

UNIT 8 - BLOOD / LYMPHATIC / CARDIOVASCULAR SYSTEMS

STANDARDS AND OBJECTIVES

STANDARD

08 Students will describe the components and functions associated with blood, and the structures and functions of the lymphatic and cardiovascular systems.

OBJECTIVES

- 08.01 Identify the components of blood and their functions.
(erythrocytes, leukocytes, thrombocytes, plasma)
- 08.02 Describe erythrocytes, including the structure of hemoglobin.
- 08.03 Define “leukocyte” and list the two major groups with their cell types.
(granulocytes – neutrophils, basophils, eosinophils, and agranulocytes – monocytes, lymphocytes)
- 08.04 Describe the process of hemostasis.
(vascular spasm, platelet plug formation, coagulation)
- 08.05 Contrast a thrombus and an embolus.
- 08.06 Identify the antigens found on the erythrocytes and the antibodies that determine the ABO blood types and the Rh factor.
- 08.07 Identify the following diseases or disorders associated with the blood.
(anemias, hemolytic disease of the newborn, hemophilia, leukemia, mononucleosis, polycythemia)
- 08.08 Identify the components of the lymphatic system.
(tonsils, spleen, thymus, lymph nodes, bone marrow, lymph vessels)
- 08.09 Describe how lymph is moved through the body.
- 08.10 Contrast antigens and antibodies.
- 08.11 Describe the general roles of T-cells and B-cells in the immune response.
- 08.12 Distinguish between active and passive immunity, and natural vs. artificial acquisition of immunity.
- 08.13 Identify the following diseases or disorders associated with the lymphatic system.
(AIDS, measles, mumps, rubella, tetanus)
- 08.14 List the general functions of the cardiovascular system.

- 08.15 Describe the layers of the heart.
(epicardium, myocardium, endocardium)
- 08.16 Identify the chambers of the heart.
- 08.17 Locate the great blood vessels of the heart.
(superior vena cava, inferior vena cava, pulmonary trunk, pulmonary arteries, pulmonary veins, aorta, branches of the aorta)
- 08.18 Identify the valves of the heart.
(tricuspid, pulmonary semilunar, bicuspid (mitral), aortic semilunar)
- 08.19 Trace blood flow through the heart.
- 08.20 Identify the components of the conduction system of the heart and trace the pathway. (SA node, AV node, AV bundle, bundle branches, Purkinje fibers [conduction], fibers)
- 08.21 Sequence the principle events of the cardiac cycle in terms of systole and diastole.
- 08.22 Define cardiac output and identify factors that influence it.
(heart rate and stroke volume)
- 08.23 Contrast the structures and functions of arteries, capillaries, and veins.
- 08.24 Define pulse and identify the general location of arteries where pulse may be felt.
- 08.25 Describe blood pressure and how to measure it.
- 08.26 Contrast pulmonary and systemic circulation.
- 08.27 Identify the following diseases or disorders of the cardiovascular system.
(aneurysm, arteriosclerosis, atherosclerosis, cerebrovascular accident/stroke, coronary artery disease, hypertension, murmur, myocardial infarction)
- 08.28 Obtain current CPR certification.
Current certification includes cards valid through the current school year.