

Brigantine Public School District

Curriculum Template

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS**Curriculum Design****Content Area: Science****Course Title: General Science****Grade Level: 1****Unit 1: Living Things****8 Weeks****Unit 2: The Food Chain****8 Weeks****Unit 3: Changes in Nature****8 Weeks****Unit 4: Forces and Motion****8 Weeks****Unit 5: Objects in the Universe****8 Weeks****Date Created: July 2011****Board Approved on: August 25, 2011**

Unit 1 Overview

Content Area: Life Science

Unit 1 Title: Living Things

Grade Level: 1

Unit Summary

- Differentiate between living & non-living.
- Sort characteristics of living & non-living things.
- Explore systems (in the context of parts and wholes) to understand that when parts are put together, they can do things that they couldn't do by themselves.

Primary interdisciplinary connections: Math, Language Arts, and Technology

21st century themes: 9.1- This unit infuses the 21st Century Life & Careers standard 9.1, strands A-D. These strands include: Critical Thinking and Problem Solving; Creativity and Innovation; Collaboration, Teamwork and Leadership and Cross Cultural Understanding and Interpersonal Communication.

Learning Targets

Standards:

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.

5.1. A.B.C.D. Science Practices This unit will infuse the four strands of the Science Practices standard. These focus on understanding scientific explanations; generating scientific evidence through active investigation; reflecting on scientific knowledge; and participating productively in science.

Content Statements

- Living and non-living things are made of parts and can be described in terms of the materials they're made of and their physical properties.
- Living organisms need and get food and water from the environment, reproduce (make more of their own) and grow & develop in a predictable way.
- Plants and animals often resemble their parents.
- Organisms have predictable characteristics at different stages of development.
- Variations exist within a group of the same kind of organism.
- Plants and animals have features that help them survive in different environments.

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CPI #	Cumulative Progress Indicator (CPI)
5.2.2.A.1	Sort and describe objects based on the materials of which they are made and their physical properties.
5.3.2.A.1	Group living and nonliving things according to the characteristics that they share.
5.3.2.D.1	Record the observable characteristics of plants and animals to determine the similarities and differences between parents and their offspring.
5.3.2.D.2	Determine the characteristic changes that occur during the life cycle of plants and animals by examining a variety of species, and distinguish between growth and development.
5.3.2.E.1	Describe similarities and differences in observable traits between parents and offspring.
5.3.2.E.2	Describe how similar structures found in different organisms have similar functions and enable those organisms to survive in different environments.
Unit Essential Questions - How do the properties of materials determine living or non-living? - What do all living things have in common? - How do different animals use similar self-preservation tools and methods? Unit Enduring Understandings - Living things have a variety of observable features that enable them to obtain food to eat, move, grow and reproduce (make more of themselves). - All living things grow and change - Animals survive in the wild using their senses.	
Evidence of Learning	
Suggested Summative Assessment Chapter Tests	
Formative Assessments www.njcccs.org Classroom Application Docs - Hands-on activities - Performance based assessments - Labs - Projects - Teacher observation	

Unit 2 Overview	
Content Area: Life Science	
Unit 2 Title: The Food Chain	
Grade Level: 1	
Unit Summary - Food is required for energy and building cellular materials. - Organisms have different ways of obtaining food, and some organisms obtain their food directly from other organisms. - All animals and plants depend on both other organisms and their environment to meet their basic needs. Primary interdisciplinary connections: Math, Language Arts, and Technology 21st century themes: 9.1- This unit infuses the 21st Century Life & Careers standard 9.1, strands A-D. These strands include: Critical Thinking and Problem Solving; Creativity and Innovation; Collaboration, Teamwork and Leadership and Cross Cultural Understanding and Interpersonal Communication.	
Learning Targets	
Standards: 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. 5.1. A.B.C.D. Science Practices This unit will infuse the four strands of the Science Practices standard. These focus on understanding scientific explanations; generating scientific evidence through active investigation; reflecting on scientific knowledge; and participating productively in science.	
Content Statements - A source of energy is needed for all organisms to stay alive and grow. - Both plants and animals need to take in water, and animals need to take in food. - Animals have various ways of obtaining food and water. - Nearly all animals drink water or eat foods that contain water. - Organisms interact and are interdependent in various ways	
CPI #	Cumulative Progress Indicator (CPI)
5.3.2.B.1	Describe the requirements for the care of plants and animals related to meeting their energy needs.

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5.3.2.B.2	Compare how different animals obtain food and water.
5.3.2.C.1	Describe the ways in which organisms interact with each other and their habitats in order to meet basic needs.
Unit Essential Questions • How is matter transformed and used as energy in living organisms? • Where do animals get food and water? • How are animals dependent upon one another and plants for food and energy?	Unit Enduring Understandings • All animals need energy to survive. • Animals get food from many different sources. • Animals and plants need water to survive.
Evidence of Learning	
Suggested Summative Assessment Chapter Tests	
Formative Assessments • www.njcccs.org Classroom Application Docs • Hands-on activities • Performance based assessments • Labs • Projects • Teacher observation	

Unit 3 Overview

Content Area: Life Science

Unit 3 Title: Changes in Nature

Grade Level: 1

Unit Summary

- 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.

