ARMENIAN EVANGELICAL CENTRAL HIGH SCHOOL

Grade 9 (Biology)

At the end of grade 9 the student should be able to:

Chapter 1

- List the types of food.
- Describe the identification tests of the food types.
- Experiment the tests.
- Analyze experiments about identification.
- Define chemical digestion.
- Explain the mode of action of salivary amylase on starch.
- Explain molecular simplification.
- List the factors affecting the activity of enzymes.
- Compare the activity of enzymes at different temperatures, pHs.
- List the organs of the alimentary canal.
- Explain the role of each part in detail.
- Analyze experiments about digestion.
- Write hypothesis.
- Make deductions.
- Draw a villus.
- Explain absorption.

Chapter 2

- List the organs of respiratory system.
- Describe the structure of an alveolus.
- Compare between inhalation and exhalation.
- Compare between inhaled air and exhaled air.
- Explain the characteristics of gas exchange surface.
- Tell the components of blood.
- tell the function of each component.
- Compare between oxygenated and deoxygenated blood.
- Explain this difference.
- Analyze tables.

Chapter 3

- List the parts of the heart.
- List the pathway of blood.
- Explain the 3 phases of the cardiac cycle.
- Compare between the 3 types of blood vessels structurally and functionally.
- Explain why the human circulatory system is called double circulatory system.
- Explain what is infarction.
- List the causes of infarction.
- List the risk factors of cardiovascular diseases.
- Explain oxidation.

- Analyze experiments.
- Explain assimilation.
- Analyze experiments.

Chapter 7

- Describe Mendel's experiment.
- Define: trait, gene, phenotype, genotype, allelle, dominant, recessive, hybrid.
- State the 3 laws of genetics.
- Solve problems about test cross, Codominance, Intermediate dominancy, blood groups, sex-linked heredity.
- Draw and analyze pedigrees.
- Define karyotyping.
- List the aim of karyotyping.
- Discuss different chromosomal abnormalities like Trisomy 21, 18, 13.

Chapter 8

- Define mitosis.
- State the aim of mitosis.
- Draw and explain each phase of mitosis.
- Compare different phases of mitosis.
- Draw and describe the structure of a chromosome during interphase and the different phases of mitosis.
- Tell the difference between mitosis of a plant cell and an animal cell.
- tell the result of a mitosis (number of cells, chromosomes)

Chapter 9

- Tell the aim of the meiosis.
- Tell the result of meiosis.
- Describe each step.
- Draw each step.
- Compare each step in the first division with each step in the second division.
- Explain the reason of sex determination during fertilization.