



EXPEDITIONARY
LEARNING

Grade 5: Module 4: Overview



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The fourth module of fifth grade engages students in a high-interest topic—natural disasters—with a literacy focus on point of view in literature, research, opinion writing, and public speaking. The module integrates science content (about extreme natural events) with a Social Studies focus on the Western Hemisphere and the role of multinational organizations. In Unit 1, students read about the science behind natural disasters, specifically earthquakes and hurricanes. In Unit 2, students read two pieces of literature that are set during a natural disaster: the beautifully illustrated picture book *Eight Days: A Story of Haiti* by Edwidge Dantikat and the novel *Dark Water Rising* by Marian Hale. Students will analyze how the narrator’s perspective determines how events are described; they also will analyze visual elements and compare and contrast themes in these two texts.

In Unit 3, students work in research teams to investigate natural disasters that have affected countries in the Western Hemisphere. As a connection to Social Studies, students also will read primary source documents to learn about how the United States and multinational organizations, such as the Red Cross, respond to disasters in the Western Hemisphere. Based on this research, students then will draft and revise an opinion speech in which they take a stand on what role U.S. humanitarian organizations should take when neighboring countries are struck by natural disasters. They will then deliver this speech to the class. **This written and public speaking performance task centers on NYSP12 ELA Standards RI.5.7, RI.5.9, W.5.1, W.5.4, W.5.5, W.5.7, W.5.8, W.5.9, SL.5.4, SL.5.6, L.5.1, L.5.2, L.5.3, and L.5.6.**

Guiding Questions And Big Ideas

- **What is a natural disaster?**
- **How does a narrator’s point of view influence how events are described in literature?**
- **How should multinational organizations respond when communities are struck by natural disasters?**
- *Extreme natural events can have positive and negative effects on the environment and humans.*
- *In literature, the narrator’s point of view influences how events are described and portrayed by the writer.*
- *Public speakers must provide reasons and evidence to support their opinion.*



Performance Task

Opinion Speech: How Should U.S. Humanitarian Organizations Prioritize Aid to Neighboring Countries Following a Natural Disaster?

How should U.S. humanitarian organizations prioritize their assistance to countries struck by a natural disaster, given the limited funds they have? After researching informational texts about natural disasters that have occurred in the Western Hemisphere and U.S. humanitarian organizations that offer international aid, write a speech in which you state your opinion about how U.S. humanitarian organizations should prioritize aid to neighboring countries following a natural disaster. Support your position with evidence from your research. You will then deliver this speech to the class. **The final draft of the written speech centers on NYSP12 ELA Standards RI.5.7, RI.5.9, W.5.1, W.5.4, W.5.5, W.5.7, W.5.8, W.5.9, L.5.1, L.5.2, L.5.3, and L.5.6. The public speaking task centers on NYSP12 ELA Standards SL.5.4, SL.5.6, and L.5.6.**

Content Connections

This module is designed to address English Language Arts standards. However, the module intentionally incorporates Social Studies and science content that may align to additional teaching during other parts of the day. These intentional connections are described below.

NYS Social Studies Core Curriculum:

- 5.10 Increasingly, the nations of the Western Hemisphere participate in and benefit from international organizations that promote peace, cooperation, economic development, global health, and cultural understanding.
- 5.10.a Multinational organizations and nongovernmental organizations in the Western Hemisphere seek to actively promote democracy, protect human rights, support economic development, and encourage cooperation between nations.
- 5.10.b The United Nations helps maintain peace between nations and uses international pressure to protect human rights and promote cultural understanding.
- 5.10.c When nations or regions in the Western Hemisphere face challenges due to natural disasters, health epidemics, or political upheavals, multinational organizations provide global support and assistance.

NYS Science:

- 2.1e Extreme natural events (floods, fires, earthquakes, volcanic eruptions, hurricanes, tornadoes, and other severe storms) may have positive or negative effects on living things.
- 5.2g The health, growth, and development of organisms are influenced by environmental conditions such as the availability of food, air, water, space, shelter, heat, and sunlight.
- 7.1a Humans depend on their natural and constructed environments.
- 7.1c Humans, as individuals or communities, change environments in ways that can be either helpful or harmful for themselves and other organisms.



CCS Standards: Reading—Literature	Long-Term Learning Targets
• RL.5.1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.	• I can explain what a text says using quotes from the text.
• RL.5.2. Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.	• I can make inferences using quotes from the text.
• RL.5.6. Describe how a narrator's or speaker's point of view influences how events are described.	• I can summarize a literary text.
• RL.5.7. Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).	• I can describe how a narrator's point of view influences the description of events.
• RL.5.9. Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.	• I can analyze how visual and multimedia elements add to the meaning, tone, or beauty of literary text.
• RL.5.10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4–5 text complexity band independently and proficiently.	• I can compare and contrast stories in the same genre for approach to theme and topic.
• RL.5.11 Recognize, interpret, and make connections in narratives, poetry, and drama to other texts, ideas, cultural perspectives, eras, personal events, and situations.	• I can read grade-level literary texts proficiently and independently.



CCS Standards: Reading—Informational Text	Long-Term Learning Targets
• RI.5.1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.	• I can explain what a text says using quotes from the text. • I can make inferences using quotes from the text.
• RI.5.10. By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently.	• I can explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text.
• RI.5.4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a <i>grade 5 topic or subject area</i>.	• I can determine the meaning of academic words or phrases in an informational text. • I can determine the meaning of content words or phrases in an informational text.
• RI.5.6. Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.	• I can compare and contrast multiple accounts of the same event or topic.
• RI.5.7. Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.	• I can locate an answer or solve a problem efficiently, drawing from multiple informational sources.
• RI.5.9. Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.	• I can accurately synthesize information from multiple texts on the same topic.
• RI.5.10. By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently.	• I can read grade-level informational texts proficiently and independently.



Standards: Writing	Long-Term Learning Targets
- W.5.1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information. - Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose. - Provide logically ordered reasons that are supported by facts and details. - Link opinion and reasons using words, phrases, and clauses (e.g., consequently, specifically). - Provide a concluding statement or section related to the opinion presented.	- I can write an opinion piece that supports a point of view with reasons and information. - I can introduce the topic of my opinion piece. - I can create an organizational structure in which I group together related ideas. - I can identify reasons that support my opinion. - I can use linking words to connect my opinion and reasons. - I can construct a concluding statement or section for my opinion piece.
- W.5.2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly. - Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. - Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. - Link ideas within and across categories of information using words, phrases, and clauses (e.g., <i>in contrast</i>, <i>especially</i>). - Use precise language and domain-specific vocabulary to inform about or explain the topic. - Provide a concluding statement or section related to the information or explanation presented.	- I can write informative/explanatory texts that convey ideas and information clearly. - I can group supporting facts together about a topic in an informative/explanatory text - I can use text, formatting, illustrations, and multimedia to support my topic. - I can develop the topic with facts, definitions, details, and quotations. - I can use precise, content-specific vocabulary to inform or explain about a topic.
W.5.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.	I can produce clear and coherent writing that is appropriate to task, purpose, and audience.



Standards: Writing	Long-Term Learning Targets
W.5.5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	With support from peers and adults, I can use a writing process to produce clear and coherent writing.
W.5.6. 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 two pages in a single sitting.	- With support from adults, I can use technology to publish a piece of writing. - I can use technology to collaborate with others to produce a piece of writing. - I can type a minimum of two pages in a single sitting.
W.5.7. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.	- I can build knowledge about multiple aspects of a topic by conducting research. - I can use several sources to build my knowledge about a topic.
W.5.8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.	- I can recall information that is important to a topic. - I can document what I learn about a topic by taking notes. - I can summarize or paraphrase information in my notes and in finished work. - I can provide a list of sources I used to gather information.
- W.5.9. Draw evidence from literary or informational texts to support analysis, reflection, and research. - Apply <i>grade 5 Reading standards</i> to literature (e.g., “Compare and contrast two or more characters, settings, or events in a story or a drama, drawing on specific details in the text [e.g., how characters interact]”). - Apply <i>grade 5 Reading standards</i> to informational texts (e.g., “Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point[s]”).	I can choose evidence from literary or informational texts to support analysis, reflection, and research.
W.5.10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.’	I can write for a variety of reasons.



Standards: Writing	Long-Term Learning Targets
W.5.11 Create and present a poem, narrative, play, art work, or personal response to a particular author or theme studied in class, with support as needed.	I can create and present a poem, narrative, play, art work, or personal response to a particular author or theme studied in class, with support as needed.

Standards: Speaking and Listening	Long-Term Learning Targets
- SL.5.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.	- I can effectively engage in discussions with diverse partners about fifth-grade topics and texts. a. I can prepare myself to participate in discussions. a. I can follow our class norms when I participate in a conversation. c. I can connect my questions and responses to what others say. b. After a discussion, I can explain key ideas about the topic being discussed.
SL.5.3. Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.	- I can summarize the points a speaker provides. - I can explain how the evidence a speaker provides supports the points he or she is trying to make.
SL.5.4. Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.	- I can report on a topic or text using organized facts and details. - I can speak clearly and at an understandable pace.
SL.5.6. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation	I can adapt my speech for a variety of contexts and tasks, using formal English when appropriate.



Standards: Language	Long-Term Learning Targets
- L.5.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use verb tense to convey various times, sequences, states, and conditions.	- I can use grammar conventions to send a clear message to a reader or listener. a. I can use verb tense to convey various times, sequences, states, and conditions.
- L.5.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use punctuation to separate items in a series. b. Use a comma to separate an introductory element from the rest of the sentence. c. Use underlining, quotation marks, or italics to indicate titles of works. d. Spell grade-appropriate words correctly, consulting references as needed.	- I can use conventions to send a clear message to my reader. a. I can use punctuation to separate items in a series. b. I can use a comma to separate an introductory word or phrase from the rest of the sentence. c. I can use underlining, quotation marks, or italics to indicate titles of works. d. I can spell grade-appropriate words correctly. d. I can consult reference materials to check and correct my spelling.
- L.5.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.	- I can use my knowledge of language and its conventions when writing, speaking, reading, or listening. a. I can use a variety of sentence structures in my writing.
- L.5.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. a. Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., <i>photograph</i>, <i>photosynthesis</i>). 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	- I can use a variety of strategies to read grade appropriate words and phrases I don't know. a. I can use context (e.g., <i>cause/effect relationships</i> and <i>comparisons in text</i>) to help me understand the meaning of a word or phrase. b. I can use common Greek and Latin affixes (prefixes) and roots as clues to help me know what a word means (e.g., <i>photograph</i>, <i>photosynthesis</i>). c. I can use resource materials (glossaries, dictionaries, thesauruses) to help me determine or clarify the pronunciation and meaning of key words and phrases.



Standards: Language	Long-Term Learning Targets
• L.5.5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figurative language, including similes and metaphors, in context. b. Recognize and explain the meaning of common idioms, adages, and proverbs. c. Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.	• I can analyze the meaning of figurative and complex language. a. Interpret figurative language, including similes and metaphors, in context. b. Recognize and explain the meaning of common idioms, adages, and proverbs. c. Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.

Texts
1. Edwidge Dantikat, <i>Eight Days: A Story of Haiti</i> (New York: Orchard Books, 2010), ISBN: 978-0-545-27849-2.
2. Marian Hale, <i>Dark Water Rising</i> (New York: Square Fish, 2010), ISBN: 978-0-312-62908-3.



Week	Instructional Focus	Long-Term Targets	Assessments
Unit 1: Building Background Knowledge: The Science behind Natural Disasters			
Weeks 1-2	- Building Background Knowledge and Making Inferences: What Is a Natural Disaster? - Relationships between Key Scientific Concepts: What Causes Earthquakes and Hurricanes	- I can explain what a text says using quotes from the text. - I can make inferences using quotes from the text. - I can explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. - I can determine the meaning of academic words or phrases in an informational text. - I can determine the meaning of content words or phrases in an informational text.	Mid-Unit 1: Text-Dependent Short-Answer Quiz—the Effects of Natural Disaster (NYSP12 ELA Standards RI.5.1, RI.5.3, and RI.5.4)
	- Synthesizing Information from Texts about Natural Disasters - Organizing Evidence from Multiple Informational Texts to Prepare for Writing	- I can write informative/explanatory texts that convey ideas and information clearly. - I can group supporting facts together about a topic in an informative/explanatory text - I can use text, formatting, illustrations, and multimedia to support my topic. - I can develop the topic with facts, definitions, details, and quotations. - I can use precise, content-specific vocabulary to inform or explain about a topic.	End of Unit 1: Part I, Essay: On-Demand Essay “What Makes a Hurricane a Natural Disaster?” (NYSP12 ELA Standards RI.5.2, W.5.2, W.5.4, and W.5.9); Part II, Science Talk (NYSP 12 ELA Standards SL.5.1a, b, c, d, and f)



Week	Instructional Focus	Long-Term Targets (continued)	Assessments
Weeks 1-2, continued		- I can produce clear and coherent writing that is appropriate to task, purpose, and audience. - I can choose evidence from literary or informational texts to support analysis, reflection, and research.	
Unit 2: Comparing and Contrasting Literature about Natural Disasters: <i>Eight Days</i> and <i>Dark Water Rising</i>			
Weeks 3-6	- Summarizing and How a Narrator's Point of View Influences the Description of Events - Analyzing Imagery in Literature - Summarizing and Figurative Language	- I can compare and contrast multiple accounts of the same event or topic. (RL.5.6) - I can analyze how visual and multimedia elements add to the meaning, tone, or beauty of literary text. (RL.5.7) - I can analyze the meaning of figurative and complex language. (L.5.5) - I can use relationships between words (synonyms, antonyms, and homographs) to help me understand words.	Mid-Unit 2: Analyzing Narrator's Point of View and Visual Elements, Chapter 13, <i>Dark Water Rising</i> (NYSP12 ELA Standards RL.5.6, RL.5.7, and L.5.5)
	- Drawing on Evidence - Comparing and Contrasting Narrators' Descriptions of Events to Make Connections between Texts - Synthesizing Ideas and Expressing the Narrator's Description of Events through Imagery	- I can compare and contrast multiple accounts of the same event or topic. (RL.5.6) - I can compare and contrast stories in the same genre for approach to theme and topic. (RL.5.9) - I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2)	Compare and Contrast How Authors Use the Narrator's Point of View to Describe Events in Literature (RL.5.6, RL.5.9, W.5.2, W.5.4, and W.5.9)



Week	Instructional Focus	Long-Term Targets (continued)	Assessments
Weeks 3-6, continued		a. I can group supporting facts together about a topic in an informative/explanatory text a. I can use text, formatting, illustrations, and multimedia to support my topic. a. I can develop the topic with facts, definitions, details, and quotations. b. I can use precise, content-specific vocabulary to inform or explain about a topic. • I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4) • I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)	



Week	Instructional Focus	Long-Term Targets	Assessments
Unit 3: Research on 2010 Earthquake in Haiti, Learning about the Red Cross, and Writing an Opinion Speech			
Weeks 7-8	• Building Background Knowledge: What Do U.S. Humanitarian Aid Organizations Do? • Researching Using Multiple Texts: Western Hemisphere Natural Disasters	• I can locate an answer or solve a problem efficiently, drawing from multiple informational sources. (RI.5.7) • I can build knowledge about multiple aspects of a topic by conducting research. (W.5.7) • I can use several sources to build my knowledge about a topic. (W.5.7) • I can recall information that is important to a topic. (W.5.8) • I can document what I learn about a topic by taking notes. (W.5.8) • I can summarize or paraphrase information in my notes and in finished work. (W.5.8) • I can provide a list of sources I used to gather information. (W.5.8) • I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)	• Mid-Unit 3: Taking and Organizing Notes for a Public Speech (NYSP12 ELA Standards RI.5.7, W.5.7, W.5.8, W.5.9)



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Grade 5: Module 4: Assessment Overview



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Final Performance Task	Opinion Speech: How Should U.S. Humanitarian Organizations Prioritize Aid to Neighboring Countries Following a Natural Disaster? How should U.S. humanitarian organizations prioritize their assistance to countries struck by a natural disaster, given the limited funds they have? After researching informational texts about natural disasters that have occurred in the Western Hemisphere and U.S. humanitarian organizations that offer international aid, write a speech in which you state your opinion about how U.S. humanitarian organizations should prioritize aid to neighboring countries following a natural disaster. Support your position with evidence from your research. You will then deliver this speech to the class. The final draft of the written speech centers on NYSP12 ELA Standards RI.5.7, RI.5.9, W.5.1, W.5.4, W.5.5, W.5.7, W.5.8, W.5.9, L.5.1, L.5.2, L.5.3, and L.5.6. The public speaking task centers on NYSP12 ELA Standards SL.5.4, SL.5.6, and L.5.6.
Mid-Unit 1 Assessment	Text-Dependent Short-Answer Quiz—the Effects of Natural Disasters This assessment centers on NYSP12 ELA Standards RI.5.1, RI.5.3, and RI.5.4. After reading one new text on hurricanes, students will answer text-dependent multiple-choice and short-answer questions that assess their knowledge of how the formation of hurricanes is a causal relationship. They will also be expected to use strategies for finding the meaning of academic and scientific vocabulary in context (a skill they have been practicing all year).
End of Unit 1 Assessment	On-Demand Essay “What Makes a Hurricane a Natural Disaster?” This assessment has two parts. Part 1 of this assessment is an essay that centers on NYSP12 ELA CCLS W.5.2, W.5.4, and W.5.9b. Part 2 of this assessment is a Science Talk that centers on NYSP12 ELA CCLS SL.5.1a, b, c, d, and f. After reading two articles on hurricanes, students will write an essay that answers the prompt “What makes a hurricane a natural disaster?” Students will be expected to support their discussion with evidence from the text(s). They will write a well-developed explanatory essay that contains a topic statement, two body paragraphs, and a concluding statement. In Part 2, students will prepare for and participate in a Science Talk in which they discuss with peers what a natural disaster is.



Mid-Unit 2 Assessment	Analyzing Narrator’s Point of View and Visual Elements: Chapter 13 of <i>Dark Water Rising</i> This assessment centers on standards NYSP12 ELA CCLS, RL.5.6, RL.5.7, and L.5.5. Students will read an unfamiliar chapter from <i>Dark Water Rising</i> to answer multiple-choice and short-response text-dependent questions related to determining the meaning of language in context, how the narrator’s point of view influences the description of events, and analyzing how imagery is used to contribute meaning to the narrator’s description of events.
End of Unit 2 Assessment	Compare and Contrast How Authors Use the Narrator’s Point of View to Describe Events in Literature This assessment centers on standards NYSP12 ELA CCLS RL.5.6, RL.5.9, W.5.2, W.5.4, and W.5.9. How do authors use the narrator’s point of view to describe events in literature? After reading <i>Eight Days</i> and <i>Dark Water Rising</i>, students will write an essay that compares and contrasts Junior’s description of the earthquake in Haiti to Seth’s description of the Galveston hurricane of 1900 in order to demonstrate their understanding of how different narrators’ points of view influence how events in literature are described.
Mid-Unit 3 Assessment	Taking and Organizing Notes for a Public Speech This assessment centers on NYSP12 ELA Standards RI.5.7, W.5.7, W.5.8, and W.5.9. This mid-unit assessment is a planning task leading up to students’ final performance task. After reading informational texts about the Red Cross and the recent earthquake in Haiti, students will organize their notes from these texts in a graphic organizer. In their graphic organizer, students must state their opinion about how U.S. humanitarian aid organizations should prioritize their assistance to neighboring countries when they are struck by a natural disaster, and provide at least three clear reasons and supporting evidence. They also must incorporate key vocabulary they have learned through their reading.
End of Unit 3 Assessment	Draft Opinion Speech: How Should U.S. Humanitarian Organizations Prioritize Aid to Neighboring Countries Following a Natural Disaster? This assessment centers on NYSP12 ELA Standards W.5.1, W.5.4, and L.5.3. Students will write a first draft of their final performance task of a speech stating their opinion of how U.S. humanitarian aid organizations would prioritize assistance to neighboring countries when they are struck by natural disasters, and support their opinion with reasons and evidence from their research.



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Grade 5: Module 4: Performance Task



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Summary of Task

This performance task has two parts.

Part 1:

- After researching informational texts about natural disasters that have occurred in the Western Hemisphere and U.S. humanitarian organizations that offer international aid, students will write a speech in which they state their opinion about how U.S. humanitarian organizations should prioritize assistance to neighboring countries when they are struck by natural disasters. Students will support their position with evidence from their research. This final draft of the written speech centers on NYSP12 ELA Standards RI.5.7, RI.5.9, W.5.1, W.5.4, W.5.5, W.5.7, W.5.8, W.5.9, L.5.1, L.5.2, L.5.3, and L.5.6.

Part 2:

- Students will deliver this speech to the class. This public speaking task centers on NYSP12 ELA Standards SL.5.4, SL.5.6, and L.5.6.
- During the first half of Unit 3, students will practice conducting research, finding evidence from multiple informational texts to support an opinion, taking notes, and organizing their information. They will work in teams to investigate natural disasters that have affected countries in the Western Hemisphere. As a connection to Social Studies, students also analyze primary source documents to learn about how the United States and multinational organizations, such as the Red Cross, respond to disasters in the Western Hemisphere.

