

*Suggested alignment by units. (Correlations are cross-referenced with Wonders and Mystery Science Units)*

**Waves: Light and Sound: September-December**

[Wonders Unit 5, Week 4](#) -

- ❖ [Weekly Concept](#) - Sounds All Around & [Essential Question](#) - “What Sounds can you hear? How are they made?”

[Mystery Science - Lights and Sounds](#)

- ❖ [Mystery #1](#) - *Sounds, Vibrations* - “How do they make silly sounds in cartoons?”
- ❖ [Mystery #2](#) - *Light, Materials, Transparent & Opaque* - “What if there were no windows?”

**Structure, Function and Information Processing (Characteristics of Living Things): January-April**

[Wonders Unit 3 Week 2](#)

- ❖ [Weekly Concept](#)- Watch It Grow & [Essential Question](#)-How do plants change as they grow?

[Wonders Unit 4, Week 1](#) -

- ❖ [Weekly Concept](#) - Animal Features & [Essential Question](#) - “How do animals’ bodies help them?”

[Wonders Unit 4, Week 2](#) -

- ❖ [Weekly Concept](#) - Animals Together & [Essential Question](#) - “How do animals help each other?”

[Wonders Unit 4, Week 3](#) -

- ❖ [Weekly Concept](#) - In the Wild & [Essential Question](#) - “How do animals survive in nature?”

[Mystery Science - Animal Superpowers](#)

- ❖ [Mystery #1](#) - *Structure & Survival* - “Why do birds have beaks?”
- ❖ [Mystery #2](#) - *Structure & Survival* - “Why are polar bears white?”

**Space Systems: Patterns and Cycles: May-June**

[Wonders Unit 5, Week 2](#) -

- ❖ [Weekly Concept](#) - Up in the Sky & [Essential Question](#) - “What can you see in the sky?”

[Mystery Science - Spinning Sky](#)

- ❖ [Mystery #1](#) - *Sun, Shadows, and Daily Patterns* - “Could a statue’s shadow move?”
- ❖ [Mystery #2](#) - *Sun and Daily Patterns* - “How can the sun help you if you are lost?”

<b>Time Frame</b>	<b>May-June</b>
<b>Course</b>	
<b>Earth and Space Science</b>	
<b>Title of Unit</b>	
Space Systems: Patterns and Cycles	
<b>Essential Questions</b>	
<ol style="list-style-type: none"> <li>1. What objects are in the sky and in what pattern do they seem to move?</li> <li>2. What is the relationship between the earth, the sun, and the moon?</li> <li>3. What is the relationship between seasons and the amount of daylight hours?</li> </ol>	
<b>Enduring Understandings</b>	
<i>Students will understand that...</i>	
<ul style="list-style-type: none"> <li>→ Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted.</li> <li>→ Seasonal patterns of sunrise and sunset can be observed, described, and predicted.</li> </ul>	
<b>Key Knowledge</b>	
<i>Students will know.....</i>	
<ul style="list-style-type: none"> <li>→ The sun and moon appear to rise in one part of the sky, move across the sky, and set.</li> <li>→ The shape of the moon appears to change over a period of time in a predictable pattern.</li> <li>→ Stars, other than our sun, are visible at night but not during the day.</li> </ul>	
<b>Concepts and Skills</b>	
<i>Students will be able to.....</i>	
<ul style="list-style-type: none"> <li>→ Make observations of the sun, moon and stars and predict their interaction.</li> <li>→ Make observations to identify the difference in daylight hours at a particular time of year.</li> <li>→ Draw a sequence of pictures to show the relationship between a shadow's length and the position of the sun throughout the day.</li> </ul>	
<b>Learning Activities</b>	
<u><a href="#">Wonders Unit 5, Week 2</a></u> -	
<ul style="list-style-type: none"> <li>❖ <u>Weekly Concept</u> - Up in the Sky</li> <li>❖ <u>Essential Question</u> - "What can you see in the sky?"</li> </ul>	
<u><a href="#">Mystery Science - Spinning Sky</a></u>	
<ul style="list-style-type: none"> <li>❖ <u>Mystery #1</u> - <i>Sun, Shadows, and Daily Patterns</i> - "Could a statue's shadow move?"</li> <li>❖ <u>Mystery #2</u> - <i>Sun and Daily Patterns</i> - "How can the sun help you if you are lost?"</li> </ul>	
<b><u>Literature Connections</u></b>	
<ul style="list-style-type: none"> <li>❖ "The Moon Book" by Gail Gibbons</li> <li>❖ "If You Decide to go to the Moon" by Faith McNulty</li> <li>❖ "The Moon" by Melanie Chrismer</li> <li>❖ "The Moon" by Melvin &amp; Gilda Berger</li> <li>❖ "Sun, Moon, and Stars" by Stephanie Turnbill</li> </ul>	

