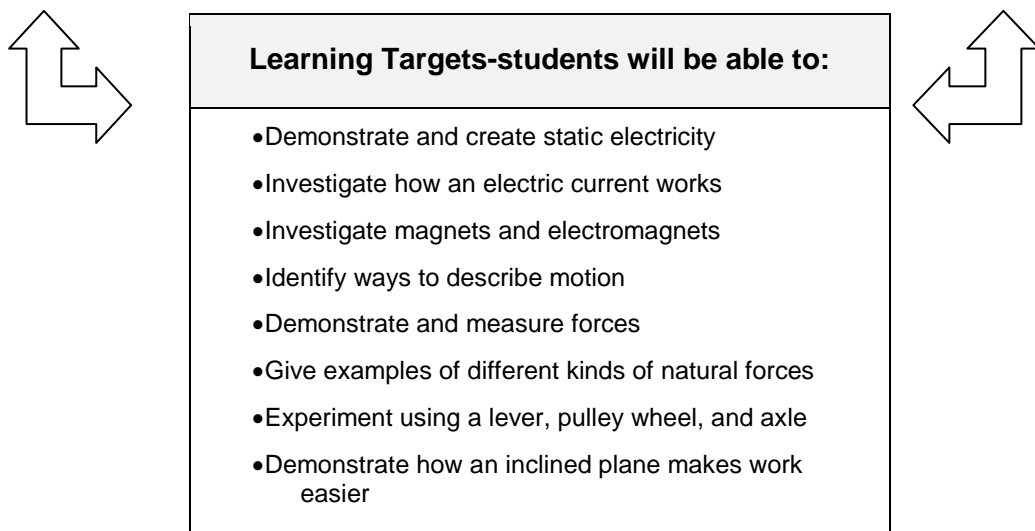
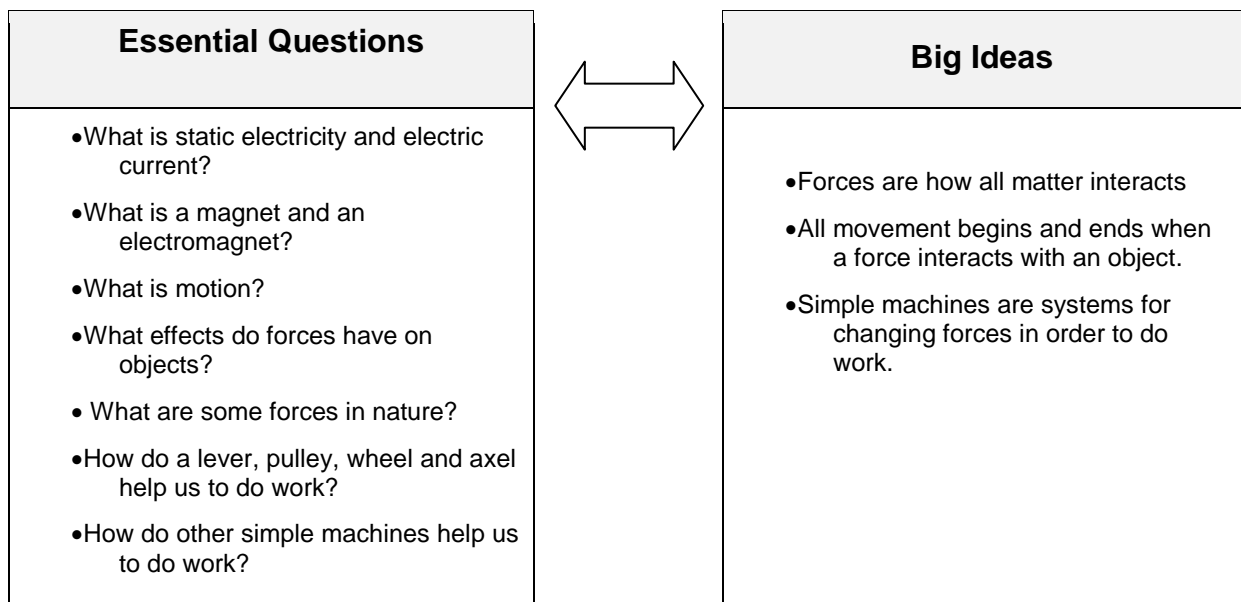


