Curriculum Map: 2nd Grade Science

Course: 2 Science Sub-topic: General

Grade(s): 2

Course Description: In second grade science, students will experience three science domains; Life Science, Physical Science, and Earth and Space Science. In each domain, hands on learning opportunities will be provided.

In Life Science students will explore who organisms live, grow, respond to their environment and reproduce. They will learn how organisms interact with their environment and the effects of those interactions. Heredity and characteristics or traits are passed through generations. Students will learn how about evolution and how that directly relates to unity and diversity of life on Earth.

In Physical Science students will explore topics related to energy and matter. Students will learn about the structure, properties, and interactions of matter. Also, how energy is transferred and conserved.

In Earth and Space Science students will learn that Earth is part of the universe. Students will learn how and why the Earth is constantly changing due to a set of interconnected systems within the universe.

Course Textbooks, Workbooks, Materials Citations: textbook

teachers-pay-teachers

science kit

SAS Portal

Moby Max

You Tube

Unit: Life Science

Timeline: Week 1 to 2

Unit Description: Life Cycles and Habitats

Unit Essential Questions: How do organisms interact with their environment and what are the effects of these interactions?

How and do organisms interact with their environment and what are the effects of these interactions?

How are the characteristics of one generation passed to the next? How can individuals of the same species and even siblings have different characteristics?

How can there be so many similarities among organisms yet so many different kinds of plants, animals, and microorganisms?

Unit Big Ideas:

All organisms are made of cells and can be characterized by common aspects of their structure and functioning.

Organisms grow, reproduce, and perpetuate their species by obtaining necessary resources through interdependent relationships with other organisms and physical environment.

Heredity refers to specific mechanisms by which characteristics or traits are passed from one generation to the next via genes, and explains why offspring resembles, but are not identical to, their parents.

Biological evolution explains both the

Unit Materials:

textbook

teachers pay teachers

SAS portal

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Unit Assignments:

Lesson	Objective	Standards	Assessment	Resources
Life Cycles	Describe some plant and animal life cycles. (2-LS4-1)	3.1.4.A, 3.1.4.A.2		
	Explain that plants need sunlight, air, water, space, and nutrients. (2-LS2-1, 2-LS4-1)	3.1.4.B, 3.1.4.B.5		
	Explain that animals need food, oxygen, water, and shelter. (2-LS-2, 2-LS4-1)	3.1.4.C, 3.1.4.C.1		
	Identify ways some animals can help plants reproduce. (2-LS2-2, K-2-ETS1-2)	4.1.4.A		
		4.5.4.D		
		4.2.4.C		
Habitats	Explain that plants and animals get what they need from their habitats. (2-LS4-1)			
	Identify different habitats. (2-LS4-1)	3.1.4.A, 3.1.4.A.2		
	Identify where plants and animals live on land. (2-LS4-1)	3.1.4.B, 3.1.4.B.5		

	Identify where plants and animals live in water. (2-LS4-1)	3.1.4.C, 3.1.4.C.1 4.1.4.A 4.5.4.D 4.2.4.C

Unit Key Terminology & Definitions:

Pollination

Seed dispersal

Soil

Sunlight

minerals

water

environment

survive

biodiversity

microorganisms

needs

organism

exist

This Curriculum Map Unit has no Topics to display

Unit: Physical Science
Timeline: Week 1 to 3

Unit Description: Matter

Unit Essential Questions:

How can one explain the structure, properties, and interactions of matter?

How can one explain and predict interactions between objects within systems?

How is energy transferred and conserved?

How are waves used to transfer energy and information?

Unit Big Ideas:

Matter can be understood in terms of the types of atoms present and the interactions both between and within atoms.

Interactions of objects or systems of objects can be predicted and explained using the concept of energy transfer and conservation.

Waves are a repeating pattern of motion that transfer energy from place to place without overall displacement of matter.

Interactions between any two objects can cause changes in one or both.

Unit Materials:

Text Book

Teacher Pay Teacher

Moby Max

Youtube

Unit Assignments:

Lesson	Objectives	Standards	Assessments	Resource
Matter	Tell the difference between a solid, a liquid, and a gas. (2-PS1-1) Describe matter by its properties. (2-PS1-1) Investigate how the properties of some solids make them useful. (2-PS1-2) Explore different ways matter can change. (2-PS1-1) Explain whether a change caused by heating or cooling matter is reversible or not reversible. (2-PS1-4)	3.2.3.A1 3.2.4.A1 3.2.3.A2 3.2.K.A.1 3.2.1.A.1 3.2.1.A.3		

	Explain that objects can be built using smaller materials. (2-PS1-3)	3.2.2.A.3
	Explain that objects are built using materials that have certain properties. (2-PS1-3)	3.2.3.A.3 3.2.1.A.4

Unit Key Terminology & Definitions:

Classify

Describe

Gas

Liquid

Matter

Patterns

Solid

Weight

Color

Flexibility

Properties

Texture

Investigations

Argument

Boiling

Cause and effect

Evidence

Freezing

Melting

Reverse

Data

Functions

Test

Construct

Design

Engineer

Problem

Solving

Solutions

Disassemble

This Curriculum Map Unit has no Topics to display

Unit: Earth and Space Science

Unit Description:	Earth's Surface and Processes
Unit Essential Questions:	What is the universe, and what is Earth's place in it? How and why is Earth constantly changing? How do Earth's processes and human activities affect each other?
Unit Big Ideas:	The universe is composed of a variety of different objects, which are organized into systems each of which develops according to accepted physical processes and laws. The Earth is a complex and dynamic set of interconnected systems (e.g. geosphere, hydrosphere, atmosphere, biosphere) that interact over a wide range of temporal and spatial scales. The Earth's processes affect and are affected by human activities.

Unit Materials:

Textbook

Teacher Pay Teacher

Moby Max

Youtube

Unit Assignments:

Lesson	Objective	Standards	Assessment	Resources
Earth Changes	Provide evidence that fast changes happen on Earth.	3.3.4.A1		
	Investigate slow changes that happen on Earth.	3.3.3.A1		
	Explain how wind and water can change the shape of the land.	3.3.4.A1		
	Describe how people change the surface of Earth.	3.3.4.A6		
		3.3.3.A4		
		3.3.4A.4		
		3.3.4.A5		
		3.3.3.A5		
		3.3.4.A2		

Unit Key Terminology & Definitions:

Erosion

Weathering

Earth materials

Landform

Geographic

Geological

Lentic

Lotic Map

Pennsylvania features

Model

Accumulation

Condensation

Earth

Evaporation

Groundwater

Lake

Landscape

Liquid

Moon

Ocean

Planet

Pond

Precipitation

River

Solid/ice

Types of Clouds

Vapor/gas

Community

Energy

Materials

Transportation

This Curriculum Map Unit has no Topics to display