BIOLOGY

1. The main molecules of biological importance, including water. The general principles of metabolism - the substrates and products of major catabolic pathways.

2. The structure and function of Prokaryotic and Eukaryotic cells. Cell membranes and types of transport. Cell cycle. Mitosis and meiosis.

3. Structure of viruses - general features of viral replication cycles. The role of bacteria in human life.

4. Structure and physiology of connective, muscle, epithelial and nervous tissue.

5. Human anatomy and physiology - The human digestive system. The correct glucose levels. The correct glucose levels. Organization of human respiratory system. Function and basic structure of haemoglobin and myoglobin. Organization of human circulatory system. Heart and heart's rhythmic beat. Blood pressure. The function of immune system. Innate and adaptive immunity. Endocrine tissues and organs. Chemical classes of hormones. Multiple effects of hormones. Feedback regulation. Human reproduction and development.

6. Chromosomal and molecular basis of inheritance. Alternation of chromosome number and structure. The examples of inheriting according to Mendel's laws.

7. DNA as genetic material - structural model of DNA. Replication. Tools of DNA technology.

8. Genetic mechanisms: transcription and translation. Type of mutations.

9. The basics of ecology. Conservation and Global Ecology. Interspecies relationships.

10. The basic sources of knowledge about the mechanisms and course of evolution.