

# Unit #3: Science and Nature

Content Area: **Language Arts**  
Course(s): **Grade 4**  
Time Period: **Second Trimester**  
Length: **5-6 Weeks**  
Status: **Published**

## Unit Overview

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The theme “Science and Nature” was selected for a five to six week unit of study. Students will explore the effects of extreme weather as well as the interconnectedness of all living things. This thematic unit will incorporate language arts and science content. Students will work individually, in groups and teams. The writing focus is opinion.

## STAGE 1- DESIRED RESULTS

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**The following goals, as outlined in the NJSLS, will provide a framework for preparation and instruction in English Language Arts:**

1. Understands the key ideas and details as well as the craft and structure of literary and informational texts.
2. Integrates the knowledge and ideas found in fiction and nonfiction.
3. With prompting and support, reads and comprehends literature and informational texts at grade level text complexity or above.
4. Knows and applies grade level phonics and word analysis skills.
5. Reads with accuracy and fluency to support comprehension.
6. Writes and produces a variety of text types for a range of purposes.
7. Researches topics to build and present knowledge.
8. Writes routinely over extended time frames.
9. Participates in a variety of rich and structured conversations.
10. Presents knowledge and ideas in a variety of ways.
11. Gains control over many conventions of standard English grammar, usage and mechanics.
12. Uses grade-appropriate words by determining the meaning (and multiple meanings) and expands their content-area vocabulary

## Interdisciplinary Connections

Refer to 3-5 Career Readiness, Life Literacies, and Key Skills supporting document on OnCourse.

## **2016 New Jersey Students Learning Standards- Language Arts**

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### **\* Reading Literature Text**

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#### **Key Ideas and Details**

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| LA.RL.4.1 | Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.   |
| LA.RL.4.2 | Determine a theme of a story, drama, or poem from details in the text; summarize the text.   |
| LA.RL.4.3 | Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions). |

#### **Craft and Structure**

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|-----------|--|
| LA.RL.4.4 | Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in literature.  |
| LA.RL.4.5 | Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text. |
| LA.RL.4.6 | Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.   |

#### **Integration of Knowledge and Ideas**

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| LA.RL.4.7 | Make connections between specific descriptions and directions in a text and a visual or oral representation of the text.  |
| LA.RL.4.8 | (Not applicable to literature)  |
| LA.RL.4.9 | Compare, contrast and reflect on (e.g., practical knowledge, historical/cultural context, and background knowledge) stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics. |

## **Range of Reading and Level of Text Complexity**

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LA.RL.4.10

By the end of the year, read and comprehend literature, including stories, dramas, and poems at grade level text-complexity or above, with scaffolding as needed.

## **\* Reading Informational Text**

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### **Key Ideas and Details**

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LA.RI.4.1

Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.

LA.RI.4.2

Determine the main idea of a text and explain how it is supported by key details; summarize the text.

LA.RI.4.3

Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

### **Craft and Structure**

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LA.RI.4.4

Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area.

LA.RI.4.5

Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.

LA.RI.4.6

Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.

### **Integration of Knowledge and Ideas**

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LA.RI.4.7

Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.

LA.RI.4.8

Explain how an author uses reasons and evidence to support particular points in a text.

LA.RI.4.9

Integrate and reflect on (e.g., practical knowledge, historical/cultural context, and background knowledge) information from two texts on the same topic in order to write or speak about the subject knowledgeably.

## **Range of Reading and Level of Text Complexity**

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LA.RI.4.10

By the end of year, read and comprehend literary nonfiction at grade level text-complexity or above, with scaffolding as needed.

## **\* Reading Foundations Skills**

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### **Phonics and Word Recognition**

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LA.RF.4.3	Know and apply grade-level phonics and word analysis skills in decoding and encoding words.
LA.RF.4.3.A	Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.

### **Fluency**

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LA.RF.4.4	Read with sufficient accuracy and fluency to support comprehension.
LA.RF.4.4.A	Read grade-level text with purpose and understanding.
LA.RF.4.4.B	Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression.
LA.RF.4.4.C	Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

## **\* Writing**

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Scope and Sequence for Journeys writing attached.    Pacing links to the units.

