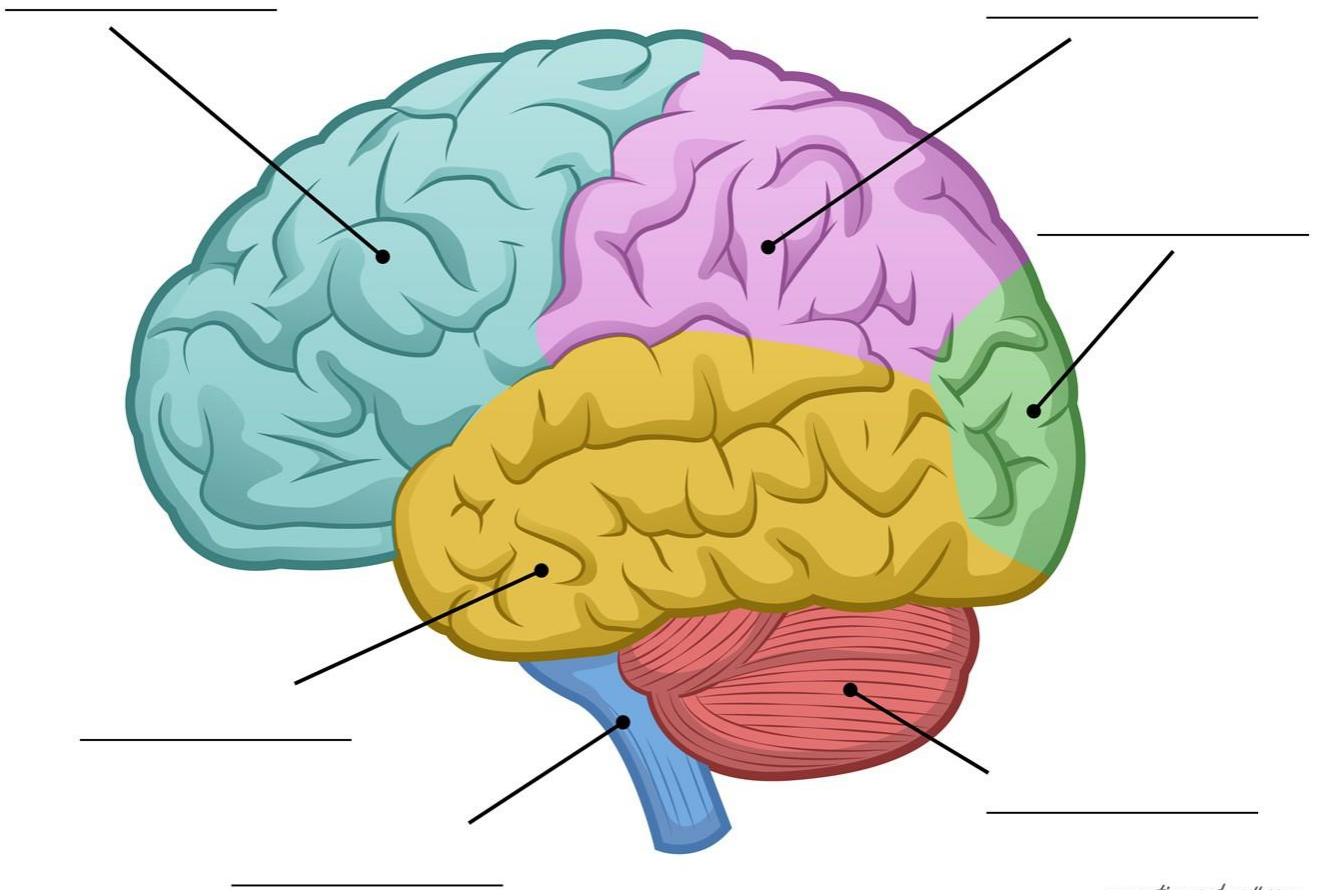


## BRAIN GAMES

### CHALLENGE #1 – LOBES & CORTICES

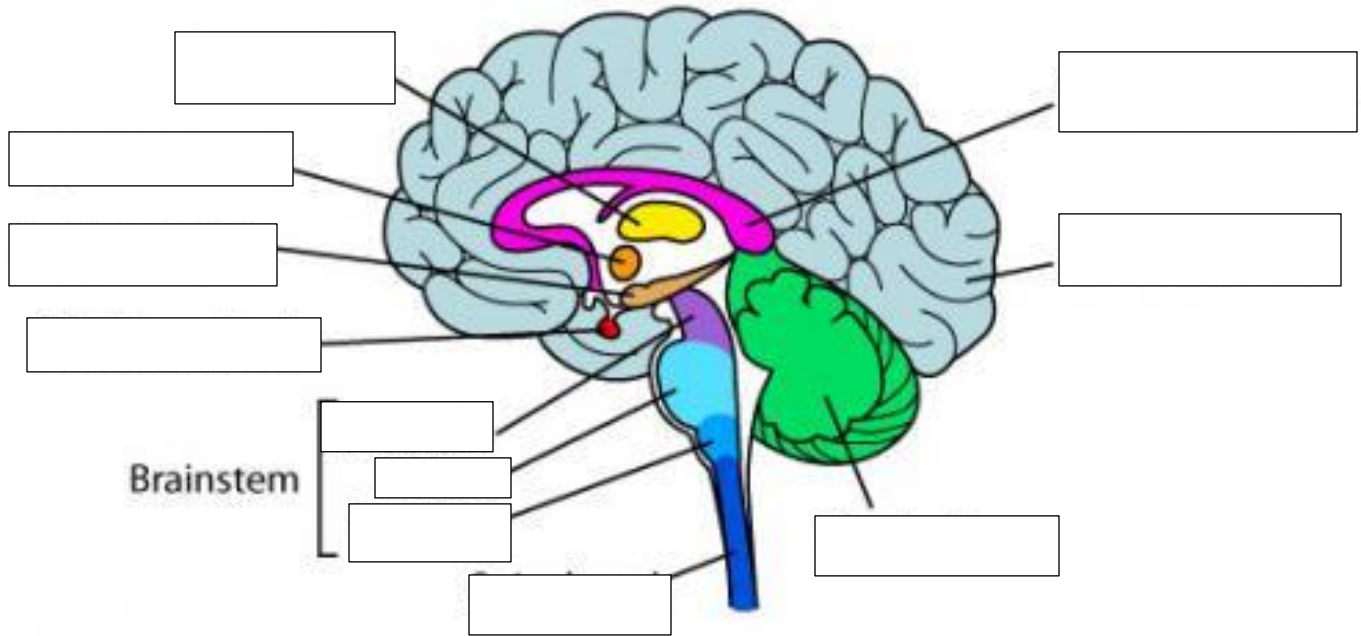
- 1) Label the lobes of the brain and parts of the brain on the lines provided. On each lobe and part, write what it's functions are.
- 2) Draw in the motor & somatosensory cortices & identify what each does.
- 3) Indicate where the visual and auditory cortices would be.
- 4) Draw in the Broca's area and write what it does.
- 5) Draw in the Wernike's area and write what it does.



BRAIN GAMES

**CHALLENGE #2 – INTERIOR OF THE BRAIN**

- 1) Label the parts of the brain identified. Draw in the reticular formation and label it.
- 2) Complete the chart below.



PART OF THE BRAIN	FUNCTION	WHAT HAPPENS WHEN IT'S DAMAGED?
Cerebellum		
Cerebral cortex		
Corpus callosum		
Hippocampus		
Hypothalamus		
Midbrain		
Medulla		
Pituitary gland		
Pons		
Reticular formation (draw it in!)		
Thalamus		
Spinal Cord		

## BRAIN GAMES

### CHALLENGE #3 – NEURONS

- 1) Draw two neighboring neurons. On neuron #1, label these parts: **myelin sheath, axon, dendrites, soma, axon terminal/terminal buttons, Schwann cells, Nodes of Ranvier. Label the synaptic cleft/gap.**
- 2) Under your drawing, tell the story of how a signal travels from one neuron to the next. Be sure and use (and underline!) these terms: **neurotransmitter, threshold, action potential, resting potential, polarization, depolarization, all-or-nothing principle, myelin sheath, reuptake, refractory period.**

BRAIN GAMES

**CHALLENGE #4 – NAME THAT NEUROTRANSMITTER**

1. Too much of this is linked to schizophrenia. \_\_\_\_\_
2. Too little of this is linked to depression. \_\_\_\_\_
3. Too much of this is linked to Parkinson's Disease. \_\_\_\_\_
4. Associated with migraines. \_\_\_\_\_
5. Associated with Alzheimers. \_\_\_\_\_
6. Zoloft, Prozac and Paxil block the reuptake of this. \_\_\_\_\_
