CINCINNATI MUSEUM CENTER AT UNION TERMINAL

# Museum of Natural History & Science
# Interpretation Guide for *All About You*

The following is a guideline for interpreting the *All About You* exhibit for students.

**The Tongue**
As the students push the buttons, explain how the taste buds are concentrated on certain areas of the tongue. When they push 'sweet' mention that is why we tend to use the tip of our tongue to lick a lollipop or ice cream cone. You can mention that some things that are bad for the body, like poisons, often have a bitter taste, therefore it is helpful to have bitter taste buds toward the back of the tongue where our gag reflex is triggered. In this way, taste helps to actually protect the body. Always mention that when they taste food, most of the 'tasting' is really done by their nose. This makes a nice introduction to the scent boxes.
**Many scientists now believe that we really do not have a tongue map. Although we have millions of taste buds, they are not centrally located, as previously believed. There is a note with further explanation above the tongue map.*

**Focusing Eye**
First, position students so that they can see the word 'vision' on the retina. Have the student then move the levers. Ask them what changed. Try to get them to see how the word vision goes out of focus when the retina is moved and how lenses bring the word back into focus. Explain that when you see, light falls on your retina. When the retina is too far or too close, extra lenses are needed to focus light on the retina in those positions. That is why some people need glasses.

**The Pupil**
Ask students to look through the hole. Have them observe closely as they push the button. Ask if they saw a change. Explain that the pupil is the window of your eye—it lets the light in. It changes size as the amount of light changes in our environment. If students couldn't see the change the first time because of the light reflecting into their eye, have them try it again after you have explained it to them.

**The Brain**
First, make certain students notice how the brain lights up as they slide the wooden flaps up the 'sense doors.' You may need to instruct them to give the door a little wiggle to get the light to come on. Explain how it is possible to map out the brain. Different parts are responsible for different things. Feel free to point out other areas of the brain and their function, from further readings.

**The Skeleton**
Ask students which bones they know the names of, as even young students know about the ribs and skull. Point out a few new ones for them. Have them repeat the name of the bone you teach them. Challenge them to stump their parents with this newly acquired knowledge, for example, ask your parents to wiggle their phalanges. The spine is a wonderful thing to talk about because you can show them how it is made of many little bones called vertebrae and why it is so important for flexibility. Have them wiggle the tips of their noses with their fingers to have them feel what cartilage is like. Explain how cartilage protects the vertebrae.

**The Joints**
Show students how to move the mechanical joints. Ask them to move the joints in their own body. Emphasize how bones can be connected in many different ways. Discuss the different types of joints with analogies to familiar objects. For example, the hinge joint is similar to that of a door—it only moves in two directions, forward and back, just like your knee.

**The Heart**
Instruct the students how to work the heart pump. Following the correct order, have them continuously pump the heart and get the heartbeat up. The speed in which the heart is pumping—from reading a book to being chased by a bear—is shown off to the side. Following the flow of the glitter colored water you can also follow the path of the flow of blood. After using the heart pump model, turn to the lever on the right side. The average heart pumps about 72 times each minute. Try squeezing the lever 72 times a minute to demonstrate how hard your heart works to pump blood throughout your body.

**The Lungs**
Explain that when you breathe, a muscle called the diaphragm is doing all the work. Point to the diaphragm in the model of the lungs. Have the students pull on the lever. Explain that this is like breathing in. The diaphragm pulls down, contracts, creating a bigger space in the chest. Air rushes in to fill this space, therefore filling the lungs. The opposite is true when the diaphragm relaxes, or when they let go of the lever.
**Please note that the diagram on the wall, depicting the lungs, is incorrect. Given the size of your heart, which in many cases is on the left side of the body, the left lung is actually bigger than the right. The right lung has three lobes, while the left has only two. It is depicted the opposite way in the drawing.*

**Captain Digesto**
You will need to explain to students how to work the machine, but in addition, you can also help them learn much more by explaining digestion as the ball moves along. Explain what is happening to the food in each part of the system. If the ball gets stuck, just knock it with the side of your hip. If that doesn't work, locate a museum staff member to contact maintenance.

**The Big Mouth**
This is where you can use the toothbrush. Ask students to show you how they brush their teeth. Make sure that they are brushing in a circular motion. Then ask them what happens when they don't brush their teeth. Describe how plaque forms and tell them that it holds bacteria that combines with sugar and that in turn makes an acid that eats away at your teeth and causes cavities. From this point, students can pretend they are at the dentist in the dentist chair.

**Stuffee**
This is the large doll in the middle of the floor, you can't miss him. He is a nine-foot doll that illustrates to students the processes of digestion and respiration. Please ask Museum staff for a Stuffee demonstration. Stuffee is an interactive way to involve youth in the understanding of many biology concepts.

***All About You*** **Window**
This is the area at the back of *All About You*. When we are well staffed there will often be a museum volunteer behind the window. This allows for an interactive discovery of much of the world of anatomy. Students can learn topics such as neurology and "grossology," as well as learning about different organs of the body. Also in the window, students may learn about comparative anatomy by studying the fetal pig, cow eyes and the dogfish shark.