



Science 2

Semester A Summary:

Studying science helps us understand the world around us as well as the world that existed before us. The McGraw-Hill textbook *Science: A Closer Look* and the science kit are the primary resources for this course. The student will study the major branches of science as he performs hands-on activities. The life science units explore different organisms and their habitats. The Earth science units investigate Earth's resources and physical composition.

The lessons in this course are designed to accommodate a variety of learning styles and to provide a variety of opportunities for the entire family to participate in the student's education. Some lessons, or groups of lessons, in each unit are activity-centered, which allows the student to engage the new concepts he encounters through exploration and discovery; others are more traditional, requiring the student to read, research, and reflect on the underlying theory.

Semester A Outline

1. Be a Scientist

1. Science Skills
 - Identify skills scientists use to investigate questions
 - Explain how science skills are used to learn about pond animals
2. Scientific Method
 - Explain the steps scientists use to investigate questions
3. Scientific Process
 - Distinguish between opinion and evidence
 - Recognize unusual or unexpected results
4. Science Safety
 - Identify important safety procedures

2. Plants

1. What Living Things Need
 - Identify living and nonliving things
 - Explain why plants are living things and describe their parts
2. Inquiry Skill: Observe
 - Observe a flower
3. Plants Make New Plants
 - Describe seeds and their origins
 - Identify the stages in a plant's life cycle
4. How Plants Are Alike and Different
 - Recognize that plants look and act like their parent plants
 - Describe ways that plants change to meet their needs
5. Unit Review
 - Review and describe how plants grow and change throughout their life cycle
6. Unit Test

3. Animals

1. Animal Groups
 - Describe, classify, and compare animals
 - Explain how animal parts help animals meet their needs
2. Inquiry Skill: Classify
 - Classify animals to show how they are alike
3. Animals Grow and Change
 - Explain that every animal has a life cycle
 - Describe and compare the life cycles of animals
4. Animals and Plants Need Each Other
 - Explain that plants provide oxygen, homes, and food for many animals
5. Staying Alive
 - Identify how camouflage helps animals stay safe
 - Explain how animals protect themselves
6. Unit Review
 - Review the needs, traits, and survival behaviors of animals
7. Unit Test

4. Looking at Habitats

1. Places to Live
 - Describe different habitats
 - Explain how plants and animals use their habitats
2. Inquiry Skill: Putting Things in Order
 - Put in order the way a beaver creates a dam
3. Food Chains and Food Webs
 - Describe a food chain
 - Describe a food web
4. Habitat Change
 - Explain why habitats change
 - Describe what happens when habitats change
5. Lab: How Do Clues Help Scientists Study Fossils?
 - Infer which leaf prints match specific leaves
6. Unit Review
 - Review habitats
7. Unit Test

5. Kinds of Habitats

1. Forests
 - Compare and contrast woodland forests and rain forests
 - Explain how different animals live in forest habitats
2. Hot and Cold Deserts
 - Describe desert habitats
 - Explain how plants and animals survive in a dry habitat
3. Inquiry Skill: Infer
 - Study human footprints to make inferences about animal footprints
4. Oceans and Ponds
 - Describe oceans and ponds
 - Explain how plants and animals live in oceans and ponds
5. Unit Review
 - Review and compare different kinds of habitats
6. Unit Test

6. Land and Water

1. Earth's Land
 - Compare the different landforms on Earth's surface

- Identify Earth's layers
- 2. Inquiry Skill: Make a Model
 - Make a model to understand landforms
- 3. Earth's Water
 - Identify sources of Earth's water
 - Classify how people use water
- 4. Changes on Earth
 - Explain slow and fast changes on Earth
 - Describe how wind and water can change rocks
- 5. Water and Wind
 - Identify how water and wind change land
- 6. More Rapid Changes to Earth's Surface
 - Identify how hurricanes, wildfires, and floods may rapidly change Earth's surface
 - Identify how weather and seasonal changes affect the growth and behavior of living things
- 7. Unit Review
 - Review Earth's landforms, water, and changes
- 8. Unit Test

7. Earth's Resources

1. Rocks and Minerals
 - Explain what rocks are and how they are used
 - Explain what minerals are and how they are used
2. Inquiry Skill: Compare
 - Compare two rocks using a Venn diagram
3. Soil
 - Describe what things make up soil
 - Explain how soil is formed
4. Lab: Which Soil Holds More Water?
 - Predict and measure how much water different soils can hold
5. Using Earth's Resources
 - Describe how people use natural resources
 - Explain why people should take care of Earth's resources
6. Unit Review
 - Review rocks, soils, and natural resources
7. Unit Test

Semester B Summary:

Studying science helps us understand the world around us as well as the world that existed before us. The McGraw-Hill textbook, *Science: A Closer Look*, and the science kit are the primary resources for this course. The student will study the major branches of science as he performs hands on activities. The Earth science units investigate Earth's weather patterns and seasons as well as the solar system. The physical science units analyze changes in matter and explore different forms of energy.

