Cells, Molecules, organs of the immune system

Immune system:

- Cells (White blood cells OR Leukocytes)
- Molecules (Antibodies)
- Organ
  →Primary Lymphoid organ
    - Bone Marrow
    - Thymus
  →Secondary lymphoid organ
    - Spleen
    - Lymph node

Blood Composition:

- RBC (Red Blood Cells)
- WBC (White Blood Cells)
- Platelets
- Plasma

1)RBC (***ETHOROCYTES***): Do not have a nucleus

WBC (***LEUKOCYTES***): Have a nucleus

2) Role of RBC:

- Red color pigmentation (called hemoglobin)

Hemoglobin: Responsible for the transportation of respiratory gases (O2 and CO2)

Role of WBC: Immune cells → Defend/ fight/kill foreign bodies that invade our body

Types of WBC:

- Monocytes
- Granulocytes
- Lymphocytes

Name of Leukocytes	Characteristics	Role
Monocytes	- Horse's shoe shaped nucleus - Can cross the capillary wall and become macrophage in tissue - It is involving non-specific immune response	It has a phagocytic ability

Granulocytes	- It has a multilobed nucleus - It can cross capillary walls - It is involved in the non-specific immune response - It is called polymorphnuclear cells	It has a phagocytic ability

Lymphocytes	- It has a round nucleus - It is involved in a specific immune response	- B Lymphocytes secrete antibodies - Tlymhocytes killer cells

Difference between a ***MONOCYTE*** and ***MACROPHAGE***:

The ***MONOCYTES*** are the immune cells before the foreign body invasion, whereas after the invasion of the microbe, the ***MONOCYTES*** become bigger in size and will become known as ***MACROPHAGE*** whose role is to make ***PHAGOCYTESIS***