Format

- Written Speech
- Oral Speech



Standards Assessed Through This Task

- RI.5.7. Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
- RI.5.9. Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.
- W.5.1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
 - a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.
 - b. Provide logically ordered reasons that are supported by facts and details.
 - c. Link opinion and reasons using words, phrases, and clauses (e.g., consequently, specifically).
 - d. Provide a concluding statement or section related to the opinion presented.
- W.5.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
- W.5.5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- W.5.7. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
- W.5.8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.
- W.5.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
- SL.5.4. Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
- SL.5.6. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation.
- L.5.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - c. Use verb tense to convey various times, sequences, states, and conditions.
- L.5.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Use punctuation to separate items in a series.*
 - b. Use a comma to separate an introductory element from the rest of the sentence.
 - d. Use underlining, quotation marks, or italics to indicate titles of works.
 - e. Spell grade-appropriate words correctly, consulting references as needed.
- L.5.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
 - a. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.
- L.5.6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., however, although, nevertheless, similarly, moreover, in addition).



Student-Friendly Writing Invitation/Task Description

- How should U.S. humanitarian organizations prioritize their assistance to countries struck by a natural disaster, given the limited funds they have? After researching informational texts about natural disasters that have occurred in the Western Hemisphere and U.S. humanitarian organizations that offer international aid, write a speech in which you state your opinion about how U.S. humanitarian organizations should prioritize aid to neighboring countries following a natural disaster. Support your position with evidence from your research. You will then deliver this speech to the class.
- Below are key criteria students need to address when completing this task. Specific lessons during the module build in opportunities for students to understand the criteria, offer additional criteria, and work with their teacher to construct a rubric on which their work will be critiqued and formally assessed.

Key Criteria For Success (Aligned With NYSP12 ELA CCLS)

Your written speech will include:

- Five Paragraphs:
 - An introduction that has a topic sentence that states your opinion
 - Three body paragraphs that give reasons and evidence to support your opinion
 - A conclusion that restates your opinion
 - Information and vocabulary from Red Cross and natural disaster research
 - Clearly organized reasons and evidence
 - Linking words and phrases to connect the reasons and evidence
 - Grade-level appropriate conventions (spelling, grammar, punctuation)
- In addition to the criteria above, your actual speech will demonstrate the following:
 - Your ability to speak at an understandable pace
 - Effective use of formal English



Options For Students

- Allow students who struggle with writing to dictate their speech (or notes) to a peer or teacher
- Allow students who struggle with public speaking to record their speech in private and then play their speech for their classmates for the performance.
- Provide texts at a variety of readability levels for students to research information for their speech
- Highlight key information in texts for students who struggle with determining importance
- Provide audio recordings of texts for students who struggle with language
- Provide texts in the students' L1 for ELL students
- Allow students who struggle with writing to provide two reasons with evidence instead of three

Options For Teachers

- Have groups of students (in Literature Circles or Book Clubs) read firsthand accounts of survivors of natural disasters to gather more information for their speech.
- Create disaster preparedness brochures for the community.
- Plan and execute a disaster preparedness community event for members of the community and have students perform their speeches during the event.
- Have students give their speeches at a Town Hall or City Council Meeting for government officials.
- Invite government officials to the school to listen to the students give their speeches.

Resources And Links

- (See Unit 3)



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Grade 5: Module 4: Unit 1: Overview



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Unit 1: Building Background Knowledge: The Science Behind Natural Disasters

In this very short unit, students will build their background knowledge about the science behind natural disasters. They will read two informational articles, one about hurricanes and the other about earthquakes. Students will focus on the relationships between scientific concepts in these informational texts, specifically how hurricanes and earthquakes form and what happens when they occur. For the mid-unit assessment, students will read and answer text-dependent questions about one new informational text about hurricanes. Following the mid-unit

assessment, students will be read another new informational text, this one about earthquakes. They will then synthesize the information from both informational texts about hurricanes and earthquakes and organize their ideas in preparation for the end of unit assessment. For the end of unit on-demand assessment, students write an essay in which they explain how a hurricane is a natural disaster as well as participate in a Science Talk with peers about natural disasters. Students cite and organize evidence from multiple texts on the same topic.

Guiding Questions And Big Ideas

- **What is a natural disaster?**
- *Extreme natural events can have positive and negative effects on the environment and humans.*

Mid-Unit 1 Assessment

Text-Dependent Short-Answer Quiz—The Effects of Natural Disasters

This assessment centers on NYSP12 ELA Standards RI.5.1, RI.5.3, and RI.5.4. After reading one new text on hurricanes, students will answer text-dependent multiple-choice and short-answer questions that assess their knowledge of how the formation of hurricanes is a causal relationship. They will also be expected to use strategies for finding the meaning of academic and scientific vocabulary in context (a skill they have been practicing all year).

End of Unit 1 Assessment

On-Demand Essay “What Makes a Hurricane a Natural Disaster?”

This assessment has two parts. Part 1 of this assessment is an essay that centers on NYSP12 ELA CCLS W.5.2, W.5.4, and W.5.9b. Part 2 of this assessment is a Science Talk that centers on NYSP12 ELA CCLS SL.5.1a, b, c, d, and f. After reading two articles on hurricanes, students will write an essay that answers the prompt “What makes a hurricane a natural disaster?” Students will be expected to support their discussion with evidence from the text(s). They will write a well-developed explanatory essay that contains a topic statement, two body paragraphs, and a concluding statement. In Part 2, students will prepare for and participate in a Science Talk in which they discuss with peers what a natural disaster is.



Content Connections

This module is designed to address English Language Arts standards. However, the module intentionally incorporates Social Studies and Science content that many teachers may be teaching during other parts of the day. These intentional connections are described below.

Big ideas and guiding questions are informed by the New York State Common Core K-8 Social Studies Framework:
<http://engageny.org/sites/default/files/resource/attachments/ss-framework-k-8.pdf>

NYS Social Studies Core Curriculum:

- 2.1e Extreme natural events (floods, fires, earthquakes, volcanic eruptions, hurricanes, tornadoes, and other severe storms) may have positive or negative impacts on living things.
- 5.2g The health, growth, and development of organisms are affected by environmental conditions such as the availability of food, air, water, space, shelter, heat, and sunlight.

Texts

1. "Earthquake." The New Book of Knowledge. Grolier Online, 2013. Web.
2. "How Does a Hurricane Form?" as found at <http://scijinks.nasa.gov/hurricane>
3. Carr, Karen. "Earthquakes." Kidipede. Kidipede.com, Web. <<http://scienceforkids.kidipede.com/geology/earthquakes/>>.
4. "Hurricanes." Hurricanes. University Corporation for Atmospheric Research, n.d. Web.



This unit is approximately 1.5 weeks or 8 sessions of instruction.

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 1	Building Background Knowledge and Making Inferences: What Is a Natural Disaster?	- I can make inferences using quotes from the text. (RI.5.1) - I can accurately synthesize information from multiple texts on the same topic. (RI.5.9) - I can effectively engage in discussions with diverse partners about fifth-grade topics and texts. (SL.5.1)	- I can make inferences about natural disasters based on information from texts. - I can draw conclusions about natural disasters following a discussion.	Journal (What Do We Know About Natural Disasters, Hurricanes, and Earthquakes anchor charts, glossaries)	- What Do We Know about Natural Disasters? - Gallery Walk protocol - World Café protocol - Hurricanes - Earthquakes
Lesson 2	Relationships between Key Scientific Concepts: What Causes Earthquakes?	- I can explain what a text says using quotes from the text. (RI.5.1) - I can explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3) - I can determine the meaning of academic words or phrases in an informational text. (RI.5.4) - I can determine the meaning of content words or phrases in an informational text. (RI.5.4)	- I can explain the relationship between scientific concepts about earthquakes using specific details from the text. - I can use context clues to determine the meaning of new words in an article about earthquakes.	- Annotated “Earthquakes” article - Earthquake Concepts note-catcher - Glossaries (scientific and academic vocabulary)	- Give One, Get One, Move On protocol - What Do We Know about Natural Disasters? - Vocabulary Strategies - Earthquakes



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 3	Relationships between Key Scientific Concepts: What Causes Hurricanes?	- I can explain what a text says using quotes from the text. (RI.5.1) - I can explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3) - I can determine the meaning of academic words or phrases in an informational text. (RI.5.4) - I can determine the meaning of content words or phrases in an informational text. (RI.5.4)	- I can explain the relationship between scientific concepts about hurricanes using specific details from the text. - I can use context clues to determine the meaning of new words in an article about hurricanes.	- Annotated “Hurricanes” article - Hurricane Concepts note-catcher - Glossaries (scientific and academic vocabulary)	- What Do We Know about Natural Disasters? - Vocabulary Strategies - Hurricanes
Lesson 4	Mid-Unit Assessment: Text-Dependent Short-Answer Quiz—The Effects of Natural Disasters	- I can explain what a text says using quotes from the text. (RI.5.1) - I can explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3) - I can determine the meaning of academic words or phrases in an informational text. (RI.5.4) - I can determine the meaning of content words or phrases in an informational text. (RI.5.4)	- I can explain the relationship between scientific concepts about earthquakes and hurricanes using specific details from text. - I can determine the meaning of new words from context about natural disasters. - I can reflect on my learning.	- Mid-Unit 1 Assessment - Mid-Unit 1 Assessment: Tracking My Progress	- Things Close Readers Do - What Do We Know about Natural Disasters?



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 5	Synthesizing Information from Texts about Natural Disasters: What Makes an Earthquake a Natural Disaster?	- I can explain what a text says using quotes from the text. (RI.5.1) - I can determine the meaning of academic words or phrases in an informational text. (RI.5.4) - I can determine the meaning of content words or phrases in an informational text. (RI.5.4) - I can accurately synthesize information from multiple texts on the same topic. (RI.5.9)	- I can synthesize information about earthquakes and hurricanes using details from several texts. - I can determine the meaning of new words about earthquakes and hurricanes through context.	- Journal (Earthquakes and Hurricanes note-catchers, glossaries) - Earthquake Concepts note-catcher (begun in Lesson 2, added to in Lesson 4 homework) - Hurricane Concepts note-catcher (begun in Lesson 3, added to in Lesson 4 homework)	- Back-to-Back, Face-to-Face protocol - Vocabulary Strategies - Hurricanes - What Do We Know about Natural Disasters?
Lesson 6	Organizing Evidence from Multiple Informational Texts to Prepare for Writing: What Makes an Earthquake a Natural Disaster?	- I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) - I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4) - I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)	- I can group supporting details together about how earthquakes and hurricanes are a natural disaster. - I can develop the topic with details and quotes from the texts. - I can use accurate scientific vocabulary to explain earthquakes and hurricanes.	- Journal (glossaries) - Writing about Hurricanes graphic organizer	What Do We Know about Natural Disasters?



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 7	End of Unit Assessment: On-Demand Essay “What Makes a Hurricane a Natural Disaster?”	- I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) - I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4) - I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)	- I can write a topic sentence to introduce the topic of my essay. - I can develop the topic with details and quotes from the texts. - I can use accurate scientific vocabulary to explain hurricanes. - I can write a concluding statement for my essay. - I can reflect on my learning about how the relationships between science concepts in texts can help explain natural disasters.	- Writing About Hurricanes graphic organizer (from Lesson 6 or homework) - End of Unit 1 Assessment - End-of-Unit 1 Tracking My Progress	What Do We Know about Natural Disasters?
Lesson 8	End of Unit Assessment Part II: Science Talk	- I can prepare myself to participate in discussions. (SL.5.1) - I can draw on information to explore ideas in the discussion. (SL.5.1) - I can follow our class norms when I participate in a conversation. (SL.5.1) - I can ask questions that are on the topic being discussed. (SL.5.1) - I can connect my questions and responses to what others say. (SL.5.1) - After a discussion, I can explain key ideas about the topic being discussed. (SL.5.1)	- I can ask questions of my peers that are relevant to natural disasters. - I can share my ideas about natural disasters with my peers during a Science Talk. - I can use the ideas of my peers in order to help inform my ideas about natural disasters. - I can gather evidence from informational texts in order to prepare for a Science Talk about natural disasters. - I can synthesize my ideas about natural disasters.	- Science Talk Note-catcher - Journal: Synthesis Statement	- What Do We Know About Natural Disasters? - Science Talk Protocol - Science Talk Norms



Optional: Experts, Fieldwork, And Service

Experts:

- Invite meteorologists, environmentalists, geologists, or other scientists to the class in order to further build background knowledge and clarify questions about natural disasters researched.

Fieldwork:

- Arrange for students to visit a weather station, disaster preparedness committee meeting, or geology (meteorology) department of a local higher education institution.

Service:

- Create natural disaster preparedness brochures or public service announcements to distribute in the community.

Preparation and Materials

- **Journals:** In this module students will keep notes in a journal, as they have done in previous modules; however if you prefer there is a “one for display” example of each of the note-catchers that you can prepare as student handouts. Decide if students have enough room in their current journals to complete the routine reading and writing for this module. If not, ensure that students each have a spiral-bound or composition notebook.
- **Independent Reading:** The homework throughout this unit involves independent reading on the topic of Unit 1 (natural disasters). Before Lesson 1, gather texts from the Unit 1 Recommended Texts list, or obtain other books and articles on this topic.



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Grade 5: Module 4: Unit 1:

Recommended Texts



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This list below includes texts with a range of Lexile text measures about natural disasters. This provides appropriate independent reading for each student to help build content knowledge about the topic.

It is imperative that students read a high volume of texts at their reading level in order to continue to build the academic vocabulary and fluency demanded by the CCLS.

Common Core Band Level Text Difficulty Ranges:

(As provided in the NYSED Passage Selection Guidelines for Assessing CCSS ELA)

- Grade 2–3: 420–820L
- Grade 4–5: 740–1010L
- Grade 6–8: 925–1185L

Where possible, texts in languages other than English are also provided. Texts are categorized into three Lexile levels that correspond to Common Core Bands: below grade band, within band, and above band. Note, however, that Lexile® measures are just one indicator of text complexity, and teachers must use their professional judgment and consider qualitative factors as well. For more information, see Appendix 1 of the Common Core State Standards.

Title	Author And Illustrator	Text Type	Lexile Measure
Lexile text measures in Grade 2–3 band level (below 740L)			
<i>Tornadoes</i>	Mari Schuh (author)	Informational	490
<i>Floods</i>	Matt Doeden (author)	Informational	500
<i>Earthquakes</i>	Joelle Riley (author)	Informational	560
<i>Hurricanes!</i>	Marcie Aboff (author)	Informational	600
<i>Hurricane Fury</i>	Molly Blaisdell (author)	Informational	600



Title	Author And Illustrator	Text Type	Lexile Measure
Lexile text measures in Grade 4–5 band level (740–1010L)			
<i>Tsunamis and Floods</i>	Jayne Keedle (author)	Informational	810
<i>The Worst Tornadoes of All Time</i>	Terri Dougherty (author)	Informational	850
<i>Surviving Earthquakes</i>	Michael Burgan (author)	Informational	850
<i>Chasing the World's Most Dangerous Storms</i>	Clive Clifford (author)	Informational	860
<i>Hurricanes</i>	Seymour Simon (author)	Informational	910
<i>Tornadoes</i>	S.L. Hamilton (author)	Informational	910*
<i>Shattering Earthquakes</i>	Louise Spilsbury (author)	Informational	930
<i>Natural Disasters</i>	Nicolas Brasch (author)	Informational	960
<i>Saving Animals from Hurricanes</i>	Stephen Person (author)	Informational	990
Lexile text measures within Grade 6–8 band level (1010–1185L)			
<i>Saving Animals After Floods</i>	Joyce Markovics (author)	Informational	1030
<i>Hurricanes</i>	Glenn Stout (author)	Informational	1040
<i>Forces of Nature: The Awesome Power of Volcanoes, Earthquakes, and Tornadoes</i>	Catherine O'Neill Grace (author)	Informational	1080
<i>Natural Disasters: Violent Weather</i>	Steve Parker (author)	Informational	1140
<i>Eyewitness: Natural Disasters</i>	Claire Watts (author)	Informational	No Lexile

*Lexile based on a conversion from Accelerated Reading level.

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Grade 5: Module 4: Unit 1: Lesson 1

Building Background Knowledge and Making Inferences: What is A Natural Disaster?



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can make inferences using quotes from the text. (RI.5.1)

I can accurately synthesize information from multiple texts on the same topic. (RI.5.9)

I can effectively engage in discussions with diverse partners about fifth-grade topics and texts. (SL.5.1)

Supporting Learning Targets

- I can make inferences about natural disasters based on information from texts.
- I can draw conclusions about natural disasters following a discussion.

Ongoing Assessment

- Journal (What Do We Know About Natural Disasters, Hurricanes, and Earthquakes anchor charts, glossaries)



Agenda	Teaching Notes
1. Opening A. Engaging the Reader: What Do We Already Know about Natural Disasters? (7 minutes) B. Introducing Learning Targets (5 minutes) 2. Work Time A. Gallery Walk: Inferring about Natural Disasters (10 minutes) B. World Café: Drawing Conclusions about Natural Disasters (20 minutes) C. Key Vocabulary: What Is a “Natural Disaster?” (5 minutes) 3. Closing and Assessment A. Review Learning Targets(3 minutes) B. Introduce Module Routines: Journals, Vocabulary Glossaries, and Independent Reading (10 minutes) 4. Homework A. Read your independent reading book. Use the evidence flags to note things as you read that you can add to the What Do We Know about Natural Disasters? anchor chart. Be prepared to share these with a partner.	• Do not define the term <i>natural disasters</i> for students yet. They will build a shared understanding of this phrase throughout today’s lesson. • Students will again experience a Gallery Walk protocol to examine images in order to pique curiosity and allow for an informal pre-assessment of their knowledge of earthquakes and hurricanes. This is a familiar protocol for students as they have experienced Gallery Walks in every previous module. They will need only a brief reminder of the process and expectations. • In advance: Prepare the images for the Gallery Walk by either posting them around the room separated enough to give several students room to stand around each one and make observations, or making folders with sets of all images that can be distributed to each table (sets of desks) so every student may examine each one independently. • Students are introduced to a new protocol in this lesson, the World Café. This is a powerful and engaging protocol that allows for quick discussion on a variety of topics as well as the opportunity for movement, discussion with several peers, and practice with a leadership role. In advance, carefully review the process for this protocol so you can visualize it, explain it, and model it for students. There are a lot of transitions, and it is fast-paced. Given that this will likely be students’ first time using this protocol, you may need to allocate more time for this protocol than is indicated in the lesson. • In advance: Prepare the recording charts for the World Café protocol. With a marker, write one of the three World Café prompts (see supporting materials) at the top of a large piece of chart paper. Be sure to prepare as many pieces of chart paper as necessary so that when students are placed in triads each triad has a piece of chart paper with a different question. There will be several pieces of chart paper with the same question (e.g., three or four pieces of chart paper with the same question on it, for a total of about 10 pieces of chart paper). • In advance: Place students in triads and post the triads so that all students can see them; this will save time during the lesson to set up for the World Café. • Review: Gallery Walk, World Café, and Thumb-o-Meter protocols (Appendix 1). • Prepare new anchor charts: What Do We Know about Natural Disasters?, Hurricanes and Earthquakes (see examples in supporting materials).



Lesson Vocabulary	Materials
natural, disaster, inference, draw, conclusion	• Journals (one per student) • What Do You Know about Natural Disasters? anchor chart. (new, co-created with students during Work Time A and throughout the unit, see supporting materials) • Observe-Question-Infer note-catcher (one per student and one to display) • Images for Gallery Walk (one of each to display; see suggested links in supporting materials) • World Café charts (new, teacher-created, one per triad, see teaching notes) • Markers (one per triad) • Hurricanes anchor chart (new, co-created with student during Work Time C and throughout the unit, see supporting materials) • Earthquakes anchor chart (new, co-created with student during Work Time C and throughout the unit, see supporting materials) • Books for independent reading (see Unit 1 Recommended Texts list; enough books for every students to choose one) • Evidence flags (five per student)



Opening	Meeting Students' Needs
A. Engaging the Reader (5 minutes) <i>Note: Do not define the term natural disasters for students yet. They will build a shared understanding of this phrase throughout this lesson.</i> • Tell students that in this module they will be learning about an interesting topic: <i>natural disasters</i>. They will be reading informational texts just as they did in Modules 2 (biodiversity of the rainforest) and 3 (Jackie Robinson), and they will read another novel, as in Module 1 (<i>Esperanza Rising</i>). • Say to students: “You have learned a lot about science and social studies this year through the reading of both literature and informational texts. This module asks you to think about science, literature, and social studies all together for the first time!” • Ask students to take out their journals or distribute new ones for this module. Have them turn to a new page and write this question at the top: * “What do you know about natural disasters?” • Invite them to take 3 to 4 minutes to think and write independently. • Then ask students to share with a partner what they know. Circulate and listen to partner discussions to assess existing background knowledge or misconceptions they may have. Note which students seem to have extensive or limited knowledge about natural disasters in order to inform decisions about which concepts will need more or less time allotted to them in science and social studies lessons. • Display the What Do You Know about Natural Disasters? anchor chart. Invite several students to share out what they wrote or discussed about natural disasters. Record their ideas on the chart under the title. • Ask students to copy the anchor chart onto a new page in their journals. They will be adding to this chart regularly.	• Consider allowing students who struggle with writing independently to dictate their thoughts about natural disasters to a partner or the teacher. • Allow students who struggle with transcribing from the board more time to copy the anchor chart into their journal.



