**Wonders and NGSS Alignment Document**

All topics are the subject of readings for the week. (Topics are not taught 3-Dimensionally)

Most topics link to the DCI of PEs only

Bolded NGSS grade level alignment PEs = curriculum aligns to PEs from a different grade level

|  |  |  |
| --- | --- | --- |
| **Kindergarten** | | |
| **Unit Topic** | **Science Connection** | **NGSS Grade level alignment (based on National standards and framework)** |
| Unit 1: Take A New Step  Week 3: Essential Question: How can your senses help you learn? | Solve problems through engineering. Make a display |  |
| Unit 2: Let’s Explore  Week 1: Essential Question: How do tools help us explore?  Week 2: Essential Question: What shapes do you see around you?  Week 3: Essential Question: What kinds of bugs do you know about? | Solve problems through engineering. Make a tool belt.  Find solutions to problems through observation. Make a chart  Explore what animals need to live and grow. Make a Bug Bulletin Board | k-LS1-1 and K-ESS3-1 |
| Unit 3: Going Places  Week 2: Essential Question: What are the different sounds we hear? | Ask questions and make observations | ***1-PS4-1*** |
| Unit 5: Wonders of Nature  Week 1: Essential question: What do things need to grow?  Week 2: Essential question: How do living things change as they grow?  Week 3: Essential question: What kinds of things grow on a farm? | Explore how plants get what they need. Make a poster.  Observe what plants need to survive. Make a Tree Life Cycle Display  Explore what people need to survive. Make an illustrated fruit basket. | K-LS1-1  Loose connection to ***1-LS1-1***  K-3SS3-1 |
| Unit 6: Weather for all Seasons  Week 1: Essential Question: How are the seasons different?  Week 2: Essential Question: What happens in different kinds of weather?  Week 3: Essential Question: How can you stay safe in bad weather? | Explore the climate and weather. Make a season’s chart.  Explore the weather around us. Make a wind chart.  Explore severe weather | Background for: K-ESS2-1 and K-ESS3-2  K-ESS2-1 and K-ESS3-2  K-ESS2-1 and K-ESS3-2 |
| Unit 7: The Animal Kingdom  Week 1: Essential Question: How are some animals alike and how are they different?  Week 3: Essential question: Where do animals live? | Explore what animals need to grow and live. Create an animal features report.  Explore what animals need to live and grow. Habitat Diorama | K-LS1-1 Plant and animal needs  K-LS1-1 |
| Unit 8: From Here to There  Week 3: Essential Question: What do you see in the night sky? | Make observations about night and day. Make a sky display. | ***1-ESS1-1*** |
| Unit 9: How Things Change  Week 3: Essential Question: How can things in nature be used to make new things? | Explore the needs of living things | K-ESS3-3 |
| Unit 10: Thinking Outside the Box  Week 3: Essential Question: What ideas can you suggest to protect the environment? | Explore how people can help save the environment | K-ESS3-3 |

