

# Next Generation Science Standards

## 3<sup>rd</sup> Grade

<p style="text-align: center;"><b>EARTH SCIENCE</b></p> <p style="text-align: center;"><b><u>Weather and Climate</u></b></p> <p style="text-align: center;">3-ESS2 Earth's Systems 3-ESS3 Earth and Human Activity</p>	<p style="text-align: center;"><b>LIFE SCIENCE</b></p> <p style="text-align: center;"><b><u>Life Cycles and Traits</u></b></p> <p style="text-align: center;">3-LS1 From Molecules to Organisms: Structures and Processes 3-LS3 Heredity: Inheritance and Variation of Traits 3-LS4 Biological Evolution: Unity and Diversity</p>	<p style="text-align: center;"><b>PHYSICAL SCIENCE</b></p> <p style="text-align: center;"><b><u>Forces and Interactions: Motion and Stability</u></b></p> <p style="text-align: center;">3-PS2 Motion and Stability: Forces and Interactions</p>
<p><b>3-ESS2-1.</b> Represent data in tables and graphical displays to <b>describe typical weather conditions expected during a particular season.</b> <i>[i.e. Data on average temperature, precipitation, wind direction in pictographs or bar graphs. Does not include long-term climactic change]</i></p> <p><b>3-ESS2-2.</b> Obtain and combine information to <b>describe climates in different regions of the world.</b> <i>[Note: Review print or internet information on average seasonal conditions of representative ecosystems in various regions of Earth]</i></p> <p><b>3-ESS3-1.</b> Make a claim about the merit of a design <b>solution that reduces the impacts of a weather-related hazard.</b> <i>[i.e. Barriers to prevent flooding, lightning rods, wind resistant roofs, storm cellars]</i></p>	<p><b>3-LS1-1.</b> Develop models to describe that <b>organisms have unique and diverse life cycles, but all have in common birth, growth, reproduction, and death.</b> <i>[i.e. Show patterns in changes of living things]</i></p> <p><b>3-LS3-1.</b> Analyze and interpret data to provide evidence that <b>plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.</b> <i>[i.e. study patterns of similar inherited traits and patterns for variation among different organisms. Emphasis on non-human organisms.]</i></p> <p><b>3-LS3-2.</b> Use evidence to support the explanation that <b>traits can be influenced by the environment.</b> <i>[i.e. study difference in specific plant grown under different conditions -less water or light]</i></p> <p><b>3-LS4-2.</b> Use evidence to construct an explanation for how the <b>variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.</b> <i>[i.e. study the effect of individual variation in plant or animal defenses like thorns or better camouflage]</i></p> <p style="text-align: center;"><b>CONTINUED ON NEXT PAGE</b></p>	<p><b>3-PS2-1.</b> Plan and conduct an investigation to provide evidence of the <b>effects of balanced and unbalanced forces on the motion of an object.</b> <i>[i.e. Compare push on one side of ball vs. equal push on opposite side of ball. Only relative, qualitative observations and one variable (number, size or direction of force) studied at a time. Includes gravity as a downward force.]</i></p> <p><b>3-PS2-2.</b> Make observations and/or measurements of an object's motion to provide evidence that <b>a pattern can be used to predict future motion.</b> <i>[i.e. swinging on a swing, ball rolling back and forth in bowl, see-saw]</i></p> <p><b>3-PS2-3.</b> Ask questions to determine cause and effect <b>relationships of electric or magnetic interactions between two objects not in contact with each other.</b> <i>[i.e. Observe static electricity attraction between balloon and hair or charged plastic rod. Or observe magnetic attraction using different numbers of magnets and different objects. Study how distance between objects affects the strength of the electric or magnetic force. Or how the orientation of magnets affects the force.]</i></p> <p><b>3-PS2-4.</b> Define a simple design problem that can be solved by <b>applying scientific ideas about magnets.</b> <i>[i.e. Construct a latch to keep door shut or create device to move objects or keep them apart.]</i></p>

**Interdependent Relationships in Ecosystems**

**3-LS2** Ecosystems: Interactions, Energy, and Dynamics

**3-LS4** *Biological Evolution: Unity and Diversity*

**3-LS2-1.** Construct an argument that **some animals form groups that help members survive.**

*[i.e. study herding behavior, flocks]*

**3-LS4-1.** Analyze and interpret data from **fossils to provide evidence of the organisms and the environments in which they lived long ago.** *[i.e. study type and distribution of fossils to reveal changing environments, such as marine fossils on land, tropical fossils from arctic, extinct organisms and plant ecosystems]*

**3-LS4-3.** Construct an argument with evidence that **in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.**

*[i.e. compare needs of different plants and animals with biotic and abiotic resources available in specific habitat. Notice interconnectedness.]*

**3-LS4-4.** Make a claim about the merit of a solution to a problem caused **when the environment changes and the types of plants and animals that live there may change.** *[i.e. Compare solutions to specific change in land, water distribution or availability, temperature, food, or other ecosystem characteristic]*

**NGSS Engineering - 3-5-ETS1 Engineering Design**

**3-5-ETS1-1.** Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

**3-5-ETS1-2.** Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

**3-5-ETS1-3.** Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.