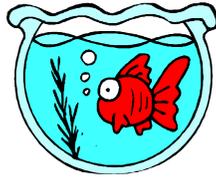


## Lab Activity

Student Name: \_\_\_\_\_

Date: \_\_\_\_\_ Period: \_\_\_\_\_

### Observing the Circulation in a Fish



**Purpose:** To examine circulation in a fish. To distinguish among the types of blood vessels, describe the flow of blood in those blood vessels, and compare the structure and function of the blood vessels.

#### **Materials:**

Goldfish  
Petri dish  
Cotton balls  
Medicine dropper or pipette  
Small beaker of water from goldfish container  
Student Microscopes or Projecting Microscope if done as a demonstration

#### **Procedure:**

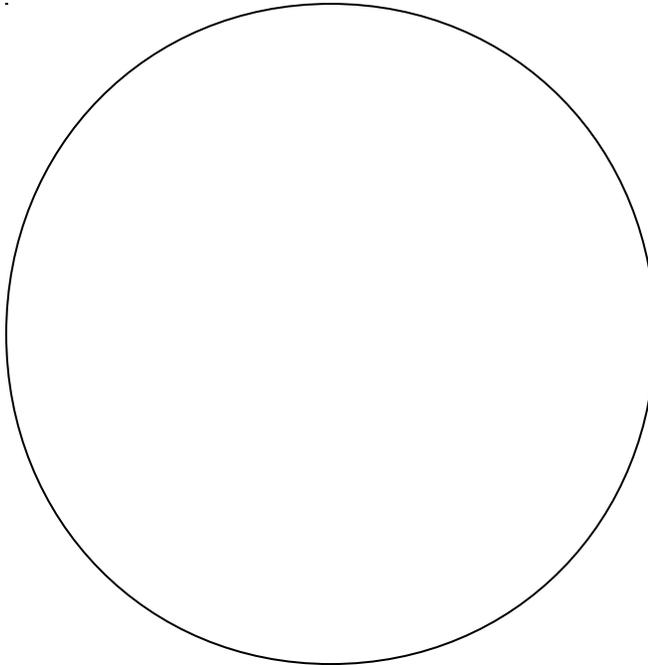
1. Thoroughly soak a cotton ball in the water in the container that holds the goldfish. Stretch the cotton or unwrap it so that it is a thin sheet.
2. Wrap the fish in the soaked cotton ball leaving only the tail exposed. Have a small beaker or container of water close so that you may add water by using the dropper or pipette as necessary.
3. Carefully place the fish in a Petri dish. The fish may move some, be prepared.
4. After raising the objective up so the lens does not touch the fish, place the Petri dish on the microscope stage. Focus the microscope on the tail under low power.
5. Locate the blood vessels in the tail of the fish. Observe them closely. Observe the size of the vessels and the direction of the blood flow in the

vessels. Also compare the speed at which the blood flows in the various vessels. You may wish to view the fish's tail under medium power. Work quickly, but thoroughly; the fish will need to be returned to the water soon. The fish should not be out of the water for more than about five minutes. Make sure the cotton stays wet. If you observe the blood flow in the tail stopping, immediately return the fish to its original container.

6. After you have observed the blood flow in the fish, gently return the fish to its original container. Make sure you have carefully removed the cotton from the fish. Do not harm the fish.

Questions:

1. Draw what you see when the tail membrane is viewed under low power.



2. Does the blood in all of the vessels travel at the same speed, or at different speeds?

3. Does all the blood flow in the same direction or in different directions?

4. How could you tell the difference between the arteries, veins, and capillaries?

5. What is the function of the arteries in the fish?
  
6. What is the function of the veins in the fish?
  
7. What does the flow of blood through the capillaries look like?
  
8. What is the function of the capillaries?
  
9. Where in the fish would you expect to find the most capillaries? Why?
  
10. How is the circulation in the fish similar to the circulation in a human?
  
11. Why did we cover the fish in wet cotton?
  
12. How is the circulation in the fish different from the circulation in a human?