|  |  |  |
| --- | --- | --- |
| **Grade 1** | | |
| **Unit Topic** | **Science Connection** | **NGSS Grade level alignment (based on National standards and framework)** |
| ***Unit 1: Getting to Know Us***  Week #3: Essential question: What makes a pet special?  Week #5: Let’s move! How does your body move? | Explore what pets need to survive  Create a poster answering the question: What are the ways to care for pets?  Explore how people and animals use their body parts  Create a visual record to answer the question: How does the human body move? | Loose connection to LS1 |
| ***Unit 2: Our community***  Week #3: A community in nature. Essential Question: Where do animals live together? | Explore how animals adapt to different environments. Make a collage to answer the questions: What can we learn about a habitat? What kinds of creatures live there? |  |
| ***Unit 3: Watch It Grow!***  Week 2: Essential question: How do plants change as they grow? | Explore what helps plants survive  Make a flip book to answer the question how do plants change as they grow. | 1-LS1-2: Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive |
| ***Unit 4: Animals Everywhere!***  Week 1: Essential Question: How do animals’ bodies help them?  Week 2: Essential Question: How do animals help each other?  Week 3: Essential question: How do animals survive in nature?  Week 4: Essential question: What insects do you know about? How are they alike and different?  Week 5: Essential question: How do people work with different animals? | Explore different parts of animals’ body parts  Make a poster that answers the question: What can we learn about animal features?  Explore how animals have behaviors that help them to survive. Write a report answering the question: How can animals help one another?  Explore how animals adapt to their environment. Make a diorama that answers the question: How do animals survive in their habitats?  Explore how insects adapt to different environments. Make a diagram that answers the question: What can we learn about insects?  Explore different ways that people work with animals. Make a poster that answers the question: How do people and animals work together? | 1-LS3-1: Make observations to construct an evidence-based account that young plants and animals are alike, but not exactly like, their parents  1-LS1-2  1-LS1-2 and 1-LS3-1  1-LS1-2 and 1-LS3-1 |
| ***Unit 5: Figure It Out!***  Week 1: Essential Question: How can we classify and categorize things?  Week 2: Essential Question: What can you see in the sky?  Week 4: Essential Question: What sounds can you hear? How are they made?  Week 5: Essential Question: How do things get built? | Explore how animals adapt to their environment. Make a graph to show how we classify and categorize objects.  Explore how animals respond to the things around them. Make a poster that answers the question: What can we see in the sky?  Explore the sounds around us. Use a sound effects chart to answer the question: What can we learn about the sounds we hear, specifically on the radio?  Explore engineering solutions to everyday problems. Make a model of how things are built. | 1-ES1-1: Use observations of the sun, moon, and stars to describe patterns that can be predicted.  Loose connection to:  1-PS4-1: Plan and conduct an investigation to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.  K-2-ETS1 Engineering Design |
| ***Unit 6: Together We Can!***  Week 3: How can weather affect us? | Explore how weather affects the way people live. Make a mini tornado to answer the question: What can we learn about tornadoes? | ***3-ESS3-1 Make a claim about the merit of a design solution that reduces the impacts of a weather related hazard***. |

|  |  |  |
| --- | --- | --- |
| **2nd Grade** | | |
| **Unit Topic** | **Science Connection** | **NGSS Grade level alignment (based on National standards and framework)** |
| ***Unit 1: Family and Friends***  Week 3: Essential question: How can a pet be an important friend?  Week 4: Essential Question: How do we care for animals? | Investigate different animals and their needs  Make a poster to answer the questions: What makes an animal a good pet?  Explore the different kinds of living things  Make a collage to answer the question: What are the basic needs of animals? | ***K-ESS2-2*** |
| ***Unit 2: Animal Discoveries***  Week 1: Essential question: How do animals survive?  Week 3: Essential question: What are the features of different animal habitats?  Week 4: Essential question: How are offspring like their parents? | Explore different kinds of living things  Create a fact sheet to answer the question: How do animals survive in their natural environment?  Explore living things in different environments. Make animal and habitat cards to answer the question: What are the features of animal habitats?  Explore the life cycles of different animals. Make a venn diagram to answer the question: How are baby organisms like their parents? | 2-LS4-1 |
|  |  |  |
| ***Unit 3: Live and Learn***  Week 1: Essential question: How do the earth’s forces affect us?  Week 2: Essential question: What can we see in the sky?  Week 4: Weather alert! Essential question: How does weather affect us?  Week 5: Essential question: How do you express yourself? | Explore different observable forces. Make a chart to answer the question: How do earth’s forces affect us? Research the pushes and pulls in your everyday life.  Find out about observable events that occur over time. Explore the phases of the moon. Write a description.  Explore how weather can have an effect on the land. Make a poster to answer the question: How can people stay safe in extreme weather?  Consider solutions to problems using engineering. Make a poster or multimedia presentation that answers the question: How do different musical instruments work? | ***K-PS2-1***  ***1-ESS1-1***  ***K-ESS3-2 and*** 2-ESS2-1  ***1-PS4-1*** |
| ***Unit 4: Our Life/Our World***  Week 2: Essential Question: How does the earth change?  Week 5: Essential question: What excites us about nature? | Explore how people can prepare for disasters. Write a summary to answer the question: How do natural events change the earth? (Earthquakes/Glaciers)  Plants depend on water and light to grow. | 2-Ess2-1 and 2-ESS2-2 |
| ***Unit 5: Let’s Make a Difference***  Week 4: Essential question: How can we protect the earth? | See how people can innovate to solve problems. Make a chart to answer the question: How can recycling different items and materials help protect the earth? | ***K-ESS3-3*** |
| ***Unit 6: How on Earth?***  Week 1: Essential question: What do myths help us understand?  Week 2: How do we use energy?  Week 3: Essential question: Why is teamwork important? | Discover what plants depend on to grow. Make a booklet to share your research about a plant and what it needs to grow.  Consider how gathering information can help in finding solutions to power problems. Make a timeline to answer the question: How do we use different forms of energy in our everyday lives?  How do some people make observations and gather helpful information for a living? | 2-LS2-1 |

