

# THE HEART OF THE MATTER

Many animals have a heart of some form to assist in the movement of materials through its body. Vertebrates have a complex circulatory system that moves blood throughout the body to provide oxygen and nutrients to the various body parts and to carry away wastes. Although there are differences between the human and zebrafish hearts, there are also many similarities.

## ***Human Heart***

- 4 chambers
  - 2 atria
  - 2 ventricles
- Right side pumps blood to the lungs
- Left side pumps blood to the rest of the body

## ***Zebrafish Heart***

- 2 chambers
  - 1 atrium
  - 1 ventricle
- Heart pumps blood through the gills as it travels to the rest of the body

## ***A few facts about hearts:***

- ♥ Every minute the human heart pumps 5 liters (1.3 gallons) of blood
- ♥ In 70 years our hearts will have beaten 2.5 billion times
- ♥ A human adult's heart beats at about 60 to 100 beats per minute
- ♥ A human baby's heart beats at about 120 beats per minute
- ♥ Heart disease is the #1 cause of death in the United States



More information about human hearts and heart health is available from the American Heart Association at [www.heart.org](http://www.heart.org).

## **Activity**

As part of the zebrafish classroom experiment, students will be able to view the live heartbeat of the fish under the microscope. Afterwards they can draw a diagram showing the flow of blood through the fish's body. They can then compare this with the flow of blood in our own bodies.