Opening (continued)	Meeting Students' Needs
B. Introduce Learning Targets (5 minutes) • Ask a student to read aloud the first learning target: * “I can make inferences about natural disasters based on information from texts.” • Circle the word <i>inferences</i> and have students turn to a partner and share what they have learned about this word. Invite a few students to share aloud their discussion. Listen for: “Inferences are best guesses based on what we read in a text.” Remind students that they have worked on making inferences in the past three modules and that this is an important skill that is important in order to help them become proficient and independent readers. • Read aloud the second learning target. * “I can draw conclusions about natural disasters following a discussion.” • Ask class members to think-share with a partner what the target means in their own words. Invite the students to focus on the word <i>draw</i> and think about what it means in this learning target. Invite a few students to share aloud. Listen for: “take out,” “pull out,” or “to infer.” Be sure students understand that <i>draw</i> in this learning target does NOT mean to “sketch a picture” or “create art.” • Now focus the students on the word <i>conclusion</i> (thought or synthesis) and what it means in the phrase <i>draw conclusions</i>. Ask them to discuss with their partners: * “How might you draw a conclusion when reading?” • Invite a few students to share their thoughts aloud. Listen for: “You have to think about all of the information about a topic and then make an overall statement about it,” and “Making an overall statement about what you know based on what you have heard and learned about a subject.” • Tell students that today they will be inferring information about natural disasters based on what they see and read and then they will discuss those inferences with their classmates and draw a conclusion about what they have heard and learned today.	• Provide a visual representation of <i>inferences</i> (a person with a question mark in a thought bubble over his or her head) for students.



Work Time	Meeting Students' Needs
A. Gallery Walk: Inferring about Natural Disasters (10 minutes) - Review the Gallery Walk protocol with students by asking them to recall the process from previous modules. Call on a few students to share aloud. Listen for: “We walk around and notice and wonder about pictures, quotes, images, or short texts, sometimes taking notes or filling out a note-catcher.” - Tell them that for this Gallery Walk, they will be silent as they make observations while they walk around the room and look at the displayed images and texts. - Display and distribute the Observe-Question-Infer note-catcher. Ask students to look closely at the note-catcher and talk with a partner about what they think they will be writing in each column. - Invite a few partners to share their thinking. Listen for: “record what we see in the Observe column,” “record questions that directly relate to what we see in the Questions column,” and “inferences (guesses about the answers to the questions) we can make in the last column.” - Model how to use the organizer: Display one of the Images for the Gallery Walk, think aloud, and write the observations made, questions that come to mind, and the inferences about those questions in the appropriate columns of the note-catcher. For example, display the “Gallery Walk 23” image and say to students: “I see that there are clouds bunched together in the shape of a circle, and the arrows indicate that the clouds are moving around the dark spot in the middle. I wonder why they move in a circle. I bet it has something to do with wind.” - In the column “What Do You Observe,” write: “Clouds moving in a circle around a dark spot.” - In the column “What Questions Do You Have?” write: “Why do the clouds appear to move in a circle?” - In the column “What Inferences Can You Make?” write: “The wind has something to do with the clouds moving in a circle.” - Address any clarifying questions. Tell students they will have approximately 6 or 7 minutes to examine the images (they will not have time to view all of them) and fill out their note-catcher. - Ask students to begin and record their thinking; circulate to observe and redirect as needed. Be sure that students are recording what they see only in the first column of their graphic organizers, that the questions they are writing are directly related to the pieces in the Gallery Walk, and that their inferences have to do with natural disasters. Do not worry if some inferences include misconceptions.	- Post the instructions for the Gallery Walk where students can refer to them as they experience the protocol. - Consider giving some students a partially filled-in Observe-Question-Infer note-catcher that will help them focus on specific pre-selected images.



Work Time (continued)	Meeting Students' Needs
B. World Café: Drawing Conclusions about Natural Disasters (20 minutes) • Arrange students into triads. Ask group members to sit together with their completed Observe-Question-Infer note-catcher and materials for the World Café (prepared World Café charts and a marker). • Briefly review the World Café protocol directions (Appendix 1) with students. Reassure the class that the protocol will feel fast-paced at first because it is meant to give every student a chance to think a little about each question. Caution students that you will interrupt their conversations, but they'll have a chance to keep working with their ideas at the end of the protocol. Round 1: 1. Ask each group to choose a student to be the Recorder for the first round to write down ideas in short statements from the group's conversation below the question on the chart paper at the table. 2. Remind students to use their notes in the Observe-Question-Infer graphic organizer to support their discussion. 3. Ask students to read the question on their chart aloud and then discuss the question. • Allow triads to discuss and write for four or five minutes. • Explain the transition: 1. The Recorders will stay seated with the chart paper. 2. The other pair of students in each group will stand and rotate together to a different chart paper with one of the other two prompts and a different Recorder. • Signal students to transition quickly and quietly. Assist those who may be confused or need redirection. • Give positive praise to students for transitioning smoothly.	• Post World Café protocol instructions for students to refer to as they experience the protocol. • Assign each student a letter or number (A, B, or C; 1, 2, or 3) and list the role of each number or letter for each round where students can refer to it and remind themselves what they are to be doing in each round.



Work Time (continued)	Meeting Students' Needs
Round II • Tell the class the following three steps, then prompt them to begin. 1. The Round I Recorder will summarize the conversation that happened at the table during Round I, reading from the statements written on the chart paper. 2. Choose a new Round II Recorder from the two new students in the triad. 3. The new group will read the question on their chart and then begin a discussion about that question, taking notes on the chart paper. (Students can add new ideas plus comments that connect with Round I statements.) • Remind students to use their notes in the Observe-Question-Infer graphic organizer to support their discussion. • After 4 or 5 minutes, get students' attention and remind them of the transition: 1. Round II Recorders will stay seated at the table where they have been working. 2. The other two students in each triad will stand and rotate together to another chart paper and Recorder with a different chart (the one they have not yet discussed). • Invite class members to transition one more time to Round III. • Repeat the process from Round II.	



Work Time (continued)	Meeting Students' Needs
Round III: - Review the three steps, then prompt students to begin: - The Round II Recorder summarizes the conversation that happened at the table during Rounds I and II, reading from the statements on the chart. - Choose a new Round III Recorder from the new students in the triad. - The new triad will read the question on their chart paper and then begin a discussion about that question, taking notes below the statements already listed. Encourage students to add new ideas and comments as well as ones that connect with statements from Rounds I and II. - Remind students to use their notes in the Observe-Question-Infer graphic organizer to support their discussion. Prompt the new Recorder to take notes on the chart paper below the statements already listed. - After 4 or 5 minutes, ask all Round III Recorders to bring their recording charts to the front of the room and post them so that they are visible to everyone. - Invite students to read the statements from each triad for each question written on the chart papers. Ask students to discuss with a partner: * "What similarities do you notice about the statements?" * "What conclusions can you draw about natural disasters?" - Call on a few partners to share their discussions with the whole class.	Consider posting all questions posed to students and writing their answers for students to have a visual reference throughout the lessons.



Work Time (continued)	Meeting Students' Needs
C. Key Vocabulary: What Is a “Natural Disaster”? (5 minutes) • Focus the class back on the anchor chart created earlier: What Do We Know about Natural Disasters? Invite students to discuss with a partner: * What does the word natural mean in the phrase natural disaster? * What does the word disaster mean in the phrase natural disaster? • Ask a few partners to share aloud their discussions. Listen for: “Natural means it happens all on its own, like weather,” and “Disaster means it causes a lot of damage to the environment, property, and/or people.” • Tell students that they will keep coming back to this phrase throughout the module. • Explain to students that they may have noticed that all of the images during the Gallery Walk were about hurricanes and earthquakes. This is because those are the two types of natural disasters they will be focusing on during the rest of this unit. • Post and introduce the students to the Hurricanes anchor chart and the Earthquakes anchor chart. Ask students to review their Observe-Question-Infer note-catcher and think about one thing they could add to each column of the anchor charts: * “What did you learn about earthquakes or hurricanes?” * “What is a question you still have?” • Invite students to share with their partner. • Ask several students to share aloud what they learned and questions they still have about both hurricanes and earthquakes. Write their comments and questions in the appropriate columns.	• Students who struggle with organization may need their journals to be set up for them.



Closing and Assessment	Meeting Students' Needs
A. Review Learning Targets (3 minutes) • Ask students to think about the learning targets, “I can make inferences about natural disasters based on information from texts,” and “I can draw conclusions about natural disasters following a discussion.” • Using the Thumb-o-Meter protocol, gauge students' understanding of the learning targets by telling them to show a thumbs-up if they have complete understanding, a thumbs-sideways if they have some understanding, or a thumbs-down if they do not understand the learning target at all. Notice which students show a thumbs-sideways or thumbs-down and plan to meet with them either as a group or individually to review the learning targets.	



Closing and Assessment (continued)	Meeting Students' Needs
B. Introduce Module Routines: Journals, Vocabulary Glossaries, and Independent Reading (10 minutes) • Tell students that they will have the opportunity to continue practicing routines that they have done in previous modules as well as learn a few new ones now that they have become good readers and writers. • Remind students that they've already started their journals for this module. Ask them to turn to the back portion of their journals, about 10 pages from the back cover, and begin a section (Glossary) that will be used to keep track of new vocabulary learned, just as in Module 2. Instruct students to write "Scientific Vocabulary" at the top of the page on the left-hand side and "Academic Vocabulary" at the top of the page on the right-hand side. Tell students to turn the page and do the same on the next two pages, and so on, until they get to the back cover. (There should now be about five pages allotted for Scientific Vocabulary and five pages for Academic Vocabulary.) Let students know they will begin to add words to these sections in the next few lessons. • Remind students that in order to become really good readers and writers they need to read a lot of different texts. The more they read, the more they learn about the world, and the more words they learn! In order to continue learning more about natural disasters, they will have many other books to choose from to read independently during this module. Let students know they will be expected to read this book at other times during the school day and for homework. They will be given evidence flags to use when reading so they can keep track of their thinking and share with peers regularly, as they have done in previous modules. • Introduce the books available to students to choose from for their independent reading time. Remind students about how to choose a "just right" book and invite them to browse the selections in the classroom. • Give students about 5 minutes to make a decision about their independent reading book. Circulate to ensure students are choosing appropriate books for their reading level and help those who may have difficulty making a decision. Some students may need additional time during the school day to make their selection. Remind students that they will need to have this book with them at school and take it home each night to read as part of homework. • Distribute five evidence flags to students for homework.	• Let students who struggle with language know when they will be called upon to share aloud. This allows them to mentally prepare for what they will say and seek help if necessary. • Consider narrowing the choices to three books for students that may struggle with making a decision on an independent reading book.
Homework	Meeting Students' Needs
• Read your independent reading book. Use the evidence flags to note things as you read that you can add to the What Do We Know about Natural Disasters? anchor chart. Be prepared to share these with a partner.	• Provide an audio recording of independent reading books for students who struggle with reading independently.



EXPEDITIONARY
LEARNING

Grade 5: Module 4: Unit 1: Lesson 1

Supporting Materials



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Gallery Walk 1



Carey, Beth, "Flooding on the FDR Drive, following Hurricane Sandy." 30 October 2012. Online Image.
http://commons.wikimedia.org/wiki/File:Flooding_on_FDR_Drive,_following_Hurricane_Sandy.jpg



Gallery Walk 2



Olsen, Master Sgt. Mark C., "Aerial views of the damage caused by Hurricane Sandy to the New Jersey coast taken during a search and rescue mission by 1-150 Assault Helicopter Battalion", New Jersey Army National Guard, 30 October 2012. Online image.
http://commons.wikimedia.org/wiki/File:Hurricane_Sandy_damage_Long_Beach_Island.jpg



Gallery Walk 3



Booher, Andrea. "Photograph by Andrea Booher taken on 01-04-1997 in California." 4 January 1997. FEMA Photo Library.

http://commons.wikimedia.org/wiki/File:FEMA_-_1160_-_Photograph_by_Andrea_Booher_taken_on_01-04-1997_in_California.jpg



Gallery Walk 4



"Flying Through Hurricane's Eye." Photograph courtesy NOAA. http://environment.nationalgeographic.com/environment/photos/hurricanes/#/hurricane04-noaa-plane-caroline_21807_600x450.jpg



Gallery Walk 5



Koplitz, Bill. "Photograph by Bill Koplitz taken 10-12-2004 in Florida" 12 October 2004. FEMA Photo Library. http://commons.wikimedia.org/wiki/File:FEMA_-_11650_-_Photograph_by_Bill_Koplitz_taken_on_10-12-2004_in_Florida.jpg



Gallery Walk 6

Basic Disaster Supply Kit List

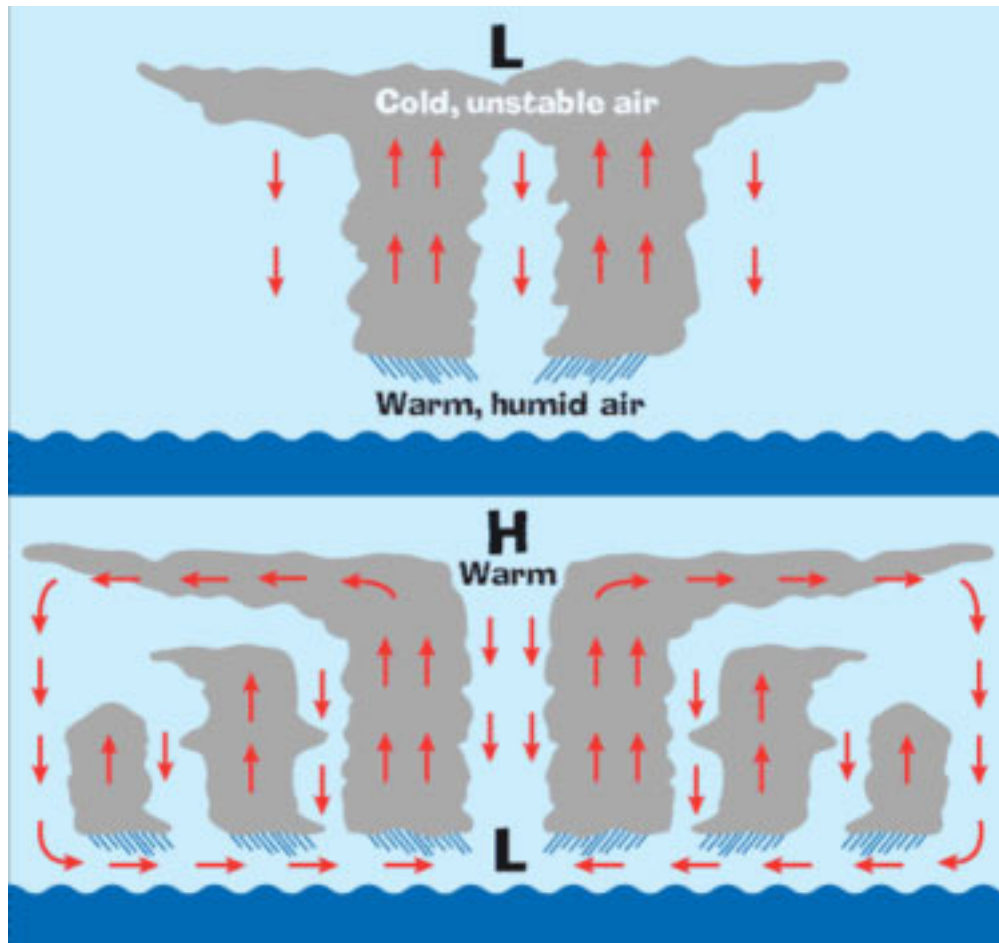
A basic emergency supply kit could include the following recommended items:

- Water, one gallon of water per person per day for at least three days, for drinking and sanitation
- Food, at least a three-day supply of non-perishable food
- Battery-powered or hand crank radio and a NOAA Weather Radio with tone alert and extra batteries for both
- Flashlight and extra batteries
- First aid kit
- Whistle to signal for help
- Dust mask to help filter contaminated air and plastic sheeting and duct tape to shelter-in-place
- Moist towelettes, garbage bags and plastic ties for personal sanitation
- Wrench or pliers to turn off utilities
- Manual can opener for food
- Local maps
- Cell phone with chargers, inverter or solar charger

"Basic Disaster Supplies Kit." Ready. FEMA, 9 Sept 2013. Web. <http://www.ready.gov/basic-disaster-supplies-kit>



Gallery Walk 7



How does a hurricane form? SciJinks. NASA.gov. Web. <http://scijinks.nasa.gov/hurricane>



Tropical Cyclone Names

Atlantic Names

2013	2014	2015	2016	2017	2018
Andrea	Arthur	Ana	Alex	Arlene	Alberto
Barry	Bertha	Bill	Bonnie	Bret	Beryl
Chantal	Cristobal	Claudette	Colin	Cindy	Chris
Dorian	Dolly	Danny	Danielle	Don	Debby
Erin	Edouard	Erika	Earl	Emily	Ernesto
Fernand	Fay	Fred	Fiona	Franklin	Florence
Gabrielle	Gonzalo	Grace	Gaston	Gert	Gordon
Humberto	Hanna	Henri	Hermine	Harvey	Helene
Ingrid	Isaias	Ida	Ian	Irma	Isaac
Jerry	Josephine	Joaquin	Julia	Jose	Joyce
Karen	Kyle	Kate	Karl	Katia	Kirk
Lorenzo	Laura	Larry	Lisa	Lee	Leslie
Melissa	Marco	Mindy	Matthew	Maria	Michael
Nestor	Nana	Nicholas	Nicole	Nate	Nadine
Olga	Omar	Odette	Otto	Ophelia	Oscar
Pablo	Paulette	Peter	Paula	Philippe	Patty
Rebekah	Rene	Rose	Richard	Rina	Rafael
Sebastien	Sally	Sam	Shary	Sean	Sara
Tanya	Teddy	Teresa	Tobias	Tammy	Tony
Van	Vicky	Victor	Virginie	Vince	Valerie
Wendy	Wilfred	Wanda	Walter	Whitney	William

"Tropical Cyclone Names." National Hurricane Center. NOAA/National Weather Service, 11 April 2013. Web. <http://www.nhc.noaa.gov/aboutnames.shtml>

Gallery Walk 9

Before a Hurricane

To prepare for a hurricane, you should take the following measures:

- To begin preparing, you should build an emergency kit and make a family communications plan.
- Know your surroundings.
- Learn the elevation level of your property and whether the land is flood-prone. This will help you know how your property will be affected when storm surge or tidal flooding are forecasted.
- Identify levees and dams in your area and determine whether they pose a hazard to you.
- Learn community hurricane evacuation routes and how to find higher ground. Determine where you would go and how you would get there if you needed to evacuate.
- Make plans to secure your property:
- Cover all of your home's windows. Permanent storm shutters offer the best protection for windows. A second option is to board up windows with 5/8" marine plywood, cut to fit and ready to install. Tape does not prevent windows from breaking.
- Install straps or additional clips to securely fasten your roof to the frame structure. This will reduce roof damage.
- Be sure trees and shrubs around your home are well trimmed so they are more wind resistant.
- Clear loose and clogged rain gutters and downspouts.
- Reinforce your garage doors; if wind enters a garage it can cause dangerous and expensive structural damage.
- Plan to bring in all outdoor furniture, decorations, garbage cans and anything else that is not tied down.
- Determine how and where to secure your boat.
- Install a generator for emergencies.
- If in a high-rise building, be prepared to take shelter on or below the 10th floor.
- Consider building a safe room.



During a Hurricane

If a hurricane is likely in your area, you should:

- Listen to the radio or TV for information.
- Secure your home, close storm shutters and secure outdoor objects or bring them indoors.
- Turn off utilities if instructed to do so. Otherwise, turn the refrigerator thermostat to its coldest setting and keep its doors closed.
- Turn off propane tanks
- Gallery Walk 9,
- Continued
-
- Avoid using the phone, except for serious emergencies.
- Moor your boat if time permits.
- Ensure a supply of water for sanitary purpose such as cleaning and flushing toilets. Fill the bathtub and other larger containers with water.
- Find out how to keep food safe during and after an emergency.

After a Hurricane

- Continue listening to a NOAA Weather Radio or the local news for the latest updates.
- Stay alert for extended rainfall and subsequent flooding even after the hurricane or tropical storm has ended.
- If you have become separated from your family, use your family communications plan or contact the American Red Cross at 1-800-RED-CROSS/1-800-733-2767 or visit the American Red Cross Safe and Well site: www.safeandwell.org
- The American Red Cross also maintains a database to help you find family. Contact the local American Red Cross chapter where you are staying for information. Do not contact the chapter in the disaster area.
- If you evacuated, return home only when officials say it is safe.

