

**2.3 THE CIRCULATORY SYSTEM**

**(Refer to pp. 82 – 89 of BC Science 8) Name:**

 **Date:**

* **circulatory system**: the body system that moves blood through the body.
* Your heart is a pump that pushes approximately 4 L of blood through your body every minute.

**THE CIRCULATORY SYSTEM**

* The circulatory system includes the heart, blood vessels and blood.
* It is like a large highway system.
	+ - The blood vessels are like the roads and the blood is like the cars.
* **Blood vessels:** a network of road that carry blood through your body.

**TYPES OF BLOOD VESSELS**

There are 3 types of blood vessels: <https://goo.gl/oCaK6S>

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|  | **Arteries** | **Capillaries** | **Veins** |
| **Definition** | * carry oxygenated blood AWAY from the heart.
 | * a network of tiny blood vessels that connect arterioles to venules.
 | * blood vessels that carry deoxygenated blood back to the heart
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| **Characteristics** | * Have THICK walls
* Blood in the arteries is bright red because it is rich in oxygen
 | * Have very thin walls.
* Are responsible for the diffusion (transfer) of oxygen and nutrients into the body cells and wastes out of the body cells.
 | * Have THIN walls.
* Have VALVES that prevent the backflow of blood.
* Contain waste products returning to the heart.
* Blood is thicker and darker in colour.
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| **Special Names** | * The largest artery is the **AORTA**
* The smallest arteries are called **arteriole**
 |  | * The largest vein is the **vena cava**
* The smallest veins are called **venules**
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**TAKING A CLOSER LOOK AT THE HEART*:*** *Interactive Heart*: <http://goo.gl/IhNrjJ>*Bill Nye:* <https://goo.gl/GUC7iZ>

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| * The heart is a muscular organ that pumps blood throughout the body.
* It has 4 chambers: two upper atria chambers and two lower ventricle chambers.
* The **atria** allow the blood to move into the heart.
* The **ventricles** pump blood out of the heart.
* Between the right atrium and right ventricle, and the left atrium and left ventricle are valves, which allow blood to flow in only one direction (from atrium to ventricle).
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**HOW BLOOD MOVES THROUGH THE HEART**:

**Place the following structures in the correct order that blood flows through the body.**

* + - Left Atrium, Right Atrium, Left Ventricle, Right ventricle, Body, Lungs

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**THE COMPONENTS OF BLOOD**

 **FUNCTIONS AND COMPONENTS OF BLOOD**

* Blood transports oxygen, nutrients and water to your cells and carries carbon dioxide and wastes away from your cells.
* Blood also carries specialized cells to help fight infections and heal wounds
* There are 4 components of blood:
	1. PLASMA contains water, proteins and minerals
	2. RED BLOOD CELLS carries oxygen and carbon dioxide
	3. WHITE BLOOD CELLS fight infections
	4. PLATELETS important for clotting blood to heal wounds.
* Bill Nye on the Heart: <https://goo.gl/f80hdv>