 2013)