Primary interdisciplinary connections: Math, Language Arts, and Technology

21st century themes: 9.1- This unit infuses the 21st Century Life & Careers standard 9.1, strands A-D. These strands include: Critical Thinking and Problem Solving; Creativity and Innovation; Collaboration, Teamwork and Leadership and Cross Cultural Understanding and Interpersonal Communication.

Learning Targets

Standards:

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.

5.1. A.B.C.D. Science Practices This unit will infuse the four strands of the Science Practices standard. These focus on understanding scientific explanations; generating scientific evidence through active investigation; reflecting on scientific knowledge; and participating productively in science.

Content Statements

- Living organisms grow and develop in a predictable manner.
- Living organisms reproduce.
- Plants and animals often resemble their parents.
- Organisms have predictable characteristics at different stages of development.

CPI #	Cumulative Progress Indicator (CPI)
5.3.2.A.1	Group living and nonliving things according to the characteristics that they share.
5.3.2.D.1	Record the observable characteristics of plants and animals to determine the similarities and differences between parents and their offspring.
5.3.2.D.2	Determine the characteristic changes that occur during the life cycle of plants and

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	animals by examining a variety of species, and distinguish between growth and development.		
Unit Essential Questions • How do organisms change as they go through their life cycle? • In what ways are organisms of the same kind different from each other? • How does this help them reproduce and survive?	Unit Enduring Understandings • Organisms reproduce, develop and have predictable life cycles. • Organisms pass on some traits to their offspring. • Sometimes differences between organisms of the same kind give advantages in surviving and reproducing in different environments.		
Evidence of Learning			
Suggested Summative Assessment Chapter Tests			
Formative Assessments • www.njcccs.org Classroom Application Docs • Hands-on activities • Performance based assessments • Labs • Projects • Teacher observation			

Unit 4 Overview	
Content Area: Life Science	
Unit 4 Title: Forces and Motion	
Grade Level: 1	
Unit Summary - It takes energy to change the motion of objects. - The energy change is understood in terms of forces. Primary interdisciplinary connections: Math, Language Arts, and Technology 21st century themes: 9.1- This unit infuses the 21st Century Life & Careers standard 9.1, strands A-D. These strands include: Critical Thinking and Problem Solving; Creativity and Innovation; Collaboration, Teamwork and Leadership and Cross Cultural Understanding and Interpersonal Communication.	
Learning Targets	
Standards: 5.2 Physical Science 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. 5.1. A.B.C.D. Science Practices This unit will infuse the four strands of the Science Practices standard. These focus on understanding scientific explanations; generating scientific evidence through active investigation; reflecting on scientific knowledge; and participating productively in science.	
Content Statements - Objects can move in many different ways. - A force is a push or pull. Pushing or pulling can move an object. - The speed an object moves is related to how strongly it is pushed or pulled.	
CPI #	Cumulative Progress Indicator (CPI)
5.2.2.E.1	Investigate and model the various ways that inanimate objects can move.
5.2.2.E.2	Predict an object's relative speed, path, or how far it will travel using various forces and surfaces.
5.2.2.E.3	Distinguish a force that acts by direct contact with an object from a force that can act without direct contact.

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Unit Essential Questions • In what ways can objects move? • What is a force? • What affects the speed at which an object moves?	Unit Enduring Understandings • Objects can move in many different ways. • A force is a push or a pull. • Pushing or pulling can move an object. • Speed of movement is related to the strength of the push or pull that initiated the movement.
Evidence of Learning	
Suggested Summative Assessment Chapter Tests	
Formative Assessments • www.njcccs.org Classroom Application Docs • Hands-on activities • Performance based assessments • Labs • Projects • Teacher observation	

Unit 5 Overview	
Content Area: Life Science	
Unit 5 Title: Objects in the Universe	
Grade Level: 1	
Unit Summary - The Sun will be identified as a star. - The Moon is not a star and can be seen at various times of the day and night. - The Moon appears to be different shapes at different times of the month. Primary interdisciplinary connections: Math, Language Arts, and Technology 21st century themes: 9.1- This unit infuses the 21st Century Life & Careers standard 9.1, strands A-D. These strands include: Critical Thinking and Problem Solving; Creativity and Innovation; Collaboration, Teamwork and Leadership and Cross Cultural Understanding and Interpersonal Communication.	
Learning Targets	
Standards: 5.4 Earth Systems Science Earth operates as a set of complex, dynamic, and interconnected systems, and is part of the all-encompassing system of the universe. 5.1. A.B.C.D. Science Practices This unit will infuse the four strands of the Science Practices standard. These focus on understanding scientific explanations; generating scientific evidence through active investigation; reflecting on scientific knowledge; and participating productively in science.	
Content Statements - The sun is a star that can only be seen during the day. - The moon is not a star and can be seen sometimes at night and sometimes during the day. - The Moon appears to have different shapes on different days.	
CPI #	Cumulative Progress Indicator (CPI)
5.4.2.A.1	Determine a set of general rules describing when the Sun and Moon are visible based on actual sky observations.
Unit Essential Questions - How are the Sun and Moon different? - How are they alike? - How does the Moon change?	Unit Enduring Understandings - The sun is a star but the Moon is not - The Sun can be seen during the day and the Moon can sometimes be seen during the day but mainly at night.

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Evidence of Learning

Suggested Summative Assessment

Chapter Tests

Formative Assessments

- www.njcccs.org Classroom Application Docs
- Hands-on activities
- Performance based assessments
- Labs
- Projects
- Teacher observation