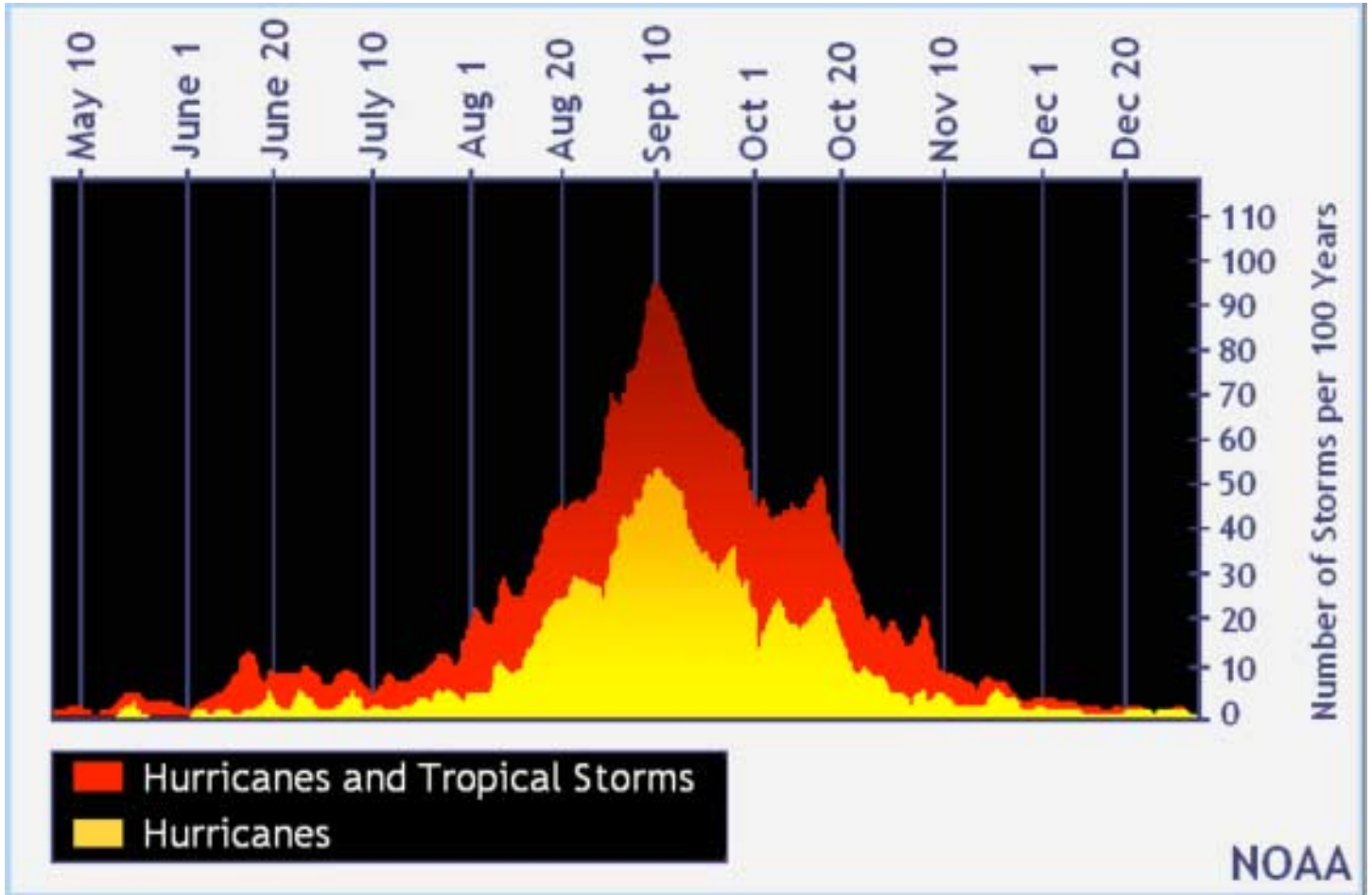
Gallery Walk 9
Continued

- If you cannot return home and have immediate housing needs. Text SHELTER + your ZIP code to 43362 (4FEMA) to find the nearest shelter in your area (example: shelter 12345).
- For those who have longer-term housing needs, FEMA offers several types of assistance, including services and grants to help people repair their homes and find replacement housing. Apply for assistance or search for information about housing rental resources
- Drive only if necessary and avoid flooded roads and washed-out bridges. Stay off the streets. If you must go out watch for fallen objects; downed electrical wires; and weakened walls, bridges, roads, and sidewalks.
- Keep away from loose or dangling power lines and report them immediately to the power company.
- Walk carefully around the outside your home and check for loose power lines, gas leaks and structural damage before entering.
- Stay out of any building if you smell gas, floodwaters remain around the building or your home was damaged by fire and the authorities have not declared it safe.
- Inspect your home for damage. Take pictures of damage, both of the building and its contents, for insurance purposes. If you have any doubts about safety, have your residence inspected by a qualified building inspector or structural engineer before entering.
- Use battery-powered flashlights in the dark. Do NOT use candles. Note: The flashlight should be turned on outside before entering - the battery may produce a spark that could ignite leaking gas, if present.
- Watch your pets closely and keep them under your direct control. Watch out for wild animals, especially poisonous snakes. Use a stick to poke through debris.
- Avoid drinking or preparing food with tap water until you are sure it's not contaminated.
- Check refrigerated food for spoilage. If in doubt, throw it out.
- Wear protective clothing and be cautious when cleaning up to avoid injury.
- Use the telephone only for emergency calls.
- **NEVER** use a generator inside homes, garages, crawlspaces, sheds, or similar areas, even when using fans or opening doors and windows for ventilation. Deadly levels of carbon monoxide can quickly build up in these areas and can linger for hours, even after the generator has shut off.

"Hurricanes." Ready. FEMA. 5 June 2013. Web. <http://www.ready.gov/hurricanes>



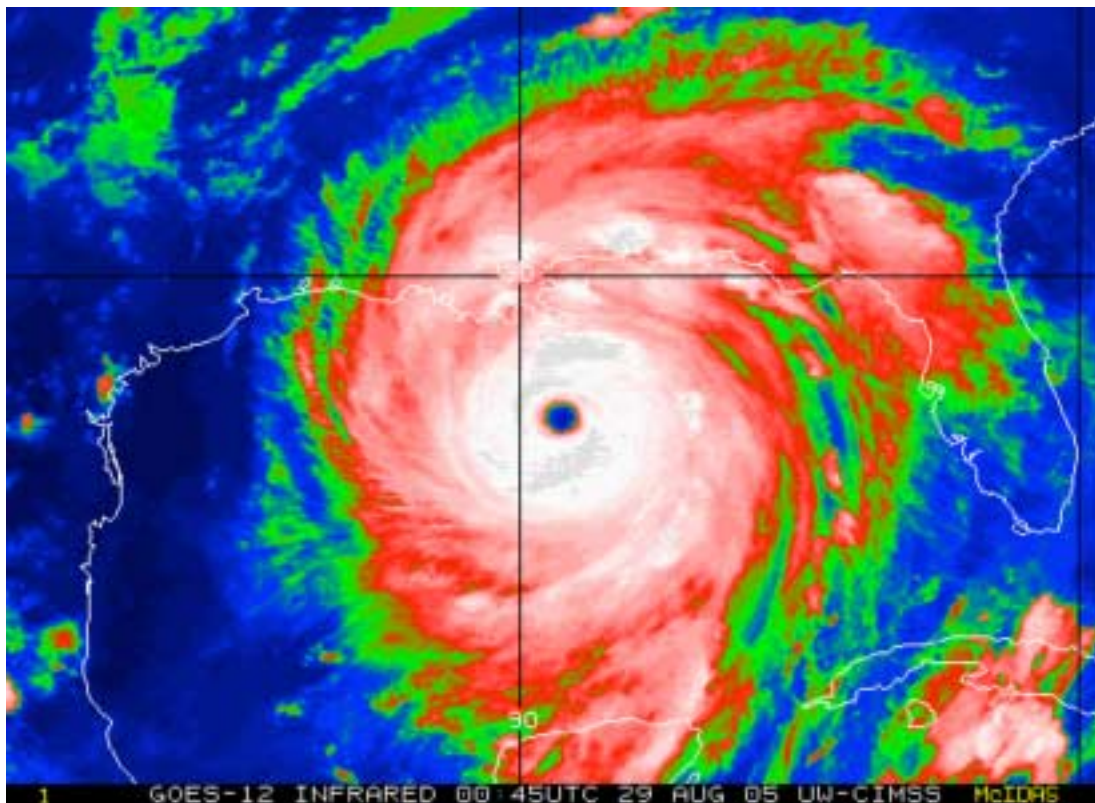
Gallery Walk 10



Setzer, Craig. "Does the Late Start to the Season Mean a Big Finish? Not Necessarily So." Weather Notions. WeatherNation, 10 Sept 2013. Web. Image courtesy of NOAA. <http://blog.weathernationtv.com/2013/09/10/does-the-late-start-to-the-season-mean-a-big-finish-not-necessarily-so/>



Gallery Walk 11



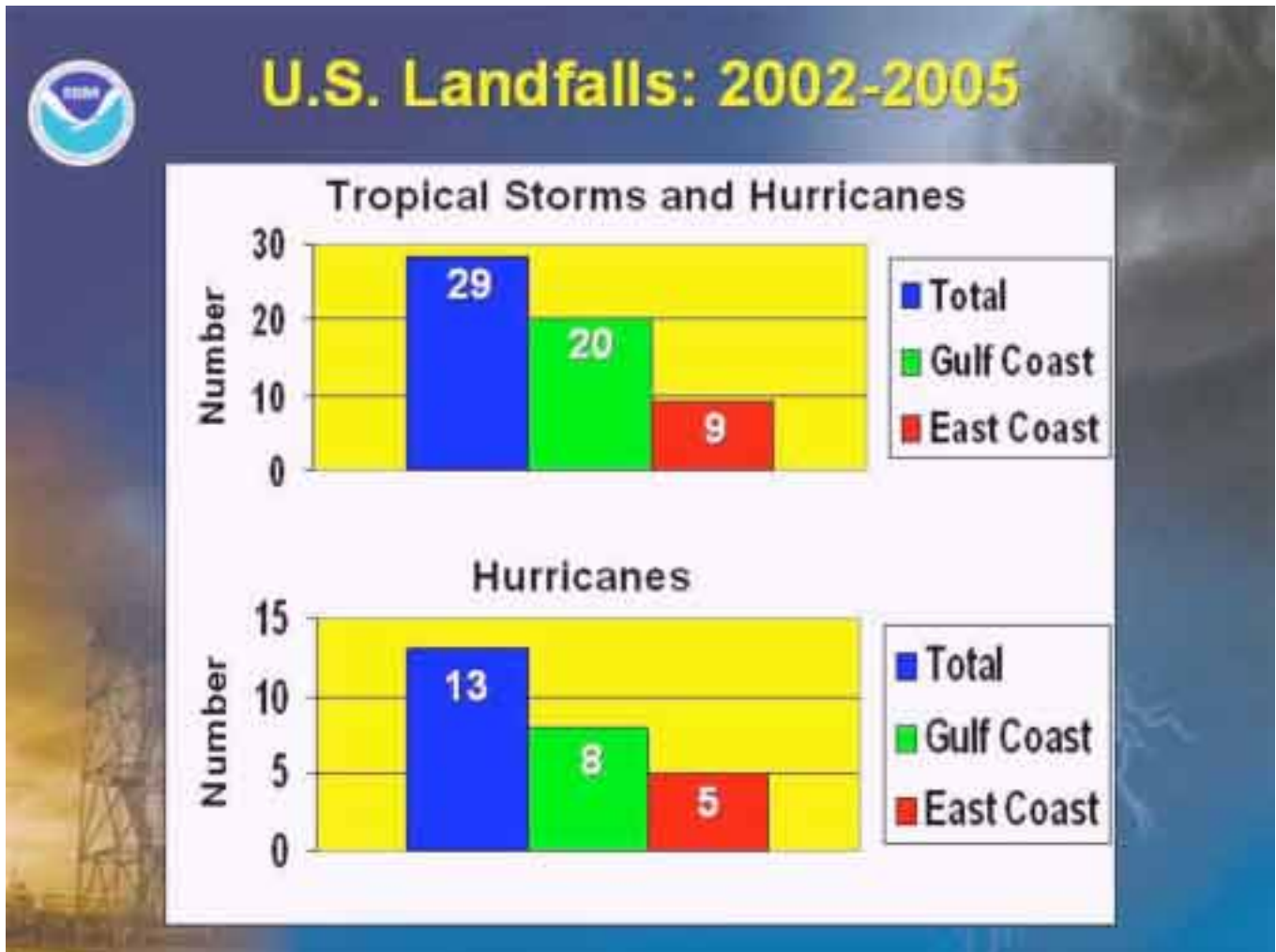
Katrina2005. 2005. Photograph. ©University of Wisconsin Cooperative Institute for Meteorological Satellite Studies.
<http://blog.weathernationtv.com/2013/09/10/does-the-late-start-to-the-season-mean-a-big-finish-not-necessarily-so/>



Gallery Walk 12



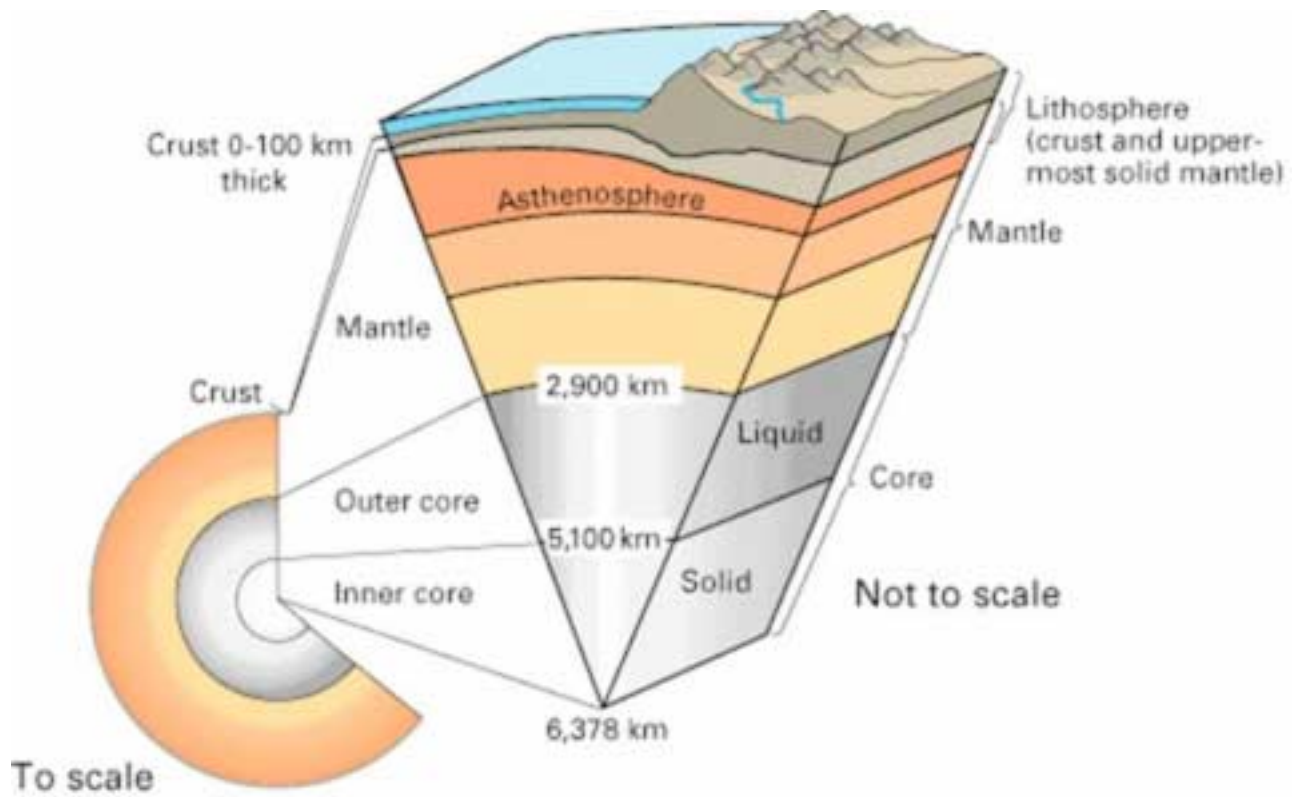
NOAA's GOES-13 satellite image of Hurricane Sandy on Oct 28, 2012. Photograph. NASA web.
http://www.nasa.gov/mission_pages/hurricanes/archives/2012/h2012_Sandy.html



U.S. Landfalls: 2002-2005. 2005. Chart. NOAAWeb. http://www.nasa.gov/mission_pages/hurricanes/archives/2012/h2012_Sandy.html



Gallery Walk 14



Earth internal structure. 2011. Diagram. U.S. Geological Survey. Web.



Gallery Walk 15



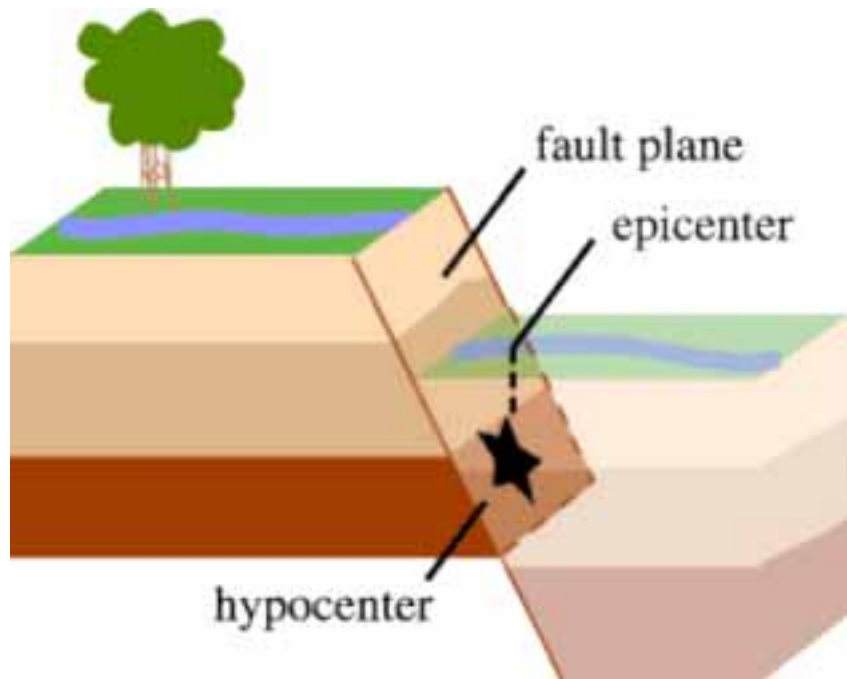
Klaten collapsed houses.2006 Photograph. US Agency for International Development. Web.
http://commons.wikimedia.org/wiki/File:Klaten_collapsed_houses.jpg



Destroyed buildings and cars after earthquake and tsunami. USMC-110327-M-2155E-036. 2011. Photograph. United States Marine Corp. Web <http://commons.wikimedia.org/wiki/File:USMC-110327-M-2155E-036.jpg>



Gallery Walk 17



The Science of Earthquakes. 2012 Graphic. US Geological Survey. Web. <http://earthquake.usgs.gov/learn/kids/eqscience.php>

Gallery Walk 18

During an Earthquake

Drop, cover and Hold On. Minimize your movements to a few steps to a nearby safe place and if you are indoors, stay there until the shaking has stopped and you are sure exiting is safe.

If Indoors

- DROP to the ground; take COVER by getting under a sturdy table or other piece of furniture; and HOLD ON until the shaking stops. If there isn't a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, such as lighting fixtures or furniture.
- Stay in bed if you are there when the earthquake strikes. Hold on and protect your head with a pillow, unless you are under a heavy light fixture that could fall. In that case, move to the nearest safe place.
- Do not use a doorway except if you know it is a strongly supported, load-bearing doorway and it is close to you. Many inside doorways are lightly constructed and do not offer protection.
- Stay inside until the shaking stops and it is safe to go outside. Do not exit a building during the shaking. Research has shown that most injuries occur when people inside buildings attempt to move to a different location inside the building or try to leave.
- DO NOT use the elevators.
- Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on.

If Outdoors

- Stay there.
- Move away from buildings, streetlights, and utility wires.
- Once in the open, stay there until the shaking stops. The greatest danger exists directly outside buildings, at exits and alongside exterior walls. Many of the 120 fatalities from the 1933 Long Beach earthquake occurred when people ran outside of buildings only to be killed by falling debris from collapsing walls. Ground movement during an earthquake is seldom the direct cause of death or injury. Most earthquake-related casualties result from collapsing walls, flying glass, and falling objects.



Gallery Walk 18
Continued

If in a Moving Vehicle

- Stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses, and utility wires.
- Proceed cautiously once the earthquake has stopped. Avoid roads, bridges, or ramps that might have been damaged by the earthquake.

If Trapped Under Debris

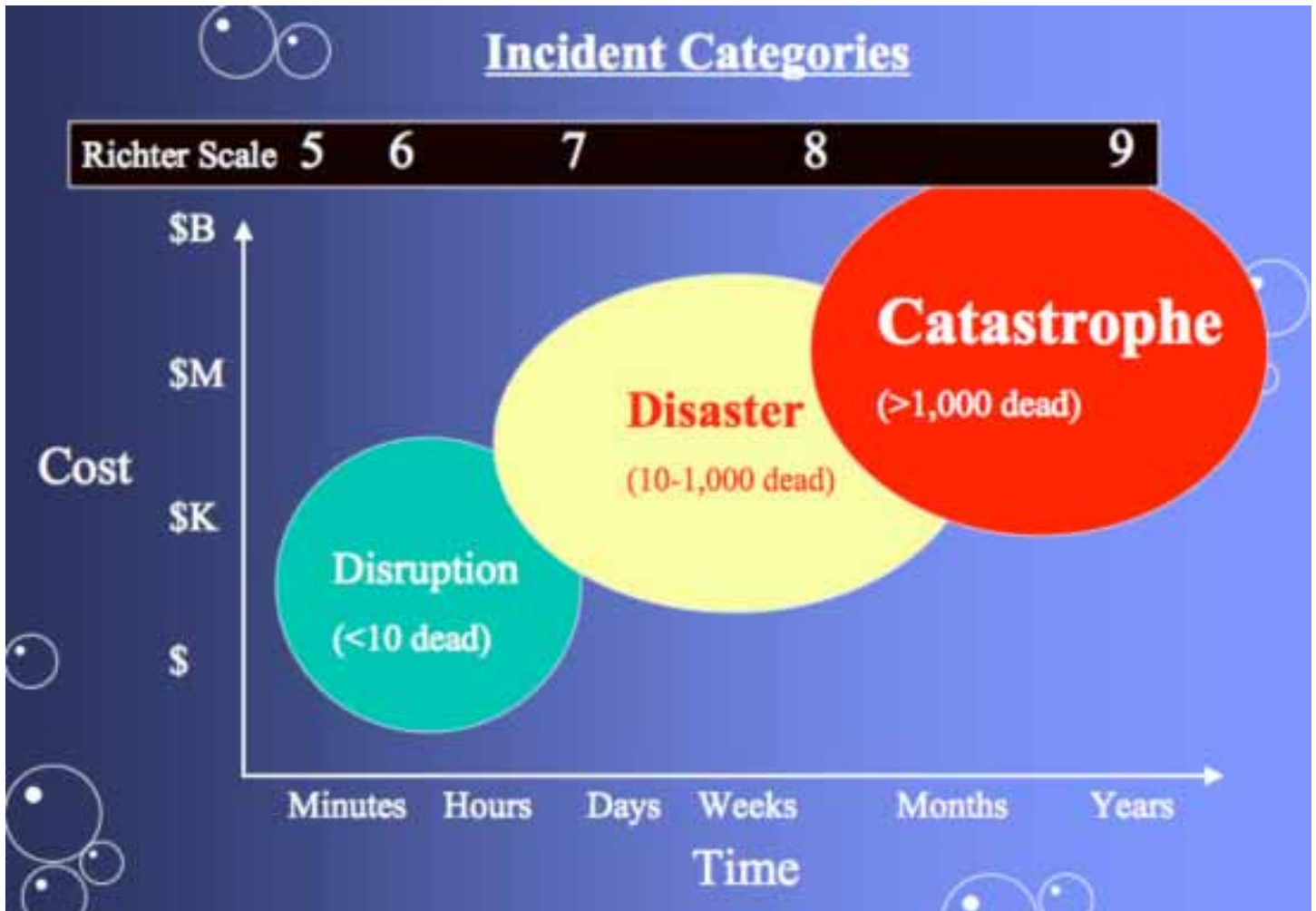
- Do not light a match.
- Do not move about or kick up dust.
- Cover your mouth with a handkerchief or clothing.
- Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available. Shout only as a last resort. Shouting can cause you to inhale dangerous amounts of dust.