- ❖ “Blast Into Space” by Roger Priddy
- ❖ Discover Kids Readers: Space
- ❖ “Curious George Discovers the Sun” by R.A Rey
- ❖ “The Sun” by Seymour Simon
- ❖ *The Sun is My Favorite Star* by Frank Asch
- ❖ *Sun Up, Sun Down: The Story of Day and Night* by Jacqui Bailey
- ❖ *What Makes Day and Night?* by Franklyn M. Branley
- ❖ *The Sun: Our Nearest Star* by Franklyn M. Branley
- ❖ *Why the Sun and Moon Live in the Sky* by Elphinstone Dayrell
- ❖ *The Sun is Always Shining Somewhere* by Allan Fowler
- ❖ *Sun Up, Sun Down* by Gail Gibbons

### **Epic Books**

- ❖ [The Sun](#)
- ❖ [The Sun, the Moon and the Stars](#)

### **Brainpopjr. Videos**

- ❖ [The Moon](#)
- ❖ [The Sun](#)
- ❖ [The Earth](#)

### **Pebblego Videos**

- ❖ [The Sun](#)
- ❖ [The Moon](#)
- ❖ [The Earth Rotation](#)

### **Video Resources**

- ❖ [Phases of the Moon](#)
- ❖ [Moon 101](#)
- ❖ [Phases of the Moon Ed Puzzle](#)

### **Prepared Lessons**

- ❖ [BetterLesson.com - Earth’s Place in the Universe](#)
- ❖ [BetterLesson.com-Moon Phases](#)
- ❖ [BetterLesson.com-Observing the Sun](#)
  - [Part 2 Analyzing the Sun’s Data](#)

### **STEAM Activities**

- ❖ [STEM Challenge - Sundial Engineering Design](#)
- ❖ [Make a Sundial from a Plate](#)
- ❖ [Make a Sundial](#)

### **Online Interactive Activities**

- ❖ [Sciencekids.com](#)

- ❖ [House of Shadows](#)

### **Research Investigations:**

- ❖ [Kiddle](#)
- ❖ [Wonderopolis](#)
- ❖ [Plan and Conduct a Moon Investigation](#)

### **Assessments**

- BrainPOP-Quiz About Sun
- BrainPOP-Draw About It-the sun
- BrainPOP-Write About It-the sun
- BrainPOP-Quiz About the Moon
- BrainPOP-Draw About It-Phases of Moon
- BrainPop-Write About It-the Moon
- pre or post assessment on space systems
- Solar System Online Quizzes
- Phases of the Moon Ed Puzzle
- Plan and Conduct a Moon Investigation
- Moon Investigation Conclusions Assessment

### **NGSS and NJSLS**

**Standards:** (Note: Include reference to relevant standards in the Core Content Area as well as technology and 21st-century life and careers.)

→ **NGSS:**

- ◆ **1-ESS1-1.** Use observations of the sun, moon, and stars to describe patterns that can be predicted.
- ◆ **1-ESS1-2.** Make observations at different times of year to relate the amount of daylight to the time of year.
- ◆ **PS2.A:** Forces and Motion: Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. The patterns of an object's motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it. **(1-ESS1-1);**
- ◆ **PS2.B** Objects in contact exert forces on each other; electric, and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, on their orientation relative to each other **(1-ESS1-1),(1-ESS1-2) 5-ESS1.B (1-ESS1-1),(1-ESS1-2)**

→ **Technology:**

- **TECH.8.1.2** All students will use digital tools to access, manage, evaluate and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
  - **TECH.8.1.2.A.CS2** Select and use applications effectively and productively
- **TECH.8.1.2.E** Students apply digital tools to gather, evaluate, and use information.