### **Text Types and Purposes**

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LA.W.4.1	Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
LA.W.4.1.B	Provide reasons that are supported by facts from texts and/or other sources.
LA.W.4.1.C	Link opinion and reasons using words and phrases (e.g., for instance, in order to, in addition).
LA.W.4.1.D	Provide a conclusion related to the opinion presented.
LA.W.4.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
LA.W.4.2.A	Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
LA.W.4.2.B	Develop the topic with facts, definitions, concrete details, text evidence, or other information and examples related to the topic.
LA.W.4.2.C	Link ideas within paragraphs and sections of information using words and phrases (e.g., another, for example, also, because).

LA.W.4.2.D	Use precise language and domain-specific vocabulary to inform about or explain the topic.
LA.W.4.2.E	Provide a conclusion related to the information or explanation presented.
LA.W.4.3	Write narratives to develop real or imagined experiences or events using narrative technique, descriptive details, and clear event sequences.
LA.W.4.3.A	Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally.
LA.W.4.3.B	Use dialogue and description to develop experiences and events or show the responses of characters to situations.
LA.W.4.3.C	Use a variety of transitional words and phrases to manage the sequence of events.
LA.W.4.3.D	Use concrete words and phrases and sensory details to convey experiences and events precisely.
LA.W.4.3.E	Provide a conclusion that follows from the narrated experiences or events.
LA.4.W.4.1.A	Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related idea the writer’s purpose.

## **Production and Distribution of Writing**

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LA.W.4.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LA.W.4.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.
LA.W.4.6	With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.

## **Research to Build and Present Knowledge**

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LA.W.4.7	Conduct short research projects that build knowledge through investigation of different aspects of a topic.
LA.W.4.8	Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.
LA.W.4.9	Draw evidence from literary or informational texts to support analysis, reflection, and research.
LA.W.4.9.A	Apply grade 4 Reading standards to literature (e.g., “Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character’s thoughts, words, or actions].”).
LA.W.4.9.B	Apply grade 4 Reading standards to informational texts (e.g., “Explain how an author uses reasons and evidence to support particular points in a text”).

## **Range of Writing**

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LA.W.4.10	Write routinely over extended time frames (time for research, reflection, metacognition/self-correction and revision) and shorter time frames (a single sitting or a
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day or two) for a range of discipline-specific tasks, purposes, and audiences.

## **\* Speaking and Listening**

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### **Comprehension and Collaboration**

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LA.SL.4.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
LA.SL.4.1.A	Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.
LA.SL.4.1.B	Follow agreed-upon rules for discussions and carry out assigned roles.
LA.SL.4.1.C	Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.
LA.SL.4.1.D	Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
LA.SL.4.2	Paraphrase portions of a text read aloud or information presented in diverse media and formats (e.g., visually, quantitatively, and orally).
LA.SL.4.3	Identify the reasons and evidence a speaker provides to support particular points.

### **Presentation of Knowledge and Ideas**

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LA.SL.4.4	Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
LA.SL.4.5	Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.
LA.SL.4.6	Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation.

## **\* Language**

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### **Conventions of Standard English**

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LA.L.4.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
LA.L.4.1.A	Use relative pronouns (who, whose, whom, which, that) and relative adverbs (where, when, why).

LA.L.4.1.B	Form and use the progressive (e.g., I was walking; I am walking; I will be walking) verb tenses.
LA.L.4.1.C	Use modal auxiliaries (e.g., can, may, must) to convey various conditions.
LA.L.4.1.D	Order adjectives within sentences according to conventional patterns (e.g., a small red bag rather than a red small bag).
LA.L.4.1.E	Form and use prepositional phrases.
LA.L.4.1.F	Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.
LA.L.4.1.G	Correctly use frequently confused words (e.g., to, too, two; there, their).
LA.L.4.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
LA.L.4.2.A	Use correct capitalization.
LA.L.4.2.B	Use commas and quotation marks to mark direct speech and quotations from a text.
LA.L.4.2.C	Use a comma before a coordinating conjunction in a compound sentence.
LA.L.4.2.D	Spell grade-appropriate words correctly, consulting references as needed.

