

ROBERTSON COUNTY BOARD OF EDUCATION

MASTERY GUIDE, 2004

FOURTH GRADE

FIRST NINE WEEKS

SCIENCE

Scientific Method

Continue to develop the students' use and understanding of the scientific method.

1. Problem
2. Hypothesis
3. Materials
4. Procedure
5. Data – use graphs, charts, tables
6. Results
7. Conclusion

Structure and Properties of Matter:

- 4.12.1a. Describe and compare observations made of objects using the naked eye, magnifying glass and microscope.
- 4.12.1b. Describe matter by its observable physical properties (i.e., color, shape, texture, weight, volume, length).
- 4.12.2 Describe how various types of matter change their state.

Interactions of Matter

- 4.13.1 Identify conditions associated with a physical change.

Forces and Motion

- 4.11.1 Describe how gravitational forces operate in nature.
- 4.11.2a. Explain how speed affects the distance traveled.
- 4.11.2b. Recognize simple machines (e.g., inclined plane, pulley, lever).
- 4.11.3 Identify factors that affect the amount of friction.

SECOND NINE WEEKS

SCIENCE

Scientific Method

Continue to develop the students' use and understanding of the scientific method.

1. Problem
2. Hypothesis
3. Materials
4. Procedure
5. Data – use graphs, charts, tables
6. Results
7. Conclusion

Energy

- 4.14.1 Identify different forms of energy (e.g., mechanical, heat).
- 4.14.2a. Describe how light behaves when it strikes different surfaces.
- 4.14.2b. Explain how the volume and pitch of sound are controlled.
- 4.14.4a. Construct and explain a simple electrical circuit.
- 4.14.4b. Categorize materials as conductors or insulators.

Earth Resources

- 4.10.1 Classify earth materials according to their use.
- 4.10.2 Identify the different components of soil.
- 4.10.3 Identify renewable and non-renewable resources.

Biological Change

- 4.6.1 Examine fossils and explain how they provide information about the types of organisms that lived in the past.

Earth Features

- 4.9.1 Observe and describe how wind and water change the earth's geological features.
- 4.9.2 Identify the earth's layers.

Earth and Its Place in the Universe

- 4.7.1 Identify and order the planets in the solar system by their distance from the sun.
- 4.7.2a. Recognize that the length and position of a shadow is related to the position of the sun.
- 4.7.2b. Demonstrate how the earth rotates and revolves.
- 4.7.2c. Simulate the changing shape of the moon.

THIRD NINE WEEKS

SCIENCE

Scientific Method

Continue to develop the students' use and understanding of the scientific method.

1. Problem
2. Hypothesis
3. Materials
4. Procedure
5. Data – use graphs, charts, tables
6. Results
7. Conclusion

Atmospheric Cycles

- 4.8.1 Identify and use the proper tools to measure atmospheric conditions (i.e., barometer, thermometer, anemometer, rain gauge).
- 4.8.2 Describe how oceans affect weather and climate.

FOURTH NINE WEEKS

SCIENCE

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Cell Structure and Function

- 4.1.1 Examine a variety of plant and animal cells.

Interactions Between Living Things and Their Environment

- 4.2.1 Examine and relate how plants and animals interact with each other and their environment.
- 4.2.2 Provide evidence and give examples of environmental changes caused by living things.
- 4.6.2 Identify certain animal and plant populations as thriving, threatened, endangered, or extinct (e.g., elephants, sea turtles, dodo bird, dinosaur).

Food Production and Energy for Life

- 4.3.1 Explain that animals must obtain and use food for energy.
- 4.3.2 Compare how specific animals obtain oxygen (e.g., gills, lungs).

Diversity and Adaptation Among Living Things

- 4.5.1 Classify animals, by type, according to their characteristics.

Heredity and Reproduction

- 4.4.1 Compare the traits of offspring with those of the parent.
- 4.4.3 Describe the life cycle of an animal (i.e., frog, mealworm).