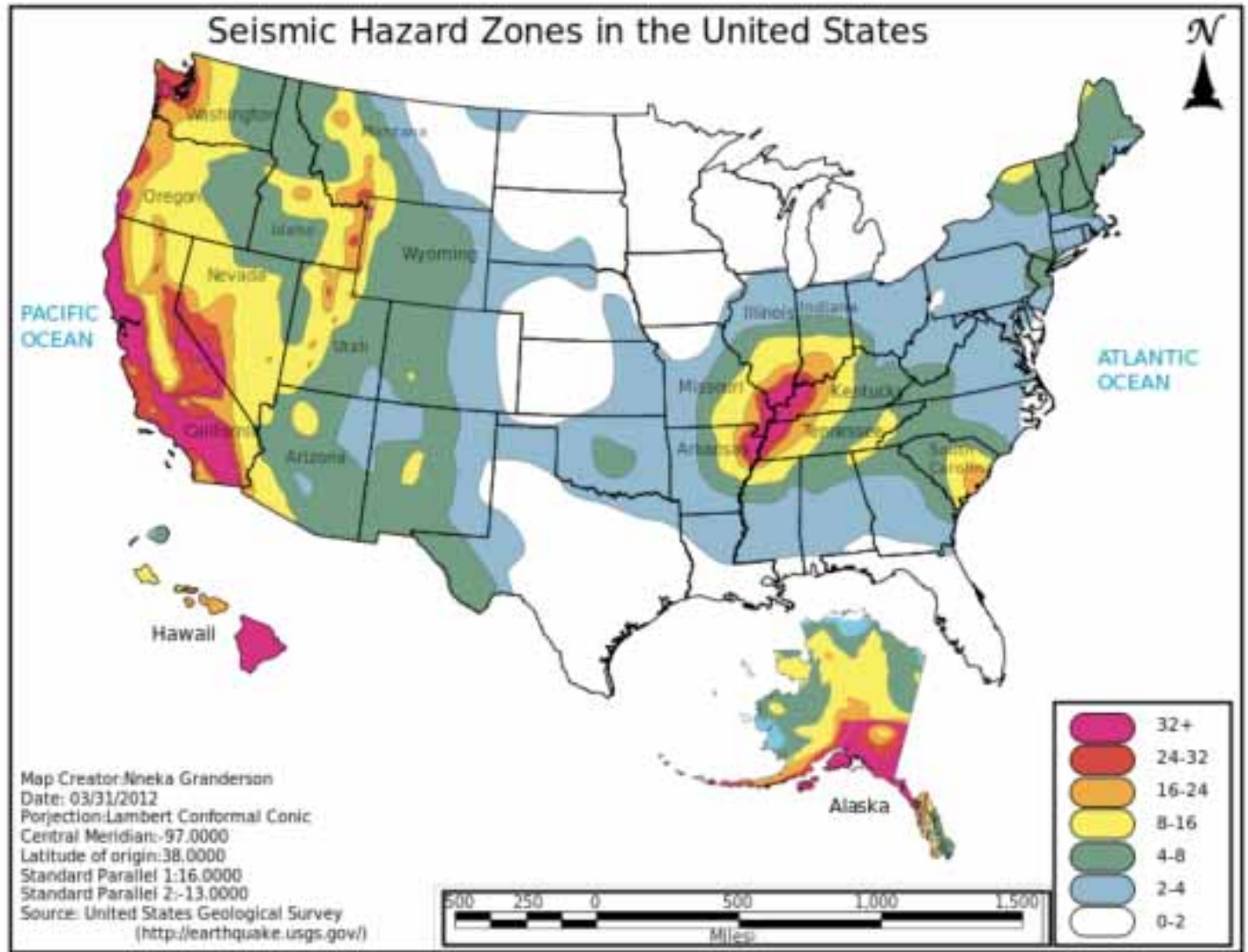
Gallery Walk 19



Search and Rescue operations after Van earthquake 2011. 20122. Photograph. AKUT Search and Rescue Association, Istanbul. Web.
http://commons.wikimedia.org/wiki/File:AKUT_2011_Van-2.jpg



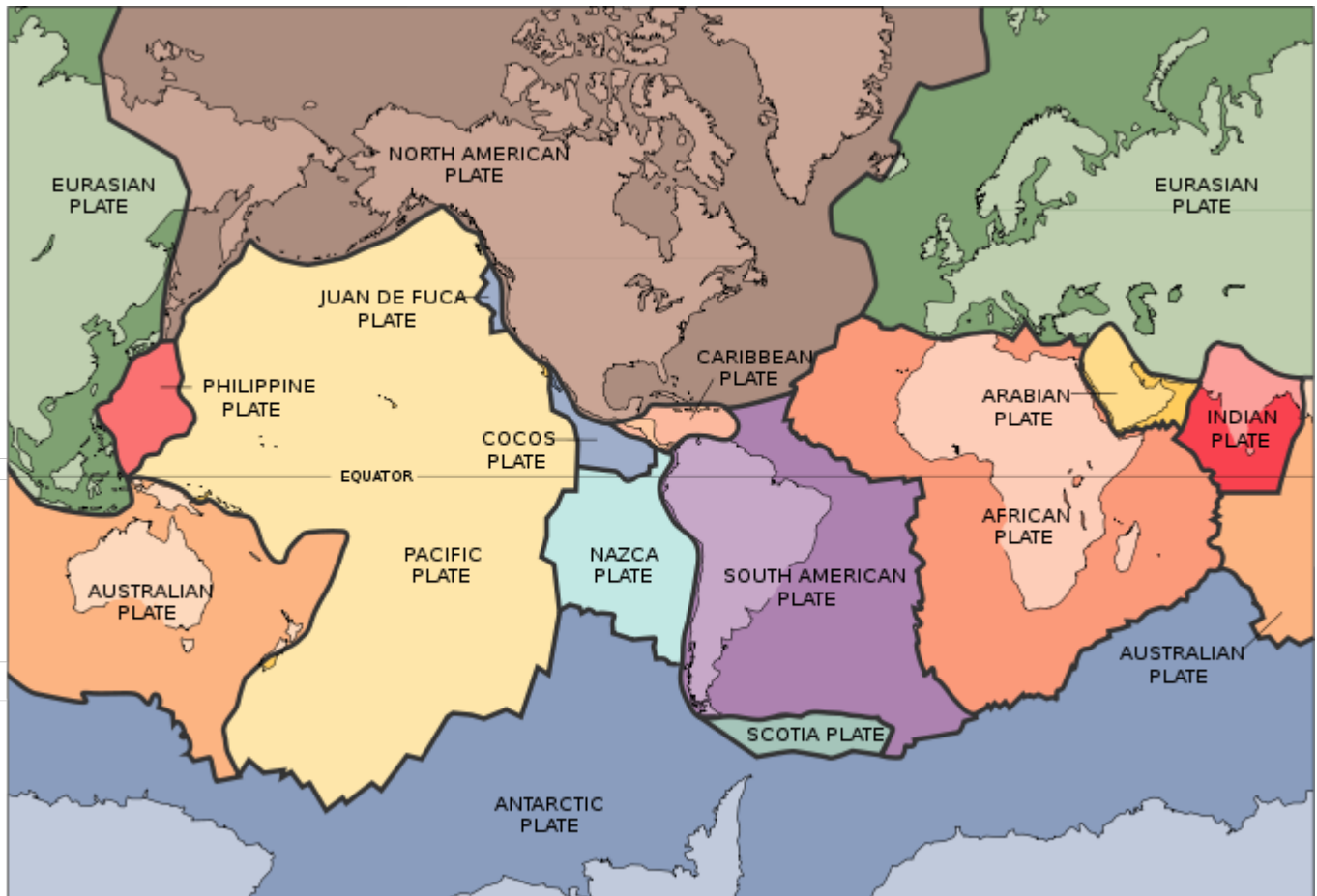
Webber. Earthquake severity. 2007. Chart. Wikimedia Commons. Web. http://commons.wikimedia.org/wiki/File:Earthquake_severity.jpg



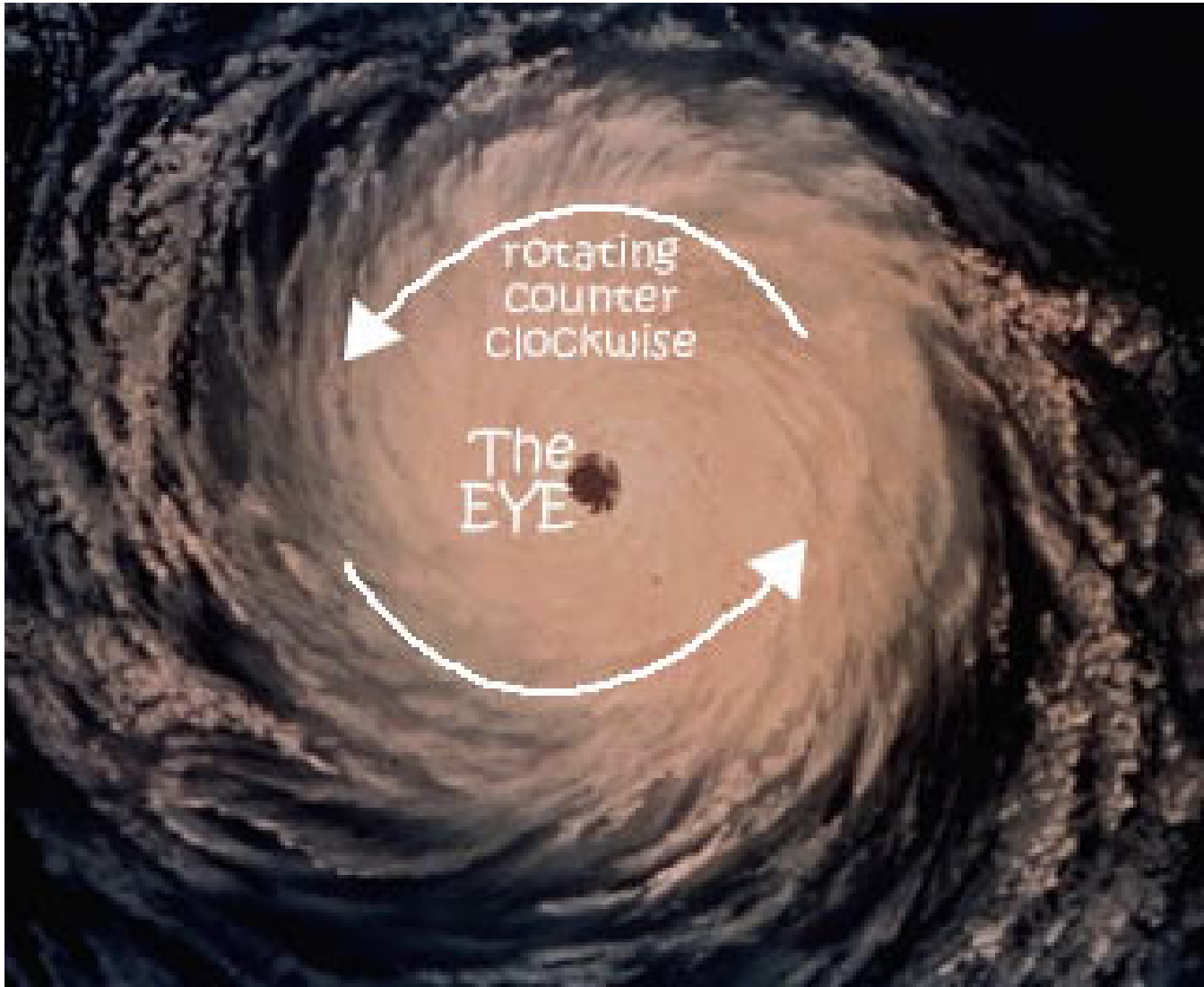
NGranderson. Seismic Hazard Zones in the United States. 2012. Map. Wikimedia Commons. Web.
http://commons.wikimedia.org/wiki/File:Seismic_Hazard_Zones_in_the_United_States..svg



Gallery Walk 22



Tectonic Plates. 2005. Map. US Geological Survey. Web. http://commons.wikimedia.org/wiki/File:Tectonic_plates.svg



2003 Copyright, University Corporation for Atmospheric Research Illustrations by Lisa Gardiner, UCP/SPARK



Observe-Question-Infer
Note-Catcher

What do you OBSERVE?	What QUESTIONS do you have?	What INFERENCES can you make?



World Café Prompts

(Write each question at the top of a large piece of chart paper. Be sure to have one chart for each triad. There will be between 3 and 4 charts for each question.)

What makes a natural event a disaster?

How can natural disasters affect people?

What causes Natural Disasters?



Hurricanes Anchor Chart
For Teacher Reference

Things We Have Learned	Questions We Still Have



Earthquakes Anchor Chart
For Teacher Reference

Things We Have Learned	Questions We Still Have



EXPEDITIONARY
LEARNING

Grade 5: Module 4: Unit 1: Lesson 2

Relationships Between Key Scientific Concepts: Planning What Causes Earthquakes



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can explain what a text says using quotes from the text. (RI.5.1)

I can explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3)

I can determine the meaning of academic words or phrases in an informational text. (RI.5.4)

I can determine the meaning of content words or phrases in an informational text. (RI.5.4)

Supporting Learning Targets

- I can explain the relationship between scientific concepts about earthquakes using specific details from the text.
- I can use context clues to determine the meaning of new words in an article about earthquakes.

Ongoing Assessment

- Annotated “Earthquake” article
- Earthquake Concepts note-catcher
- Glossaries (scientific and academic vocabulary)



Agenda	Teaching Notes
1. Opening A. Checking Independent Reading Homework and Engaging the Reader (8 minutes) B. Review Learning Targets (2 minutes) 2. Work Time A. First Read: What Is an Earthquake? (15 minutes) B. Second Read with a Partner: Cause and Effect Relationships about Earthquakes (15 minutes) C. Vocabulary to Deepen Understanding (13 minutes) 3. Closing and Assessment A. Debrief: What Have We Learned about Earthquakes? (5 minutes) B. Review Learning Targets (5 minutes) 4. Homework A. Reread the “Earthquakes” article aloud to someone at home. As you read, think about the causes and effects of an earthquake. B. Read your independent reading book. Be sure to read for evidence that can be added to the What Do We Know about Natural Disasters? anchor chart. Mark the evidence in your book using the evidence flags. C. Add vocabulary words to your scientific and academic word glossaries. Don’t forget the academic words from the learning targets (relationship, concepts, context).	• This lesson is the first of two close reads in this unit in which students are reintroduced to standard RI.5.3. Students will explain the relationship between the scientific concepts behind the causes of an earthquake, as well as the effects on the environment and humans that categorize it as a natural disaster. • This unit is not designed for students to develop a full and deep understanding of the science behind earthquakes. Be sure to address these important scientific concepts much more fully during science lessons, including hands-on experiments or simulations as necessary. These literacy lessons “connect” to the science standards but do not fully address those standards. • Students read about certain scientific ideas (pressure and energy). They focus specifically on the concept of cause and effect relationships. Students have been introduced to this concept in previous modules (Jackie Robinson and the civil rights movement). This lesson includes a brief review of cause and effect relationships. The instruction aligns with RI.5.3. • In this unit, students will do most work with a partner. This allows for maximum engagement and participation by all members of the class. Consider purposefully partnering students so that stronger readers and writers are with those who struggle with complex text. Change students’ partners periodically so that students can benefit from the thinking of other peers. • In this lesson, students use a new note-catcher: Earthquake Concepts. Students are accustomed to reproducing note-catchers into their journal and creating new ones as they continue practicing skills. However, due to the number of columns and wording in this note-catcher, students will be given the note-catcher to fill in. Consider stapling or taping the completed note-catcher into students’ journals to keep all thinking about natural disasters in one place. • In advance: Write and post the vocabulary words and definitions for this lesson for students to refer to during Work Time, Part C and in preparation for homework. • Prepare necessary technology for the video. • Review: Give One, Get One protocol (Appendix 1).



Lesson Vocabulary	Materials
relationship, concepts, cause, effect, chronological, before, during, after, causal chain of events, context; plates, pressures, interior, upward, results, fault, energy, seismic waves, radiate	• What Do We Know about Natural Disasters? anchor chart (from Lesson 1) • Students' independent reading books • Journals • Earthquakes 101 video clip. Play only from 0:00 to 1:33. National Geographic. "Earthquakes 101." Video. http://video.nationalgeographic.com/video/environment/environment-natural-disasters/earthquakes/earthquake-101/ • "Earthquake" article (one per student) • Earthquake Concepts note-catcher (one per student and one to display) • Earthquakes Concepts Note-Catcher (for teacher reference) • Vocabulary Strategies anchor chart (Module 3) • Earthquakes anchor chart (from Lesson 1) • Evidence flags (five per student)



Opening	Meeting Students' Needs
A. Checking Independent Reading Homework and Engaging the Reader (8 minutes) • Post the What Do We Know about Natural Disasters? anchor chart that students started in the last lesson. Ask students to take out their journals and turn to the anchor chart in their own notes. Ask them also to get out their homework: their independent reading book with evidence flags. • Ask students to read the notes on the class anchor chart silently. Then invite them to turn to a partner: * “What is one piece of evidence from your independent reading book that you flagged for homework that could be added to the chart?” • Call on several students to share their evidence. Add these notes to the class anchor chart. Invite students to do the same in their anchor charts in their journals as well as add any others they may have found evidence for during their reading. • Tell students they will now be watching a video clip about earthquakes. Ask them to think about this question as they watch and listen: * “What happens during an earthquake?” • Play the Earthquakes 101 video clip. • Invite students to turn and talk with a partner about what they saw and heard happens during an earthquake. Have a few students share their discussions.	• Some students may benefit from having a partner, or the teacher, read the lists from the anchor chart aloud. • Students who struggle with language would benefit from the teacher checking their evidence flags before class begins and letting them know they will be asked to share a particular one in front of the whole class, giving them time to prepare. • Consider playing the video clip more than one time for students to allow them more time for processing the information seen and heard.



Opening (continued)	Meeting Students' Needs
B. Review Learning Targets (2 minutes) • Call on a student to read aloud the first learning target: * “I can explain the relationship between scientific concepts about earthquakes using specific details from text.” • Ask students to think about the word <i>relationship</i> and share with a partner what they think it means in the learning target. Call on a student to share his or her definition. Listen for: “how things are connected or how they relate.” Focus students on the parts of <i>relationship</i> that they may know, such as “relation” or “relate.” Ask students to share out what they know about the meaning of those words. Listen for: “go together” or “belong together.” • Ask students to think and talk with a partner about another word for <i>concepts</i>. Invite a few students to share their words. Listen for: “ideas,” “understandings,” etc. Clarify as needed: A concept is an abstract idea. • Explain that in today’s lesson students will be learning scientific concepts that relate to earthquakes and then thinking about how those concepts relate to one another.	• Provide a nonlinguistic visual for the words <i>relationship</i> (two interlocking rings) and concepts (a light bulb).