## Knowledge of Language

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LA.L.4.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening.
LA.L.4.3.A	Choose words and phrases to convey ideas precisely.
LA.L.4.3.B	Choose punctuation for effect.
LA.L.4.3.C	Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).

## Vocabulary Acquisition and Use

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LA.L.4.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.
LA.L.4.4.A	Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.
LA.L.4.4.B	Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., telegraph, photograph, autograph).
LA.L.4.4.C	Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.
LA.L.4.5	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
LA.L.4.5.A	Explain the meaning of simple similes and metaphors (e.g., as pretty as a picture) in context.
LA.L.4.5.B	Recognize and explain the meaning of common idioms, adages, and proverbs.
LA.L.4.5.C	Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).
LA.L.4.6	Acquire and use accurately grade-appropriate general academic and domain-specific

words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., wildlife, conservation, and endangered when discussing animal preservation).

## **Essential Questions**

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- **How does extreme weather affect our world?**
- **What is the importance of studying science?**
- **How are all living things connected?**

## **Enduring Understanding**

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*Students will understand that...*

- they can learn about the world around them through reading informational text.
- they can voice their opinion through writing in the form of a persuasive essay or letter.
- authors have a purpose for writing and they can also apply purpose to their own writing
- they must work independently, in small groups and teams in order to complete assigned projects

## **Students will know...**

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- how to identify text and graphic features and their function in informational texts.
- that informational texts use different organizational patterns and structures in the text to present ideas.
- how scientific ideas are explained in informational texts.
- that word choice is used to help readers picture events as they are happening.
- how to use text details to understand the character traits.
- that text details and signal words will aid in the sequence of events in an informational text.
- that authors writing in special areas of knowledge, or domains, often use vocabulary words specific to their topic.
- how to identify author's purpose.



- how to analyze an author's argument.

### **Students will be able to...**

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- use inferencing and predicting in order to gain a deeper understanding of what they are reading.
- visualize characters, settings, and events based on text details.
- summarize narrative nonfiction texts
- use text details to monitor and clarify understanding.
- how to write an opinion piece.

## **STAGE 2- EVIDENCE OF LEARNING**

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### **Formative Assessment Suggestions**

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- 3- Minute Pause
- A-B-C Summaries
- Analogy Prompt
- Choral Response
- Debriefing
- Edmentum
- Exit Card / Ticket
- Hand Signals
- Idea Spinner
- Index Card Summaries
- Inside-Outside Circle Discussion (Fishbowl)
- Journal Entry
- Misconception Check
- Observation
- One Minute Essay
- One Word Summary
- Portfolio Check
- Questions & Answers

- Quiz
- Self-Assessment
- Student Conference
- Think-Pair-Share
- Web or Concept Map

## **Summative Assessments Suggestions**

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- DRA
- DRA Progress Monitoring
- Cold Reads
- Teacher-Created assessments
- Unit Tests
- Published writing samples
- Performance Based Tasks
- WTW Spelling Inventories
- Edmentum

## **Alternative Assessments Suggestions**

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- Center Work
- Project Based Learning
- Writing Templates
- Thoughtful Tools for Assessment

## **Benchmark Assessments**

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- Journeys Benchmark Assessments

## **STAGE 3- LEARNING PLAN**

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## **Instructional Map**

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## Activities:

- 100 Book Challenge
- Brainstorm reasons to support opinions on a chosen topic
- Use resources such as text books, dictionaries, thesauruses, and internet
- Conduct a short research project on weather statistics
- Observe weather and record data
- Create a class book about local weather
- Use technology to print and publish articles
- Research animal habitats and create drawings to share information
- Make factual timelines
- Compare and contrast two accounts of the same topic
- Take notes and categorize information
- Write environmental news reports
- Acquire and use domain-specific vocabulary, play jeopardy, use the list-group-label vocabulary strategy.

