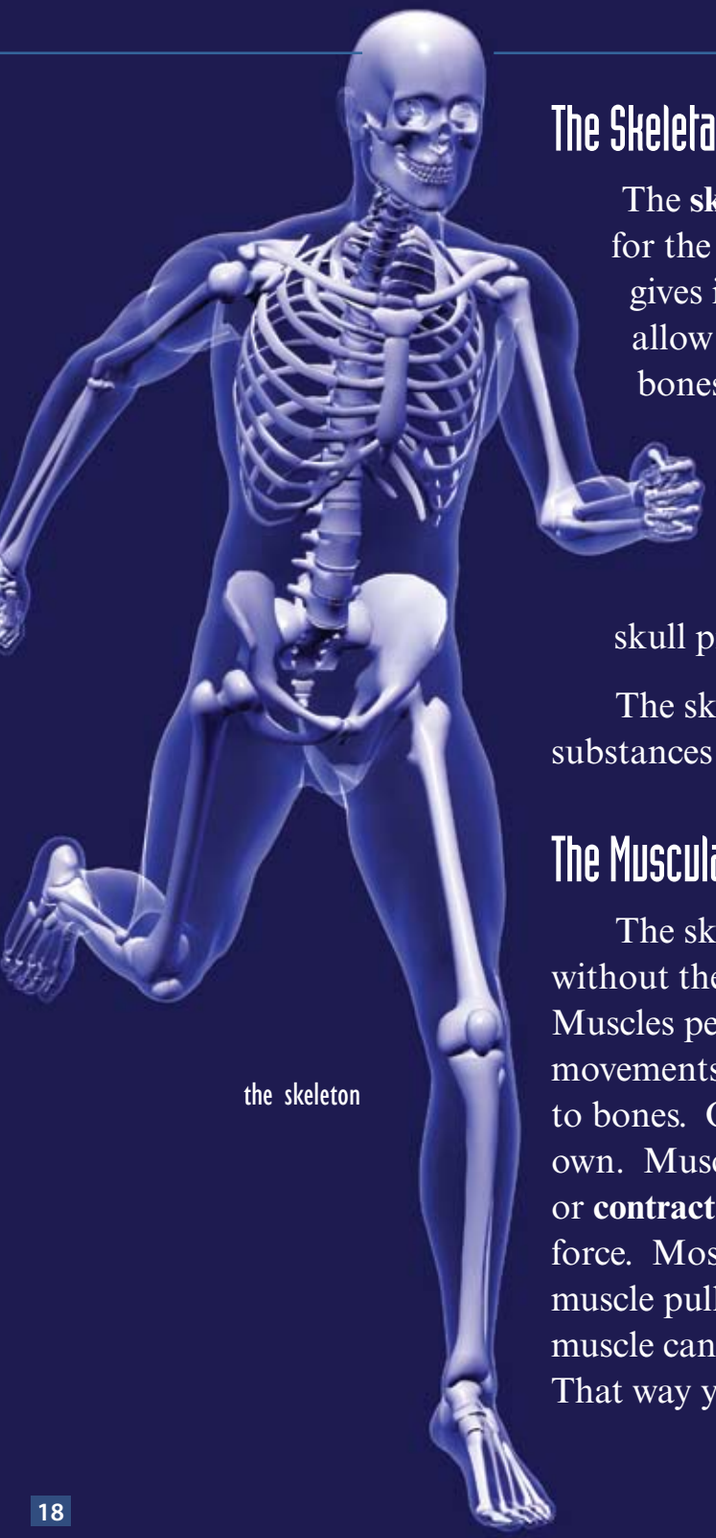


the skeleton

The Skeletal System

The **skeletal system** is the framework for the body. It supports the body and gives it shape. It supports muscles that allow the body to move. All of the bones in a body form the skeleton. The bones are linked by joints.

