

Lavallette Elementary School	Science Pacing Guide
Content Area: Science Course Title: Science	Grade Level: Kindergarten
Unit Plan 1 Motion and Stability	September - October
Unit Plan 2 Energy	November - December
Unit Plan 3 From Molecules to Organisms: Structures and Processes	January -
Unit Plan 4 Earth's Systems	February - March
Unit Plan 5 Earth and Human Activity	April
Unit Plan 6 Engineering Design	May - June
Updated: October 2018 by Sharon Carroll Aligned to New Jersey Student Learning Standards	Board Approved: October 16, 2018

**Lavallette Elementary School
Science Curriculum
Unit Overview**

Content Area: Science Unit 1

Grade Level: Kindergarten

Domain (Unit Title): K-PS2 Motion and Stability: Forces and Interactions

Unit Summary: During this unit of study, students apply an understanding of the effects of different strengths or different directions of pushes and pulls on the motion of an object to analyze a design solution. The crosscutting concept of cause and effect is called out as the organizing concept for this disciplinary core idea. Students are expected to demonstrate grade-appropriate proficiency in planning and carrying out investigations and analyzing and interpreting data. Students are also expected to use these practices to demonstrate understanding of the core ideas.

Primary Interdisciplinary Connections: Mathematics, Language Arts Literacy, Science, Social Studies. All of the NJ State Standards may be found on the New Jersey state website.

21 Century Themes:

All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society and the universe.

21st Century Life & Career Skills	All students will demonstrate the creative, critical thinking, collaboration, and problem-solving skills needed to function successfully as both global citizens and workers in diverse ethnic and organizational cultures.
Personal Financial Literacy	All students will develop skills and strategies that promote personal and financial responsibility related to financial planning, savings, investment, and charitable giving in the global economy.
Career Awareness, Exploration, and Preparation	All students will apply knowledge about and engage in the process of career awareness, exploration, and preparation in order to navigate the globally competitive work environment of the information age.

Career and Technical Education	<p>All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees.</p>
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UNIT 1:

Standards/Learning Targets

K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.
 [Clarification Statement: Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other.] [Assessment Boundary: Assessment is limited to different relative strengths or different directions, but not both at the same time. Assessment does not include non-contact pushes or pulls such as those produced by magnets.]

K-PS2-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.* [Clarification Statement: Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, and knock down other objects. Examples of solutions could include tools such as a ramp to increase the speed of the object and a structure that would cause an object such as a marble or ball to turn.] [Assessment Boundary: Assessment does not include friction as a mechanism for change in speed.]

Performance Expectation

<u>Science and Engineering Practices</u>	<u>Disciplinary Core Ideas</u>
<p>Planning and Carrying Out Investigations Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to</p>	<p>PS2.A: Forces and Motion</p> <ul style="list-style-type: none"> ● Pushes and pulls can have different strengths and directions. (KPS2-1),(K-PS2-2) ● Pushing or pulling on an object can change the speed or direction of its

support explanations or design solutions. With guidance, plan and conduct an investigation in collaboration with peers. (K-PS2-1)

Analyzing and Interpreting Data

Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations. Analyze data from tests of an object or tool to determine if it works as intended. (K-PS2-2)

motion and can start or stop it. (K-PS2-1),(K-PS2-2)

PS2.B: Types of Interactions

- When objects touch or collide, they push on one another and can change motion. (K-PS2-1)

PS3.C: Relationship Between Energy and Forces

- A bigger push or pull makes things speed up or slow down more quickly. (secondary to K-PS2-1)

ETS1.A: Defining Engineering Problems

- A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions. (secondary to KPS2-2)

Crosscutting Concepts

Cause and Effect

- Simple tests can be designed to gather evidence to support or refute student ideas about causes. (K-PS2-1),(K-PS2-2)

Learning Objectives

Students will understand that ...

- An object starts to move when another object exerts a force on it.
- Forces happen between two objects.
- An object moves a long distance when a strong force is exerted on it.
- An object moves a short distance when a gentle force is exerted on it.
- An object starts to move in the same direction as the force that starts the motion.
- Every force has a strength—gentle or strong—and a direction.
- Every force has a strength—gentle or strong—and a direction, which makes the object move a certain distance and direction.
- A moving object changes direction when another moving object exerts a force on it.

	strategies that promote personal and financial responsibility related to financial planning, savings, investment, and charitable giving in the global economy.
Career Awareness, Exploration, and Preparation	All students will apply knowledge about and engage in the process of career awareness, exploration, and preparation in order to navigate the globally competitive work environment of the information age.
Career and Technical Education	All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees.

