

GRADE 3 SCIENCE

The third grade science curriculum focuses on life science, earth science and physical science. The students' knowledge is gained chiefly through observation, inquiry-based activities and hands-on experiments. The students learn in a sequential manner which allows them to use their prior knowledge so that they have a deeper understanding of the concepts which are being taught.

Life Science

A Look at Living Things

Students will :

- compare nonliving and living things
- describe what living things need in order to survive
- understand plant structures and functions
- describe how plants are classified
- describe what an animal needs to survive
- understand the difference between vertebrates and invertebrates
- classify animals into groups based on their structures

Living Things Grow and Change

Students will:

- understand how plants grow and reproduce
- recognize the life cycles of different types of plants
- explain how some traits are inherited from parents
- distinguish between learned and unlearned traits

Living Things in Ecosystems

Students will:

- define an ecosystem
- identify different ecosystems
- describe characteristics of different ecosystems
- understand how energy moves through a food chain
- identify the roles of different organisms in a food web
- recognize adaptations that allow organisms to survive in certain environments
- explain how adaptations help organisms survive

Changes in Ecosystems

Students will:

- identify ways that living things change their environment
- explain how different organisms compete with each other for food, water and shelter
- show how environmental changes affect living things
- explain what it means for an animal to be endangered
- explain how scientists learn about ancient plants and animals by studying fossils
- show how present-day organisms are similar to those that lived long ago

Physical Science

Matter

Students will:

- define matter
- describe properties of matter and understand that properties can be used to identify matter

- measure matter using tools that record standard units
- compare and contrast weight and mass
- define the three common states of matter
- explain the properties of liquids, solids, gases

Changes in Matter

Students will:

- measure and record the temperature of water in different states
- identify the effect of heating and cooling matter
- define physical changes as those that do not change the identity of a material
- describe how to make and separate mixtures
- describe chemical changes
- understand that chemical changes are part of our everyday life

Forces and Motion

Students will:

- define and relate position and motion
- define speed using distance and time
- identify a force and relate force to motion
- define common forces
- define energy and work
- discuss the forms of energy and how energy changes from one form to another
- identify and describe simple machines

Forms of Energy

Students will:

- describe how heat moves
- compare insulators and conductors
- describe how vibrations produce sounds
- compare a pitch and volume of sound
- explore how light travels
- describe how colors are seen
- describe electrical charge
- identify the parts of a circuit

EARTH SCIENCE

Earth Changes

Students will:

- identify Earth's landforms and the features of the ocean floor
- describe the layers of the earth
- describe earthquakes and volcanoes and identify their effects
- describe the effects of landslides and floods
- describe and identify the forces that cause weathering and erosion
- analyze how people change the land

Using Earth's Resources

Students will:

- compare and contrast properties of minerals
- describe how three main kinds of rocks form
- explore soil and identify its components
- compare and contrast different soils
- model and describe how fossils form
- list examples of fossil fuels and other sources of energy
- describe how air and water are used as resources
- explain reasons and methods for conserving and protecting air and water

Weather and Space

Changes in Weather

Students will:

- define weather
- describe the four characteristics of weather
- infer how condensation occurs and rain forms in the atmosphere
- describe the water cycle and how it relates to weather
- explain why climate varies from place to place
- understand how seasons differ from place to place

Planets, Moons and Stars

Students will:

- explain what causes day and night
- describe the sun
- identify the phases of the moon and explain why the moon seems to change shape
- describe our solar system
- describe the stars and constellations
- describe why different constellations can be seen during different seasons

Materials

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- Student textbook: Macmillan/McGraw Hill Science: A Closer Look
- Teacher Edition: Macmillan/McGraw Hill Science: A Closer Look
- Assessment Book: Macmillan/McGraw Hill Building Skills Assessment Book
- Macmillan/McGraw Hill Building Skills Reading and Writing
- Macmillan/McGraw Hill Building Skills Activity Lab Book
- Macmillan/McGraw Hill Transparencies for Visual Literacy
- Macmillan/McGraw Hill Building Skills Math Book
- Macmillan/McGraw Hill Key Concept Cards and Vocabulary Cards
- Macmillan/McGraw Hill Activity Flip Chart
- Macmillan/McGraw Hill Grade 3 Materials Kit
- Teacher-created packets
- Test, quizzes, study guides, and worksheets made up from the text
- Construction paper, scissors, markers, crayons, colored pencils and other assorted art materials

Videos

EYEWITNESS

Amphibian
Planets

Animal Life for Children

All About Animal Adaptations
All About Endangered and Extinct Animals
All About Amphibians
All About Birds
All About Fish
All About Food Chains
All About Mammals
All About Reptiles

Life Science

The Video Collection The Food Chain Mystery

The EARTH AT RISK Environmental video series RECYCLING

Educational Videos

The Solar System: A First Look

Physical Science In Action

Sound

Magic School Bus

Lost in Space
Gets Eaten
Inside the Human Body
Hops Home
Out of this World

Instruction:

The teacher will:

- lead class lectures and discussions
- prepare lab experiments for students
- assign independent or group projects
- assign independent reading assignments
- show videos on related topics for further understanding

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