|  |  |  |
| --- | --- | --- |
| **3rd Grade** | | |
| **Unit Topic** | **Science Connection** | **NGSS Grade level alignment (based on National standards and framework)** |
| ***Unit 1: Growing and Learning***  Week 4: Essential question: How can problem solving lead to new ideas? | Explain how scientists develop possible solutions. |  |
| ***Unit 2: Figure It Out***  Week 1: Essential question: Why is working together a good way to solve a problem?  Week 4: Essential question: How can people help animals survive? | Understand that humans can take steps to minimize the impacts of natural hazards. Investigate floods.  Describe how organisms adapt or fail to adapt to particular environments. Investigate floods. | ESS3-1 |
| ***Unit 3: One of a Kind***  Week 1: Essential question: What makes animals unique?  Week 3: Essential question: What do we know about Earth and its neighbors?  Week 4: Essential question: What ideas can we get from nature? | Understand how organisms vary because they have different inheritances. Opinion piece: Take a Stand on Overfishing.  Reading about planets. Opinion piece on Overfishing.  Reading about nature designs (biomimicry)  Know that different solutions need to be tested to find which solves the problem. Overfishing piece continued. | 3-LS3-1  Planets not in standards any longer  ***1-LS1-2*** |
| ***Unit 4: Meet the Challenge***  Week 3: Essential question: How do animals adapt to challenges in their habitat?  Week 4: Essential question: How are people able to fly? | Describe how in a particular environment, some organisms survive well, some less well, and some not at all. Frog narrative  Learn that forces that do not equal out to zero can cause changes in speed or direction (through readings about flight). Continue frog narrative | 3-LS4-3 and 3-LS4-4 |
| ***Unit 5: Take Action***  Week 1: Essential question: How can we reuse what we already have?  Week 5: Essential question: What are different kinds of energy? | Research how to recycle everyday materials  Research alternative and traditional energy sources | ***4-PS3-1*** |
| ***Unit 6: Think It Over***  Week 2: Essential question: How can weather affect us?  Week 4: Essential question: How can learning about animals help you respect them? | Historical fiction and fables about weather. Research the effects of extreme weather  Research an animals’ unique qualities. Create illustrations | Loose connection to 3-LS4-3 |