Work Time	Meeting Students' Needs
A. First Read: What Is an Earthquake? (15 minutes) • Distribute the article “Earthquake.” Remind students of the process they have used when reading text for the first time. Ask them to share with a partner the first thing they do when reading a new text. Invite a few students to share their thinking. Listen for: “read for the gist,” “read by ourselves,” “if it is a really hard text, hear it read aloud as we read along,” etc. • Ask students to read just the first three paragraphs of the article and annotate in the margin by writing the gist—what these paragraphs are about. Starting, “Earth’s crust remains...” and ending, “...Aristotle said that underground winds shook the Earth.” • After about 2-3 minutes, ask students to share with their partner the gist they wrote. Invite a few partners to share aloud. Listen for: “what causes an earthquake” or “damage that earthquakes cause.” • Ask the class to listen to you read aloud the rest of the article, and tell them to write the gist in the margin when you pause after each section. • Then invite a student to share aloud the gist he or she wrote in the margin. Listen for ideas such as: – Causes of Earthquakes (paragraphs 4 and 5) —“slow movement of Earth’s crust causes pressure; when large rocks break and slip there is an earthquake” – Seismic Waves (paragraphs 6, 7 and 8) —“seismic waves are shocks from the center of the quake that cause shaking” – Measuring Earthquakes (paragraphs 9 and 10) —“scientists read seismograms to learn about earthquakes” – Size and Strength of an Earthquake (paragraphs 11, 12 and 13) —“scientists measure earthquakes to learn more information about them” – How Often Do Earthquakes Occur? (paragraph 14) – “there are a lot of earthquakes every year, but most are small” – Predicting Earthquakes (paragraphs 15, 16 and 17) – “scientists are trying to figure out ways to help people prepare for earthquakes”	• Provide the “Earthquake” text in students’ L1 language when possible. • Students who struggle reading complex text may need to have the article further chunked into single sentences rather than paragraphs. • Consider displaying the article on a document camera and modeling writing the gist in the margin after each paragraph is read and students share their thinking about the gist. • Some students may need the paragraphs read aloud more than one time.



Work Time (continued)	Meeting Students' Needs
B. Second Read with a Partner: Cause and Effect Relationships about Earthquakes (15 minutes) - Ask students to think again about what good readers do when they read closely: * “What do readers do after reading for the gist?” - Call on a few students to share aloud. Listen for: “read again,” “read for a specific purpose,” etc. - Tell students that they will read a portion of the article a second time, this time paying close attention to the relationships between scientific concepts, or ideas, that explain what causes an earthquake and what happens during and after an earthquake. Remind students of the work they did with <i>cause</i> and <i>effect</i> in Module 3A. Ask students to think about and share with a partner: * “What do you know about cause and effect?” - Invite a few students to share aloud their discussion. Listen for: “Causes and effects are related,” “An effect is a result of whatever caused it,” and “You don’t always know the cause of an effect. Sometimes texts actually describe the effect first, then the cause. Sometimes you have to infer the cause or effect. For example, in our study about Jackie Robinson (Module 3A), we read about causes of the civil rights movement and effects of what some people did during that time.” - Clarify as needed. Explain that they will be reading to learn what causes an earthquake. Remind them that the text may not describe the causes and effects in the order they actually happen. In real life, cause always comes first, then effect. They happen in <i>chronological</i> (first, second, third, etc. ...) order. But writers don’t always give us the information so clearly. - Distribute and display the Earthquake Concepts note-catcher. Tell students that in the left-hand column they will write what happens <i>before</i> an earthquake, in the middle columns they will write what happens <i>during</i> an earthquake, and in the right-hand column they will write what happens <i>after</i> an earthquake. Answer any clarifying questions about the note-catcher. - Ask students to read along in their heads as you reread the fourth paragraph. Set purpose: Ask them to pay attention to what the text says about what happens before an earthquake. Read aloud from “Seismologists, scientists who study...” to the end of the paragraph, “...brittle rocks near the surface.” - Ask: * “What happens before an earthquake?” - Listen for: “slow moving material (plates) build up and push rocks to the surface.” Model writing “slow moving material (plates) build up and push rocks to the surface” in the first column of the note-catcher and invite students to record this in their own note-catchers.	- Consider posting all questions asked during the lesson on chart paper or the white board for students to refer to throughout the lesson. - Students who struggle with writing would benefit from a partially filled-in note-catcher. - Consider pre-highlighting details to focus on in the text for students who struggle reading complex text in order to help them fill out the note-catcher.



Work Time (continued)	Meeting Students' Needs
• Ask students to take about 7-8 minutes with their partner to continue reading the next three paragraphs of the article and to record in the note-catcher what the text says about what happens during and after an earthquake (starting, “Earth’s plates move only...” and ending, “...people feel a swaying or rolling motion.”) Remind them that they should pause after every two to three sentences to consider and record relationships between concepts about earthquakes in their note-catchers. • Circulate among partners, redirecting or supporting students when necessary. • After about 7-8 minutes, refocus students whole group. Call on students to share what they wrote in their note-catchers. (See Earthquake Concepts note-catcher, answers, for teacher reference for ideas students may share.) • Help students notice that this is in effect a causal <i>chain of events</i>: A starting event causes the next effect and then that effect in turn causes another effect, and so on. Give students a concrete example (like dominoes falling) to help them understand this concept of a causal chain more clearly.	



Work Time (continued)	Meeting Students' Needs
C. Vocabulary to Deepen Understanding (13 minutes) • Read aloud the second leaning target, “I can use context clues to determine the meaning of new words in an article about earthquakes.” Ask students to think about the word context and what it means in the learning target. Invite a few students to share their thoughts. Listen for: “in the text, what the sentence is about, or “the parts of the text that help to explain its meaning,” etc. • Draw students’ attention to Vocabulary Strategies anchor chart. Remind students of the work that they have done in previous modules finding the meaning of new words in context. Ask: * “Which strategy has been most helpful to you and why?” • Ask a few students to share with the class. • Post and focus students on the list of vocabulary for this lesson. Assign each student a partner and two or three words from the list, ensuring that all words are assigned. • As in previous modules, ask students to do the following: 1. Work with their partner to find each assigned word in the text. 2. Underline or circle the words or phrases. 3. Using strategies listed on the anchor chart, determine the meaning of each word in context. 4. Write the word, what it means, and a visual in the appropriate Glossary section of their journal. • Allow partners 4 to 5 minutes to determine the meaning of their words. Circulate to offer support and redirect as needed. • Refocus students whole group. Tell them that they will now use the Give One, Get One protocol to share some of the words they worked on. Tell them that as they share, they should write the words, what they mean, and visuals in the Glossary section of their journals. • Begin: Have partners locate another pair and give one of their words and definitions as well as receive one. • Ask students to return to their seats. Call on students to share aloud their words and what they think they mean in context. Write the meaning next to the words posted for students.	• Consider pre-highlighting vocabulary for students who may have difficulty finding it in the text. • Consider assigning students who struggle with language words whose meanings are more easily found in context. • Students who struggle with multiple tasks at the same time may not be able to circulate during the Give One, Get One protocol and write a word and its meaning. Consider allowing their partner to write for them or give them extra time later in the day to go back to the vocabulary and write it in their glossaries.



Work Time (continued)	Meeting Students' Needs
• Academic Words: – <i>interior</i>: inside part – <i>upward</i>: move up; go higher – <i>results</i>: outcome; consequence – <i>energy</i>: power, force • Scientific Words: – <i>plate</i>: a piece of the earth's crust made of masses of rock – <i>fault</i>: where the plates join – <i>pressure</i>: a force against another force – <i>seismic waves</i>: shock waves that come from the center of an earthquake – <i>radiate</i>: energy that spreads out in the form of waves • Ask students to look back at their Earthquake Concepts note-catchers and revise details based on their new understanding after having reviewed key vocabulary. • If time permits, remind students to add these words to their glossaries, or they may do so for homework. • Collect the annotated “Earthquake” articles and Earthquake Concepts note-catchers to review as an assessment for learning.	



Closing and Assessment	Meeting Students' Needs
A. Debrief: What Have We Learned about Earthquakes? (5 minutes) - Ask students to think about and share with a partner: * “What did you learn about earthquakes today?” * “What questions do you now have about earthquakes?” - Call on a few partners to share their discussions with the whole class. Add their ideas and questions to the Earthquakes anchor chart. Prompt students to add these new ideas to their anchor chart in their journal. - Have the class silently skim the list to see if the new information added today answers any of the questions listed on the chart. If there are some questions answered, cross them off the anchor chart. Invite students to do the same on their own anchor chart.	Students who struggle with language would benefit from sentence stems such as: “I learned _____ about earthquakes today,” and “One question I have about earthquakes now is ...”
B. Review Learning Targets (2 minutes) - Review the learning targets using the Fist-to-Five protocol. Read each learning target aloud and pause after each one to ask students to show a fist if they are still struggling with the learning target, five fingers if they have mastered the learning target, or any number of fingers in between to indicate their level of understanding of the learning target. Note any students showing a fist, one, or two fingers. Check in with those students individually to find out what they are struggling with. - Distribute five evidence flags to students for homework.	



Homework	Meeting Students' Needs
• Reread the “Earthquake” article aloud to someone at home. As you read, think about the causes and effects of an earthquake. • Read your independent reading book. Be sure to read for evidence that can be added to the What Do We Know about Natural Disasters? anchor chart. Mark the evidence in your book using the evidence flags. • Add vocabulary words to your scientific and academic word glossaries. Don’t forget the academic words from the learning targets (relationship, concepts, context). <i>Note: Review the annotated “Earthquake” articles and Earthquake Concepts note-catchers. Be prepared to return them to students by Lesson 4. Note any students who were not able to write the gist statements in the margins or list details about concepts appropriate for each column in the note-catcher. Plan to check in and review the reading with those students independently or in small groups.</i>	• Consider requiring students who struggle with independent reading to flag only three pieces of evidence to add to the class anchor chart. • Provide an audio recording of students’ independent reading book for those students who struggle reading independently. • Allow students whose first language is something other than English the opportunity to read an independent book in their L1 language. • Prioritize the vocabulary words for those students who struggle with complex text (<i>relationship, concepts, context, continually, gradually</i>—all academic words).



EXPEDITIONARY
LEARNING

Grade 5: Module 4: Unit 1: Lesson 2

Supporting Materials



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“Earthquake”

Earth's crust remains in constant motion. Slowly but powerfully, its pieces rub against each other and collide. These collisions produce earthquakes. So does the movement of melted rock pushing up to Earth's surface.

Thousands of earthquakes occur on our planet each year. The largest cause deadly damage. They crumple buildings and bridges. They set off massive landslides. Some also spark devastating waves called tsunamis.

Throughout history, people have known the terror of great earthquakes. In Japan, legend blamed them on the movement of a giant underground catfish. The ancient Chinese thought that they were caused by a huge tortoise. About 2,300 years ago the Greek philosopher Aristotle said that underground winds shook Earth.

Causes of Earthquakes

Seismologists, scientists who study the motion of Earth, now know that quakes stem from forces deep inside our planet. There, heated rocky material is flexible. It moves slowly and steadily. Near Earth's surface the rocky material cools. The crust of Earth is formed of plates made of this material. Plate tectonics is the study of how these giant fragments move. These plates are brittle and cannot move easily. The slow movement of material deep in the interior builds up. It pushes on the brittle rocks near the surface.

Earth's plates move only a few inches every year. No one feels this movement except where the plates rub together or stretch apart. The slow movements create large pressures. This causes huge areas of rock to break and slip. During this violent fracture, some rock dives into Earth's interior. Other rock thrusts upward. This results in an earthquake. Often a break in Earth's surface occurs at a fault. A fault is a break where two blocks of rock have moved past each other previously.

Seismic Waves

The movement of Earth releases a huge amount of energy. Some of it takes the form of shock waves called seismic waves. These shocks radiate out from the center of the quake. They can cause violent shaking. There are two main types of seismic waves: surface waves and body waves.

Surface waves travel along the surface of the ground. In large earthquakes, they can cause people to feel a swaying or rolling motion.

“Earthquake”

Body waves move deep underground. They are faster than surface waves. Compression waves are the fastest type of body wave. They are also known as P waves. Shear waves, or S waves, are the slower type of body wave.

Measuring Earthquakes

Scientists use seismometers to measure the distance the ground moves during an earthquake. This tells them how large the seismic waves are. There are thousands of seismometers in use all over the world.

Seismometers create records called seismograms. When an earthquake strikes, scientists read the seismograms to learn about the earthquake. These records show how powerful an earthquake is. By looking at several seismograms, scientists can also figure out the source of the earthquake. This source is called the epicenter. Directly below it is the hypocenter, the place where the rock actually breaks, causing an earthquake.

Size and Strength of an Earthquake

Earthquakes are measured in intensity, magnitude, and seismic moment. Intensity is how strong the shaking of an earthquake is. It is measured on the Modified Mercalli Intensity Scale. The scale uses 12 roman numerals. An intensity of I is the weakest; XII is the strongest. Measurements taken after an earthquake are used to create intensity maps.

The best-known gauge of earthquake magnitude is the Richter scale. It was invented by Charles Richter (1900–85) in 1935. The Richter scale starts at 0. Each whole-number increase represents a tenfold increase in earthquake size. That means that a 3.0 earthquake would be 10 times more powerful than one that measures 2.0. Today, scientists use many other scales in addition to the Richter scale.

Seismic moment measures the physical conditions at the earthquake source. The seismic moment is determined using three factors. The first is the fault slip. This is how far the rock slides along a fault surface after it breaks. The second factor is the area of the fault surface that is actually broken by the earthquake. And the third factor is the measurement of how rigid the rocks are near the broken fault. The seismic moment is found by multiplying these three numbers. It tells scientists an important combination of information about an earthquake's source.

“Earthquake”

How Often Do Earthquakes Occur?

Earthquakes occur thousands of times each year. But most pass unnoticed. Small earthquakes happen much more often than large ones. For each increase of one magnitude, there are about 10 times fewer earthquakes. Every year, about 10,000 earthquakes of magnitude 4 or greater strike. But there are only about 1,000 earthquakes of magnitude 5 or greater.

Predicting Earthquakes

Accurate and timely earthquake predictions could save thousands of lives each year. Unfortunately, precise predictions remain difficult to impossible. Still, many experts are learning how changes in Earth's crust may provide warnings. These warning signs include underground movements and changes in water levels.

By studying such precursors and other predictors, scientists hope to help communities prepare for quakes. For instance, engineers have learned how to build quake-resistant buildings and bridges. Their designs improve every year with stronger and more flexible designs.

We may never be able to control earthquakes. But we can learn to live with them.

"Earthquake." The New Book of Knowledge. Grolier Online, 2013. Web. 15 Oct. 2013.



Earthquakes Concepts
Note-Catcher

Earthquake Concepts:					
What happens before an earthquake?	What causes an earthquake?	What happens during an earthquake Chain of Events			What happens after an earthquake?
	Event/cause	Effect (what happen next) This, then, causes...	Effect (what happens next) This, then, causes...	Effect (What happen last)	



Earthquakes Concepts
Note-catcher For Teacher Reference

Earthquake Concepts:					
What happens before an earthquake?	What causes an earthquake?	What happens during an earthquake Chain of Events			What happens after an earthquake?
	Event/cause	Effect (what happen next) This, them, causes...	Effect (what happens next) This, then, causes...	Effect (What happen last)	
The slow movement of material (plates) inside the Earth builds up and pushes brittle rocks to the surface.	The slow movement of the plates creates pressure.	Pressure causes rocks to break and slip into the Earth's interior or to thrust upward.	An earthquake results (usually near a fault.)	A lot of energy is released and some of it forms shock waves called seismic waves.	Shocks radiate from the center of the earthquake and cause violent shaking. People sometimes feel a swaying or rolling motion.



EXPEDITIONARY
LEARNING

Grade 5: Module 4: Unit 1: Lesson 3

Relationships Between Key Scientific Concepts: Planning What Causes Hurricanes



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can explain what a text says using quotes from the text. (RI.5.1)

I can explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3)

I can determine the meaning of academic words or phrases in an informational text. (RI.5.4)

I can determine the meaning of content words or phrases in an informational text. (RI.5.4)

Supporting Learning Targets

- I can explain the relationship between scientific concepts about hurricanes using specific details from the text.
- I can use context clues to determine the meaning of new words in an article about hurricanes.

Ongoing Assessment

- Annotated "How Does a Hurricane Form?"
- Hurricane Concepts note-catcher
- Glossaries (scientific and academic vocabulary)



Agenda	Teaching Notes
1. Opening A. Checking Independent Reading Homework and Engaging the Reader: First Account of a Hurricane (8 minutes) B. Review Learning Targets (2 minutes) 2. Work Time A. First Read: “How Does a Hurricane Form?” (10 minutes) B. Second Read with a Partner: Cause and Effect Relationships about Hurricanes (20 minutes) C. Vocabulary to Deepen Understanding: Charades (10 minutes) 3. Closing and Assessment A. Debrief: What Have We Learned about Hurricanes? (5 minutes) B. Review Learning Targets (5 minutes) 4. Homework A. Reread the “Hurricanes” article aloud to someone at home. B. Read your independent reading book. C. Add vocabulary words to your scientific and academic word glossaries.	• In this lesson, students will continue practicing standard RI.5.3. They explain the scientific concepts behind the causes of hurricanes, just as they did in the previous lesson on earthquakes, as well as the effects on the environment and humans that categorize hurricanes as a natural disaster. Students will not be expected to develop deep understanding of the science behind hurricanes during the literacy lessons of this unit. Teachers should address these important scientific concepts during science lessons. • Note that the first read of the text is aloud due to the fact that the text is above grade-level (Lexile 1140.) Reading the text aloud allows all students access to an initial understanding of the ideas presented, and provides an opportunity to model fluent reading. • As in Lesson 2, students are given a note-catcher to fill in. Consider stapling or taping the completed note-catcher into students’ journals to keep all their thinking about natural disasters in one place. • In advance: Write and post the vocabulary words and definitions for this lesson for students to refer to during Work Time, Part C and in preparation for homework. • Review: Charades game and Fist-to-Five protocol (Appendix 1).



Lesson Vocabulary	Materials
relationship, concepts, context; tropical cyclone, condenses, cumulonimbus, unstable, mound, inland	• Journals • Independent reading book • What Do We Know about Natural Disasters? anchor chart (begun in Lesson 1) • Science of Hurricanes video clip. Play only from 0:00 to 1:48. http://www.history.com/videos/science-of-a-hurricane#science-of-a-hurricane • “How Does a Hurricane Form?” article (one per student) • Hurricane Concepts note-catcher (one per student and one to display) • Hurricane Concepts note-catcher (answers, for teacher reference) • Vocabulary Strategies anchor chart (used in Lesson 2) • Hurricanes anchor chart (from Lesson 1) • Evidence flags (five per student)



Opening	Meeting Students' Needs
A. Checking Homework and Engaging the Reader: Firsthand Account of a Hurricane (8 minutes) - Ask students to take out their journals and independent reading book with evidence flags from homework. Focus students on the What Do We Know about Natural Disasters? anchor chart (from previous lessons). - Ask students to read silently to themselves the things written on the anchor chart. Then invite them to turn to a partner: * “What is one piece of evidence from your independent reading book that you flagged for homework that could be added to the chart?” - Call on several students to share their evidence. Add them to the class anchor chart and invite students to do the same in their anchor charts in their journals as well as add any others they may have found evidence for during their reading. - Remind students that in the previous lesson, they read a text and learned about earthquakes as natural disasters. Tell them that they will now learn about hurricanes beginning by watching a video clip. Ask students to think about this question as they watch and listen: * “What happens during a hurricane?” - Play the Science of Hurricanes video clip. - Invite students to turn and talk with a partner about what they saw and heard happens during a hurricane. Have a few students share their discussions.	- Some students may benefit from having a partner, or the teacher, read the lists from the anchor chart aloud. - Students who struggle with language would benefit from the teacher checking their evidence flags before class begins and letting them know they will be asked to share a particular one in front of the whole class, giving them time to prepare. - Consider playing the video clip more than one time for students to allow them more time for processing the information seen and heard.
B. Review Learning Targets (2 minutes) - Call on a student to read aloud the first learning target: * “I can explain the relationship between scientific concepts about hurricanes using specific details from text.” - Clarify for students that today’s lesson focuses on hurricanes, but they will be working on the same learning targets as yesterday when they read about earthquakes. Ask students to think about and share how they will meet the learning target, knowing that today’s work is similar to yesterday’s work. Listen for: “explaining how scientific concepts are connected during a hurricane,” “noticing how hurricanes happen, and where and why, just like we did for earthquakes,” “being able to tell how events are related,” etc. - Explain that in today’s lesson they will be learning about the scientific concepts behind a hurricane and how those concepts relate to one another.	Provide a nonlinguistic visual for the words <i>relationship</i> (two interlocking rings) and <i>concepts</i> (a light bulb).



Work Time	Meeting Students' Needs
A. First Read: What Is a Hurricane? (10 minutes) • Distribute the article “How Does a Hurricane Form?”. Tell students that they will follow a similar routine as in the last lesson. Remind them of the process they have used when reading text for the first time. • Tell students the first read will be aloud. • Start by reading the first five paragraphs of the article and ask students to annotate in the margin by writing the gist of what these paragraphs are about. • After about 3 minutes, ask students to share with their partner the gist they wrote. Invite a few partners to share aloud. Listen for: – “Hurricanes are violent storms; – Hurricanes are called tropical cyclones; – A hurricane needs certain ‘ingredients’ to form; – It’s about what makes a hurricane start to form; – There are four stages in the development of a hurricane, tropical storm,” or similar ideas. • Ask the class to listen to you read aloud the rest of the article, and tell them to write the gist in the margin when you pause after each paragraph. • Then invite a student to share aloud the gist he or she wrote in the margin. Listen for: – “Tropical Disturbance” paragraph 6 —“cloud columns become higher and larger; wind circulates” – “Tropical Depression” paragraph 7 —“more thunderstorms are created; winds spin faster” – “Tropical Storm” paragraph 8 —“winds blow faster and begin twisting around the eye, center of the storm” – “Tropical Cyclone” paragraph 9 —“winds reach 74 miles per hour and it becomes a tropical cyclone, a hurricane; pushes toward land” – Paragraph 10 —“cyclones weaken when they hit land but cause a lot of damage”	• Provide the “Hurricanes” text in students’ L1 language when possible. • Students who struggle reading complex text may need to have the article further chunked into single sentences rather than paragraphs. • Consider displaying the article on a document camera and modeling writing the gist in the margin after each paragraph is read and students share their thinking about the gist. • Some students may need the paragraphs read aloud more than one time.



