

## BRAIN FACTS



**MAKING CONNECTIONS** A child is born with over 100 billion neurons or brain cells. These neurons create connections, called synapses to make up the wiring of the brain. The brain grows as these connections are made. Experience is what creates these connections.

**EARLY EXPERIENCES** After eight months an infant may have 1,000 trillion synapses created. However, by age 10 the number of synapses decreases to about 500 trillion. The brain eliminates prunes away connections in an effort to become more efficient.

**"USE IT OR LOSE IT!"** The brain develops through a "use it or lose it" process: only those connections and pathways that are frequently used are retained. Other connections that are not repeatedly used will be pruned or discarded so the active connections can become stronger. The brain adapts to the environment.

**LEARNING LANGUAGE** Early adult-child interactions have a dramatic impact on brain development. Researchers found that when mothers spoke to their infants often, their children learned almost 300 more words by age two than did children whose mothers rarely spoke to them. Exposure to language through television or conversation not directed to the child did not provide the same benefits. Infants need to interact directly with others. Children need to hear people talk to them about what they are seeing and experiencing, in order for their brains to fully develop language skills.

**LOVING TOUCH** Warm, responsive care meets an infant's basic needs for nourishment and warmth. In addition, research shows that consistent caregiving is not only comforting for an infant, it plays a critical role in healthy development. The way that parents, and other caregivers respond to young children directly affects the brain's pathways and the base for relationships throughout life.