## **Modifications/Differentiation of Instruction**

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### **Modification Strategies**

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#### Differentiation Strategies for Special Education Students

- Remove unnecessary material, words, etc., that can distract from the content
- Use of off-grade level materials
- Provide appropriate scaffolding
- Limit the number of steps required for completion
- Time allowed
- Level of independence required
- Tiered centers, assignments, lessons, or products
- Provide appropriate leveled reading materials
- Deliver the content in “chunks”
- Varied texts and supplementary materials

- Use technology, if available and appropriate
- Varied homework and products
- Varied questioning strategies
- Provide background knowledge
- Define key vocabulary, multiple-meaning words, and figurative language.
- Use audio and visual supports, if available and appropriate
- Provide multiple learning opportunities to reinforce key concepts and vocabulary
- Meet with small groups to reteach idea/skill
- Provide cross-content application of concepts
- Ability to work at their own pace
- Present ideas using auditory, visual, kinesthetic, & tactile means
- Provide graphic organizers and/or highlighted materials
- Strategy and flexible groups based on formative assessment
- Differentiated checklists and rubrics, if available and appropriate

### Differentiation Strategies for Gifted and Talented Students

- Increase the level of complexity
- Decrease scaffolding
- Variety of finished products
- Allow for greater independence
- Learning stations, interest groups
- Varied texts and supplementary materials
- Use of technology
- Flexibility in assignments
- Varied questioning strategies
- Encourage research
- Strategy and flexible groups based on formative assessment or student choice
- Acceleration within a unit of study
- Exposure to more advanced or complex concepts, abstractions, and materials
- Encourage students to move through content areas at their own pace
- After mastery of a unit, provide students with more advanced learning activities, not more of the same activity
- Present information using a thematic, broad-based, and integrative content, rather than just single-subject areas

### Differentiated Strategies for ELL Students

- Remove unnecessary materials, words, etc., that can distract from the content
- Provide appropriate scaffolding
- Limit the number of steps required for completion
- Gradually increase the level of independence required
- Tiered centers, assignments, lessons, or products

- Provide appropriate leveled reading materials
- Deliver the content in “chunks”
- Varied texts and supplementary materials, including visuals
- Use technology, if available and appropriate
- Differentiate homework and products
- Varied questioning strategies
- Provide background knowledge
- Define key vocabulary, multiple-meaning words, and figurative language.
- Use audio and visual supports, if available and appropriate
- Provide multiple learning opportunities to reinforce key concepts and vocabulary
- Meet with small groups to reteach idea/skill
- Provide cross-content application of concepts
- Allow students to work at their own pace
- Presenting ideas through auditory, visual, kinesthetic, & tactile means
- Role play
- Provide graphic organizers, highlighted materials
- Strategy and flexible groups based on formative assessment

#### Differentiation Strategies for At Risk Students

- Remove unnecessary materials, words, etc., that can distract from the content
- Provide appropriate scaffolding
- Limit the number of steps required for completion
- Gradually increase the level of independence required
- Tiered centers, assignments, lessons, or products
- Provide appropriate leveled reading materials
- Deliver the content in “chunks”
- Varied texts and supplementary materials
- Use technology, if available and appropriate
- Differentiate homework and products
- Varied questioning strategies
- Provide background knowledge
- Define key vocabulary, multiple-meaning words, and figurative language
- Use audio and visual supports, if available and appropriate
- Provide multiple learning opportunities to reinforce key concepts and vocabulary
- Meet with small groups to reteach idea/skill
- Provide cross-content application of concepts
- Presenting ideas through auditory, visual, kinesthetic, & tactile means
- Provide graphic organizers and/or highlighted materials
- Strategy and flexible groups based on formative assessment

## 504 Plans

Students can qualify for 504 plans if they have physical or mental impairments that affect or limit any of their abilities to:

- walk, breathe, eat, or sleep
- communicate, see, hear, or speak
- read, concentrate, think, or learn
- stand, bend, lift, or work

Examples of accommodations in 504 plans include:

- preferential seating
- extended time on tests and assignments
- reduced homework or classwork
- verbal, visual, or technology aids
- modified textbooks or audio-video materials
- behavior management support
- adjusted class schedules or grading
- verbal testing
- excused lateness, absence, or missed classwork
- pre-approved nurse's office visits and accompaniment to visits
- occupational or physical therapy

