

LIFE Science Content

Unit 1 Life

Chapter 1: Introduction to Life Science

- 1.1 Why Study Living Things?
- 1.2 Characteristics of Living Things
- 1.3 The Needs of Living Things
- 1.4 The Chemistry of Living Things

Chapter 2: Cells

- 2.1 The Cell Theory
- 2.2 Cell Structure
- 2.3 DNA
- 2.5 Cell Energy
- 2.6 Cell Transport
- 2.7 Cell Growth and Reproduction

Chapter 3: Taxonomy

- 3.1 The History of Taxonomy
- 3.2 Classification
- 3.3 Bacteria and Archaea
- 3.4 Eukarya

Unit 2 Viruses, Bacteria, Archaea, Protists, and Fungi

Chapter 1: Viruses

- 1.1 The Structure of Viruses
- 1.2 Virus Reproduction
- 1.3 Viruses and the World

Chapter 2: Bacteria and Archaea

- 2.1 The Structure of Bacteria
- 2.2 Bacteria Life Functions
- 2.3 Bacteria and the World
- 2.4 Bacteria and Humans
- 2.5 Bacteria and Disease
- 2.6 Archaea

Chapter 3: Fungi

- 3.1 The Structure of Fungi
- 3.2 Types of Fungi
- 3.3 Fungi and the World

Chapter 4: Protists

- 4.1 The Diversity of Protists
- 4.2 Plantlike Protists
- 4.3 Algae
- 4.4 Animallike Protists
- 4.5 Sporozoans
- 4.6 Funguslike Protists

Unit 3 Plants

Chapter 1: Introduction to Plants

- 1.1 Types of Plants
- 1.2 Needs of Plants
- 1.3 Mosses, Liverworts, and Hornworts
- 1.4 Ferns, Horsetails, and Club Mosses
- 1.5 Seed Plants

Chapter 2: Plant Activity

- 2.1 Life Processes of Plants
- 2.2 Angiosperm Reproduction
- 2.3 Gymnosperm Reproduction
- 2.4 Plant Behavior

Unit 4 Animals

Chapter 1: Invertebrates

- 1.1 Introduction to Invertebrates
- 1.2 Sponges
- 1.3 Cnidarians
- 1.4 Worms
- 1.5 Mollusks
- 1.6 Echinoderms

Chapter 2: Arthropods

- 2.1 Introduction to Arthropods
- 2.2 Crustaceans
- 2.3 Centipedes and Millipedes
- 2.4 Arachnids
- 2.5 Insects

Chapter 3: Vertebrates:

- 3.1 Introduction to Vertebrates
- 3.2 Ectotherms
- 3.3 Reptiles
- 3.4 Amphibians
- 3.5 Fish
- 3.6 Endotherms
- 3.7 Birds
- 3.8 Mammals

Unit 5 Human Body

Chapter 1: The Cardiovascular, Digestion, and Immune Systems

- 1.1 Levels of Organization
- 1.2 Cardiovascular System
- 1.3 Digestion and Absorption
- 1.4 Immune System

Chapter 2: The Respiratory and Excretory Systems

- 2.1 Respiratory System
- 2.2 Urinary System
- 2.3 Skin

Chapter 3: Movement and Senses

- 3.1 Skeletal System
- 3.2 Muscular System
- 3.3 Nervous System
- 3.4 The Senses

Chapter 4: Human Development

- 4.1 Endocrine System
- 4.2 Reproduction and Development
- 4.3 Biological Rhythms
- 4.4 Nutrition
- 4.5 Disease
- 4.6 Harmful Choices

Unit 6 Genetics and Heredity

Chapter 1: Genetics

- 1.1 Traits
- 1.2 Reproduction and Heredity
- 1.3 Dominant and Recessive Variations
- 1.4 Genetic Code and Mutations
- 1.5 Mitosis and Meiosis
- 1.6 Sex Determination and Karyotyping
- 1.7 Human Genetics

Chapter 2: Application of Genetics

- 2.1 Applied Genetics
- 2.2 Cloning
- 2.3 Genetically Modified Organisms
- 2.4 The Human Genome

Unit 7 Ecology

Chapter 1: The Ecological Landscape

- 1.1 Organisms
- 1.2 Populations and Communities
- 1.3 Ecosystems and the Biosphere
- 1.4 Freshwater Ecosystems
- 1.5 Freshwater Chemistry

Chapter 2: Ecosystem Dynamics

- 2.1 Food Chains and Food Webs
- 2.2 Community Interactions
- 2.3 Survival
- 2.4 Environmental Balance

Chapter 3: Biomes

- 3.1 Introduction to Biomes
- 3.2 Tundra
- 3.3 Coniferous Forests
- 3.4 Deciduous Forests
- 3.5 Rain Forests
- 3.6 Grasslands
- 3.7 Deserts
- 3.8 Oceans
- 3.9 Conservation

EARTH AND SPACE Science

Unit 1 Geology

Introduction to Earth and Space Science
Minerals
Rocks
Soil

Unit 2 The Dynamic Earth

The Moving Crust
Earthquakes
Volcanoes

Unit 3 Water and Water Systems

Water
Oceans

Unit 4 Meteorology

The Atmosphere
Weather
Climate

Unit 5 The Environment

Natural Resources
Pollution

Unit 6 Astronomy

The Solar System
Sun, Earth, and Moon
Stars and the Universe
Space Exploration

PHYSICAL Science

Unit 1 Matter

Introduction to Physical Science
The Composition of Matter
The Nature of Matter
Atomic Structure and the Periodic Table
Chemical Bonds

Unit 2 Types of Substances

Metals
Nonmetals and Metalloids
Organic Compounds
Other Useful Materials

Unit 3 Interactions of Matter

Solutions
Chemical Reactions
Acids, Bases, and Salts

Unit 4 Matter in Motion

Forces and Motion
Work and Energy
Types of Machines

Unit 5 Energy at Work

Thermal Energy
Waves
Sound
Light
Nuclear Energy
Energy Resources

Unit 6 Electricity and Magnetism

Electricity
Magnetism



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