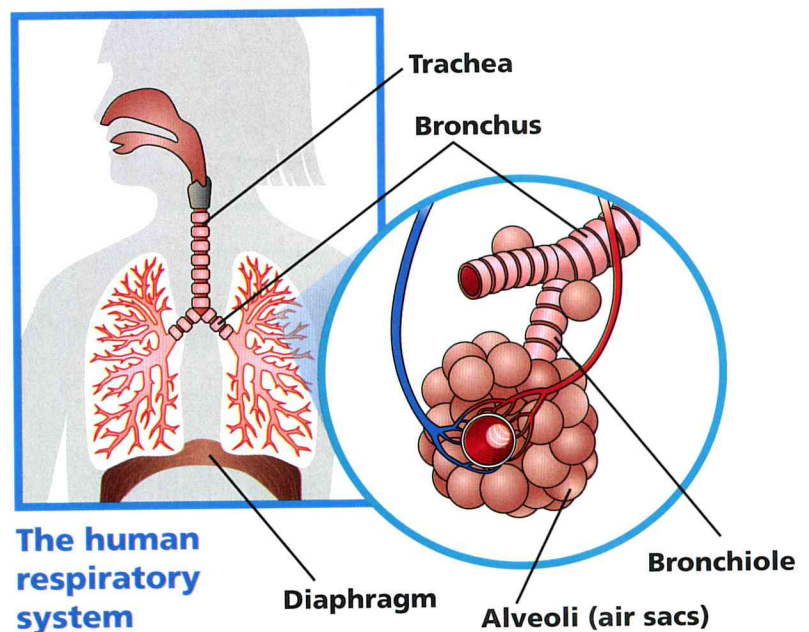
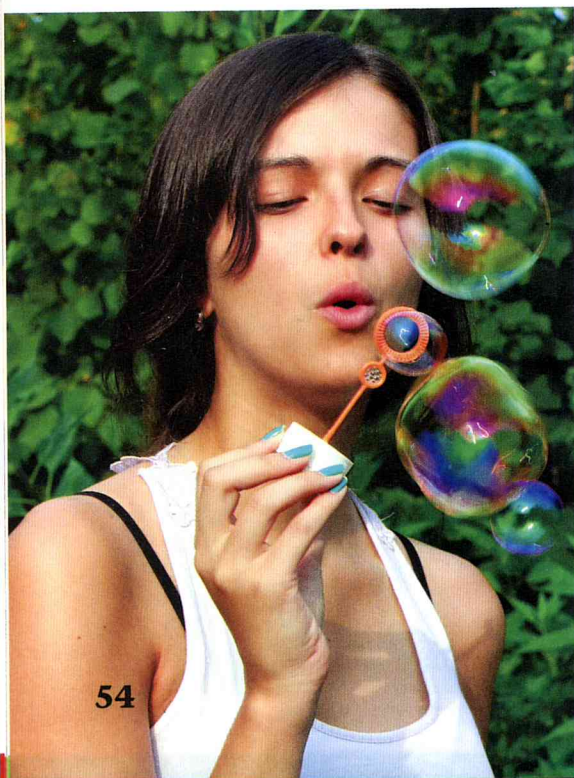


# The Human Respiratory System

**T**he **respiratory system** has three main parts. They are the lungs, the system of tubes that connect the lungs with the outside air, and the diaphragm (an arched muscle). The respiratory system brings oxygen to the red blood cells and gets rid of waste carbon dioxide.

When your arched diaphragm muscle contracts, you breathe in. When you inhale (breathe in), oxygen from the air enters your lungs. The air ends up in the 300,000,000 alveoli (air sacs) at the ends of the tiny tubes (bronchioles) in your lungs. The alveoli are surrounded by capillaries. The oxygen passes through the walls of the air sacs into the capillaries. Red blood cells pick up the oxygen. At the same time, the red blood cells release waste carbon dioxide from the body cells into the alveoli. This waste gas goes into the air when you exhale.

