October 2024

Wilson Area School District
Planned Course Guide

Title of planned course: Third Grade Science

Subject Area: Science

Grade Level: Third Grade

Course Description: The science curriculum will allow students to be young scientists and explore their world through a variety of studies. Students will gain an understanding of systems:
1. Physical Science by investigating motion and forces and electricity and magnetism
2. Earth Science by investigating weather and climate
3. Life Science by investigating life cycles and traits, adaptations and survival, and fossil evidence

Time/Credit for this Course: One Full Academic Year

Curriculum Writing Committee: Amy Carlin and Tracey Silfies

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Curriculum Map

1st and 2nd Marking Periods:

Physical Science: 50 days
- Topic 1- Motion and Forces
- Topic 2- Electricity and Magnetism

Earth Science: 52 days
- Topic 3- Weather
- Topic 4- Climate

3rd and 4th Marking Periods:

Life Science: 78 days
- Topic 5- Life Cycles and Traits
- Topic 6- Adaptations and Survival
- Topic 7- Fossil Evidence

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Wilson Area School District
Planned Course Materials

Course Title: Third Grade Science

Textbook: Elevate Science

Supplemental Books:
- www.savvasrealize.com
- Phenomena Readers

Teacher Resources:
- Teacher Edition
- Lab Kits
- www.savvasrealize.com
- Professional Development Videos

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Curriculum Scope & Sequence

Planned Course: Third Grade Science

Unit: Physical Science
Topic 1- Motion and Forces
Topic 2- Electricity and Magnetism

Time frame: about 50 days

State Standards: Physical Science: Motion and Stability: Forces and Interactions

- 3.2.3.B Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object
- 3.2.3.A Make and communicate observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion
- 3.2.3. C Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other
- 3.2.3.D Define a simple design problem that can be solved by applying scientific ideas about magnets

State Standards: Technology & Engineering

- 3.5.3-5.D Predict how certain aspects of their daily lives would be different without given technologies
- 3.5.3-5.H Determine factors that influence changes in a society's technological systems or infrastructure.
- 3.5.3-5.I Design solutions by safely using tools, materials, and skills.
- 3.5.3-5.L Demonstrate how tool and machines extend human capabilities, such as holding, lifting, carrying, fastening, separating, and computing
- 3.5.3-5.HH Differentiate between the role of scientists, engineers, technologists, and others in creating and maintaining technological systems.

Essential content/objectives: At end of the unit, students will be able to:

- Observe and measure an object's motion
- Use patterns to predict future motion
- Identify the forces acting on an object
- Use evidence to explain how balanced and unbalanced forces affect an object's motion
- Plan and conduct an investigation
- Relate the cause and effect relationships of electric forces between objects
- Describe factors that affect magnetic forces between objects

Core Activities: Students will complete/participate in the following:

- Topic 1- Motion and Forces Lessons 1-4
  - Lesson 1- Motion
  - Lesson 2- Patterns in Motion
  - Lesson 3- Forces and Motion
  - Lesson 4- Balanced and Unbalanced Forces
- Topic 2- Electricity and Magnetism Lessons 1-2
  - Lesson 1- Electric Forces
  - Lesson 2- Magnetic Forces
- uConnectLabs

  - Topic 1- How do things move?
  - Topic 2- How can you move objects without touching them?
- Quest activities
  - Topic 1- Pinball Wizard
  - Topic 2- Weigh to Go
- uInvestigate Labs
- uDemonstrate Labs
- Virtual Labs
- Digital/Technology resources on www.savvasrealize.com

Extensions:
- uEngineer It
- Literacy Connections
- eText: Phenomena Reader and STEM Engineering Reader
- Math Connections
- Career Connection
- Online games
- STEM activities
- Enrichment activities

Remediation:
- Reteach core skills
- Differentiated Instruction section in teacher's manual
- Remediation worksheets

Instructional Methods:
- Explicit Instruction
- Scaffolded Questions in teacher's manual
- Vocabulary
- Hands-on activities and labs
- Think-pair-share
- Online videos, resources, and learning games

Materials & Resources:
- Teacher Manual
- Student textbook
- Lab materials
- Chromebooks
- Supplemental materials and worksheets
- SAVVAS website

Assessments:
- Teacher observations during whole group instruction and student independent work
- Online Lesson Quizzes
- Lesson Checks in student textbook
- Topic Assessment (online and/or student textbook)
- Performance-Based Assessment: uDemonstrate Lab

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Curriculum Scope & Sequence

Planned Course: Third Grade Science

Unit: Earth Science
Topic 3- Weather
Topic 4- Climate

Time frame: about 52 days

State Standards: *Earth and Space Sciences:*
- Earth's Systems
  - 3.3.3.A Represent data in tables and graphical displays to describe typical weather conditions
    expected during a particular season
  - 3.3.3.B Obtain and combine information to describe climates in different regions of the world.
- Earth and Human Activity
  - 3.3.3.C Make a claim supported by evidence about the merit of a design solution that reduces the impacts of a weather-related hazard

State Standards: Technology & Engineering
- 3.5.3-5.H Determine factors that influence changes in a society's technological systems or infrastructure.
- 3.5.3-5.I Design solutions by safely using tools, materials, and skills.
- 3.5.3-5.V Interpret how good design improves the human condition.
- 3.5.3-5.W Describe the properties of different materials.
- 3.5.3-5.Z Create a new product that improves someone's life.
- 3.5.3-5.HH Differentiate between the role of scientists, engineers, technologists, and others in creating and maintaining technological systems.