UNIT 2:	
Standards/Learning Targets	
<p>K-PS3-1. Make observations to determine the effect of sunlight on Earth’s surface. [Clarification Statement: Examples of Earth’s surface could include sand, soil, rocks, and water] [Assessment Boundary: Assessment of temperature is limited to relative measures such as warmer/cooler.]</p> <p>K-PS3-2. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area. * [Clarification Statement: Examples of structures could include umbrellas, canopies, and tents that minimize the warming effect of the sun.]</p>	
Performance Expectation	
<u>Science and Engineering Practices</u>	<u>Disciplinary Core Ideas</u>

<p>Planning and Carrying Out Investigations Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions. Make observations (firsthand or from media) to collect data that can be used to make comparisons. (K-PS3-1)</p>	<p>PS3.B: Conservation of Energy and Energy Transfer</p> <ul style="list-style-type: none"> • Sunlight warms Earth’s surface. (K-PS3-1),(K-PS3-2)
<p>Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions. Use tools and materials provided to design and build a device that solves a specific problem or a solution to a specific problem. (K-PS3- 2)</p>	

<p style="text-align: center;"><u>Crosscutting Concepts</u></p> <p>Cause and Effect</p> <ul style="list-style-type: none"> • Events have causes that generate observable patterns. (K-PS3-1),(K-PS3-2) 	<p style="text-align: center;"><u>Learning Objectives</u></p> <p>Students will understand that ...</p> <ul style="list-style-type: none"> • The longer light shines on a surface, the warmer the surface gets • Dark surfaces get warmer than pale surfaces when light shines on them. • Weather affects people most when it is severe • Weather can be predicted • Predicting weather helps people prepare for it.
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**Lavallette Elementary School
Curriculum
Unit Overview**

Content Area: Science Unit 3

Grade Level: Kindergarten

Domain (Unit Title): From Molecules to Organisms: Structures and Processes

Unit Summary: In this unit of study, students develop an understanding of what plants and animals need to survive and the relationship between their needs and where they live. Students compare and contrast what plants and animals need to survive and the relationship between the needs of living things and where they live. The crosscutting concepts of patterns and systems and system models are called out as organizing concepts for these disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in developing and using models, analyzing and interpreting data, and engaging in argument from evidence. Students are also expected to use these practices to demonstrate understanding of the core ideas.

Primary Interdisciplinary Connections: Mathematics, Language Arts Literacy, Science, Social Studies. All of the NJ State Standards may be found on the New Jersey state website.

21 Century Themes:

All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society and the universe.

21st Century Life & Career Skills

All students will demonstrate the creative, critical thinking, collaboration, and problem-solving skills needed to function successfully as both global citizens and workers in diverse ethnic and organizational cultures.

Personal Financial Literacy

All students will develop skills and strategies that promote personal and

	financial responsibility related to financial planning, savings, investment, and charitable giving in the global economy.
Career Awareness, Exploration, and Preparation	All students will apply knowledge about and engage in the process of career awareness, exploration, and preparation in order to navigate the globally competitive work environment of the information age.
Career and Technical Education	All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees.

UNIT 3:	
Standards/Learning Targets	
K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive. [Clarification Statement: Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water.]	
Performance Expectation	
<u>Science and Engineering Practices</u>	<u>Disciplinary Core Ideas</u>
Analyzing and Interpreting Data Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations. Use observations (firsthand or from media)	LS1.C: Organization for Matter and Energy Flow in Organisms <ul style="list-style-type: none"> All animals need food in order to live and grow. They obtain their food from plants or from other animals.

<p>to describe patterns in the natural world in order to answer scientific questions. (K-LS1-1)</p> <p>Scientific Knowledge is Based on Empirical Evidence Scientists look for patterns and order when making observations about the world. (K-LS1-1)</p>	<p>Plants need water and light to live and grow. (K-LS1-1)</p>
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<p style="text-align: center;"><u>Crosscutting Concepts</u></p> <p>Patterns</p> <ul style="list-style-type: none"> ● Patterns in the natural and human designed world can be observed and used as evidence. (K-LS1-1) 	<p style="text-align: center;"><u>Learning Objectives</u></p> <p>Students will understand that ...</p> <ul style="list-style-type: none"> ● plants do not need to take in food, but do need water and light to live and grow ● All animals need food in order to live and grow, that they obtain their food from plants or from other animals, that different kinds of food are needed by different kinds of animals, and that all animals need water ● what plants and animals (including humans) need to survive and the relationship between their needs and where they live.
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Lavallette Elementary School Curriculum Unit Overview

