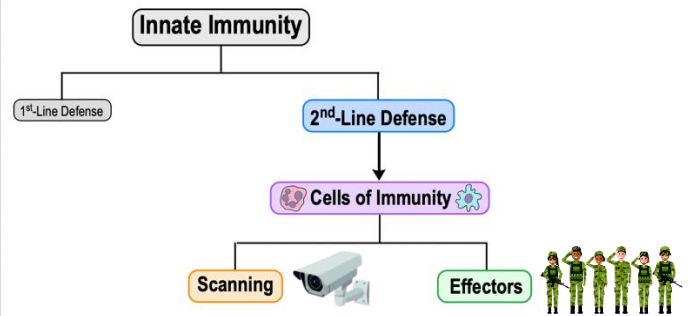
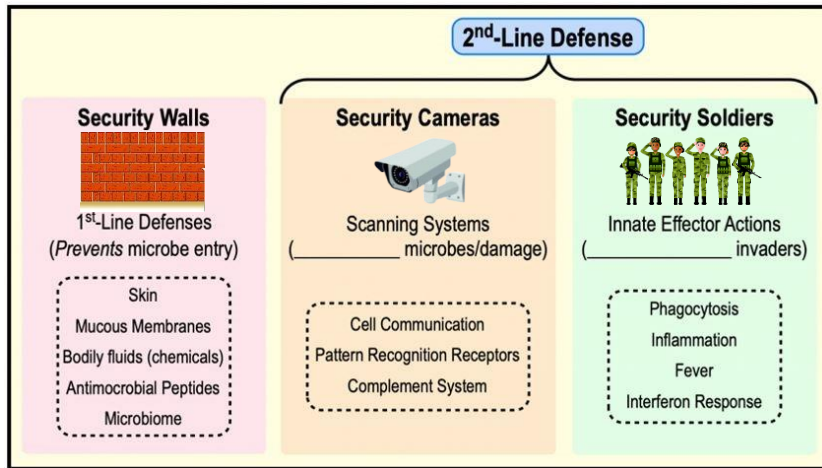


## CONCEPT: INTRODUCTION TO CELLS OF THE IMMUNE SYSTEM

● **Recall:** The **2<sup>nd</sup> line of defense** of innate immunity involves \_\_\_\_\_ main types of cells.

1) **Sentinel Cells:** *look-out or guard* cells part of the \_\_\_\_\_ system that detect invading microbes.

2) **Innate Effectors:** *security* responses that \_\_\_\_\_ microbes *identified* by scanning systems.



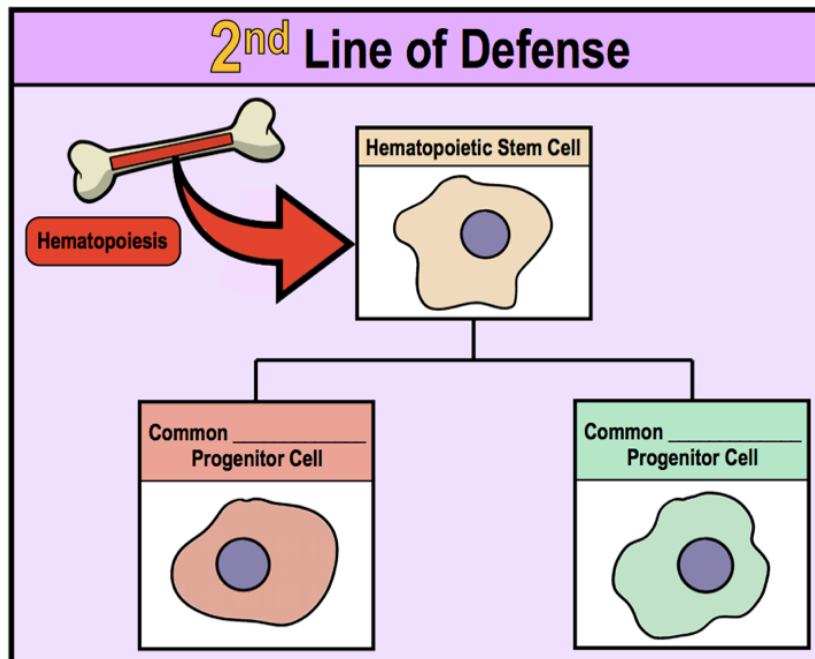
## Hematopoiesis

● There are many different types of immune system cells developed from *stem cells*.

● **Hematopoiesis:** development of all *blood* cells from **hematopoietic** \_\_\_\_\_ cells found in bone marrow.

□ Hematopoietic stem cells first differentiate into common **myeloid** or **lymphoid** \_\_\_\_\_ cells.

□ Common **myeloid** & **lymphoid** progenitor cells then differentiate into all \_\_\_\_\_ types of blood cells.



