

**Course Description:** This curriculum has been written to align with the revised MO Learning Standards for Science (approved by the state board of education in April of 2016). Science content has been integrated into our ELA curriculum. This curriculum has been written as a guide for utilizing this resource to teach the revised MO Learning Standards for Science.

## First Grade Science Scope and Sequence

|   | Unit                                 | Timeframe      |
|---|--------------------------------------|----------------|
| 1 | <b>Plants</b>                        | <b>3 weeks</b> |
| 2 | <b>Bats</b>                          | <b>3 weeks</b> |
| 3 | <b>Sound</b>                         | <b>3 weeks</b> |
| 4 | <b>Sun, Moon, Stars, &amp; Light</b> | <b>2 weeks</b> |
| 5 | <b>Animals</b>                       | <b>3 weeks</b> |

| <b>Unit 1<br/>Plants</b>  |                           |                |
|---|---------------------------|----------------|
| <b>Standards addressed:</b><br>1.LS1.A.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.<br>1.LS3.A.1 - Make observations to construct an evidence based account that young plants and animals are like, but not exactly like, their parents. |                           |                |
| <b>Essential Questions:</b><br>How do plants use their external parts to survive?   |                           |                |
| <b>Learning targets:</b><br>Students will understand plants have external parts that help them grow, survive and meet their needs.<br>Students will understand plants respond to their environment in order to survive.   |                           |                |
| <b>Content vocabulary:</b><br>seed, seedling  |                           |                |
| <b>Resources</b><br><i>Jasper's Beanstalk, A Seed Grows, Growing Vegetable Soup, Where Plants Grow, Planting Beans &amp; Beets, A Place to Grow, A Tiny Seed, Johnny Appleseed, The Seasons of ARnold's Apple Tree, apples, BrainPop videos Parts of a Plant, Plant Life Cycle, Plant Adaptations</i>   |                           |                |
| Standard(s)   | Topic                     | Number of Days |
| 1.LS1.A.1<br>1.LS3.A.1  | <b>Jasper's Beanstalk</b> | 3              |

|                        |                                   |   |
|------------------------|-----------------------------------|---|
| 1.LS1.A.1<br>1.LS3.A.1 | <b>A Seed Grows</b>               | 2 |
| 1.LS1.A.1<br>1.LS3.A.1 | <b>Growing Vegetable Soup</b>     | 3 |
| 1.LS1.A.1<br>1.LS3.A.1 | <b>Where Plants Grow</b>          | 3 |
| 1.LS1.A.1<br>1.LS3.A.1 | <b>Planting Beans &amp; Beets</b> | 2 |

| <b>Unit 2</b><br><b>Bats</b>   |                           |                |
|--|---------------------------|----------------|
| <b>Standards addressed:</b><br>1-LS1-1 All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.   |                           |                |
| <b>Essential Questions:</b><br>How do animals use their external parts to survive?   |                           |                |
| <b>Learning targets:</b><br>Students will understand animals have external parts that help them grow, survive and meet their needs.<br>Students will understand animals respond to their environment in order to survive.  |                           |                |
| <b>Content vocabulary:</b><br>echolocation, nocturnal,   |                           |                |
| <b>Resources</b><br><i>Bats Day and Night, All About Bats, Helpful Bats, Echolocation song, All About Bats for Kids: Animal Videos for Children, Critter Rock "Hairy not Scary", 3 Fun Facts About Bats, Bats by Lily Wood, Bats at the Library, Bats at the Beach, Bats at the Ballgame, Bats in the Band, Animals at Night, Stلالuna</i> |                           |                |
| Standard(s)  | Topic                     | Number of Days |
| 1-LS1-1  | <b>Bats Day and Night</b> | 2              |
| 1-LS1-1  | <b>Bat Poems</b>          | 4              |
| 1-LS1-1  | <b>All About Bats</b>     | 2              |
| 1-LS1-1  | <b>Helpful Bats</b>       | 3              |
| 1-LS1-1  | <b>Assessment</b>         | 1              |

## Unit 3 Sound

**Standards addressed:**

**1.PS4.A.1** -Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.

**1.PS4.C.1** - Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.

**1.ETS1.A.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.

**1.ETS1.B.1** - 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.

**1.ETS1.C.1** - Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

**Essential Questions:**

How can sound be used to communicate?

How do we make sounds?

**Learning targets:**

Students will investigate to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.

Students will use tools and materials to design and build a device that uses sound to communicate over a distance.