Work Time (continued)	Meeting Students' Needs
B. Second Read with a Partner: Cause and Effect Relationships about Hurricanes (20 minutes) - Ask students to think again about what good readers do when they read closely: * “What do readers do after reading for the gist?” - Call on a few students to share aloud. Listen for: “read again,” “read for a specific purpose,” etc. - Tell students that as they did with the other article in the last lesson, they will read this article a second time, this time paying close attention to the cause and effect relationships between scientific ideas that explain what causes and what happens during and after a hurricane. - Distribute and display the Hurricane Concepts note-catcher. Explain that in the left-hand column they will write what happens before a hurricane, in the middle columns they will write what happens during a hurricane, and in the right-hand column they will write what happens after a hurricane. Remind students that in texts, causes and effects are not always in order of how they happen (<i>chronological</i>). They will have to read carefully and think about what happens to cause a hurricane. Answer any chronological clarifying questions about the note-catcher. - Ask students to follow along as you reread the third and fourth paragraphs of the article aloud. Ask students to pay attention to what the text says about the two ‘ingredients’ required for a tropical cyclone, or hurricane, to form. Read aloud starting, “Tropical cyclones are like...” and end “These clouds are just the beginning.” - Ask: * “What happens before a hurricane begins to form?” - Listen for: “Wind passes over warm water, the water evaporates and cools, then condenses into water droplets. Cumulonimbus clouds form,” or similar suggestions. Model writing a synthesis of students’ ideas in the first column of the note-catcher and invite students to record this in their own note-catchers. - Ask students to continue reading the rest of the article with their partner and to record in the note catcher what the text says about what causes a hurricane to develop and what happens after a hurricane. Remind them that they should stop after each paragraph to write relationships between concepts about hurricanes in their note-catchers. - Circulate among partners redirecting or supporting students when necessary. - After 10-12 minutes, call on students to share what they wrote in their note-catchers (see Hurricane Concepts note-catcher, answers, for teacher reference) for ideas students might share.	- Consider posting all questions asked during the lesson on chart paper or the white board for students to refer to throughout the lesson. - Students that struggle with writing would benefit from a partially filled-in note-catcher. - Consider pre-highlighting details to focus on in the text for students who struggle reading complex text in order to help them fill out the note-catcher.



Work Time (continued)	Meeting Students' Needs
C. Vocabulary Work to Deepen Understanding: Charades (10 minutes) • Read aloud the second leaning target, “I can use context clues to determine the meaning of new words in an article about hurricanes.” • Draw students’ attention to the Vocabulary Strategies anchor chart. Ask: * “Which strategy has been most helpful to you and why?” • Invite students to share with their partner another strategy on the anchor chart that they haven’t tried and will commit to using today. • Post and focus students on the list of vocabulary for this lesson. Assign each student a partner and two or three words from the list, ensuring that all words are assigned. As in the previous lesson, ask students to work with their partner to find each assigned word in the text and underline or circle it. Then, using strategies listed on the anchor chart, they are to determine the meaning of each word in context. Remind students to write the word, what it means, and a visual in the appropriate Glossary section of their journal. • Allow partners 4 or 5 minutes to determine the meaning of their words. Circulate to offer support and redirect as needed. • Refocus students whole group. Remind students of the game Charades that they have played in previous lessons in order to practice new vocabulary words. • Call on a volunteer for each word on the list to stand and silently act out their word. Ask students watching to call out the meaning of the word that they think the student is acting out. Write the meaning next to the posted words. Do as many words as there is time for. • Academic Words: – <i>unstable</i>: can change quickly; volatile – <i>mound</i>: large amount of something piled up together – <i>inland</i>: away from the coast	• Consider pre-highlighting vocabulary for students who may have difficulty finding it in the text. • Consider assigning students who struggle with language words whose meanings are more easily found in context. • Students who struggle with multiple tasks at the same time may not be able to circulate during the Charades protocol and write a word and its meaning. Consider allowing their partner to write for them or give them extra time later in the day to go back to the vocabulary and write it in their glossaries.



Work Time (continued)	Meeting Students' Needs
• Scientific Words: – <i>tropical cyclone</i>: the scientific term for a hurricane – <i>cumulonimbus</i>: a large cloud – <i>condenses</i>: changes from vapor (gas) to liquid • Have students return to their Hurricane Concepts note-catchers and revise any details that they may have a new understanding of now that they have reviewed vocabulary. • If there is time, remind students to add these words to their glossaries, or they may do so for homework. • Collect students' annotated "Hurricanes" articles and Hurricanes Concepts note-catchers to review as formative assessment. Focus on how well students are grasping cause and effect relationships while reading scientific text.	



Closing and Assessment	Meeting Students' Needs
A. Debrief: What Have We Learned about Hurricanes? (5 minutes) • Ask students to think about and share with a partner: * “What did you learn about hurricanes today?” * “What questions do you now have about hurricanes?” • Call on a few partners to share their discussions with the whole class. Add their ideas and questions to the Hurricanes anchor chart. Prompt students to add these new ideas to their anchor chart in their journal. • Have the class silently skim the list to see if the new information added today answers any of the questions listed on the chart. If there are some questions answered, cross them off the anchor chart. Invite students to do the same on their own anchor chart.	• Students who struggle with language would benefit from sentence stems such as: “I learned _____ about hurricanes today,” and “One question I have about hurricanes now is ...”
B. Review Learning Targets (2 minutes) • As in Lesson 2, review the learning targets using the Fist-to-Five protocol. Read each learning target aloud and pause after each one to ask students to show a fist if they are still struggling with the learning target, five fingers if they have mastered the learning target, or any number of fingers in between to indicate their level of understanding of the learning target. • Distribute five evidence flags to students for homework.	



Homework	Meeting Students' Needs
• Reread the "How Does a Hurricane Form?" article aloud to someone at home. As you read, think about the causes and effects of a hurricane. • Read your independent reading book. Be sure to read for evidence that can be added to the What Do We Know about Natural Disasters? anchor chart. Mark the evidence in your book using the evidence flags. • Add vocabulary words to your scientific and academic word glossaries. Don't forget the academic words from the learning targets (<i>relationship, concepts, context</i>). <i>Note: Review students' annotated "How Does a Hurricane Form?" articles and Hurricane Concepts note-catchers. Be prepared to return them to students by Lesson 4. Note any students who were not able to write the gist statements in the margins or list details about concepts appropriate for each column in the note-catcher. Plan to check in and review the reading with those students independently or in small groups.</i>	• Consider requiring students who struggle with independent reading to flag only five pieces of evidence to add to the class anchor chart. • Provide an audio recording of students' independent reading book for those students who struggle reading independently. • Allow students whose first language is something other than English the opportunity to read an independent book in their L1 language. • Prioritize the vocabulary words for those students who struggle with complex text (<i>relationship, concepts, context, continually, gradually</i>—all academic words).



EXPEDITIONARY
LEARNING

Grade 5: Module 4: Unit 1: Lesson 3

Supporting Materials



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“How Does a Hurricane Form?”

Hurricanes are the most awesome, violent storms on Earth. They form near the equator over warm ocean waters. Actually, the term hurricane is used only for the large storms that form over the Atlantic Ocean or eastern Pacific Ocean.

The generic, scientific term for these storms, wherever they occur, is tropical cyclone. Other names they are given, depending on where in the world they are born, are typhoons, cyclones, severe tropical cyclones, or severe cyclonic storms. Whatever they are called, the same forces and conditions are at work in forming these giant storms, which all can cause damage or devastation when they hit land where people live.

Tropical cyclones are like engines that require warm, moist air as fuel. So the first ingredient needed for a tropical cyclone is warm ocean water. That is why tropical cyclones form only in tropical regions where the ocean is at least 80 F for at least the top 50 meters (about 165 feet) below the surface.

The second ingredient for a tropical cyclone is wind. In the case of hurricanes that form in the Atlantic Ocean, the wind blowing westward across the Atlantic from Africa provides the necessary ingredient. As the wind passes over the oceans surface, water evaporates (turns into water vapor) and rises. As it rises, the water vapor cools, and condenses back into large water droplets, forming large cumulonimbus clouds. These clouds are just the beginning.

Meteorologists have divided the development of a tropical cyclone into four stages: Tropical disturbance, tropical depression, tropical storm, and full-fledged tropical cyclone.

1. Tropical disturbance

When the water vapor from the warm ocean condenses to form clouds, it releases its heat to the air. The warmed air rises and is pulled into the column of clouds. Evaporation and condensation continue, building the cloud columns higher and larger. A pattern develops, with the wind circulating around a center (like water going down a drain). As the moving column of air encounters more clouds, it becomes a cluster of thunderstorm clouds, called a tropical disturbance.

“How Does a Hurricane Form?”

2. Tropical depression

As the thunderstorm grows higher and larger, the air at the top of the cloud column is cooling and becoming unstable. As the heat energy is released from the cooling water vapor, the air at the top of the clouds becomes warmer, making the air pressure higher and causing winds to move outward away from the high pressure area. This movement and warming causes pressures at the surface to drop. Then air at the surface moves toward the lower pressure area, rises, and creates more thunderstorms. Winds in the storm cloud column spin faster and faster, whipping around in a circular motion. When the winds reach between 25 and 38 mph, the storm is called a tropical depression. Next is tropical storm.

3. Tropical storm

When the wind speeds reach 39 mph, the tropical depression becomes a tropical storm. This is also when the storm gets a name. The winds blow faster and begin twisting and turning around the eye, or calm center, of the storm. Wind direction is counterclockwise (west to east) in the northern hemisphere and clockwise (east to west) in the southern hemisphere. This phenomenon is known as the Coriolis effect.

4. Tropical cyclone

When the wind speeds reach 74 mph, the storm is officially a tropical cyclone. The storm is at least 50,000 feet high and around 125 miles across. The eye is around 5 to 30 miles wide. The trade winds (which blow from east to west) push the tropical cyclone toward the west—that is, toward the Caribbean, the Gulf of Mexico, or the southeastern coast of the U.S. The winds and the low air pressure also cause a huge mound of ocean water to pile up near the eye of the tropical cyclone, which can cause monster storm surges when all this water reaches land.

Tropical cyclones usually weaken when they hit land, because they are no longer being fed by the energy from the warm ocean waters. However, they often move far inland, dumping many inches of rain and causing lots of wind damage before they die out completely.

Next, what are the five categories of tropical cyclones.

<http://scijinks.nasa.gov/hurricane>



Hurricane Concepts
Note-Catcher

Hurricane Concepts:					
What happens before a hurricane?	What causes a hurricane?	What happens during a hurricane Chain of Events			What happens after a hurricane?
	Event/cause	Effect (what happen next) This, then, causes...	Effect (what happens next) This, then, causes...	Effect (What happen last)	



Hurricane Concepts Note-Catcher
Answers, For Teacher Reference

Hurricane Concepts:					
What happens before a hurricane?	What causes a hurricane?	What happens during a hurricane Chain of Events			What happens after a hurricane?
	Event/cause	Effect (what happens next) This, then, causes...	Effect (what happens next) This, then, causes...	Effect (what happens last)	
Wind passes over warm water, the water evaporates and cools, then condenses into water droplets. Cumulonimbus clouds form.	Heat is released into the air, the warm air rises and is pulled into a column of clouds.	The thunderstorm grows and the air at the top cools and becomes unstable. The air at the top gets warmer and causes winds to move outward and begin spinning faster.	When winds reach 39 mph it becomes a tropical storm. The winds start blowing faster around the eye of the storm.	When winds reach 74 mph it becomes a tropical cyclone (hurricane.) The winds push the cyclone toward land and cause a mound of water to pile up, which causes surges.	When cyclones reach land they weaken, but they go inland causing lots of rain and wind damage.



EXPEDITIONARY
LEARNING

Grade 5: Module 4: Unit 1: Lesson 4

Mid-Unit Assessment: Text-Dependent Short Answer Quiz – The Effects Of Natural Disasters



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can explain what a text says using quotes from the text. (RI.5.1)

I can explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3)

I can determine the meaning of academic words or phrases in an informational text. (RI.5.4)

I can determine the meaning of content words or phrases in an informational text. (RI.5.4)

Supporting Learning Targets

- I can explain the relationship between scientific concepts about earthquakes and hurricanes using specific details from text.
- I can determine the meaning of new words from context about natural disasters.
- I can reflect on my learning.

Ongoing Assessment

- Mid-Unit 1 Assessment
- Tracking My Progress recording form



Agenda	Teaching Notes
- Opening - Checking Independent Reading Homework (8 minutes) - Review Learning Targets (2 minutes) - Work Time - Mid-Unit Assessment (20 minutes) - Read Aloud and Chunking the Text: Relationships between Science Concepts and Earthquakes (15 minutes) - Tracking My Progress (10 minutes) - Closing and Assessment - Debrief: Sharing Reflections (5 minutes) - Homework - Reread the articles “Earthquakes!” and “How Do Hurricanes Form?” - Add new information from the articles to the Earthquakes and Hurricanes note-catchers	- Review and be familiar with Mid-Unit Assessment: Text-Dependent Short-Answer Quiz—The Effects of Natural Disasters - In this lesson, students formally self-assess on their progress towards the learning targets. - Students read the text “How Do Hurricanes Form?” during their mid-unit assessment (note that this text has a similar name to the article “How Does a Hurricane Form?” from Lesson 3. However, the type and presentation of information is different in each article.) They then hear the text “Earthquakes!” read aloud by the teacher and do some work with key vocabulary in preparation for Lesson 5. The students reread these texts for homework, so be sure to have a second, clean “How Do Hurricanes Form?” text prepared for students to take home with them. - The text—“Earthquakes!”—is significantly above grade level; hence it is read aloud before students reread for homework.



Lesson Vocabulary	Materials
determine, relationships, context, reflect; exponential	• Journals • Students' independent reading books • What Do We Know about Natural Disasters? anchor chart (Lesson 1) • Things Close Readers Do anchor chart (from Module 3) • “How Do Hurricanes Form?” (one per student, for assessment; one clean copy per student, for homework) • Mid-Unit Assessment: Text-Dependent Short-Answer Quiz—The Effects of Natural Disasters (one per student) • “Earthquakes!” text (assessment text; one per student) • Tracking My Progress, Mid-Unit 1 recording form (one per student) • Earthquake Concepts note-catcher (begun in Lesson 2) • Hurricane Concepts note-catcher (begun in Lesson 3)



Opening	Meeting Students' Needs
A. Checking Independent Reading Homework (8 minutes) • Ask students to take out their journals as well as their independent reading book with evidence flags from homework. • Focus their attention on the What Do We Know about Natural Disasters? anchor chart they started in the first lesson. Ask students to turn to a partner and share a piece of evidence from their independent reading book that they flagged for homework that could added to the anchor chart. • Call on several students to share their evidence. Add them to the class anchor chart and invite students to do the same in their anchor charts in their journals as well as add any others they may have found evidence for during their reading.	• Consider partnering ELL students with other students who speak the same L1. • Students who struggle with language may need warning that they will be called upon to share aloud. Give those students a few minutes to prepare what they will say in front of the whole class.
B. Review Learning Targets (2 minutes) • Review the first two learning targets: * “I can explain the relationship between scientific concepts about earthquakes and hurricanes using specific details from text.” * “I can determine the meaning of new words from context about natural disasters.” • Remind students they have been working on these learning targets in the past few lessons; there is no trick to today's assessment. • Ask several students to restate each target in their own words. Be sure their restatements give the meaning of the words: <i>determine</i> (figure out), <i>relationships</i> (what things have to do with one another or connections), <i>context</i> (meaning from the text).	• Provide nonlinguistic symbols (e.g., a magnifying glass for <i>determine</i>, two connected rings for <i>relationships</i>) for academic words in learning targets.



Work Time	Meeting Students' Needs
A. Mid-Unit Assessment (20 minutes) • Tell students that for the Mid-Unit Assessment they will read independently one new article about hurricanes. They will then answer questions about what they have read. Congratulate them on how hard they have been working on reading complex texts. • Review with students strategies for reading new texts, such as the ones listed on the Things Close Readers Do anchor chart from previous modules. • Distribute the article “How Do Hurricanes Form?” as well as the Mid- Unit 1 Assessment: Text-Dependent Short-Answer Quiz—The Effects of Natural Disasters. • Review the instructions with students. Invite students to quickly scan the assessment. Tell them that they will have about 20 minutes to read the article and complete the questions on the assessment. Address any clarifying questions. • Give students 20 minutes to work independently. Circulate to supervise and redirect as needed. Since this is a formal on-demand assessment, do not provide support other than formally approved accommodations. • If students finish the assessment before the 20 minutes is up, encourage them to do one of the following: 1. Add new information to the appropriate columns of the Hurricanes anchor chart in your journals. 2. Add new words to your glossary. 3. Continue reading your independent reading book. • Collect students' Mid-Unit Assessments.	• Consider providing a chunked version (a few paragraphs) of the article “How Do Hurricanes Form?” to students who struggle with reading grade-level text. • Provide extended time to complete the mid-unit assessment for identified ELL or IEP students who struggle with language.



Work Time (continued)	Meeting Students' Needs
B. Read Aloud and Chunking the Text: Relationships between Science Concepts about Earthquakes (15 minutes) • Distribute the article “Earthquakes!” to students. Tell them that they are going to read this article together as a class in order to prepare for the next lesson—where they will be adding information to the Concepts note-catchers. Remind students to follow along silently as you read aloud. • Read from the start of the article through the phrase “... In a level 8 earthquake, many buildings will fall down.” • Remind students that when they are reading difficult text, it is often helpful to chunk it: to read a bit, then stop to think, talk, or write. Ask students to think about and then discuss with a partner: * “What does the word <i>exponential</i> mean?” • Call on a few partners to share their discussion. Listen for: “It means that the next number in the scale is 10 times as strong as the one before. So an earthquake rated 7 is 10 times bigger than one rated 6.” Be sure students understand that this is the way the strength of an earthquake is measured and that usually the stronger the earthquake, the more damage is caused, making it more likely to be a disaster. • Focus students back on the text. Begin reading again starting with, “Because most of the Earth is covered by oceans ...” until the end of the article. • Ask students to think about and discuss with another partner: * “What is a tsunami, and how is it formed?” • Remind them to refer to their text for evidence as they discuss with their partner. • Invite a few students to share their thinking about tsunamis. Listen for: “A huge wave caused by an earthquake in the ocean,” and “Tsunamis are formed when earthquakes happen in the ocean. Water pulls together and it forms a huge wave.” • Tell students that if tsunamis reach land, they often cause major damage and are considered a disaster. • Tell students they will reread both texts they worked with today as a part of their homework. They will look for more evidence to add to their note-catchers.	• Students who struggle with reading complex text may need the text read aloud to them several times. • Consider giving the Earthquakes! article in paragraphs (chunks) to students that struggle reading a lot of text at once.



Work Time (continued)	Meeting Students' Needs
C. Tracking My Progress (10 minutes) • Introduce the final learning target: “I can reflect on my learning.” Focus on the word reflect and ask students for suggestions about what this means. Listen for them to share ideas such as: “look back at my work to think about what I did,” “how I did,” “what I am having trouble with,” “what I am doing well,” etc. • Remind students that they have done this type of self-assessment at the end of most mid-unit and end of unit assessments during previous modules. • Distribute the Tracking My Progress, Mid-Unit 1 recording form. Read through the tracker and provide clarification as necessary for students. • Ask students to independently complete their Tracking My Progress forms and keep this sheet to refer to during the debrief.	• Consider allowing students who struggle with written language to dictate their Tracking My Progress to the teacher or a partner.



Closing and Assessment	Meeting Students' Needs
A. Debrief: Sharing Reflections (5 minutes) • Ask students to share with a partner the reflections on their Tracking My Progress recording forms. • As time permits, invite several students to share out whole group. Collect students' Tracking My Progress forms and return their Earthquake Concepts and Hurricane Concepts note-catchers.	• Strategically partner students so that students who struggle with language are paired with students who have stronger language skills.
Homework	Meeting Students' Needs
• Reread the articles “Earthquakes!” and “How Do Hurricanes Form?” • Add new information from the articles to the Earthquake and Hurricane Concepts note-catchers in your journal. (from Lesson 2). • Be prepared to share your note-catchers. <i>Note: Review students' Mid-Unit 1 Assessments and Tracking My Progress forms.</i>	• Consider providing audio recordings of the articles to students who struggle with reading complex text. • Provide pre-highlighted articles for students who have difficulty determining details to add to their note-catchers.



EXPEDITIONARY
LEARNING

Grade 5: Module 4: Unit 1: Lesson 4

Supporting Materials



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Mid-Unit 1 Assessment:
Text-Dependent Short-Answer Quiz – The Effects of Natural Disasters

Name:

Date:

Instructions

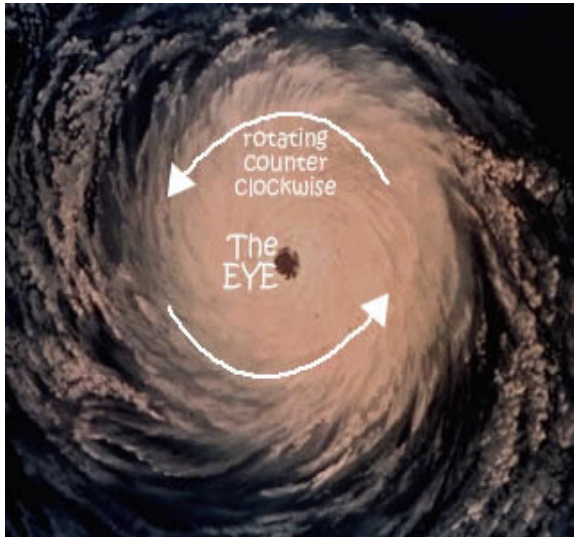
1. Read the article “How Do Hurricanes Form?”
2. Determine the gist of the article—what is it mostly about?
3. Skim the assessment questions.
4. Reread the article, thinking about the assessment questions.
5. Answer the questions.
6. Be sure to cite evidence from the text to support your answers.