## CONCEPT: INTRODUCTION TO CELLS OF THE IMMUNE SYSTEM

**PRACTICE:** In humans, stem cells from which all blood cell types are developed are found in the:

- a) Peripheral circulation.
- b) Bone marrow.
- c) Lymphatic vessels.
- d) Lymph nodes.

### Map of the Lesson on Cells of the Immune System

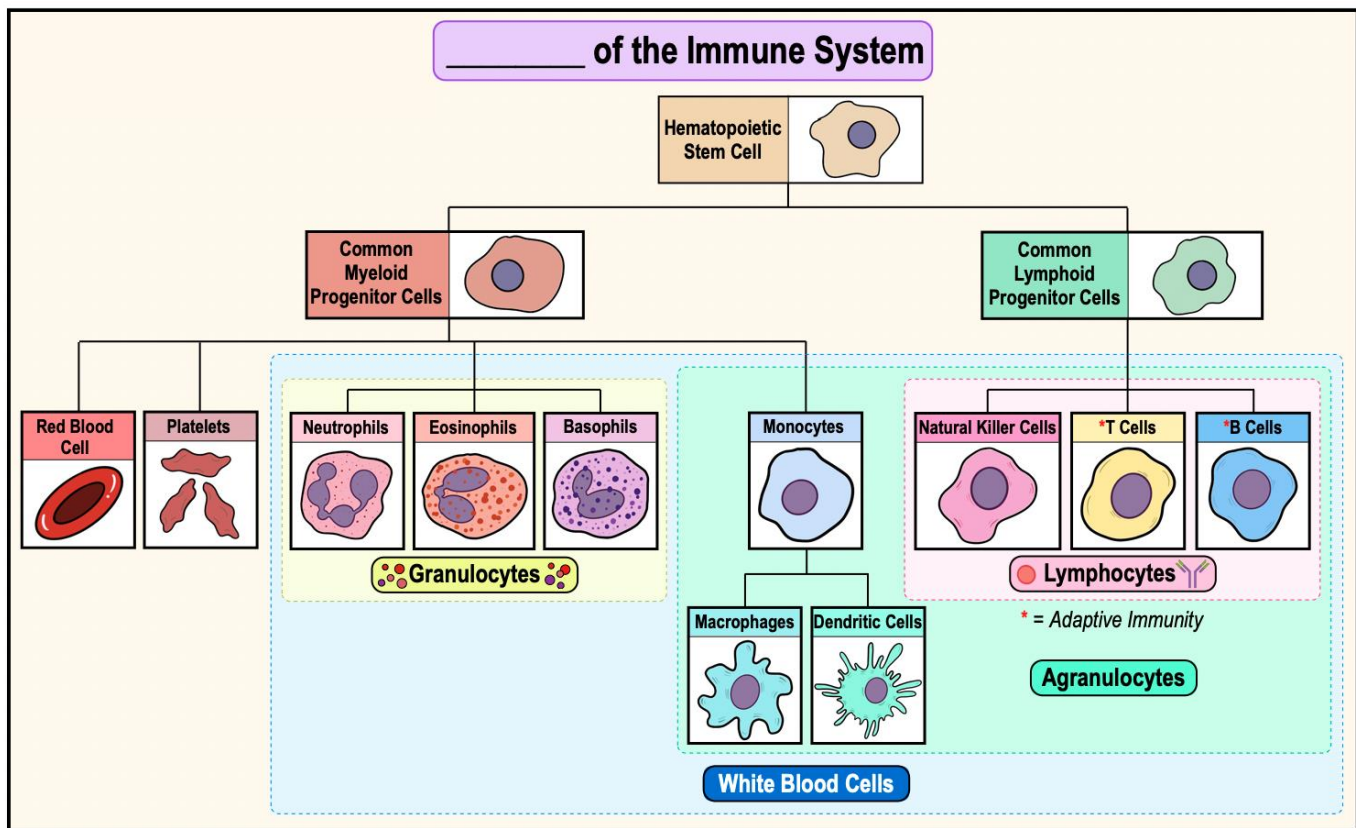
● There are \_\_\_\_ major types of blood cells that differentiate from common myeloid OR lymphoid progenitor cells:

1) **Red Blood Cells (Erythrocytes):** carry oxygen gas (\_\_\_\_) throughout the blood.

2) **Platelets:** important for blood \_\_\_\_.

3) \_\_\_\_ **Blood Cells (Leukocytes):** important for the host's immune system.

□ Can be divided into \_\_\_\_ groups (*granulocytes & agranulocytes*).



**PRACTICE:** The hematopoietic stem cell has the ability to develop into which of the following cell types?

- 1. Macrophage.
  - 2. Red Blood Cell.
  - 3. Neutrophil.
  - 4. B Cell.
  - 5. Dendritic cell.
- a) 2 & 4.
  - b) 1, 2, & 5.
  - c) 1, 3, 4, & 5.
  - d) 1, 2, 3, 4, & 5.