**Content vocabulary:**

vibrate, vibrations, pitch, sound wave

**Resources**

*Vibrations and Sound, Sounds: Volume and Pitch, Bill Nye the Science Guy Sound, Sound and Light, Sound* (by Darlene R. Stille), *All About Sound, Magic School Bus: At the Haunted House, BrainPop Jr. video on sound, What is Sound Energy?* video

| Standard(s)   | Topic                          | Number of Days |
|---|--------------------------------|----------------|
| 1.PS4.A.1<br>1.ETS1.A.1<br>1.ETS1.B.1<br>1.ETS1.C.1 | <b>Vibrations and Sound</b>    | 3              |
| 1.PS4.A.1<br>1.ETS1.A.1<br>1.ETS1.B.1<br>1.ETS1.C.1 | <b>Sound: Volume and Pitch</b> | 2              |
| 1.PS4.A.1<br>1.ETS1.A.1                             | <b>All About Sound</b>         | 4              |

|  |                          |   |
|--|--------------------------|---|
| 1.ETS1.B.1<br>1.ETS1.C.1   |                          |   |
| 1.PS4.A.1<br>1.PS4.C.1<br>1.ETS1.A.1<br>1.ETS1.B.1<br>1.ETS1.C.1 | <b>Sound Experiments</b> | 4 |

| <b>Unit 4</b><br><b>Sun, Moon, Stars, and Light</b>  |                          |                |
|--|--------------------------|----------------|
| <b>Standards addressed:</b><br>1.ESS1.A.1 - Describe the presence of the Sun, Moon, and stars in the sky over time.<br>1.ESS1.A.2 - Use observations of the sun, moon, and stars to describe patterns that can be predicted. |                          |                |
| <b>Essential Questions:</b><br>What patterns do we see in the day and night sky?<br>What causes the seasons to change?   |                          |                |
| <b>Learning targets:</b><br>Students will use observations of the sun, moon, and stars to describe patterns that can be predicted.   |                          |                |
| <b>Content vocabulary:</b><br>seasons, observe, sunrise, sunset  |                          |                |
| <b>Resources</b><br><i>Changing Seasons, Moonbear's Shadow, Sunshine Makes the Seasons, Moon Dance, Day and Night Sky, BrainPop videos on Sun, Seasons, and Light</i>  |                          |                |
| Standard(s)  | Topic                    | Number of Days |
| 1.ESS1.A.1<br>1.ESS1.A.2   | <b>Changing Seasons</b>  | 3              |
| 1.ESS1.A.1<br>1.ESS1.A.2   | <b>Day and Night Sky</b> | 4              |

|  |  |  |
|--|--|--|
| <b>Unit 5</b><br><b>Animals</b>  |  |  |
| <b>Standards addressed:</b><br>1.LS1.A.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<br>1.LS3.A.1 - Make observations to construct an evidence based account that young plants and animals are like, but not exactly like, their parents. |  |  |
| <b>Essential Questions:</b>  |  |  |

How do animals use their external parts to survive?

**Learning targets:**

Students will understand animals have external parts that help them grow, survive and meet their needs.

Students will understand animals respond to their environment in order to survive.

**Content vocabulary:**

Living, nonliving, adapt, habitat,

**Resources**

*Moving Day; Living and Nonliving; Baby Animals; Living Things Grow and Change; Weird Bird Beaks; Animals, Animals; How Plants and Animals Live; Animals and Plants; Animal Dads; Big Blue Whale; Walk with a Wolf; Elephants Swim; Castles, Caves and Honeycombs; Red Eyed Tree Frog (in Anthology 1.3: Surprises), Brain Pop Jr videos on: Camouflage and Living & Nonliving Things*

| <b>Standard(s)</b>     | <b>Topic</b>                         | <b>Number of Days</b> |
|------------------------|--------------------------------------|-----------------------|
| 1.LS3.A.1              | <b>Moving Day</b>                    | 1 day                 |
| 1.LS3.A.1              | <b>Living and Nonliving</b>          | 1 day                 |
| 1.LS1.A.1<br>1.LS3.A.1 | <b>Baby Animals</b>                  | 2 days                |
| 1.LS3.A.1              | <b>Living Things Grow and Change</b> | 2 days                |
| 1.LS3.A.1              | <b>Weird Blrd Beaks</b>              | 1 day                 |
| 1.LS3.A.1              | <b>Animals, Animals</b>              | 1 day                 |
| 1.LS3.A.1              | <b>How Plants and Animals Live</b>   | 2 days                |
| 1.LS3.A.1              | <b>Animals and Plants</b>            | 2 days                |