

**Science Standards – Topics and Pacing Guide**

2nd Grade



Second grade science students will refine their understanding of plant growth, how plants/animals depend on one another (such as pollination), explore and compare the diversity of life in different habitats, as well as understanding the relationship between wind/water and its effects on changing the shape of the land. These core ideas for scientific investigation in second grade will require grade level appropriate proficiency in developing models, planning, investigations, analyzing, and explaining data. Second grade science students are expected to use these practices to demonstrate understanding of the core ideas.

It is essential that these standards be addressed in contexts that promote scientific inquiry, use of evidence, critical thinking, making connections, and communication.

2<sup>nd</sup> GRADE CORE AND CONTENT STANDARDS (NGSS)

<b>STRUCTURE AND PROPERTIES OF MATTER</b>	<b>INTERDEPENDENT RELATIONSHIP</b>	<b>EARTH'S SYSTEMS: PROCESSES THAT SHAPE THE EARTH</b>	<b>ENGINEERING DESIGN</b>
<p>2-PS1-1: Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.</p> <p>2-PS1-2: Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.</p> <p>2-PS1-3: Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.</p> <p>2-PS1-4: Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.</p>	<p>2-LS2-1: Plan and conduct an investigation to determine if plants need sunlight and water to grow.</p> <p>2-LS2-2: Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.</p> <p>2-LS4-1: Make observations of plants and animals to compare the diversity of life in different habitats.</p>	<p>2-ESS1-1: Use information from several sources to provide evidence that Earth events can occur quickly or slowly.</p> <p>2-ESS2-1: Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.</p> <p>2-ESS2-2: Develop a model to represent the shapes and kinds of land and bodies of water in an area.</p> <p>2-ESS2-3: Obtain information to identify where water is found on Earth and that it can be solid or liquid.</p>	<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 of compare the strengths and weaknesses of how each performs.</p>

2<sup>nd</sup> GRADE TOPIC AND PACING GUIDE

Alignment and integration has been made to the current science series, “Harcourt Science” and the current reading series, “Journeys: Houghton Mifflin Harcourt”. The science pacing guide matches the skills taught in order in the Journeys curriculum and stories. Scientific inquiry and engineering activities have been suggested for the purpose of addressing the skills in the context of the standards. Teachers have the flexibility to adjust within a trimester as they determine appropriate but should keep with the identified science topics and standards that have been specified within that trimester. This alignment ensures that skills are not missed and that all elementary schools are following the same path.

When	Content Standards	Topics	Key Concepts/ Vocabulary	Alignment and Integration	Suggested Scientific Inquiry Activities	Suggested Engineering Activities
1 <sup>st</sup> Trimester	2-LS2-1,2 2-LS4-1  2-ESS2-1,2,3 2-PS1(all)	Animal Traits Animal Homes Agriculture Ocean Life Animal & Human Interactions  Weather Agriculture	traits, offspring, inherit, reproduce, characteristic, canine, adapt, habitat, shelter, pasture, nutrients, seedling, solar energy, lightning, precipitation, water vapor, oceanography, gulf, current, notify, announce, companion.	<u>Harcourt Science: Unit A &amp; B</u>  <u>Harcourt Science: Unit D (for 2-PS1)</u>  <u>NGSS Notebook:</u> Pgs: 34-60,65-70, 10-22, 91-125	Refer to NGSS Interactive Science Notebook  *meet the ETS1-1,2,3 NGSS standards for inquiry and engineering design	Refer to NGSS Interactive Science Notebook

When	Content Standards	Topics	Key Concepts/ Vocabulary	Alignment and Integration	Suggested Scientific Inquiry Activities	Suggested Engineering Activities
2 <sup>nd</sup> Trimester	2-LS4-1  K-2-ETS1-1,2,3	Animal Development  Following Directions	development, life cycle, climate  force, flight, pressure	<u>Harcourt Science:</u> <u>Units A &amp; B</u>  <u>Harcourt Science: Unit E</u>  <u>NGSS Notebook:</u> Pgs: 65-70, 34-52	Refer to NGSS Interactive Science Notebook  *meet the ETS1-1,2,3 NGSS standards for inquiry and engineering design	Refer to NGSS Interactive Science Notebook  *example project: construct a kite and test.

When	Content Standards	Topics	Key Concepts/ Vocabulary	Alignment and Integration	Suggested Scientific Inquiry Activities	Suggested Engineering Activities
3 <sup>rd</sup> Trimester	2-LS2-1,2  2-LS4-1 2-ESS1-1	Life Cycles  Fossils	process, bud, sprout, larva, biology, organism  impression, remains, organic, material	<u>Science: Units A &amp; B</u>  <u>Science: Unit C</u>  <u>NGSS Notebook:</u> 34-60	Refer to NGSS Interactive Science Notebook  *meet the ETS1-1,2,3 NGSS standards for inquiry and engineering design	Refer to NGSS Interactive Science Notebook  *example project: butterfly project, frog life cycle, etc.