

Name: _____

Date: _____

The Brain Throughout Life Timeline Worksheet

Instructions: Read the following articles on BrainFacts.org and fill in the blanks in the chart below.

- Chapter 6: The Developing Brain
- Chapter 7: Infant, Child & Adolescent Brain
- Chapter 8: Adult & Aging Brain

Embryo	<p>During the very early stages of embryonic development, three layers of nerve cells emerge — the _____, outer-most layer, _____, middle layer, and _____, inner-most layer.</p> <p>The _____ process permits rapid growth during early development of the brain, with billions of cells being produced in a matter of weeks.</p> <p>The _____ process permits rapid growth during early development of the brain, with billions of cells being produced in a matter of weeks.</p>
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<p>Baby / Childhood</p>	<p>By the time a child is 5 years old, the brain has reached about _____ of its adult size.</p> <p>During early childhood, the brain begins to reduce the number of synapses through _____. This process is shaped by toddlers' experiences as they grow and allows weaker connections to diminish while stronger synapses that are activated more often will grow and stabilize.</p> <p>During _____ of development, inputs from sensory, motor, and even emotional aspects of life experiences affect how the brain develops and adapts to the given environment.</p>
<p>Adolescence (up to age 20)</p>	<p>During this time, more synaptic pruning occurs, with stronger connections beating out weaker ones in a process called _____.</p> <p>Frequent drug use during adolescence is associated with damage to brain regions important for cognitive functions such as _____, _____, and _____.</p> <p>Closer to 30, the frontal and parietal neocortices become more _____, which helps with working memory and higher cognitive functions.</p> <p>The late maturation of the _____ might explain characteristics of a "typical teenager," such as a short attention span, blurting out whatever comes to mind, and forgetting to do homework.</p>

<p>After 20</p>	<p>Around age 40, the _____ matter in the human brain has reached its peak volume.</p> <p>Intelligence also peaks during early to middle adulthood, roughly ages _____ to _____.</p> <p>Neuroscience research indicates that human brains continue to develop until we are about _____ years old.</p>
<p>Elderly</p>	<p>Cortical thinning is especially pronounced in the _____ lobes and parts of the _____ lobes.</p> <p>With increasing age, the _____ shrink, their branches become less complex, and they lose _____ spines, the tiny protuberances that receive chemical signals.</p> <p>Several studies have reported that less _____ is synthesized in the aged brain, and there are fewer receptors to bind the neurotransmitter.</p> <p>People who perform _____ work or engage in stimulating activities such as reading, solving puzzles, or playing a musical instrument have lower rates of _____ with aging</p>