**GRADE:** 1

**COURSE:** Science Curriculum 2017 NGSS Aligned

- **TECH.8.1.2.E.1** Use digital tools and online resources to explore a problem or issue.
- **TECH.8.2.2** All students will develop and an understanding of the nature and impact of technology, engineering, technological design, computational thinking, and the designed world as they relate to the individual, global society, and the environment.
  - **TECH.8.2.2.A.2** Describe how design products and systems are useful at school, home, and work.
- **TECH.8.2.2.C** The design process is a systematic approach to solving problems

### **Modifications**

#### **Modifications: (ELLs, Special Education, Gifted and Talented)**

- Follow all IEP modifications and 504 plans
- Provide differentiated instruction as needed.
- Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.
- Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).
- 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).
- Engage students with a variety of Science and Engineering practices to provide students with multiple entry points and multiple ways to demonstrate their understandings.
- Use project-based science learning to connect science with observable phenomena.
- Structure the learning around explaining or solving a social or community-based issue.
- Provide ELL students with multiple literacy strategies.

<b>Time Frame</b>	<b>September-December</b>
<b>Course</b>	
<b>Physical Science</b>	
<b>Title of Unit</b>	
<b>Waves: Light and Sound</b>	
<b>Essential Questions</b>	
1. What is the relationship between sound and vibrating materials?	
2. What is the effect of different materials in the path of a beam of light?	
3. How does the appearance of an object change when different amounts of light are applied?	
<b>Enduring Understandings</b>	
<i>Students will understand that...</i>	
→ Sound can make matter vibrate, and vibrating matter can make sound.	
→ Objects can be seen if light is available to illuminate them or if they give off their own light.	
→ People use a variety of devices to communicate (send and receive information) over long distances.	

## Key Knowledge

### *Students will know...*

- when objects vibrate, a sound is created
- sound will cause objects to vibrate
- an object can be seen when light reflected from its surface enters the eye
- mirrors can be used to redirect a light beam
- light travels from place to place
- some materials allow light to pass through them and others block all light

## Concepts and Skills

### *Students will be able to.....*

- plan and conduct investigations to collect evidence that shows that vibrating materials can make sound and that sound can make materials vibrate
- make observations and demonstrate accounts that objects can be seen only when illuminated
- observe shadows and determine how shadows are produced by a light source and another object, which blocks the light.
- plan and conduct an investigation to determine the effects of placing objects made of different materials in the path of a beam of light
- create a model to demonstrate how light or sound can be used to communicate over a distance

## Learning Activities

### [Wonders Unit 5, Week 4](#) -

- ❖ Weekly Concept - Sounds All Around
- ❖ Essential Question - “What Sounds can you hear? How are they made?”

### [Mystery Science - Lights and Sounds](#)

- ❖ Mystery #1 - *Sounds, Vibrations* - “How do they make silly sounds in cartoons?”
- ❖ Mystery #2 - *Light, Materials, Transparent & Opaque* - “What if there were no windows?”

### Literature Connections

- ❖ “Theodoric’s Rainbow” by Stephen P. Kramer
- ❖ “Nothing Sticks Like A Shadow” by Ann Tompert
- ❖ “Shadow” by Carolyn B. Otto
- ❖ “My Five Senses” by Alike
- ❖ “The Listening Walk” by Paul Showers
- ❖ “All About Sound” by Lisa Trumbauer
- ❖ “Fireflies” by Julie Brinckloe

### Epic Books

- ❖ [What Are Sound Waves?](#)
- ❖ [What Are Light Waves?](#)
- ❖ [How Does Sound Change?](#)
- ❖ [What Are Shadows and Reflections?](#)

### Brainpopjr. Videos

- ❖ [Light](#)
- ❖ [Sound](#)
- ❖ [Vibrations](#)

