**Blood Vessels PowerPoint Notes**

Contractions of the heart generate blood pressure and heart valves prevent back flow of blood in the circulatory system.

Did you know that your blood circulates through about 90,000 _______________ of blood vessels in your body? A kilometer is 1,000 meters or _______________ miles! Blood vessels are _______________ that carry the blood throughout your body. There are three types of blood vessels: _______________, _______________, and _______________.

Each heart beat pushes about 90 milliliters of _______________ blood from the heart into the _______________, the body’s _______________ blood vessel. From there, the blood flows to smaller _______________ and then _______________. Eventually, it transfers its oxygen to body cells and returns back to the heart through the _______________.

**Arteries**
Arteries are blood vessels that carry blood _______________ the heart. With the exception of the _______________ artery, they carry oxygen-rich blood. Each time the heart contracts, blood is _______________ out at high pressure. Arteries are made of three layers of tissues that help them withstand that _______________.

**Veins**
Veins are blood vessels that carry blood _______________ the heart. With the exception of the _______________ veins, they carry oxygen-poor blood. Veins are aided in pushing blood back toward the heart by the _______________ muscles as they contract and squeeze nearby veins. Like arteries, veins have three tissue layers. But veins have _______________ walls because they do not receive blood directly from the heart. The largest veins have one-way _______________ to keep blood flowing _______________ the heart.

**Capillaries**
Capillaries are the smallest blood vessels where the _______________ of materials with cells takes place. They form a net-like structure throughout your tissues. Capillary walls are only _______________ cell thick and may be so narrow that blood cells must pass through in _______________ file. Oxygen and other materials _______________ through capillary walls into the tissues and then into cells.
Blood Pressure
Contractions of the heart generate blood pressure. The rhythmic ____________ in blood pressure is called a _____________. Blood pressure keeps the blood flowing in the right direction. Valves prevent ____________ of blood. Blood pressure is a measure of the force of blood pushing against the _____________ of the _____________. It is measured in millimeters of ____________ (mm Hg). A pressure of 100 mm Hg means the pressure is great enough to push a narrow column of mercury 100 mm high. Normal blood pressure is ____________ mm Hg.

Systolic and Diastolic Pressure
The top number is called the _____________ pressure; the lower number is called ____________ pressure. Systolic pressure is the maximum _____________ exerted against artery walls each time the heart _____________. Diastolic pressure is the force exerted on the arteries when the heart _____________. A sphygmomanometer is used to measure blood pressure. The cuff is pumped up with ____________ to restrict blood flow in the arm. As the pressure in the cuff is released, blood starts flowing again. You can hear the ____________ in a stethoscope. The number at which blood ____________ flowing is the measure of the systolic pressure. Pressure in the cuff continues to release. The point at which ______ sound is heard indicates the pressure in the system when the heart is relaxed— the _____________ reading.