



# Our Amazing Brain – The World’s Most Powerful Computer!

“The brain changes dynamically during adolescence (ages 12-21) and alcohol can seriously damage long – and short-term – growth processes.” *(American Medical Association Fact Sheet, 2003)*

Using the words below, fill in the blanks in the following statements:

neurons      alcohol      brain      software      planning      prefrontal cortex  
waiting      brain      illegal      plasticity      hippocampus

1. The brain is made up of billions of nerve cells called \_\_\_\_\_.
2. 40 percent of our neurons are “wired” at birth. The other 60 percent are \_\_\_\_\_ to be wired by our learning and experiences.
3. The \_\_\_\_\_ goes through rapid changes and development during ages 12 to 21.
4. Adding new brain wiring is like adding new \_\_\_\_\_ to a computer. We become more capable and can do more things.
5. During the teens we must wire the part of our brain that governs good judgment, \_\_\_\_\_ decision-making, and self-control.
6. The ability of the brain to rewire itself with our new learning is called \_\_\_\_\_.
7. Drinking \_\_\_\_\_ during a time of peak plasticity is like shutting off the power when you’re trying to load new computer software, and can damage brain development.
8. Two brain areas that can be badly damaged by drinking alcohol during the teen years are the \_\_\_\_\_ and the \_\_\_\_\_.
9. It is \_\_\_\_\_ to drink alcohol before you are 21 years old.



10. Below are parts of a neuron. Write the number of the correct definition next to each neuron part:

- |                           |   |
|---------------------------|---|
| a. _____ Soma             | 1. the cell body where the neuron stores its electrical energy                          |
| b. _____ Dendrites        | 2. brain chemicals stored in the axon terminals   |
| c. _____ Axon             | 3. antennae that pick up messages from other neurons                                    |
| d. _____ Axon Terminals   | 4. root-like tentacles ending in tiny pockets which store chemicals                     |
| e. _____ Neurotransmitter | 5. information line that carries electrical signals from the soma to the axon terminals |