7. It's inhibitory, and too little is linked with seizures. \_\_\_\_\_
8. It's excitatory, and involved in memory and learning. \_\_\_\_\_
9. It affects hunger, sleep and mood. \_\_\_\_\_
10. It's also known as noradrenaline; it affects arousal and memory. \_\_\_\_\_
11. It helps control pain and increase pleasure. \_\_\_\_\_

BRAIN GAMES

**CHALLENGE #5 – VOCABULARY SMACKDOWN**

<b>1.</b> It protects the axon; it's deterioration is a factor in multiple sclerosis.	
<b>2.</b> Epinephrine and norepinephrine are released from these glands.	
<b>3.</b> A chemical that mimics the actions of a neurotransmitter.	
<b>4.</b> The brain and spinal cord make up this important system	
<b>5.</b> The neurons that carry sensory information TO the brain & spinal cord.	
<b>6.</b> The neurons that carry information from the spinal cord and brain to the muscles.	
<b>7.</b> The neurons that carry information between the brain and spinal cord.	
<b>8.</b> This system is activated when you are scared!	
<b>9.</b> This system contains a set of glands that release hormones.	
<b>10.</b> It's considered the master gland.	
<b>11.</b> It measures brain waves (function) using electrodes placed around the head.	
<b>12.</b> It measures brain activity by using radioactive glucose.	
<b>13.</b> The hippocampus, amygdala and hypothalamus are part of this system.	
<b>14.</b> Areas of the brain involved in higher level thinking like learning, remembering, thinking.	
<b>15.</b> The ability of the brain (especially when you are younger) to build new pathways after damage	
<b>16.</b> Twins who develop from separate eggs.	
<b>17.</b> Simple, automatic responses to stimuli.	
<b>18.</b> Destruction or damage to brain tissue.	
<b>19.</b> Part of the autonomic nervous system which calms the body down after excitement.	
<b>20.</b> the junction between the axon tip of the sending neuron and the dendrite or cell body of the receiving neuron.	