Essential content/objectives: At end of the unit, students will be able to:
- Explain how water affects weather
- Describe the weather conditions for each season
- Demonstrate how to stay safe in severe weather
- Describe some factors that affect climate
- Describe ways in which climates can change
- Explain how the global climate is changing
- Describe climates in different parts of the world

Core Activities: Students will complete/participate in the following:
- Topic 3- Weather Lessons 1-3
  - Lesson 1- Water and Weather
  - Lesson 2- Seasons Weather Changes
  - Lesson 3- Weather Hazards
  -
- Topic 4 Electricity and Magnetism Lessons 1-3
  - Lesson 1- Climates
  - Lesson 2- Climate Change
  - Lesson 3- World Climates
- uConnectLabs

    - Topic 3- How can temperature damage a house?
    - Topic 4- How does temperature change on a mountain?
- Quest activities
    - Topic 3- Hold on to Your Roof!
    - Topic 4- Climates on Location
- uInvestigate Labs
- uDemonstrate Labs
- Virtual Labs
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Curriculum Scope & Sequence

Planned Course: Third Grade Science

Unit: Life Science
Topic 5- Life Cycles and Traits
Topic 6- Adaptations and Survival
Topic 7- Fossil Evidence

Time frame: about 78 days

State Standard: *Life Science*

- ***From Molecules to Organisms: Structures and Processes***
  - 3.1.3.A Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death
- ***Ecosystems: Interactions, Energy, and Dynamics***
  - 3.1.3.B Construct an argument that some animals form groups that help members survive.
- ***Heredity: Inheritance and Variation of Traits***
  - 3.1.3.C Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms
  - 3.1.3.D Use evidence to support the explanation that traits can be influenced by the environment
- ***Biological Evolution: Unity and Diversity***
  - 3.1.3.E Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago
  - 3.1.3.F Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing
  - 3.1.3.G Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all
  - 3.1.3.H Make a claim supported by evidence about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change

State Standards: Environmental Literacy & Sustainability

- 3.4.3-5.A Analyze how living organisms, including humans, affect the environment in which they live, and how their environment affects them.
- 3.4.3-5.B Make a claim about the environmental and social impacts of design solutions and civic actions, including their own actions.
- 3.4.3-5.C Examine ways you influence your local environment and community by collecting and displaying data.
- 3.4.3-5.D Develop a model to demonstrate how local environmental issues are connected to larger local environment and human systems.
- 3.4.3-5.E Construct an argument to support whether action is needed on a selected environmental issue and propose possible solutions.
- 3.4.3-5.F Critique ways that people depend on and change the environment.

State Standards: Technology & Engineering

- 3.5.3-5.G Describe the helpful and harmful effects of technology
- 3.5.3-5.I Design solutions by safely using tools, materials, and skills.

- 3.5.3-5.J Explain how technologies are developed or adapted when individual or societal needs and wants change.
- 3.5.3-5.N Identify why a product or system is not working properly.
- 3.5.3-5.FF Compare how things found in nature differ from things that are human-made, noting differences and similarities in how they are produced and used.
- 3.5.3-5.GG Describe the unique relationship between science and technology, and how the natural world can contribute to the human-made world to foster innovation.
- 3.5.3-5.HH Differentiate between the role of scientists, engineers, technologists, and others in creating and maintaining technological systems.

Essential content/objectives: At end of the unit, students will be able to:

- Describe how all life cycles follow the same pattern
- Explain that living things inherit many characteristics from their parents
- Provide evidence showing that traits vary in a group of similar organisms
- Relate the characteristics of a plant or animal to how well it can survive
- List some animals that form groups to help them survive
- Explain how plants and animals respond to changes in the environment
- Describe what a fossil is
- Describe some ways that fossils form
- Use fossil data to give evidence of organisms and environments that existed long ago
- Use fossil data to argue how some living things have responded to climate changes

Core Activities: Students will complete/participate in the following:

- Topic 5 Life Cycles and Traits Lessons 1-3
  - Lesson 1- Life Cycles
  - Lesson 2- Inherited Traits
  - Lesson 3- Traits Influenced by the Environment
- Topic 6 Adaptations and Survival Lessons 1-3
  - Lesson 1- Survival of Individuals
  - Lesson 2- Survival of Groups
  - Lesson 3- Survival When Environments Change
- Topic 7 Fossil Evidence Lessons 1-3
  - Lesson 1- Fossils
  - Lesson 2- Fossils as a Record
  - Lesson 3- Living Things and Climate Change
- uConnectLabs
  - Topic 5- Which seeds are from which plant?
  - Topic 6- What clues do beak shapes give about birds?
  - Topic 7- What can a fossil tell you?
- Quest activities
  - Topic 5- Design a Mystery Creature
  - Topic 6- Help the Pond Organisms Survive
  - Topic 7- Written in Stone
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