|  |  |  |
| --- | --- | --- |
| **4th Grade** | | |
| **Unit Topic** | **Science Connection** | **NGSS Grade level alignment (based on National standards and framework)** |
| ***Unit 1: Think It Through***  Week 3: Essential question: How do people respond to natural disasters?  Week 4: Essential question: How can science help you understand how things work? | Make observations on the effects of weathering. Conduct research on How to prepare for a natural disaster (poster).  Relative speed to energy of an object | 4-ESS1-1 and 4-ESS1-2  Loose connection to: 4-PS3-1 and 4-PS3-2 |
| ***Unit 2: Amazing Animals***  Week 3: Essential question: How are things connected?  Week 4: Essential question: What helps an animal survive? | Explain how living things affect the physical characteristics of their regions. Investigate sharks.  Plants and animals have structures for growth and development | Loos connection to 4-ESS2-1 and 3rd and 5th grade Ecosystems PEs  Connection to 4-LS1-1 and 4-LS1-2 |
| ***Unit 3: That’s the Spirit!***  Week 5: Essential question: In what ways can advances in science be helpful or harmful? | Research a problem before beginning a design solution. (Pest control and organic gardening) |  |
| ***Unit 4: Fact or Fiction***  Week 3: Essential question: How do inventions and technology affect your life?  Week 4: Essential question: How do you explain what you see in the sky? | Develop solutions to problems.  Stargazing and why does the moon change shape? | 3-5-ETS1-3  5-ES |
| ***Unit 5: Figure It Out***  Week 3: Essential question: How can inventions solve problems?  Week 4: What can you discover when you look closely at something? | Understand that energy can be transferred by sound, light, heat and electric currents.  Learn that waves can be made in water when the surface is disturbed. | 4-PS3-1, 4-PS3-2 |
| ***Unit 6: Past, Present, and Future***  Week 3: Essential question: How have our energy resources changed over the years? | Nonfiction narratives about light, energy and planet power. | 4-PS3-1, 4-PS3-2, 4-PS-3-3 |

|  |  |  |
| --- | --- | --- |
| **5th Grade** | | |
| **Unit Topic** | **Science Connection** | **NGSS Grade level alignment (based on National standards and framework)** |
| ***Unit 1: Eureka! I’ve Got It!***  Week 4: Essential question: How does technology lead to creative ideas?  Week 5: Essential question: What are the positive and negative effects of technology? | Investigate a solution to determine how well it performs under likely conditions (reading about inventors of technology)  Investigate a solution to determine how well it performs under likely conditions (reading about robots and e-books) |  |
| ***Unit 2: Taking the Next Step***  Week 3: Essential question: How do we investigate questions about nature? | Read bibliographies about Audubon and Norman Borlaug. Investigate solar energy. | ***4-ESS3-1*** |
| ***Unit 3: Getting from Here to There***  Week 2: Essential question: How can learning about nature be useful?  Week 3: Essential question: Where can you find patterns in nature? | Reading about natural materials and resources people use (medicine, etc.)  Describe the interaction between the hydrosphere and the atmosphere. Take a stand on water conservation. | 5-ESS2-1 |
| ***Unit 4: It’s Up to You***  Week 4: Essential question: Why are natural resources valuable? | Investigate the qualities of a healthy ecosystem. (readings on soil, wells, and compost) | ***3-LS4-3 and 3-LS4-4*** |
| ***Unit 5: New Perspectives***  Week 3: Essential question: What changes in the environment affect living things?  Week 4: Essential question: How can scientific knowledge change over time?  Week 5: Essential question: How do natural events and human activities affect the environment? | Interaction between the spheres (Readings on: climate change, global warming, and ocean threats, floating trash)  Explain why research on a problem should be done before looking for a solution. (Readings: When is a planet not a planet?, the sun, and changing views of earth)  Newly introduced species can damage the balance of an existing ecosystem. (Readings on Dams, missing bees, non-native species, Great plains’ wolves) | 5-ESS3-1  Earth’s place (planets not specifically called out in new standards) |
| ***Unit 6: Linked In***  Week 3: Essential question: How are living things adapted to their environment?  Week 4: Essential question: What impact do our actions have on our world? | Know that organisms can survive only in an environment that meets their needs.  Explain how matter cycles between air, soil, plants, animals, and microbes. Readings are about: Bio of Rachel Carson, park project and Marjory Douglas | ***3-LS4-3 and 3-LS4-4***  5-PS3-1 |