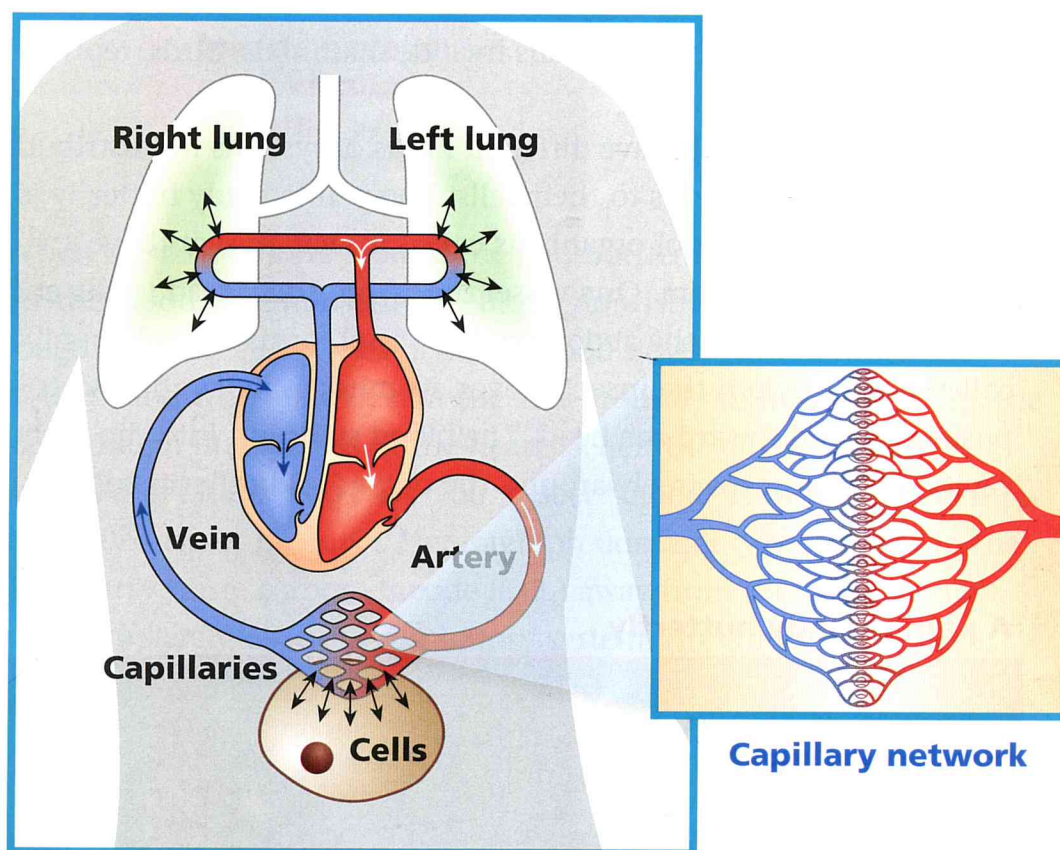
Blood flows to the body tissues through arteries. The blood flows through smaller and smaller arteries, ending in networks of capillaries. Capillaries are only 1/100 of a millimeter in diameter. That's just a little bit larger than a red blood cell. Capillaries are so small that red blood cells often travel single file to get through.





The capillaries touch every cell in the body. Gas exchange takes place while the red blood cell is sliding past a cell. Here, only the thin wall of the capillary is between them. Oxygen passes into the cells, and carbon dioxide passes out. The red blood cell then transports the carbon dioxide to the lungs for disposal.

Red blood cells carry gases. They carry the essential gas, oxygen, to the cells and carry the waste gas, carbon dioxide, away from the cells.



## Thinking about the Human Respiratory System

1. What are the parts of the respiratory system?  
What is the system's function?
2. What are alveoli and what happens there?