Grade 4 Science

Unit Title	4.1 Forces and Motion
Time frame	1 marking period
21 st Century Themes	Critical Thinking and Problem Solving Communication and Collaboration ICT (Information, Communications and Technology) Literacy Flexibility and Adaptability
Interdisciplinary focus and technology integration	Technology: Use the Internet Art: Diagrams, models and drawings LA. Read for main idea and specific info Math: Measurement



Assessment

- Formal and Informal Teacher Observations
- Tests / Quizzes
- Diagrams and Models
- Student Projects and Reports
- Experiments

Differentiation

- Hands-On Activities
- Kinesthetic Activities
- Re-teach and Enrichment Activities
- Cooperative Learning (Flexible Grouping)
- Peer Tutoring
- Tiered Activities and Assessments

Content Standards

5.1 Science Practices: All students will understand that science is both a body of knowledge and an evidence-based, model-building enterprise that continually extends, refines, and revises knowledge. The four Science Practices strands encompass the knowledge and reasoning skills that students must acquire to be proficient in science.

5.2 Physical Science: All students will understand that physical science principles, including fundamental ideas about matter, energy, and motion, are powerful conceptual tools for making sense of phenomena in physical, living, and Earth systems science.

C. Forms of Energy: Knowing the characteristics of familiar forms of energy, including potential and kinetic energy, is useful in coming to the understanding that, for the most part, the natural world can be explained and is predictable.

D. Energy Transfer and Conservation: The conservation of energy can be demonstrated by keeping track of familiar forms of energy as they are transferred from one object to another.

E. Forces and Motion: It takes energy to change the motion of objects. The energy change is understood in terms of forces.

Approaches to Learning

- Observe
- Analyze
- Inquire

Learning Experiences and Suggested Activities

- Notes and homework
- Cumulative review exercises

Teaching Strategies

- Direct Instruction
- Differentiated Instruction

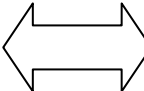
- Classroom experiments
- Design and build a simple series circuit
- Construct a simple compass and electromagnet
- Measure forces needed to move an object
- Experiment using a lever, pulley and a wheel and axel
- Create a simple machine

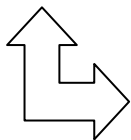
- Interdisciplinary Activities
- Cooperative Learning Activities
- Reinforcement and Remediation

Resources

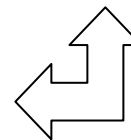
- Equipment
- Textbook/ Trade books
- Handouts
- Posters/ Pictures
- Videos
- Internet
- Models

Grade 4 Science

Unit Title	4.2 Plants	
Time frame	1 Marking period	
21 st Century Themes	Critical Thinking and Problem Solving Communication and Collaboration Flexibility and Adaptability	
Interdisciplinary focus and technology integration	Technology: Use the Internet Art: Diagrams and pictures LA: Reading for main idea or specific info Math : Measurement	
Essential Questions		Big Ideas
<ul style="list-style-type: none"> •What do plants need to live? •How do leaves, stems and roots help plants live? •How do plants reproduce? •What are ecosystems? 		<ul style="list-style-type: none"> •All plants and their parts have unique functions and life cycles • Plants can be found in many different ecosystems.



Learning Targets-students will be able to:	
<ul style="list-style-type: none"> •Identify the four basic needs of plants and how they make food • Give examples of plant adaptations • Describe the way plants reproduce •Explain how living things in ecosystems are organized 	



Assessment
<ul style="list-style-type: none"> •Formal and Informal Teacher Observations •Tests / Quizzes • Diagrams and models •Experiments •Projects
Differentiation

- Hands-On Activities
- Kinesthetic Activities
- Re-teach and Enrichment Activities
- Cooperative Learning (Flexible Grouping)
- Peer Tutoring
- Tiered Activities

Content Standards

5.1 Science Practices: All students will understand that science is both a body of knowledge and an evidence-based, model-building enterprise that continually extends, refines, and revises knowledge. The four Science Practices strands encompass the knowledge and reasoning skills that students must acquire to be proficient in science.

5.3 Life Science: All students will understand that life science principles are powerful conceptual tools for making sense of the complexity, diversity, and interconnectedness of life on Earth. Order in natural systems arises in accordance with rules that govern the physical world, and the order of natural systems can be modeled and predicted through the use of mathematics.

A. Organization and Development: Living organisms are composed of cellular units (structures) that carry out functions required for life. Cellular units are composed of molecules, which also carry out biological functions.

C. Interdependence: All animals and most plants depend on both other organisms and their environment to meet their basic needs.