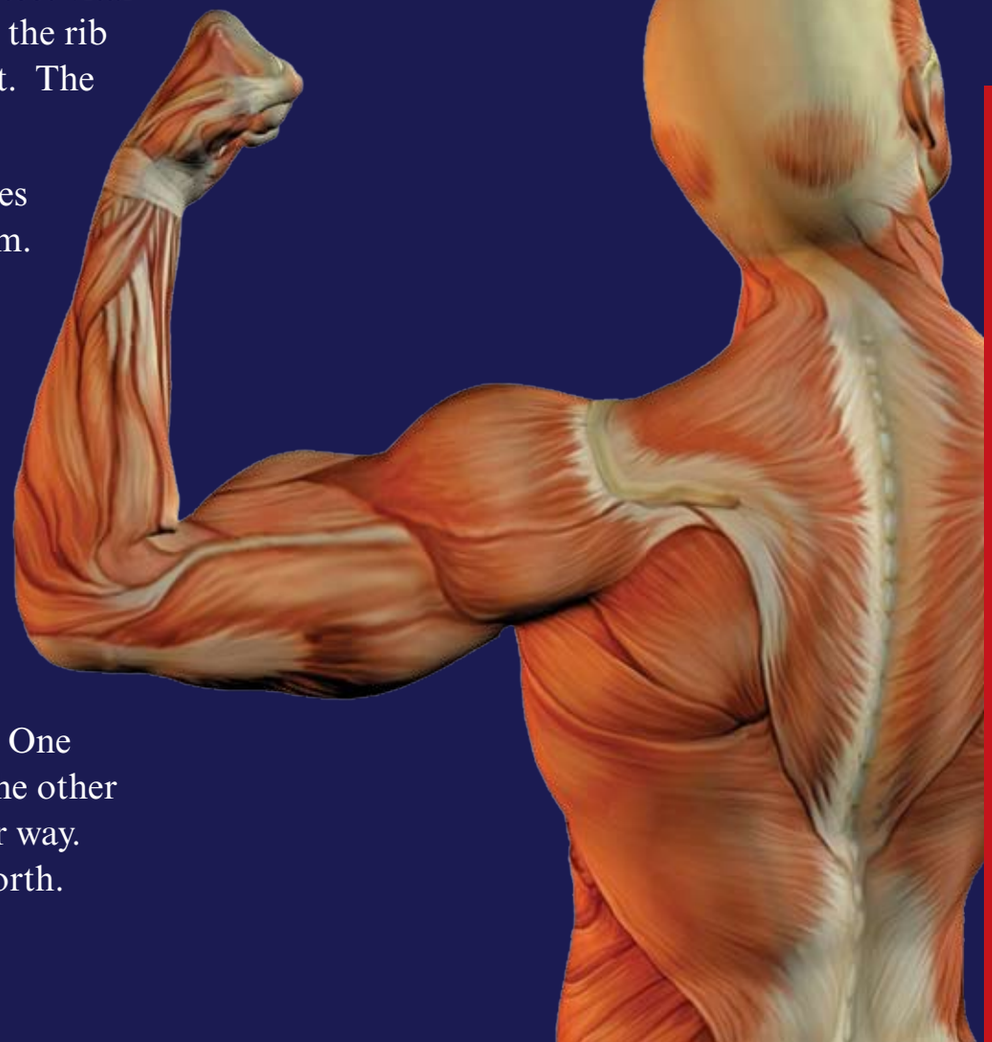
Bones often protect vital organs. For example, the rib cage protects the heart. The skull protects the brain.

The skeletal system also provides substances to aid the immune system.

The Muscular System

The skeleton could not work without the **muscular system**. Muscles perform all body movements. Some muscles attach to bones. Others work on their own. Muscles can get shorter, or **contract**. This creates a pulling force. Most muscles come in pairs. One muscle pulls your body one way. The other muscle can pull your body the other way. That way you can move back and forth.

There are three types of muscles. Skeletal muscles are used for activities such as running, lifting, and swimming. These muscles tire easily. The cardiac muscle is found in the wall of the heart. It contracts constantly. It creates a heartbeat. Smooth muscles perform vital functions such as swallowing.



Shivering to Stay Warm

When we get cold, we shiver. These muscle contractions work to make heat for the body.

