Pre-lab Quiz Results
You scored 100% by answering 5 out of 5 questions correctly.

1. Blood flow is measured in
   You correctly answered: b. ml/min.

2. Which of the following has the greatest effect on blood flow?
   You correctly answered: a. blood vessel radius

3. Which of the following would not result in a decrease in the blood vessel radius?
   You correctly answered: c. vasodilation

4. The diameter of the blood vessel is the same as
   You correctly answered: b. two times the radius of the blood vessel.

5. The opening of the blood vessel where the blood flows is called the
   You correctly answered: b. lumen.
Experiment Results

Predict Question:
Predict Question 1: What do you think will happen to the flow rate if the radius is increased by 0.5 mm?
Your answer: b. The flow rate will increase.

Predict Question 2: Do you think a graph plotted with radius on the X-axis and flow rate on the Y-axis will be linear (a straight line)?
Your answer: b. no

Stop & Think Questions:
What is the driving force for blood flow?
You correctly answered: b. pressure gradient

How does the body increase the blood vessel radius?
You correctly answered: c. smooth muscle relaxation

Experiment Data:

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<th>Flow (ml/min)</th>
<th>Radius (mm)</th>
<th>Viscosity</th>
<th>Length (mm)</th>
<th>Pressure (mm Hg)</th>
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Post-lab Quiz Results
You scored 100% by answering 4 out of 4 questions correctly.

1. The variable that you altered in this activity was
You correctly answered: c. vessel radius.

2. Vessel radius and fluid flow
You correctly answered: b. are directly proportional.

3. After a heavy meal, when we are relatively inactive, we might expect blood vessels in the skeletal muscles to be somewhat __________ and the blood vessels in the digestive organs to be somewhat __________.
You correctly answered: d. constricted, dilated

4. When you increased the flow tube radius, the fluid flow rate
You correctly answered: a. increased.
Review Sheet Results

1. Explain how the body establishes a pressure gradient for fluid flow.
   Your answer:
   The body establishes a pressure gradient for fluid flow due to the pressure difference between the two ends of the vessel.

2. Explain the effect that the flow tube radius change had on flow rate. How well did the results compare with your prediction?
   Your answer:
   I predicted that the flow rate would increase if the radius was increased. It is true since the flow rate is directly proportional with the flow tube radius meaning the bigger the radius of the flow tube the faster the flow rate and vice versa. It is also evident during the experiment since the flow rate increased each time that we increased the radius.

3. Describe the effect that radius changes have on the laminar flow of a fluid.
   Your answer:
   The radius of the flow tube affects the laminar flow of a fluid since the wider the radius the more freely the fluid flows and the less fluid rubs against the wall of the tube thus increasing laminar flow, and vice versa.

4. Why do you think the plot was not linear? (Hint: look at the relationship of the variables in the equation). How well did the results compare with your prediction?
   Your answer:
   The graph did not make a straight line even if the flow is directly proportional with the flow tube radius because there are additional factors that affects the flow such as pressure gradient and peripheral resistance.