**Pebblego Videos**

- ❖ [Physical Science-Light, Sound](#)

**STEAM Lessons**

- ❖ [STEM and sound-Day 1](#)
- ❖ [STEM and sound-Day 2](#)
- ❖ [STEM and light-Day 1](#)
- ❖ [STEM and light-Day 2](#)
- ❖ [Communicating with Light and Sound: Fire!](#)

**Video Resources**

- ❖ [Sound for first graders](#)
- ❖ [What is Sound?](#)
- ❖ [Sound Waves and Vibrations](#)
- ❖ [What is Light Energy?](#)
- ❖ [Sound Light Travels in Waves](#)
- ❖ [EdPuzzle - Sounds of Science](#)
- ❖ [EdPuzzle - The Science of Light](#)

**Research Investigations:**

- ❖ [Kiddle](#)
- ❖ [Wonderopolis](#)

**Prepared Lessons**

- ❖ [Light and Sound](#)
- ❖ [BetterLesson.com-Waves and Their Application in Technologies](#)
- ❖ [First Grade Blog-Sound](#)
- ❖ [Hooked on Science-Sound Blaster](#)
- ❖ [Va-Va Vibrations](#)

**Online Interactive Activities**

- ❖ [Science Kids.com](#)
- ❖ [Scholastic Light Virtual Lab](#)
- ❖ [Scholastic Sound Virtual Lab](#)

**Hands On Activities**

- ❖ [BrainPOP-shadow puppets](#)
- ❖ [BrainPOP-sound](#)
- ❖ [BetterLesson.com-Good,Good,Good Vibrations-tissue box guitar](#)

## Assessments

- Online Energy Quizzes
- BrainPOP-quiz about light
- BrainPOP-draw about light
- BrainPOP-write about light
- BrainPOP-draw about sound
- BrainPOP-write about sound
- BrainPOP-quiz about sound
- EdPuzzle - Sounds of Science
- EdPuzzle - The Science of Light
- BetterLesson.com-Good,Good,Good Vibrations-tissue box guitar
- Tissue Box Guitar Conclusions Assessment

## NGSS and NJSL

**Standards:** (Note: Include reference to relevant standards in the Core Content Area as well as technology and 21st-century life and careers.)

→ **NGSS:**

- ◆ **PS4.A**-Sound can make matter vibrate, and vibrating matter can make sound. **(1-PS4-1)**
- ◆ **PS4.B**-Objects can be seen only when light is available to illuminate them. **(1-PS4-2) (1-PS4-3)**
- ◆ **PS4.C**-People use devices to send and receive information. **(1-PS4-4)**

→ **NJSLS: ELA**

- ◆ **W.1.2** Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. **(1-PS4-2)**
- ◆ **W.1.7** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). **(1-PS4-1),(1-PS4-2),(1-PS4-3),(1-PS4-4)**
- ◆ **W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. **(1-PS4-1),(1-PS4-2),(1-PS4-3)**
- ◆ **SL.1.1** Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. **(1-PS4-1),(1-PS4-2),(1-PS4-3)**

→ **NJSLS: Math**

- ◆ **MP.5** Use appropriate tools strategically. **(1-PS4-4)**
- ◆ **1.MD.A.1** Order three objects by length; compare the lengths of two objects indirectly by using a third object. **(1-PS4-4)**
- ◆ **1.MD.A.2** Express the length of an object as a whole number of length units, by layering multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. **(1-PS4-4)**

→ **Technology:**

- ◆ **TECH.8.1.2** All students will use digital tools to access, manage, evaluate and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
  - **TECH.8.1.2.A.CS2** Select and use applications effectively and productively



- **TECH.8.1.2.E** Students apply digital tools to gather, evaluate, and use information.
  - **TECH.8.1.2.E.1** Use digital tools and online resources to explore a problem or issue.
- **TECH.8.2.2** All students will develop and an understanding of the nature and impact of technology, engineering, technological design, computational thinking, and the designed world as they relate to the individual, global society, and the environment.
  - **TECH.8.2.2.A.2** Describe how design products and systems are useful at school, home, and work.
- **TECH.8.2.2.C** The design process is a systematic approach to solving problems

