

# Blood Parts and Functions (Ref. Ch. 10)

## Characteristics of Blood

- Blood is a type of \_\_\_\_\_
- \_\_\_\_\_ which carries \_\_\_\_\_ body substances
- Average \_\_\_\_\_ has between \_\_\_\_\_ of blood in the body (9% of total body weight)
- Composed of \_\_\_\_\_ (45%) and \_\_\_\_\_ (55%)
- Blood cells (= \_\_\_\_\_)

## Blood Functions

1. Supply of \_\_\_\_\_ to tissues (bound to \_\_\_\_\_, which is carried in RBC's)
2. Supply of nutrients such as \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
3. Removal of \_\_\_\_\_ such as \_\_\_\_\_, \_\_\_\_\_, and lactic acid
4. Immunological functions, including circulation of \_\_\_\_\_, and detection of foreign material by \_\_\_\_\_.
5. \_\_\_\_\_ (=clotting). Self-repair of damaged tissues.
6. Messenger functions: transport of \_\_\_\_\_ and the signaling of \_\_\_\_\_ damage
7. Regulation of body \_\_\_\_\_
8. \_\_\_\_\_: Regulation of core \_\_\_\_\_ temperature
9. \_\_\_\_\_ functions

## Erythrocyte Characteristics

1. Total % of RBC = \_\_\_\_\_ (48% men; 38% women)
2. Disc shaped (= \_\_\_\_\_)
3. \_\_\_\_\_ cell count in total blood volume.
4. Anucleate (can't \_\_\_\_\_ proteins or \_\_\_\_\_)
5. RBC's produced in \_\_\_\_\_
6. Contains \_\_\_\_\_
  - a. \_\_\_\_\_ – contains \_\_\_\_\_ and transports \_\_\_\_\_
  - b. \_\_\_\_\_ transported \_\_\_\_\_ as Bicarbonate. (HCO<sub>3</sub>)
7. Can live up to \_\_\_\_\_
8. Removal of RBC's from blood stream by \_\_\_\_\_ and \_\_\_\_\_.

## Leukocyte Characteristics

1. No hemoglobin so they are almost \_\_\_\_\_
2. 1 \_\_\_\_\_ to every \_\_\_\_\_ RBC's
3. Contain \_\_\_\_\_ (=nucleate)

4. Produced in \_\_\_\_\_ bone marrow.
5. Capable of \_\_\_\_\_ movement
6. Found in blood and \_\_\_\_\_ systems
7. Lifespan of a few \_\_\_\_\_ to a few \_\_\_\_\_.
8. Protects against \_\_\_\_\_
  - a. engulf \_\_\_\_\_ by phagocytosis (form \_\_\_\_\_:WBCs, dead bacteria, and fluid)
9. 2 \_\_\_\_\_ and 5 \_\_\_\_\_
  - a. \_\_\_\_\_:stained granules in cytoplasm; include: *neutrophil, eosinophil, basophil*
  - b. \_\_\_\_\_: non-stained granules; include: *monocytes* and *lymphocytes*

### Thrombocyte Characteristics

1. A.K.A “ \_\_\_\_\_ ”
2. Not a complete cell: arise from shattered \_\_\_\_\_
3. \_\_\_\_\_, \_\_\_\_\_-shaped cell fragments
4. Made in red \_\_\_\_\_
5. Can live up to \_\_\_\_\_
6. Initiate the formation of blood \_\_\_\_\_

### Plasma Characteristics

- A. \_\_\_\_\_, \_\_\_\_\_-colored
- B. Functions include: transporting \_\_\_\_\_, gases, and \_\_\_\_\_; helping regulate \_\_\_\_\_ and \_\_\_\_\_ balance; maintaining a \_\_\_\_\_ pH
- C. Inorganic components of Plasma
  1. \_\_\_\_\_ water
  2. contains \_\_\_\_\_ and \_\_\_\_\_
- D. Organic Components of Plasma
  1. 9% \_\_\_\_\_ particles
  2. 4 Types of Proteins
    - a. \_\_\_\_\_ – make blood thick; keep water from diffusing out
    - b. \_\_\_\_\_ – gamma globulins are antibody proteins; alpha and beta globulins transport \_\_\_\_\_ and \_\_\_\_\_ soluble vitamins
    - c. \_\_\_\_\_ – function in blood \_\_\_\_\_
    - d. \_\_\_\_\_ – \_\_\_\_\_involved in blood clotting; produced in liver with vitamin K