

## Circulatory System Basics

Circulatory System = is a CLOSED system that carries blood throughout the body, also carries gases, nutrients, and waste.

### Two main types of Circulation

1. Pulmonary = blood exits the right ventricle and goes to the lungs, exchanges  $\text{CO}_2 + \text{O}_2$ , returns into the left atrium of the heart

2. Systemic = blood exits the left ventricle and travels through all parts of the body (all systems), returns into the right side of the heart

### Path of Blood Through The Body

#### Arteries

- major blood vessels carrying blood away from the heart
- have thick walls that can withstand the high amount of pressure caused by the heart exerting when it pumps blood into them, round in shape.

↳ closer to the heart = thicker the walls (elastic arteries)

- arteries branch into arterioles which branch into capillaries

Capillaries = are tiny blood vessels with very thin walls where  $O_2$ ,  $CO_2$ , nutrients + waste can get exchanged

- when a network of capillaries are found close together (ex in an organ or tissue) we call it a capillary bed

- multiple capillaries can empty into the same venule which then combine to empty into veins

Veins = major blood vessels that are thicker than capillaries, but thinner than arteries, that bring blood back to the heart

- have valves that prevent backflow of blood as it moves against gravity

- they are more irregular in shape and can look collapsed due to much lower pressure