**Modifications**

**Modifications: (ELLs, Special Education, Gifted and Talented)**

- Follow all IEP modifications and 504 plans
- Provide differentiated instruction as needed.
- Structure lessons around questions that are authentic, relate to students’ interests, social/family background and knowledge of their community.
- Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).
- 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).
- Engage students with a variety of Science and Engineering practices to provide students with multiple entry points and multiple ways to demonstrate their understandings.
- Use project-based science learning to connect science with observable phenomena.
- Structure the learning around explaining or solving a social or community-based issue.
- Provide ELL students with multiple literacy strategies.

<b>Time Frame</b>	<b>January-April</b>
<b>Course</b>	
<b>Physical Sciences</b>	
<b>Title of Unit</b>	
Structure, Function and Information Processing (Characteristics of Living Things)	
<b>Essential Questions</b>	
<ol style="list-style-type: none"> <li>1. How are young plants and animals alike and different from their parents?</li> <li>2. How have animals and plants adapted to their environment to meet their needs for survival?</li> <li>3. What types (patterns) of behavior can be observed among parents that help offspring survive?</li> </ol>	
<b>Enduring Understandings</b>	
<i>Students will understand that...</i>	
<ul style="list-style-type: none"> <li>→ All organisms have external parts. Different animals use their body parts in different ways to</li> </ul>	

**GRADE:** 1

**COURSE:** Science Curriculum 2017 NGSS Aligned

see, hear, grasp objects, protect themselves, move from place to place, and seek, find and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them grow.

- Adult plants and animals can have young. In many animal families, parents and the offspring themselves engage in behaviors that help the offspring to survive.
- Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs.
- Young animals are very much, but not exactly, like their parents. Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways.

### Key Knowledge

*Students will know...*

- Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways.
- Scientists look for patterns and order when making observations about the world.
- Adult plants and animals can have young.
- In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring survive.

### Concepts and Skills

*Students will be able to...*

- Use materials to create a model to demonstrate how plants and/or animals use their external parts to help them survive, grow and meet their needs.
- Read texts and use media to determine patterns in the behavior of parents and offspring that help offspring survive.
- Make observations to compare and contrast how young plants and animals are alike, but not exactly like, their parents.

### Learning Activities

ELA Connection

Wonders Unit 3 Week 2

- ❖ Weekly Concept- Watch It Grow
- ❖ Essential Question-How do plants change as they grow?

Wonders Unit 4, Week 1 -

- ❖ Weekly Concept - Animal Features
- ❖ Essential Question - “How do animals’ bodies help them?”

Wonders Unit 4, Week 2 -

- ❖ Weekly Concept - Animals Together
- ❖ Essential Question - “How do animals help each other?”

Wonders Unit 4, Week 3 -

- ❖ Weekly Concept - In the Wild
- ❖ Essential Question - “How do animals survive in nature?”

**Mystery Science - Animal Superpowers**

- ❖ [Mystery #1](#) - *Structure & Survival* - “Why do birds have beaks?”
- ❖ [Mystery #2](#) - *Structure & Survival* - “Why are polar bears white?”

**Literature Connections**

- ❖ [National Geographic - “5 Strange Ways Animal Mothers Carry Their Babies”](#)
- ❖ “Are You My Mother?” P.D Eastman

**Epic Books**

- ❖ [Classifying Animals](#)
- ❖ [Animal Adaptations](#)
- ❖ [Animal Adaptations](#)
- ❖ [Animal Legs](#)
- ❖ [Plants are Living Things](#)
- ❖ [Plant Life Cycles](#)

**Brainpopjr. Videos**

- ❖ [Classifying Animals](#)
- ❖ [Animal Habitats](#)
- ❖ [Parts of a Plant](#)
- ❖ [Plant Adaptations](#)
- ❖ [Plant Life Cycle](#)