Bone Up on the Facts

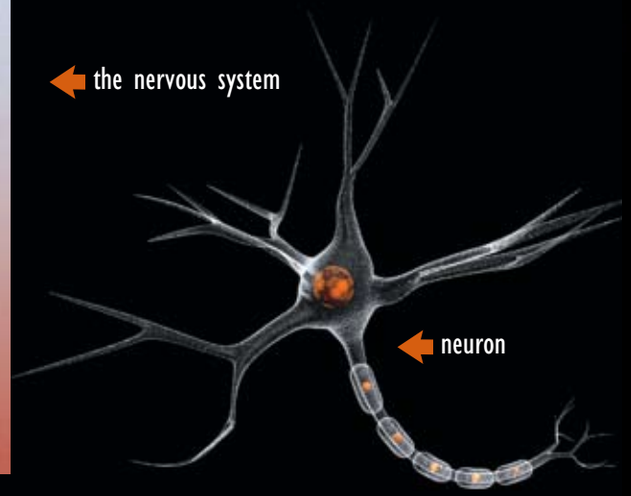
Did you know that your skeleton contains 206 separate bones? The bones differ in size and shape, but they are all active.

If the skeleton were a solid frame that did not bend, we would not be able to move. Our skeleton has more than 400 joints. They connect the bones. These "hinges" in the frame allow us to bend and move.

The Nervous System

The brain controls the body, but it does not work alone. It uses the **nervous system**. The nervous system gathers information all day long. It takes information from inside the body. It gathers information from outside the body. Then it reacts. The nervous system sends signals to the muscles. It monitors the organs. It reviews information. Then it makes decisions. It helps to control the entire body.

Neurons carry signals from all over the body. Most neurons are in the brain. The brain is the most complex of all body parts. It controls involuntary activities. These include heartbeats, breathing, and digestion.

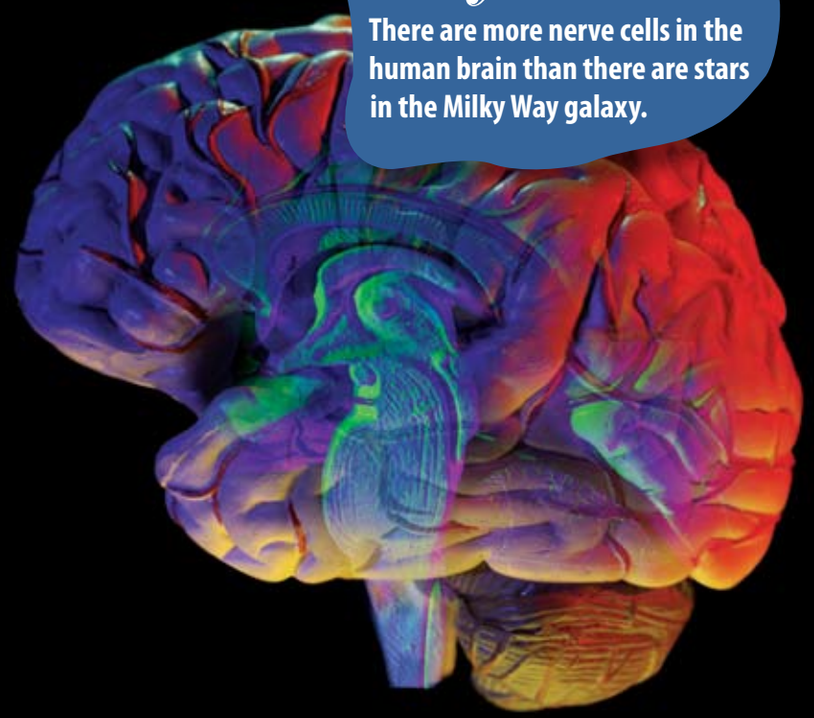


The brain is also responsible for voluntary activities like walking and moving. It even handles conscious activities. These include thought, reasoning, and abstraction.

The brain makes up only two percent of the body, but it controls everything the body does.

Very Nervous

There are more nerve cells in the human brain than there are stars in the Milky Way galaxy.



Instinct and Abstraction

Most animals depend on instincts for survival. Humans are no different. Hunger, fear, and even love come from instincts. Instincts tell us important things about what we need to do to solve problems here and now. Humans can also use abstraction. That means we can think about problems before they happen. We can think about problems afterward, too. We can even stop and think rather than rely on instincts. Sometimes we can think too much!

Emotions

An emotion is an instant response to something. Many things can cause an emotion. An event, a thought, or even a television show can cause an emotion.