

ROBERTSON COUNTY BOARD OF EDUCATION

MASTERY GUIDE

SEVENTH GRADE

SCIENCE

FIRST NINE WEEKS

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

Cell Structure and Function

- 7.1.1 Design and construct a hierarchy among cells, tissues, organs, and systems.
- 7.1.2 Examine major plant and animal cell organelles and identify their functions.
- 7.1.3 Sequence a series of diagrams depicting the stages of cell division in plant and animal cells.
- 7.1.4a. Predict how plant cells will behave in different solutions.
- 7.1.4b. Design models to illustrate how materials move between cells and their environment.

SECOND NINE WEEKS

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

Food Production and Energy for Life

- 7.3.2a. Compare and contrast photosynthesis and respiration.
- 7.3.2b. Relate the processes of photosynthesis and respiration to appropriate cellular organelles.
- 7.3.3 Diagram and explain how oxygen and carbon dioxide are exchanged between living things and their environment.

Heredity and Reproduction

- 7.4.1a. Determine if an organism reproduces sexually or asexually.
- 7.4.1b. Recognize that genetic information is passed from parent to offspring during reproduction.

THIRD NINE WEEKS

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

Physical Science – Structure and Properties of Matter

- 7.12.1 Differentiate among elements, compounds, and mixtures.
- 7.12.1a. Describe the particle arrangement associated with different states of matter.
- 7.12.1b. Identify the mass, volume, density, boiling point, melting point, and solubility of a given substance.
- 7.12.1c. Measure and / or calculate the mass, volume, density, and temperature of a given substance.
- 7.12.2 Obtain information about an element with the aid of a periodic table.

FOURTH NINE WEEKS

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

Earth and Space Science: Atmospheric Cycles

- 7.8.1 Explain how conditions, such as the amount of precipitation, temperature, and wind speed affect the water cycle.
- 7.8.2 Record and analyze meteorological data to predict weather patterns.
- 7.8.3a. Use diagrams to demonstrate how atmospheric winds and ocean currents affect weather and climate.
- 7.8.3b. Explain the impact of catastrophic events on climate (e.g., volcanic eruption).
- 7.8.4 Research careers related to meteorology.