**Pebblego Videos**

- ❖ [Living or Nonliving Things](#)
- ❖ [Animal Adaptations](#)
- ❖ [Animal heredity/offspring](#)
- ❖ [Animal Classification, Behavior, Habitat](#)
- ❖ [Plant Classification, Parts, Habitats](#)

**STEAM Lessons**

- ❖ [STEM, Plants, and Biomimicry Day 1](#)
- ❖ [STEM, Plants, and Biomimicry Day 2](#)
- ❖ [Engineering Solutions - Design a Better Claw](#)
- ❖ [STEM Lab: Designing a Feeder](#)
- ❖ [STEM Lab: Building and Evaluating a Feeder](#)

**Research Investigations:**

- ❖ [Kiddle](#)
- ❖ [Wonderopolis](#)
- ❖ [How do animals protect their babies research project](#)
- ❖ [Animal Research Project - Student Packet](#)
- ❖ [Animal Research Project - Teacher Instructions](#)

**Prepared Lessons**

- ❖ [BetterLesson.com - From Molecules to Organisms & Heredity](#)

**Online Interactive Activities**

❖ [ScienceKids.com](http://ScienceKids.com)**Hands On Activities**❖ [Investigating Seeds](#)**Assessments**

- Organisms Online Quizzes
- Plants Online Quizzes
- Habitats Online Quiz
- BrainPOP-draw about plant parts
- BrainPOP-plant life cycle quiz
- Animal Research Project - Student Packet
- Animal Research Project - Teacher Instructions

**NGSS and NJSLS**

**Standards:** (Note: Include reference to relevant standards in the Core Content Area as well as technology and 21st-century life and careers.)

- **NGSS:**
  - **1-LS1-1.** Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
  - **1-LS1-2.** Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.
  - **1-LS1-3.** Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.
- **NJSLS: ELA**
  - **RI.1.1** Ask and answer questions about key details in a text. **(1-LS1-2),(1-LS3-1)**
  - **RI.1.2** Identify the main topic and retell key details of a text. **(1-LS1-2)**
  - **RI.1.10** With prompting and support, read informational texts appropriately complex for grade. **(1-LS1-2)**
  - **W.1.7** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). **(1-LS1- 1),(1-LS3-1)**
  - **W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. **(1-LS3-1)**
- **NJSLS: Math**
  - **MP.2** - Reason abstractly and quantitatively. **(1-LS3-1)**
  - **MP.5** - Use appropriate tools strategically. **(1-LS3-1)**
  - **1.NBT.B.3** - Compare two two-digit numbers based on the meanings of the tens and ones digits, recording the results of comparisons with the symbols **.(1-LS1-2)**
  - **1.NBT.C.4** - Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning uses. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. **(1- LS1-2)**

- **1.NBT.C.5** - Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. **(1-LS1-2)**
- **1.NBT.C.6** - Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. **(1-LS1-2)**
- **1.MD.A.1** - Order three objects by length; compare the lengths of two objects indirectly by using a third object. **(1-LS3-1)**

- **Technology:**

- **TECH.8.1.2** All students will use digital tools to access, manage, evaluate and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
  - **TECH.8.1.2.A.CS2** Select and use applications effectively and productively
- **TECH.8.1.2.E** Students apply digital tools to gather, evaluate, and use information.
  - **TECH.8.1.2.E.1** Use digital tools and online resources to explore a problem or issue.
- **TECH.8.2.2** All students will develop and an understanding of the nature and impact of technology, engineering, technological design, computational thinking, and the designed world as they relate to the individual, global society, and the environment.
  - **TECH.8.2.2.A.2** Describe how design products and systems are useful at school, home, and work.
- **TECH.8.2.2.C** The design process is a systematic approach to solving problems

## **Modifications**

### **Modifications: (ELLs, Special Education, Gifted and Talented)**

- Follow all IEP modifications and 504 plans
- Provide differentiated instruction as needed.
- Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.
- Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).
- 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).
- Engage students with a variety of Science and Engineering practices to provide students with multiple entry points and multiple ways to demonstrate their understandings.
- Use project-based science learning to connect science with observable phenomena.
- Structure the learning around explaining or solving a social or community-based issue.
- Provide ELL students with multiple literacy strategies.