CHAPTER 8	Launch Lab: Watching Blood Flow Answer Key	BLM 8.0.1A
ANSWER KEY		

Answers to Analysis Questions

1. Blood carries oxygen from the lungs to the cells; picks up nutrients from the digestive system and transports them to the tissues; picks up carbon dioxide from the cells and transports it to the lungs for removal; and transports wastes from the cells to kidneys for excretion.

2. Capillaries (vessels being observed) are an important part of the circulatory system because an exchange of substances takes place across their thin walls. Although each capillary is small, they form vast networks, increasing the surface area for exchange of nutrients and wastes. One large vessel does not provide enough surface area for exchange of nutrients and wastes.

3. You should make the connection between increasing or decreasing heart rate and increasing or decreasing the speed of blood flow.

4. You will observe the movement of blood cells (most likely red blood cells) and plasma in a capillary.

5. The heart is responsible for the movement of blood in the goldfish. This is also true for other animals that have hearts or heart-like structures that pump fluids (blood) throughout the animal's body. Single-celled organisms and many simple multicellular animals, such as sponges, jellyfishes, sea anemones, flatworms, and roundworms, do not have a circulatory system. All of their cells are able to absorb nutrients, exchange gases, and expel wastes through direct contact with either the outside or with a central cavity that serves as a digestive tract.

Some plants have a series of tubes (xylem/phloem) to transport water and nutrients from their roots to their leaves and bring food made in the leaves down the roots.

6. Blood flows in one direction. However, the blood flow in a capillary may appear to change direction, as red blood cells have to line up in order to pass through these tiny blood vessels.