Biology Grade 9
unit 3
Summarized note

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Human biology and health

Summary on circulatory system

3.5 THE CIRCULATORY SYSTEM

3.5 The circulatory system

- Transport system in human is required to supply the need of the body cells and remove the waste materials they produce.
- The circulatory system **has 3 components**
  - The pipe –-blood vessels
  - The pump ––––––Heart
  - The medium----blood

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- Human beings have **double circulation**

  -Blood enters the heart twice.

  - Efficient to supply oxygen.

I. The blood vessels-are 3 main types

- **Arteries**- take blood away from heart.
- **Veins**- take blood back to heart.
- **Capillaries**- join veins and arteries.

II. The heart –Made up of cardiac muscle.

-Supplied oxygen by coronary artery.

- Has four chambers(2 atria and 2 ventricles.

- **Circulation of the blood** Venacava → Right auricle →right ventricle → pulmonary artery → lung → pulmonary vein → Left auricle → Left ventricle → Aorta.

  The left ventricle **is the thickest chamber** that pump blood to all of the body. Blood **flow only in one direction** because of the valves present in the heart. They are tricuspid valve, bicuspid valves, semilunar valves.

- **Diastole** –the heart is relaxed and filled with blood . the pressure is low.

- **Systole** –the heart muscle contract and force blood out of the heart. the pressure is high.

III. The blood has four main components.

no	Parts of blood	description
1	plasma	Carry blood cells ,transport dissolved foods,co_2,urea
2	Red blood cells	Transport oxygen
3	White blood cells	Defend against attack by pathogens
4	platelets	Help to clot the blood

- Oxygen is carried by haemoglobin
- Clotting is important because

-prevent bleeding

-prevent entry of bacteria

- protect the new skin from damage.

-There are four types of human blood groups

Blood type	Antigen on RBC	Antibody in plasma	Donate to	Receive from
A	A	b	A & AB	O & A
B	B	a	B & AB	O & B
AB	A and B	none	AB	All
O	none	a and b	To all	Only 'O'

- There are two common problems of the circulatory system **in Ethiopia**

-**Anemia** -caused by lack of Iron in the diet.
-**Hypertension**- condition of having high blood pressure