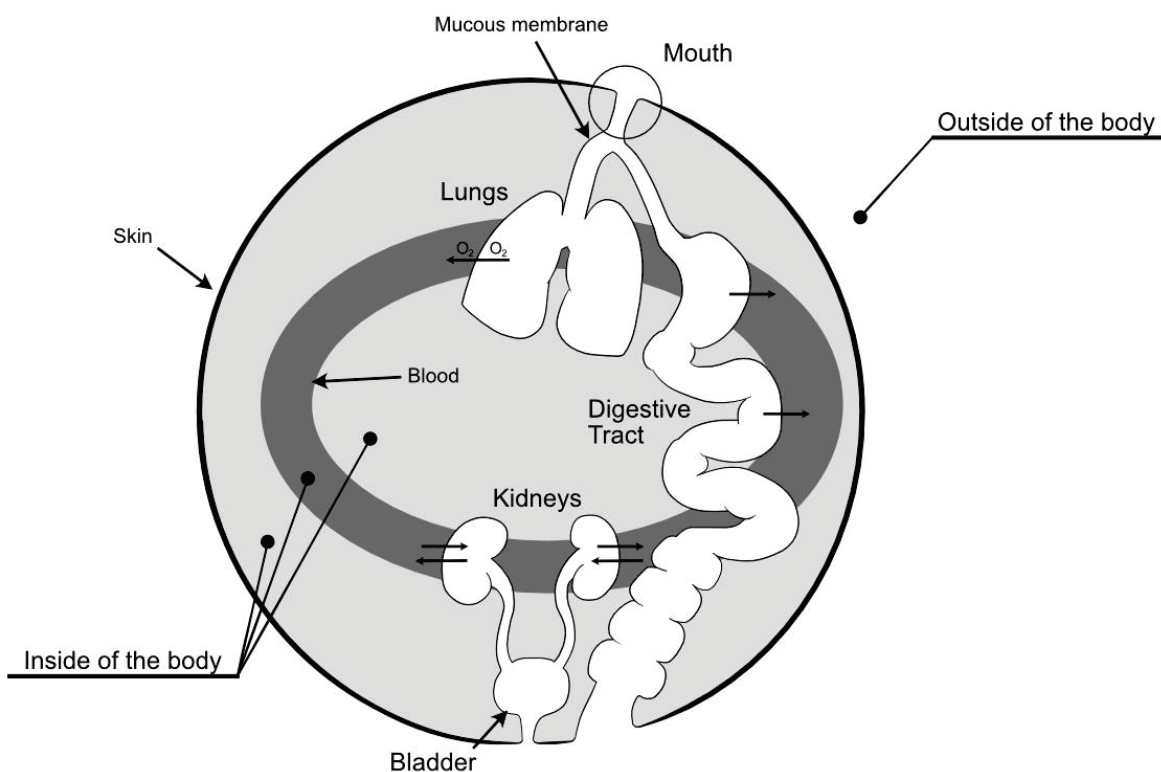


Inside and Outside the Body

Why?

If you swallow a piece of gum, it stays in your body for seven years – right? Well, no. That's just wrong. In this activity, you will think more about whether that swallowed gum is even in your body or not!

Model 1. Cavities and Tubes in the Body



1. Are the two light gray areas in Model 1 inside the body or outside the body?
2. The thick black line, representing the skin, turns into a thin black line at three locations in Model 1. Circle these locations. One is circled for you.

9. Based on your answer to questions 7 and 8, are the white (unshaded) areas in Model 1 inside or outside the body?
10. Determine if each item listed in the table is inside or outside the body. Complete the table by putting an “X” in the correct column. Make sure your team agrees with the answer before continuing to the next item in the table.

	Inside the body	Outside the body
Air in lungs		X
Food in the digestive tract		
Urine in the bladder		
Blood in the circulatory system		
Nutrient molecules, such as glucose, found in the blood.		

11. Other than the grayscale colors used in Model 1, discuss with your team how to determine if an item is inside or outside the body. Record your team's explanation below.
12. In Model 1, notice that oxygen (O_2) is found in both the lungs and in the blood.
- When oxygen is in the lungs, is it inside or outside the body?
 - When oxygen is in the blood, is it inside or outside the body?

13. In Model 1, locate the small arrow in the lungs. Discuss with your team what is happening at this arrow and what it represents. Record your team's answer below.

14. There are also two small arrows within the digestive tract. What is happening at these arrows, and what do they represent?

15. A five-year-old child swallows a small marble. As a team, discuss whether this is or is not a medical emergency. Will surgery be needed to remove the marble? Explain your reasoning below.

Extension Question

16. Skin is composed of three layers: the epidermis, dermis, and hypodermis. Pain neurons are located in the dermis and can be activated when an individual experiences a splinter (or sliver). If the splinter causes pain, but does not cause bleeding, is it inside or outside the body?