Content Area: Science Unit 4

Grade Level: Kindergarten

Domain (Unit Title): K-ESS2 Earth's Systems

Unit Summary: In this unit of study, students develop an understanding of patterns and variations in local weather and the use of weather forecasting to prepare for and respond to severe weather. The crosscutting concepts of patterns; cause and effect; interdependence of science, engineering, and technology; and the influence of engineering, technology, and science on society and the natural world are called out as organizing concepts for the disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in asking questions, analyzing and interpreting data, and obtaining, evaluating, and communicating information. Students are also expected to use these practices to demonstrate understanding of the core ideas.

Primary Interdisciplinary Connections: Mathematics, Language Arts Literacy, Science, Social Studies. All of the NJ State Standards may be found on the New Jersey state website.

21 Century Themes:

All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society and the universe.

<p>21st Century Life & Career Skills</p>	<p>All students will demonstrate the creative, critical thinking, collaboration, and problem-solving skills needed to function successfully as both global citizens and workers in diverse ethnic and organizational cultures.</p>
<p>Personal Financial Literacy</p>	<p>All students will develop skills and strategies that promote personal and</p>

	financial responsibility related to financial planning, savings, investment, and charitable giving in the global economy.
Career Awareness, Exploration, and Preparation	All students will apply knowledge about and engage in the process of career awareness, exploration, and preparation in order to navigate the globally competitive work environment of the information age.
Career and Technical Education	All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees.

UNIT 4:
Standards/Learning Targets
<p>K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time. [Clarification Statement: Examples of qualitative observations could include descriptions of the weather (such as sunny, cloudy, rainy, and warm); examples of quantitative observations could include numbers of sunny, windy, and rainy days in a month. Examples of patterns could include that it is usually cooler in the morning than in the afternoon and the number of sunny days versus cloudy days in different months.] [Assessment Boundary: Assessment of quantitative observations limited to whole numbers and relative measures such as warmer/cooler.]</p> <p>K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs. [Clarification Statement: Examples of plants and animals changing their environment could include a squirrel digs in the ground to hide its food and tree roots can break concrete.]</p>
Performance Expectation

<p style="text-align: center;"><u>Science and Engineering Practices</u></p> <p>Analyzing and Interpreting Data Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations. Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-ESS2-1)</p> <p>Engaging in Argument from Evidence Engaging in argument from evidence in K–2 builds on prior experiences and progresses to comparing ideas and representations about the natural and designed world(s). Construct an argument with evidence to support a claim. (K-ESS2-2)</p> <p>Science Knowledge is Based on Empirical Evidence Scientists look for patterns and order when making observations about the world. (K-ESS2-1)</p>	<p style="text-align: center;"><u>Disciplinary Core Ideas</u></p> <p>ESS2.D: Weather and Climate</p> <ul style="list-style-type: none"> Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time. (K-ESS2-1) <p>ESS2.E: Biogeology</p> <ul style="list-style-type: none"> Plants and animals can change their environment. (K-ESS2-2) <p>ESS3.C: Human Impacts on Earth Systems</p> <ul style="list-style-type: none"> Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things. (secondary to K-ESS2-2)
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<p style="text-align: center;"><u>Crosscutting Concepts</u></p> <p>Patterns</p> <ul style="list-style-type: none"> Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (K-ESS2-1) 	<p style="text-align: center;"><u>Learning Objectives</u></p> <p>Students will understand that . . .</p> <ul style="list-style-type: none"> Weather can be sunny, cloudy, windy, rainy, or snowy Weather can be sunny, cloudy, windy, rainy, snowy and different temperatures When light shows on a surface, the surface gets warmer. The longer light shines on a surface, the warmer the surface gets Dark surfaces get warmer than pale surfaces when light shines on them. Weather affects people most when it is severe Weather can be predicted
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	<ul style="list-style-type: none"> • Predicting weather helps people prepare for it..
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Lavallette Elementary School Curriculum Unit Overview	
Content Area: Science Unit 5	Grade Level: Kindergarten
Domain (Unit Title): K-ESS3 Earth and Human Activity	
Unit Summary: In this unit of study, students develop an understanding of what humans need to survive and the relationship between their needs and where they live. The crosscutting concept of cause and effect is called out as the organizing concept for the disciplinary core ideas. Students demonstrate grade-appropriate proficiency in asking questions and defining problems, and in obtaining, evaluating, and communicating information. Students are also expected to use these practices to demonstrate understanding of the core ideas.	
Primary Interdisciplinary Connections: Mathematics, Language Arts Literacy, Science, Social Studies. All of the NJ State Standards may be found on the New Jersey state website.	
21 Century Themes: All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society and the universe.	
21st Century Life & Career Skills	All students will demonstrate the creative, critical thinking, collaboration, and problem-solving skills needed to function successfully as both global citizens and workers in diverse ethnic and organizational cultures.
Personal Financial Literacy	All students will develop skills and strategies that promote personal and financial responsibility related to financial

