Grants Pass School District

Science Standards – Topics and Pacing Guide

3rd Grade

Students are able to organize and use data to describe typical weather conditions expected during a particular season. By applying their understanding of weather-related hazards, students are able to make a claim about the merit of a design solution that reduces the impacts of such hazards. Students are expected to develop an understanding of the similarities and differences of organisms' life cycles. An understanding that organisms have different inherited traits, and that the environment can also affect the traits that an organism develops, is acquired by students at this level. In addition, students are able to construct an explanation using evidence for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. Students are expected to develop an understanding of types of organisms that lived long ago and also about the nature of their environments. Third graders are expected to develop an understanding of the idea that when the environment changes some organisms survive and reproduce, some move to new locations, some move into the transformed environment, and some die. Students are able to determine the effects of balanced and unbalanced forces on the motion of an object and the cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. They are then able to apply their understanding of magnetic interactions to define a simple design problem that can be solved with magnets.

Alignment and integration has been made to the current science series, “Harcourt Science” and the NGSS Interactive Science Notebook Grade 3. Alignment to the current reading series, “Houghton Mifflin Harcourt: Journeys” has also been noted where appropriate. 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	Scientific Inquiry Activities	Engineering Activities
1st Trimester	**3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.** **3-LS2-1. Construct an argument that some animals form groups that help members survive.** **3-LS3-1. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.** **3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment.**	Life Cycles Ecosystems: Interactions, Energy, and Dynamics Inheritance and Variation of Traits	**Life Cycles:** birth growth reproduction death **Ecosystems:** diversity ecosystem group behavior **Inherited Traits:** change traits inheritance	**Life Cycles:** -Harcourt Unit A -NGSS 'Notebook' pp. 36-52 **Ecosystems:** -Harcourt Unit B -NGSS 'Notebook' pp. 53-55 **Inherited Traits:** -Harcourt Unit B -NGSS 'Notebook' pp. 56-63 *Journeys* Unit 2, Week 1: "Bat Loves the Night" / "A Bat is Born" (Topic: Mammals)	How Animals Hide Activity (Harcourt pg. A66-67) Muskox Maneuvers (group activity)	Design a Macroinvertebrate

When	Content Standards	Topics	Key Concepts/ Vocabulary	Alignment and Integration	Suggested Scientific Inquiry Activities	Suggested Engineering Activities
2nd Trimester	**3-LS4-1. Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.** **3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.** **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.** **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.**	Evolution: Unity and Diversity	biodiversity habitat fossils adaptation natural selection extinction inherited traits	**LS4-1** -Harcourt Unit C, Chapter 1 -NGSS 'Notebook' pp. 68-75 **LS4-2, 3, 4** -Harcourt Unit A, Chapter 2 -NGSS 'Notebook' pp. 76-78 -NGSS 'Notebook' pp. 79-82 -NGSS 'Notebook' pp. 83-88 *Journeys* Unit 4, Natural Wonders	ScienceWorks Inquiry Outreach, "Animal Adaptations" Make a Fossil activity Growing lima beans	

When	Content Standards	Topics	Key Concepts/ Vocabulary	Alignment and Integration	Suggested Scientific Inquiry Activities	Suggested Engineering Activities
2nd Trimester	**3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.** **3-ESS2-2. Obtain and combine information to describe climates in different regions of the world.** **3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.**	Weather and Climate Natural Hazards	**Weather and Climate:** temperature precipitation wind seasons atmosphere weather weather map climate Fahrenheit humidity **Natural Hazards Key Concepts:** A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts.	**Weather and Climate:** -Harcourt Unit D -NGSS 'Notebook' pp. 89-107 **Natural Hazards:** -NGSS 'Notebook' pp. 108-111 *Journeys* Unit 4, Week 5: "Life on the Ice" / "The Raven: An Inuit Myth" (Topic: Climate)	Rising Sea Level Investigation	

When	Content Standards	Topics	Key Concepts/ Vocabulary	Alignment and Integration	Suggested Scientific Inquiry Activities	Suggested Engineering Activities
3rd Trimester	**3-PS2-1. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.** **3-PS2-2. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.** **3-PS2-3. Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.** **3-PS2-4. Define a simple design problem that can be solved by applying scientific ideas about magnets.**	Forces and Motion and Magnets	force cause and effect gravity friction mass inertia	-Harcourt Unit F -NGSS 'Notebook' pp. 10-32 *Journeys* Unit 6, Week 2: "The Power of Magnets" / "Electromagnets and You" (Topic: Magnets)	ScienceWorks Inquiry Outreach, "Magnetic Personalities" Magnetic Forces Inquiry Performance Task Magnetism investigation Investigating the Magnetic Force Field	ScienceWorks Engineering Outreach "Move It!" Toothpicks and marshmallow bridge building Designing Simple Machines Change in Motion Activity