

## Brains and Behaviors

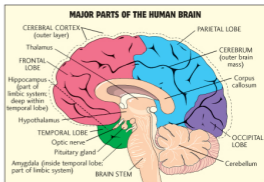
No brain is simple. Behaviors are never simple either. Worms, insects, and soft-bodied ocean creatures respond to their environments in sophisticated ways. Clusters of nerve cells that serve as brains let these animals find food, escape predators, survive, and reproduce.

But the more complex the brain, the greater the range of behaviors. For example, reptiles such as lizards and snakes have brains much like the brain stem of human beings. Their brains monitor and control basic life processes, such as breathing and heartbeat. The reptilian brain controls food-seeking, eating, mating, and reproduction. It also oversees communication and social interactions among individuals and groups.

Still more complex are mammals that can maintain a constant body temperature. They have another brain area much like the human limbic system. That system controls the blood's pressure and sugar content. It also spurs action in the face of danger,

### COMPARISON OF BRAIN SIZES

Weight of brain, in grams (28.35 grams = 1 oz.)



often called the “fight or flight” response. When a mother bear defends her cubs (fight) or a deer runs from a bobcat (flight), the limbic system is in charge.

Humans and other primates have yet another brain area, the cerebrum. This two-lobed structure looks a little like a cauliflower. It processes information from the senses. It also directs a variety of behaviors that are more advanced than those of reptiles, birds, or other mammals. For example, primates use tools, learn complex behaviors, and rear their young for long periods. Some cooperate in social groups.

In human beings, the thin outer layer of the cerebrum is called the cortex. The cortex is the center of thought, expression, decision-making, and purpose. Humans share much of their