- Extended Time
- Frequent Breaks
- Highlighted Text
- Interactive Notebook
- Modified Test
- Oral Directions
- Peer Tutoring
- Preferential Seating
- Re-Direct
- Repeated Drill / Practice
- Shortened Assignments
- Teacher Notes
- Tutorials
- Use of Additional Reference Material
- Use of Audio Resources

- Alternative Assessments
- Choice Boards
- Games and Tournaments
- Group Investigations
- Guided Reading
- Independent Research / Project
- Interest Groups
- Learning Contracts
- Leveled Rubrics
- Literature Circles
- Menu Assignments
- Multiple Intelligence Options
- Multiple Texts
- Personal Agendas
- Project Based Learning (PBL)
- Stations / Centers
- Think-Tac-Toe
- Tiered Activities / Assignments
- Varying Graphic Organizers

## **Low Preparation Differentiation**

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- Choice of Book / Activity
- Cubing Activities
- Exploration by Interest (using interest inventories)
- Flexible Grouping
- Goal Setting With Student
- Homework Options
- Jigsaw
- Mini Workshops to Extend Skills
- Mini Workshops to Re-teach
- Open-ended Activities
- Think-Pair-Share by Interest
- Think-Pair-Share by Learning Style
- Think-Pair-Share by Learning Style
- Think-Pair-Share by Readiness
- Use of Collaboration
- Use of Reading Buddies
- Varied Journal Prompts

- Varied Product Choice
- Varied Supplemental Materials
- Work Alone / Together

## **Horizontal Integration- Interdisciplinary Connections**

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**Math:** Create a diagram

Water is an important resource. Research the amount of rain that falls in your community or state in a typical year. Record the information on a chart.

**Science:** Earth Science

Explain to students that the first successful weather satellite launched from Cape Canaveral, Florida in 1960. From an altitude of 450 miles above earth, it was used to survey the atmosphere. Ask students what weather satellite might observe besides hurricanes. Use classroom projector (Promethean) to view an animated tour of a weather satellite. (YouTube)

MA.4.MD

Measurement and Data

4-ESS3-2.ESS3.B

Natural Hazards

## **Vertical Integration- Discipline Mapping**

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The curriculum map in Grades 1 – 5 focus on several domains that are developed and reviewed across units. Life science, community, social relationships, cultures and are all domains that are spiraled across the grades.

- In life science students explore animals by learning about how they communicate, their traits, habitats, life cycles and behaviors.
- Students will learn the functional processes of a community including community types, and active membership.
- Students will explore social relationships. They will find out what is important about being a friend, become aware of their feelings and emotions, gain appreciation for differences and unique characteristics of others.
- Cultural awareness is heightened through developing in-depth knowledge of history, traditional stories, historical figures and documents, and traditions.
- American History is presented through texts that include the settling and agricultural challenges faced in the west by pioneers, character traits of successful leaders and inventors, and the opinions that led to the fight for freedom and development of the American government.



## **Additional Materials**

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### **Suggested Resources & Materials:**

#### Journeys Paired Selections

- *Hurricanes:Earth's Mightiest Storms/Recovering from Katrina*
- *The Earth Dragon Awakes/Twisters*
- *Antarctic Journal/Cold, Cold Science*
- *The Life and Times of the Ant/The Dove and the Ant*
- *Ecology for Kids/Wonderful Weather*

#### Guided Reading

- Journeys Leveled readers (Below, On, Above, ELL and Vocabulary Readers)
- Reading A-Z leveled texts
- Scholastic Leveled Readers

#### Independent Reading/Research

- 100 Book Challenge Books
- Various newspapers & magazines
- Readworks texts

#### Writing

- Journeys Writing Curriculum (see attached document)

#### Websites

- [www.fcrr.org](http://www.fcrr.org)
- [www.quizlet.com](http://www.quizlet.com)
- [www.newsela.com](http://www.newsela.com)
- [www.commonlit.org](http://www.commonlit.org)
- [www.readinga-z.com](http://www.readinga-z.com)
- [www.readworks.org](http://www.readworks.org)

- [www.readwritethink.org](http://www.readwritethink.org)
- [www.professorgarfield.com](http://www.professorgarfield.com)