D. Heredity and Reproduction: Organisms reproduce, develop, and have predictable life cycles. Organisms contain genetic information that influences their traits, and they pass this on to their offspring during reproduction.

E. Evolution and Diversity: Sometimes, differences between organisms of the same kind provide advantages for surviving and reproducing in different environments. These selective differences may lead to dramatic changes in characteristics of organisms in a population over extremely long periods of time.

Approaches to Learning

- Observe
- Analyze
- Inquiry

Learning Experiences and

Suggested Activities

- Notes and homework
- Cumulative review exercises
- Experiments
- Students will examine plants to identify parts and illustrate

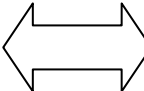
Teaching Strategies

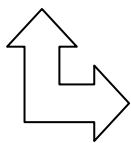
- Direct Instruction
- Differentiated Instruction
- Interdisciplinary Activities
- Cooperative Learning Activities
- Reinforcement and Remediation

Resources

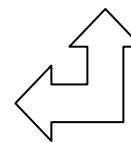
- Internet
- Videos
- Textbook/ Tradebooks
- Handouts
- Pictures/ Posters
- Equipment

Grade 4 Science

Unit Title	4.3 Body Systems	
Time frame	1 Marking Period	
21 st Century Themes	Critical Thinking and Problem Solving Communication and Collaboration ICT (Information, Communications and Technology) Literacy Flexibility and Adaptability	
Interdisciplinary focus and technology integration	Technology: Internet Art: Diagram, Models, Drawings Language Arts: Make a book explaining a body system	
Essential Questions		Big Ideas
•What are the body systems and their functions?		The 7 body systems each play an essential role in keeping the human body healthy



Learning Targets-students will be able to;
<ul style="list-style-type: none"> •Name and describe the function each of the body systems •Identify the parts of each system •Describe the interaction of systems involved in carrying out daily activities



Assessment
<ul style="list-style-type: none"> •Formal and Informal Teacher Observations •Tests / Quizzes •Diagrams and Models •Student Projects/Reports •Experiments
Differentiation
<ul style="list-style-type: none"> • Hands-On Activities • Kinesthetic Activities • Re-teach and Enrichment Activities • Cooperative Learning (Flexible Grouping)

- Peer Tutoring
- Tiered Activities and Assessments

Content Standards

5.1 Science Practices: All students will understand that science is both a body of knowledge and an evidence-based, model-building enterprise that continually extends, refines, and revises knowledge. The four Science Practices strands encompass the knowledge and reasoning skills that students must acquire to be proficient in science.

5.3 Life Science: All students will understand that life science principles are powerful conceptual tools for making sense of the complexity, diversity, and interconnectedness of life on Earth. Order in natural systems arises in accordance with rules that govern the physical world, and the order of natural systems can be modeled and predicted through the use of mathematics.

A. Organization and Development: Living organisms are composed of cellular units (structures) that carry out functions required for life. Cellular units are composed of molecules, which also carry out biological functions.

Approaches to Learning

- Observe
- Analyze
- Inquire

Learning Experiences and Suggested Activities

- Experiments
- Cumulative review exercises
- Students will create a diagram or model of a body system
- Notes and Homework

Teaching Strategies

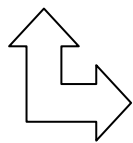
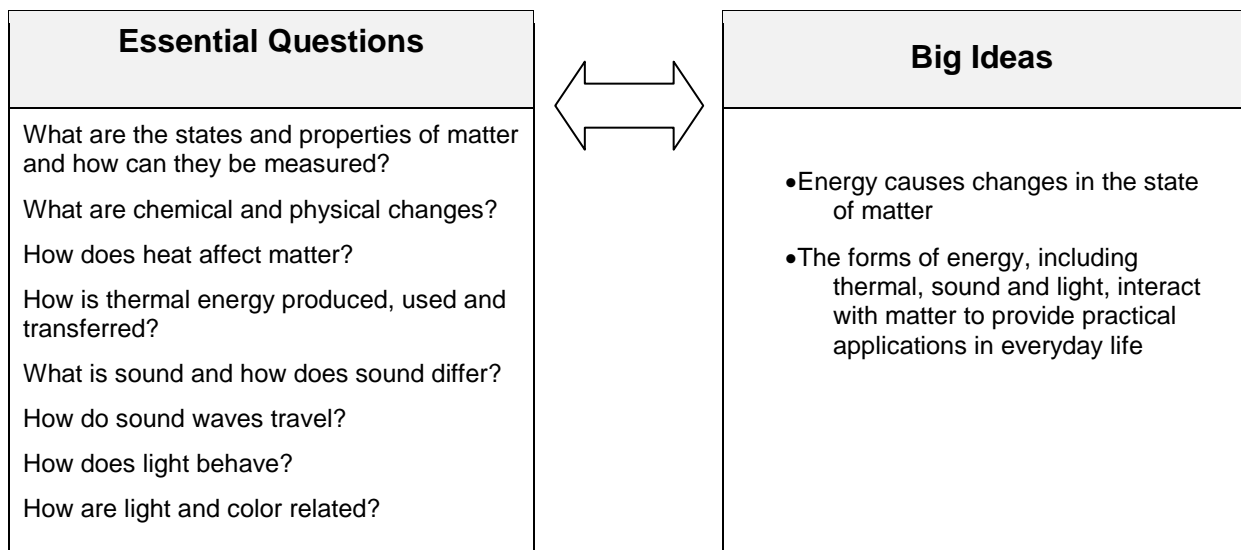
- Direct Instruction
- Differentiated Instruction
- Interdisciplinary Activities
- Cooperative Learning Activities
- Reinforcement and Remediation