	planning, savings, investment, and charitable giving in the global economy.
Career Awareness, Exploration, and Preparation	All students will apply knowledge about and engage in the process of career awareness, exploration, and preparation in order to navigate the globally competitive work environment of the information age.
Career and Technical Education	All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees.

UNIT 5:
Standards/Learning Targets
<p>K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live. [Clarification Statement: Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.]</p> <p>K-ESS3-2. Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.* [Clarification Statement: Emphasis is on local forms of severe weather.]</p> <p>K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.* [Clarification Statement: Examples of human impact on the land could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.]</p>
Performance Expectation

<p style="text-align: center;"><u>Science and Engineering Practices</u></p> <p>Asking Questions and Defining Problems Asking questions and defining problems in grades K–2 builds on prior experiences and progresses to simple descriptive questions that can be tested.</p> <ul style="list-style-type: none"> • Ask questions based on observations to find more information about the designed world. (K-ESS3-2) <p>Developing and Using Models Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, storyboard) that represent concrete events or design solutions.</p> <ul style="list-style-type: none"> • Use a model to represent relationships in the natural world. (K-ESS3-1) <p>Obtaining, Evaluating, and Communicating Information Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.</p> <ul style="list-style-type: none"> • Read grade-appropriate texts and/or use media to obtain scientific information to describe patterns in the natural world. (K-ESS3-2) • Communicate solutions with others in oral and/or written forms using models and/or drawings that provide detail about scientific ideas. (K-ESS3-3) 	<p style="text-align: center;"><u>Disciplinary Core Ideas</u></p> <p>ESS3.A: Natural Resources</p> <ul style="list-style-type: none"> • Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do. (K-ESS3-1) <p>ESS3.B: Natural Hazards</p> <ul style="list-style-type: none"> • Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events. (K-ESS3-2) <p>ESS3.C: Human Impacts on Earth Systems</p> <ul style="list-style-type: none"> • Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things. (K-ESS3-3) <p>ETS1.A: Defining and Delimiting an Engineering Problem</p> <ul style="list-style-type: none"> • Asking questions, making observations, and gathering information are helpful in thinking about problems. (secondary to K-ESS3-2) <p>ETS1.B: Developing Possible Solutions</p> <ul style="list-style-type: none"> • Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem’s solutions to other people. (secondary to K-ESS3-3)
<p style="text-align: center;"><u>Crosscutting Concepts</u></p> <p>Cause and Effect</p> <ul style="list-style-type: none"> • Events have causes that generate 	<p style="text-align: center;"><u>Learning Objectives</u></p> <p>Students will understand that ...</p> <ul style="list-style-type: none"> • Things that people do to live

<p>observable patterns. (K-ESS3-2),(K-ESS3-3)</p> <p>Systems and System Models</p> <ul style="list-style-type: none"> • Systems in the natural and designed world have parts that work together. (K-ESS3-1) <p>Interdependence of Science, Engineering, and Technology</p> <ul style="list-style-type: none"> • People encounter questions about the natural world every day. (K-ESS3-2) <p>Influence of Engineering, Technology, and Science on Society and the Natural World</p> <ul style="list-style-type: none"> • People depend on various technologies in their lives; human life would be very different without technology. (K-ESS3- 2) 	<p>comfortably can affect the world around them.</p> <ul style="list-style-type: none"> • People can make choices that reduce their impacts on the land, water, air, and other living things. • A situation that people want to change or create can be approached as a problem to be solved through engineering
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<p>Lavallette Elementary School Curriculum Unit Overview</p>	
<p>Content Area: Science Unit 6</p>	<p>Grade Level: Kindergarten</p>
<p>Domain (Unit Title): K-2-ETS1 Engineering Design</p>	
<p>Primary Interdisciplinary Connections: Mathematics, Language Arts Literacy, Science, Social Studies. All of the NJ State Standards may be found on the New Jersey state website.</p>	
<p>21 Century Themes: All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society and the universe.</p>	
<p>21st Century Life & Career Skills</p>	<p>All students will demonstrate the creative, critical thinking, collaboration, and problem-solving</p>

