

10th Grade

Fundamentals of Biology

The Science of Biology

- What is biology?

- Scientific methods and skills

- Scientific measurements

- Tools of the Biologist

The Nature of Living Things

- Characteristics of organisms

- Life processes of organisms

- Needs of organisms

The Chemistry of Life

- Matter

- Elements, compounds, and mixtures

- Types of compounds

Cells

- Cells and Cell Theory

- Cell structure and function

- Cell processes

- Cellular respiration

Classification

- Classify living things

- Modern taxonomy

- Five kingdoms

Viroses and Monerans

- Viroses

- Monerans

- Importance of bacteria

Protists

- Overview of protists

- Protozoans

- Algae

- Slimemolds

Fungi

- Overview of fungi

- Molds

- Sac fungi

- Club fungi

- Imperfect fungi

Spore Plants

- Classification of plants

- Mosses, liverworts, and hornworts

- Horsetails and club mosses

- Ferns

Seed Plants

- Overview of seed plants

- Gymnosperms

- angiosperms

- Plant tissues and organs

Plant Structure and Function

- Roots and stems

- Leaves

- Flowers

- Seeds and fruits

- Growth and response

Porifera and Cnidarians

- Porifera

- Cnidarians

- Importance of porifera and cnidarians

Worms

- Overview of worms

- Flatworms

- Roundworms and rotifers

- Segmented worms

Mollusks and Echinoderms

- Mollusks

- Echinoderms
- Importance of mollusks and echinoderms
- Arthropods
 - Overview of arthropods
 - Arachnids
 - Crustaceans
 - Centipedes and millipedes
 - Insects
- Fishes
 - Overview of fishes
 - Jawless fishes
 - Cartilaginous fishes
 - Bony fishes
- Amphibians and Reptiles
 - Overview of amphibians
 - Anatomy of a frog
 - Overview of reptiles
- Birds
 - Overview of birds
 - Anatomy of a bird
 - Reproduction, development, and behavior
- Mammals
 - Overview of mammals
 - Monotremes and marsupials
 - Placental mammals
 - Behavior in mammals
- Support and Movement
 - The skeletal system
 - Bones
 - The muscular system
 - The skin
- Digestion
 - The digestive process
 - The digestive system
 - Problems of the digestive system
- Circulation
 - The circulatory system
 - Circulation
 - Blood
 - The lymphatic system
- Respiration and Excretion
 - The respiratory system
 - Breathing
 - Respiratory diseases
 - The excretory system
 - Excretory problems
- Regulation
 - The nervous system
 - Nerve pathways
 - The five senses
 - The endocrine system
 - Behavior
- Reproduction and Development
 - Human reproductive system
 - Human reproduction
 - Human development
- Nutrition
 - Nutrients
 - The healthful diet
 - Maintaining good health
 - Nutritional problems
- Diseases and Disorders
 - Infectious diseases
 - Body defenses
 - Chronic disorders
- Drugs, Alcohol, and Tobacco

- Types of drugs
 - Alcohol
 - Tobacco
- Fundamentals of Genetics
 - The work of Mendel
 - Probability and genetics
 - Predicting the results of gene
- Modern Genetics
 - Chromosomes
 - The genetic code
 - Human genetics
 - Genetic disorders
- Applied Genetics
 - Plant and animal breeding
 - Genetic engineering
 - Genetic techniques
- Theories of Evolution
 - Evolution
 - Evolution and genetics
 - The rate of evolution
- Evidence for Evolution
 - Fossil evidence
 - Geologic time
 - Evidence from living thing
- Human Change through Time
 - Classification of humans
 - Early humans
 - Modern humans
- Ecosystems
 - Ecology and ecosystems
 - Energy and the environment
 - Relationships in an ecosys1
 - Ecological succession
- Biomes
 - Land biomes
 - Marine biomes
 - Freshwater biomes
- Conservation
 - Natural resources
 - Three renewable resources
 - Living resources
 - Energy resources