

**Intro to the Brain Webquest**

Directions: go to the following websites and answer the corresponding questions.

1. URL: [http://science.education.nih.gov/supplements/nih2/addiction/activities/lesson2\\_neuro-actions.html](http://science.education.nih.gov/supplements/nih2/addiction/activities/lesson2_neuro-actions.html)
  - a. What is the impact of each neurotransmitter/solution when injected into the neuron?
  - b. What does an oscilloscope measure? (look it up)
  - c. What do these measurements say about Saline, Glutamate and GABA?
  
2. URL: [http://science.education.nih.gov/supplements/nih2/addiction/activities/lesson3\\_cocaine.html](http://science.education.nih.gov/supplements/nih2/addiction/activities/lesson3_cocaine.html) and <http://www.drugabuse.gov/publications/research-reports/cocaine/how-does-cocaine-produce-its-effects>.
  - a. Describe the impact of cocaine on a neuron. Use the following terms in your description and make sure to watch the video as many times as it takes to write an adequate description that you and I can understand.  
Terms: **Cocaine, dopamine, action potential, block, reuptake, excess, stimulate, euphoria.**

- b. Click the link on the first page that says "Pathways to the brain" and complete the following chart.

Drug	Speed of impact on the body → the brain	Duration of time in the brain (describe, don't quantify)
Smoking		
Drinking		
Injecting		
Snorting		
Which method is most do you think would be most harmful? Why?		

3. URL: [http://www.ninds.nih.gov/disorders/brain\\_basics/know\\_your\\_brain.htm#art](http://www.ninds.nih.gov/disorders/brain_basics/know_your_brain.htm#art). Read the *Introduction, Architecture of the Brain, and Geography of Thought* and fill in the blanks in the statements below.

- a. The \_\_\_\_\_ is the crown jewel of the human body.
- b. The brain can be divided into three basic units: the \_\_\_\_\_, the \_\_\_\_\_, and the \_\_\_\_\_.
- c. The \_\_\_\_\_ controls the body's vital functions such as respiration and heart rate.
- d. The \_\_\_\_\_ sits at the topmost part of the brain and is the source of intellectual activities. It holds your memories, allows you to plan, enables you to imagine and think. It allows you to recognize friends, read books, and play games.
- e. This means that the \_\_\_\_\_ cerebral hemisphere primarily controls the \_\_\_\_\_ side of the body and the \_\_\_\_\_ hemisphere primarily controls the \_\_\_\_\_ side.
- f. If one were to have a stroke that damaged my left cerebral hemisphere, what would the likely physical effect be?
- g. When you plan a schedule, imagine the future, or use reasoned arguments, these two lobes do much of the work. \_\_\_\_\_ & \_\_\_\_\_.
- h. What does each lobe control:
  - i. Parietal:
  - ii. Occipital:
  - iii. Temporal:

4. URL: <http://www.pbs.org/wnet/brain/illusions/index.html>. Complete each of the "Mind Illusions" to the right and describe how they worked on you and record the reasons they cause the effects they do in the chart below.

Illusion	Describe how it worked when you tried it.	Record the reasons for the effect.
Movement		
Colors		
Angles		
Form		