In this course, the student will compare the strength of different magnets, analyze the affect of sunlight on temperature, and do much, much more! The lessons in this course are designed to accommodate a variety of learning styles and to provide a variety of opportunities for the entire family to participate in the student's education. Some lessons, or groups of lessons, in each unit are activity-centered, which allow the student to engage the new concepts he encounters

through exploration and discovery; others are more traditional, requiring the student to read, research, and reflect on the underlying theory.

Semester B Outline

1. Observing Weather

1. Weather
 - Describe temperature, wind, and precipitation
 - Identify and use tools to measure weather
2. The Water Cycle
 - Identify the different stages of the water cycle
 - Describe and illustrate the water cycle
3. Inquiry Skill: Predict
 - Predict the weather based on data
4. Changes in Weather
 - Predict weather by observing clouds
 - Identify different types of clouds and storms
5. Measure and Track Weather
 - Understand how measuring, recording, and interpreting weather data allows for identification of weather patterns
 - Investigate how tracking weather allows people to prepare for weather and storms
6. Unit Review
 - Review the water cycle
7. Unit Test

2. Earth and Space

1. Day and Night
 - Identify how Earth rotates to make day and night
 - Explain how shadows change as Earth moves
2. Inquiry Skill: Draw Conclusions
 - Observe and record the time of day using reference objects
3. Why Seasons Happen
 - Describe seasonal and annual patterns on Earth
 - Relate seasonal patterns to Earth's orbit around the sun
4. The Moon and Stars
 - Observe the moon and its phases as it orbits Earth
 - Recognize that the sun is the closest star to Earth
5. Lab: How Does the Moon Seem to Change?
 - Observe and record the moon's phases
6. The Solar System
 - Explain the relationship between the planets and the sun
 - Describe the planets in the solar system
7. Unit Review
 - Review how the sun and Earth interact to create day, night, and the seasons
8. Unit Test

3. Looking at Matter

1. Describing Matter
 - Identify matter as anything that has mass and takes up space
 - Compare and contrast different properties of matter
2. Inquiry Skill: Record Data
 - Describe matter

- Separate matter into groups of solids and liquids
 - Represent data in pictographs and bar graphs
 - Interpret data represented in pictographs and bar graphs
3. Solids
 - Compare and contrast the properties of solids
 - Use different ways to measure solids
 4. Liquids and Gases
 - Describe the properties of liquids and gases
 - Compare and contrast liquids and gases
 5. Unit Review
 - Reinforce the properties of matter
 6. Unit Test

4. Changes in Matter

1. Matter Changes
 - Identify chemical and physical changes
2. Inquiry Skill: Communicate
 - List the steps taken to do something in order
3. Lab: What Happens When You Shake Cream?
 - Observe a liquid become a solid
4. Changes of State
 - Observe how heat can change matter
5. Mixtures
 - Observe how solids, liquids, and gases mix
6. Unit Review
 - Review the concepts of physical and chemical changes
7. Unit Test

5. How Things Move

1. Position and Motion
 - Describe an object's position in relation to another object
 - Measure and record changes in an object's position
2. Inquiry Skill: Investigate
 - Investigate the speeds of different objects
3. Forces
 - Identify a force as a push or a pull
 - Describe the forces of gravity and friction
4. Using Simple Machines
 - Identify simple tools
 - Discover that simple machines change force to make work easier
5. Exploring Magnets
 - Observe magnets attract and repel objects
 - Identify magnet poles and explain how they function
6. Lab: How Can You Compare the Strength of Magnets?
 - Record the results of an experiment in a bar graph
7. Unit Review
 - Review simple machines, forces, and movement
8. Unit Test

6. Using Energy

1. Heat
 - Recognize that the sun supplies heat and energy to Earth
2. Inquiry Skill: Measure
 - Measure and compare temperatures by using thermometers

3. Sound
 - Discover how different sounds are produced
 - Describe the volume of pitch and sounds
4. Light
 - Identify the composition and properties of light
5. Lab: How Does Sunlight Affect Temperature?
 - Compare how sunlight affects the temperature of light and dark objects
6. Exploring Electricity
 - Identify forms of electricity and their uses
7. Unit Review
 - Review types of energy
8. Unit Test