How Does Blood Circulate? Lesson Idea

Objectives

- State that a healthy heart is a pump with valves allowing blood to flow in only one direction.
- Distinguish between arteries and veins and describe their different functions.

Prepare

- Download and print the Label the Heart's Parts Activity Sheet to distribute in class.
- Have available a road map, one or more stethoscopes and alcohol swabs.

Materials

- A road map, Label the Heart's Parts Activity Sheet, stethoscopes

Explore

1. Remind students that the heart pumps blood through blood vessels that go to all parts of their body. Ask students to look at the inside of their wrists. Point out that most people can see blood vessels at this place on their bodies. Invite students to trace the blood vessels of one wrist with a finger of the other hand. How would you describe the way your blood vessels are joined together? Students may compare their vessels to the branches on a tree or small rivers flowing into larger streams.

   Display the road map to the class. Show students how the large interstate highways flow into smaller highways and then into smaller and smaller side roads. Explain that the system of blood vessels in the body is similar: the largest arteries flow into smaller arteries, then into smaller and smaller capillaries. The capillaries then flow into small veins, which flow into larger and larger veins until they reach the heart.

2. What is the name of the blood vessels that carry blood away from the heart? (Arteries) What is the name of the largest artery? (The aorta) What is the name of the smallest blood vessels? (Capillaries) What is the name of the blood vessels that carry blood back to the heart? (Veins) Emphasize that blood moves around the body in a figure 8. Blood with oxygen comes from the lungs to the heart and then travels away from the heart through arteries. It travels and exchanges oxygen for carbon dioxide throughout the body in capillaries. Blood with carbon dioxide goes back to the heart through veins, then travels to the lungs to release the carbon dioxide.

3. Explain that the heartbeat has a two-part sound caused by the heart muscle contracting and relaxing. You know that blood flows away from the heart in arteries and back to the heart in veins. Did you wonder why the blood doesn't flow back through the arteries? Explain that the heart has valves. Valves are similar to trapdoors that allow only one-way movement. The valves in each side of the heart keep the blood moving in one direction only.

   Have students use the stethoscopes to listen to a partner's heartbeat. If they listen carefully, they may hear the heartbeat as a "lub-dub" sound. Explain that the first part of the beat is a long, booming sound. It's caused by the bottom chambers of the heart, the ventricles, contracting, and the valves from the top chambers of the heart, the atria, closing. The second part of the beat is a short, snapping sound. It's caused by the bottom chambers of the heart relaxing and the valves to the arteries closing. (Note: Use alcohol swabs to clean the earpieces of the stethoscopes after each use.)

4. Distribute the Label the Heart's Parts Activity Sheet. Tell students that they are to label each part of the heart with a word from the list. Check labeling with the entire class.