Science
Grade 2
Essentials of the Curriculum
Botetourt County Public Schools

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STUDENT LEARNING GOALS FOR SCIENCE

The student will

- investigate the characteristics of magnets.
- be introduced to the idea of living systems.
- learn about the interdependence of living and non-living things.
- investigate and understand the states of matter and how matter can change.
- explore the concept of change through life cycles and weather patterns.
- understand seasonal effects on plants and animals.
- understand that plants produce useful products and provide benefits in nature

LEARNING/ THINKING STUDY SKILLS

Applying standard grammar and usage
Classifying
Comparing and contrasting
Creating hypotheses
Distinguishing between fact and opinion
Drawing conclusions
Following directions
Formulating questions
Increasing vocabulary
Listening
Managing time
Measuring
Observing
Paraphrasing
Participating in group activities
Predicting outcomes
Proofreading
Reading critically
Recognizing cause and effect
Recognizing main idea and details
Reporting
Revising
Sequencing
Solving problems
Speaking
Taking tests
Using resources
Using technology
Writing

INSTRUCTION: The following concepts will receive a priority of instructional time so that students can successfully progress to the next level of learning.

INVESTIGATE: Use scientific techniques and procedures to reinforce basic concepts and to expand students' abilities and interests.

Scientific Procedures	Process Skills	Computation and Measurement	Hands-On Experiences	Technology
Conduct investigations Use scientific method Use materials in a safe manner Identify equipment	Observe Identify Classify Communicate Describe Sequence Infer Predict Interpret	Use instruments to measure Graphing	Construct/Interpret models Use collaborative/ cooperative groups Incorporate field work Conduct investigations	Collect and analyze data Search and retrieve information (may include) Computers Software Television-VCR Video Camera Digital Camera

UNDERSTAND: Recall, explain, analyze, synthesize, and make judgments about concepts and facts.

Knowledge of Concepts and Facts	Conceptual Themes	Problem Solving Strategies	Technology
Magnetism Properties of solids, liquids and gases Changes in matter from one state to another Life Cycle changes in plants and animals Interdependence of living and non-living things Effects of weather and seasonal changes on plants and animals Plants as useful products	Scientific investigation, reasoning and logic Force, motion, and energy Matter Life Processes Living Systems Interrelationships in Earth/Space Systems Patterns, cycles, and change Resources	Identify the problem Generate alternatives Weigh advantages and disadvantages Make informed decisions Communicate results	Communicate, interpret, and analyze information using: Word processing Database Multimedia Telecommunications

APPLY: Relate learned concepts and skills to real life experiences.

Decision Making	Math Analyses	Technology
Use problem solving strategies to make responsible choices Exhibit scientific values and attitudes in academic, social and work environments	Select appropriate mathematical processes to solve real life problems	Apply technologies to strategies for problem solving and critical thinking

CONNECTIONS: The following activities are examples of how this subject can connect knowledge across the disciplines.

Language Arts – Create science journals to make predictions, record observations, and draw conclusions.
Mathematics – Measure and record plant growth.
Social Studies – Describe the effect of weather conditions on people and their environments such as diet, dress, and activity.
Fine Arts – Create artwork to illustrate concepts, draw and label Interactive Notebooks.
Health and Physical Education – Recognize certain plants as healthy food choices.

Note: This summary reflects the major areas of content which most students in Botetourt County Public Schools learn at this level. 2014

Key Vocabulary and Definitions:

Adapt – To change; to fit new uses; to adjust

Attract – To draw to itself by physical force

Condensation – The conversion of water from the vapor state to a denser liquid or solid

Dormancy – Adverse weather conditions slow growth and development of plants

Drought – A long period of dry weather; prolonged lack of rainfall

Erosion – The process by which the products of weathering are moved from place to place

Evaporate – To be changed from a liquid or solid into a vapor/gas

Freeze – To change into a solid state by cold

Gas – State of matter that moves about easily and independently

Habitat – The area or region in which an animal or plant naturally lives or grows

Hibernate – To spend the winter in an inactive state

Liquid – State of matter that has the ability to move about freely within a given area and can take on the shape of a container

Magnetic – Having the power to attract or repel

Mass – A measure of an amount of matter

Matter – Anything that has mass and takes up space

Migrate – To move from one region or climate to another

Precipitation – Any form of water that falls to earth such as rain, hail, or snow

Repel – To push away or force apart

Seeds – Any part of a plant from which a new plant will grow

Solid – State of matter that has shape and hardness

System – The interactions between living things and nonliving surroundings.

Temperature – Degree of heat or coldness of a substance as measured by a thermometer

Volume – The measure of the amount of space occupied by matter

Weathering – The breaking down of rocks.

Related Literature:

Fiction	Non-Fiction
Wind by Ron Bacon	The Cloud Book by Tomie dePaola
Cats, Hats, Socks and Mittens by Louise Borden	Seasons of Arnold's Apple Tree by Gail Gibbons
The Tiny Seed by Eric Carle	From Seed to Plant by Gail Gibbons
A River Ran Wild by Lynne Cherry	All About Seeds by Susan Kuchalla
The Magic School Bus Inside a Hurricane by Janna Cole	What Will the Weather Be Like Today? by Paul Rogers
Miss Rumphius by Barbara Cooney	Seeds and More Seeds by Millicent Selsam
Sleepy Bear by Lydia Dabcovich	
The Reason For a Flower by Ruth Heller	