Resources

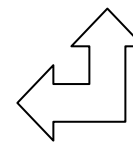
- Internet
- Videos
- Textbook Tradebooks
- Handouts
- Pictures/Posters/Models
- Equipment

Grade 4 Science

Unit Title	4.4 Matter and Energy
Time Frame	1 Marking Period
21 st Century Themes	Critical Thinking and Problem Solving Communication and Collaboration ICT (Information, communications, and Technology) Literacy Flexibility and Adaptability
Interdisciplinary focus and technology integration	Technology: Use the Internet Art: Create diagrams and pictures LA. Read for main idea and specific info Math: Measurement



Learning Targets-students will be able to:
<ul style="list-style-type: none"> •Conclude that matter has three forms •Conduct tests, compare data, and draw conclusions about states of matter •Conduct tests, compare data and draw conclusions about mass, volume and density •Conduct tests, compare data and draw conclusions about the buoyancy of different materials •Identify and describe a physical and chemical change •Identify thermal energy and the difference between it and temperature •Identify conduction as a physical property of matter •Explain that adding or removing heat can change a



state of matter

- Recognize that thermal energy can be transferred from one object to another and identify how it is produced and used
- Identify the energy that comes from the sun
- Recognize that sound energy can be carried from place to place by waves and observe how they differ
- Recognize that sound travels at different speeds through different media

Assessment

- Formal and Informal Teacher Observations
- Tests / Quizzes
- Diagrams and Models
- Projects/Reports
- Experiments

Differentiation

- Hands-On Activities
- Kinesthetic Activities
- Re-teach and Enrichment Activities
- Cooperative Learning (Flexible Grouping)
- Peer Tutoring
- Tiered Activities and Assessments

Content Standards

5.1 Science Practices: All students will understand that science is both a body of knowledge and an evidence-based, model-building enterprise that continually extends, refines, and revises knowledge. The four Science Practices strands encompass the knowledge and reasoning skills that students must acquire to be proficient in science.

5.2 Physical Science: All students will understand that physical science principles, including fundamental ideas about matter, energy, and motion, are powerful conceptual tools for making sense of phenomena in physical, living, and Earth systems science.

A. Properties of Matter: All objects and substances in the natural world are composed of matter. Matter has two fundamental properties: matter takes up space, and matter has inertia.

B. Changes in Matter: Substances can undergo physical or chemical changes to form new substances. Each change involves energy.

C. Forms of Energy: Knowing the characteristics of familiar forms of energy, including potential and kinetic energy, is useful in coming to the understanding that, for the most part, the natural world can be explained and is predictable.

Approaches to Learning

- Observe
- Analyze
- Inquire

Learning Experiences and Suggested Activities

- Notes and homework
- Cumulative review exercises
- Hands-on activities and use of manipulatives
- Problem solving activities
- Observe sounds made by different lengths of vibrating rubber bands.
- Measure changes in a balloon as it is heated.
- Create a solar cooker.

Teaching Strategies

- Direct Instruction
- Differentiated Instruction
- Interdisciplinary Activities
- Cooperative Learning Activities
- Reinforcement and Remediation

Resources

- Equipment
- Textbook/ Trade books
- Handouts
- Posters/ Pictures
- Videos
- Internet