	skills needed to function successfully as both global citizens and workers in diverse ethnic and organizational cultures.
Personal Financial Literacy	All students will develop skills and strategies that promote personal and financial responsibility related to financial planning, savings, investment, and charitable giving in the global economy.
Career Awareness, Exploration, and Preparation	All students will apply knowledge about and engage in the process of career awareness, exploration, and preparation in order to navigate the globally competitive work environment of the information age.
Career and Technical Education	All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees.

UNIT 6:
Standards/Learning Targets
<p>K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.</p> <p>K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.</p> <p>K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.</p>
Performance Expectation

<p style="text-align: center;"><u>Science and Engineering Practices</u></p> <p>Asking Questions and Defining Problems Asking questions and defining problems in K–2 builds on prior experiences and progresses to simple descriptive questions.</p> <ul style="list-style-type: none"> • Ask questions based on observations to find more information about the natural and/or designed world(s). (K2-ETS1-1) • Define a simple problem that can be solved through the development of a new or improved object or tool. (K-2-ETS1-1) <p>Developing and Using Models Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.</p> <ul style="list-style-type: none"> • Develop a simple model based on evidence to represent a proposed object or tool. (K-2-ETS1-2) <p>Analyzing and Interpreting Data Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</p> <ul style="list-style-type: none"> • Analyze data from tests of an object or tool to determine if it works as intended. (K-2-ETS1-3) 	<p style="text-align: center;"><u>Disciplinary Core Ideas</u></p> <p>ETS1.A: Defining and Delimiting Engineering Problems</p> <ul style="list-style-type: none"> • A situation that people want to change or create can be approached as a problem to be solved through engineering. (K-2-ETS1-1) • Asking questions, making observations, and gathering information are helpful in thinking about problems. (K-2-ETS1-1) • Before beginning to design a solution, it is important to clearly understand the problem. (K-2-ETS1-1) <p>ETS1.B: Developing Possible Solutions</p> <ul style="list-style-type: none"> • Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem’s solutions to other people. (K-2-ETS1-2) <p>ETS1.C: Optimizing the Design Solution</p> <ul style="list-style-type: none"> • Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (K-2-ETS1-3)
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<p style="text-align: center;"><u>Crosscutting Concepts</u></p> <p>Structure and Function</p> <ul style="list-style-type: none"> • The shape and stability of structures of natural and designed objects are related to their function(s). (K-2- 	<p style="text-align: center;"><u>Learning Objectives</u></p> <p>Students will understand that ...</p> <ul style="list-style-type: none"> • A situation that people want to change or create can be approached
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ETS1-2)	<p>as a problem to be solved through engineering.</p> <ul style="list-style-type: none"> • Asking questions, making observations, and gathering information are helpful in thinking about problems. • The shape and stability of structures of natural and designed objects are related to their function(s)
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Suggested Accommodations For All Units

Special Education/504 Plans/Students with Disabilities:

- Follow specific IEP/504 accommodations and modifications
- Extended time
- Modified assignments
- Labeled pictures of weather phenomenon
- Pre-teach concepts
- Differentiate assignments

Gifted and Talented:

- Differentiate assignments
- Higher level texts
- Homework questions should be open ended to increase higher level thinking
- Differentiate test questions
- Create alternate projects or assignments that challenge thinking
- Reference and possibly apply assessment boundary skills

Students at Risk of Failure:

- Small group instruction
- Frequent breaks
- Model how assignments should look
- Incorporate social/emotional discussions
- Encourage and monitor positive peer collaboration
- Provide academic resources for both school and home use

Economically Disadvantaged:

- Structure the learning around explaining or solving a social or community-based issue.
- Provide opportunities for students to connect with people of similar backgrounds (e.g. conversations via digital tool such as SKYPE, experts from the community helping with

a project, journal articles, and biographies).

Culturally Diverse:

- Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences).
- Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.
- Provide opportunities for students to connect with people of similar backgrounds (e.g. conversations via digital tool such as SKYPE, experts from the community helping with a project, journal articles, and biographies).