Mid-Unit 1 Assessment:

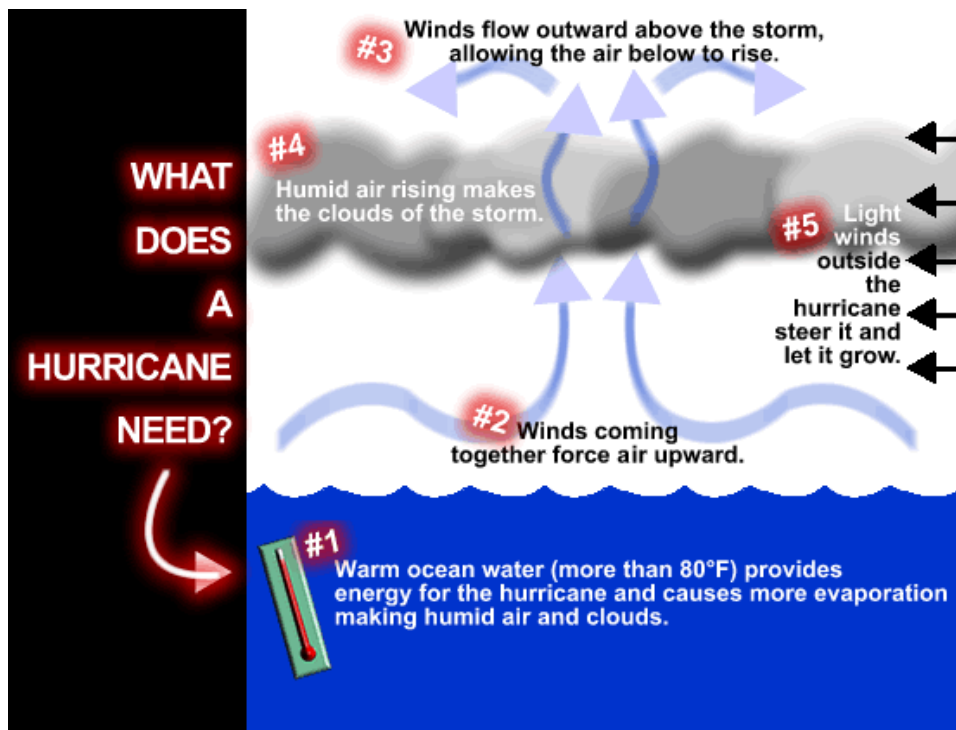
Text-Dependent Short-Answer Quiz – The Effects of Natural Disasters

How Do Hurricanes Form?



How Hurricanes Work

Hurricanes are huge storms! They can be up to 600 miles across and have strong winds spiraling inward and upward at speeds of 75 to 200 mph. Each hurricane lasts for over a week, moving 10-20 miles per hour over the open ocean. With warm air at its center, a hurricane is different from extratropical cyclones, which are the most common type of storm in the United States. The center of the storm is the calmest part. It is called the eye and has only light winds and fair weather. The low level storm winds blow counterclockwise around the eye in the Northern Hemisphere (clockwise in the Southern Hemisphere). Above 9 km, winds spiral outwards and clockwise in the Northern Hemisphere.





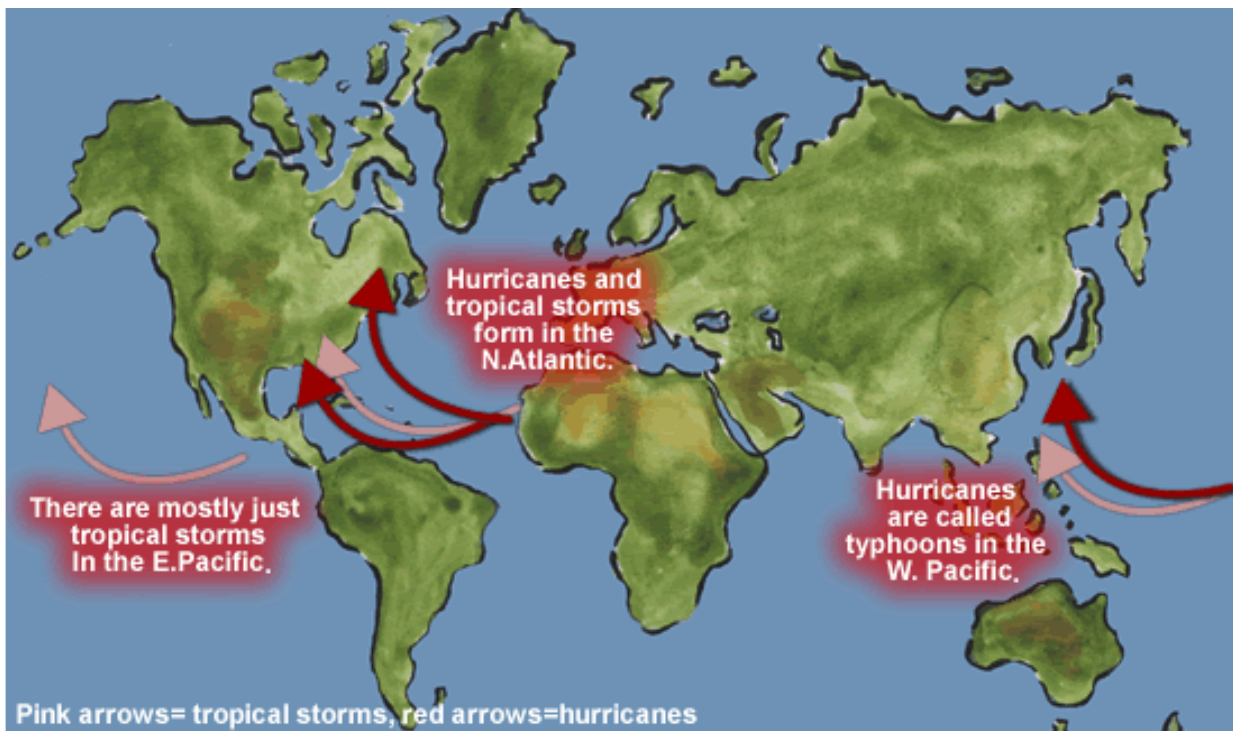
Mid-Unit 1 Assessment:

Text-Dependent Short-Answer Quiz – The Effects of Natural Disasters

Where and When Do They Form?

Hurricanes do an important job for the Earth. They help move heat from warm tropical places to the cooler temperate zone. To do this, they typically form between 5 to 15 degrees latitude north and south of the equator. Then, they thunder across the warm oceans of the world such as the Atlantic, the Gulf of Mexico, the Caribbean, and the Western Pacific Ocean (where they are called typhoons), up to higher latitudes.

Hurricanes happen when the oceans have been warmed during summer months. In the North Atlantic, hurricane season is from June 1 to November 30, but most hurricanes happen during the fall.





Mid-Unit 1 Assessment:
Text-Dependent Short-Answer Quiz – The Effects of Natural Disasters

Storm Surge

As a hurricane's winds spiral around and around the storm, they push water into a mound at the storm's center. This mound of water becomes dangerous when the storm reaches land because it causes flooding along the coast. The water piles up, unable to escape anywhere but on land as the storm carries it landward. A hurricane will cause more storm surge in areas where the ocean floor slopes gradually.

When high tide happens at the same time as a storm surge, the combination of the two is called storm tide. During a storm tide, the water level may be 20 feet or more above normal. This causes huge floods. Storm tide is especially dangerous for islands or coastal areas where even a few feet of surge may cause large areas of flooding.

FK: 7.6

Lexile: 1050



Mid-Unit 1 Assessment:
Text-Dependent Short-Answer Quiz – The Effects of Natural Disasters

Questions:

1. The text says, “It is called the eye and has only light winds and *fair* weather.” What does *fair* mean in this sentence? How did you figure this word out?

2. Why would a hurricane *not* form in Alaska? Quote the text in your answer.

3. What does the word *season* mean in the text? Be sure to use evidence from the text to support your answer.



Mid-Unit 1 Assessment:
Text-Dependent Short-Answer Quiz – The Effects of Natural Disasters

4. Place in order the steps that lead to a *storm surge*.

- | | |
|----------|--|
| 1. _____ | Water piles up, unable to escape anywhere but on land. |
| 2. _____ | Water is pushed into a mound at the center of the storm. |
| 3. _____ | The hurricane causes a storm surge. |
| 4. _____ | The storm reaches land. |
| 5. _____ | Hurricane winds spiral around the storm. |

Mid-Unit 1 Assessment:
Text-Dependent Short-Answer Quiz – The Effects of Natural Disasters
Answers for Teacher Reference

Questions:

1. The text says, “It is called the eye and has only light winds and *fair* weather.” What does *fair* mean in this sentence? How did you figure this word out? **(RI.5.4)**

Fair means calm or nice weather. I figured this out because the article says the center, the eye, of the storm is the calmest part of the storm.

2. Why would a hurricane *not* form in Alaska? Quote the text in your answer. **(RI.5.1)**

A hurricane would not form in Alaska because the article says they typically form near the equator; they move heat from warm tropical areas and move across warm oceans.

3. What does the word *season* mean in the text? Be sure to use evidence from the text to support your answer.

A season is a time of year that something happens. I figured this out because the article says that, “hurricane season is from June 1 to November 30, but most hurricanes happen during the fall.” “Fall” is also a season or time of year.

4. Place in order the steps that lead to a *storm surge*.

4
2
5
3
1



“Earthquakes!”

Earthquakes happen when the moving tectonic plates that make up the surface of the Earth move apart or bump into each other, or slide under each other. This movement tears apart the surface of the Earth, or crunches it up. Most often, this just means a little shaking for a few seconds, and nothing very serious happens.

Several times a year, though, somewhere in the world there is enough movement to really shake the earth a lot, and the earthquake is serious enough to knock down buildings. When the buildings fall on people, many people can be killed in a few minutes. The strongest earthquakes can break trees in half.

The Richter scale (or ML scale) rates earthquakes on an exponential scale, so that if an earthquake is rated 1, you can hardly feel it, but an earthquake rated 2 is ten times as strong as an earthquake rated 1, and an earthquake rated 3 is ten times as strong as an earthquake rated 2. Only a few people feel a level 1 earthquake. In a level 2 earthquake, a few people who are resting may feel it, especially if they're near the top of a tall building. Nearly everyone will feel a level 5 earthquake, and some dishes and windows will break. At level 6, heavy furniture moves around, and many people will feel frightened, but there's not really much damage. In a level 8 earthquake, many buildings will fall down.

Because most of the Earth is covered by oceans, earthquakes often happen in the ocean. Usually this just shakes the water and people don't notice. But sometimes the water pulls all together into a huge wave called a tsunami (tsoo-NAMM-ee).

Because at least some other planets, like Mars, probably have tectonic plates like Earth, they probably also have earthquakes.

Lexile: 1240 (*sentence length 20.13, impacting Lexile)/FK: 8.2

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Tracking My Progress:
Mid-Unit 1

Name: _____

Date: _____

Learning Target: I can explain the relationship between scientific concepts about earthquakes and hurricanes using specific details from text.

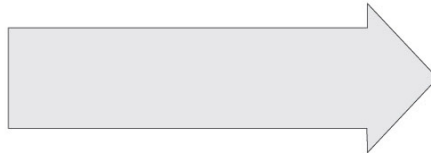
1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help
to learn this.**



**I understand
some of this.**



I am on my way!



3. The evidence to support my self-assessment is:



Tracking My Progress:
Mid-Unit 1

Name: _____

Date: _____

Learning Target: I can determine the meaning of new words from context about natural disasters.

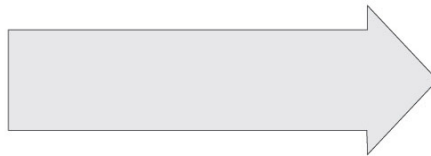
1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help
to learn this.**



**I understand
some of this.**



I am on my way!



3. The evidence to support my self-assessment is:



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Grade 5: Module 4: Unit 1: Lesson 5

Synthesizing Information From Texts About Natural Disasters: What Makes An Earthquake A Natural Disaster?



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**Synthesizing Information From Texts About Natural Disasters:
What Makes An Earthquake A Natural Disaster?**

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can explain what a text says using quotes from the text. (RI.5.1)
I can determine the meaning of academic words or phrases in an informational text. (RI.5.4)
I can determine the meaning of content words or phrases in an informational text. (RI.5.4)
I can accurately synthesize information from multiple texts on the same topic. (RI.5.9)

Supporting Learning Targets

- I can synthesize information about earthquakes and hurricanes using details from several texts.
- I can determine the meaning of new words about earthquakes and hurricanes through context.

Ongoing Assessment

- Journal (Earthquake and Hurricane Concepts note-catchers, glossaries)
- Earthquake Concepts note-catcher (begun in Lesson 2, added to in Lesson 4 homework)
- Hurricane Concepts note-catcher (begun in Lesson 3, added to in Lesson 4 homework)



Synthesizing Information From Texts About Natural Disasters:
What Makes An Earthquake A Natural Disaster?

Agenda	Teaching Notes
1. Opening A. Review Homework and Engaging the Reader (7 minutes) B. Review Learning Targets (3 minutes) 2. Work Time A. Rereading and Modeling: Synthesizing Information about Earthquakes (15 minutes) B. Vocabulary to Deepen Understanding: Milling to Music (10 minutes) C. Rereading and Guided Practice: Synthesizing Information about Hurricanes (20 minutes) 3. Closing and Assessment A. Debrief and Review Learning Targets (5 minutes) 4. Homework A. Continue reading in your independent reading book for this unit at home. Read for evidence to add to the What Do We Know about Natural Disasters? anchor chart. B. Add to your glossaries any new vocabulary words from today's lesson that you have not already added. Be sure to list the word, what it means, and a visual to help remind you of its meaning.	• In this lesson, students will practice the skill of synthesizing information read from more than one text, standard RI.5.9. This standard has been taught in previous modules so it is not a new skill for students. However, it is a scaffold for writing the essay that students will be expected to do in the End of Unit 1 assessment in Lesson 7. This is an important pre-writing step to ensure success on the assessment. • During work time, students add to their understanding of the words natural and disaster. Students need to clearly understand the use of both words since these two words are the basis of their end of unit assessment writing. Note that the word natural has two meanings in the context of this module: an event that happens “in the world of nature” and an event that is “normal or typical.” The word disaster, in the context of the phrase “natural disaster,” is when such a normal or natural event causes destruction of the environment, animals, people, or property. • In advance: Write and post the vocabulary words and definitions for students to refer to during Work Time, Part B and in preparation for homework. • Review: Back-to-Back, Face-to-Face, Milling to Music protocols (Appendix 1).



Synthesizing Information From Texts About Natural Disasters:
What Makes An Earthquake A Natural Disaster?

Lesson Vocabulary	Materials
synthesize; “Earthquakes!” article: apart, rated “How Do Hurricanes Form?” article: converging, rotation, phenomenon, veer, clusters, disturbances, status, subject	• Earthquake Concepts and Hurricane Concepts note-catchers (from homework) • “Earthquakes!” article (from homework) • Completed Earthquake Concepts note-catcher (for teacher reference, one to display, see Work Time A.) • Vocabulary Strategies anchor chart (from previous lessons) • Journal • “How Do Hurricanes Form?” article (from homework) • Synthesizing Information about Hurricanes task card (one per group of four) • Earthquakes anchor chart (Lesson 1) • Hurricanes anchor chart (Lesson 1) • Evidence flags (three per student)



Opening	Meeting Students' Needs
A. Engaging the Reader (5 minutes) - Ask students to take out the Earthquake Concepts and Hurricane Concepts note-catchers from homework. - Using the Back-to-Back, Face-to-Face protocol, have students share the information they added to their note-catchers using evidence from the two articles they read for the Mid-Unit 1 Assessment. - Review the steps for the protocol: - Find a partner and stand “back-to-back” with him/her. - Think about what it is you want to share from your note-catcher. - When you hear “face-to-face,” turn, face your partner, and decide who will share first. - Listen carefully when your partner is speaking and be sure to give him/her eye contact. - When you hear “find a new partner,” stand “back-to-back” and wait to be told to stand “face-to-face.” - Repeat this process twice so students can share from both note-catchers. Circulate among the partners to listen in on the discussions, noting any students who were not able to add any new information to their note-catchers or added incorrect information. Be sure to meet with those students later to check in individually about their confusion. - Allow a few minutes for students to revise their note-catchers if they wish, given what they heard from their partners.	- Write and post the directions for the Back-to-Back, Face-to-Face protocol for students to refer to as they do the protocol. - Intentionally partner students who struggle with complex text with stronger readers to share evidence gathered from the two new texts. - Consider providing to students who struggle with complex text a partially filled-in note-catcher with new information from the texts or the texts highlighted with information that students should add to their note-catchers.
B. Review Learning Targets (3 minutes) - Remind students of the work they have done so far in this unit reading to understand relationships between science concepts, specifically how earthquakes and hurricanes are formed. - Tell them that they will now practice <i>synthesizing</i> information they have read in order to explain how earthquakes and hurricanes are a natural disaster. - Ask a student to read aloud the first learning target: “I can synthesize information about earthquakes and hurricanes using details from several texts.” - Focus the class on <i>synthesize</i>. Invite students to share with a partner what they know about synthesizing. Ask a few students to share their thoughts aloud. Listen for: “Synthesizing is when you take, combine, or put together all the information you know or learned about something.”	Provide a nonlinguistic symbol for synthesizing (a picture of two different sets of items coming together to form one group of items).



Synthesizing Information From Texts About Natural Disasters:
What Makes An Earthquake A Natural Disaster?

Work Time	Meeting Students' Needs
A. Rereading and Modeling: Synthesizing Information about Earthquakes (15 minutes) • Ask students to take out the article “Earthquakes!” (which they read during the previous lesson and reread for homework). • Ask them to take about 5 minutes to reread the article with this question in mind: * “What makes an earthquake a natural disaster?” • After 5 minutes, invite students to turn to a partner and share their thinking about this question. • Cold call on a few partners to share their discussion. Listen for: “Earthquakes happen naturally because the forces in the Earth cause them. Earthquakes can be a disaster when they cause a lot of destruction to the environment and people.” • Remind students that they have now looked at several images (during the Gallery Walk) and read two articles about earthquakes. They have a lot of information (details) from these texts that will help them explain how an earthquake is a natural disaster. • Display the completed Earthquake Concepts note-catcher (for teacher reference) and ask students to look again at their own Earthquake Concepts note-catcher (from Lesson 2, which they added to for Lesson 4 homework). Have students discuss with their partner: * “Which details from the note-catcher help to support the idea that an earthquake is a natural disaster?” • Remind the class that <i>natural</i> is a normal event that happens in the natural world, the world of nature. Such a normal event becomes a <i>disaster</i> when it results in destruction of the environment, animals, people, or property. • Invite a few students to share aloud their ideas. Listen for and indicate on the displayed note-catcher with an “N” for “Natural” or a “D” for “Disaster.”	• Chart all questions posed to students and their answers for students to refer to throughout the lesson. • Assign a color for “N” and another for “D.” Use these two colors to highlight the information on the note-catcher that corresponds to those detail letters.



Synthesizing Information From Texts About Natural Disasters:
What Makes An Earthquake A Natural Disaster?

Work Time (continued)	Meeting Students' Needs
• For “Natural”: – Plates naturally and continually move. – They glide smoothly. – Plates catch in places. – Pressure builds up. – Pressure becomes too strong, and plates suddenly shift. – There is a main shock. – Tectonic plates move apart, bump into, or slide under one another. – Waves of energy are released in concentric circles. – Waves travel. – The surface of the Earth tears apart or crunches up. – A tsunami forms. – Waves lose energy as they travel. – There are aftershocks. • For “Disaster”: – Buildings fall down. – Trees break in half. – Dishes and windows break. – People are killed. – People are frightened.	



Work Time (continued)	Meeting Students' Needs
• Add any other details students may have on their note-catchers that are not on the displayed one. • Remind students that in order to form a synthesis, they need to use some of the details they have marked. Ask them to think about and discuss with their partner: * “What makes an earthquake a natural disaster?” • Have partners join another pair of students and share their synthesis about earthquakes as natural disasters. • Invite a few groups to share aloud with the class. Listen for statements that specifically use several details from the note-catcher that were marked. • Tell students that in the next lesson they will expand on their thinking about earthquakes as a natural disaster as they do some shared writing as a class.	
B. Vocabulary to Deepen Understanding: Milling to Music (10 minutes) • Call on a student to read aloud the second learning target: – “I can determine the meaning of new words about earthquakes and hurricanes through context.” • Remind students that they have been working on this learning target all year. Ask them to share with a partner one strategy they are comfortable using to determine the meaning of new words in context. Encourage them to refer to the Vocabulary Strategies anchor chart posted. • Post and focus students on the list of vocabulary for this lesson. Assign each pair of students two or three words from the list, ensuring that all words are assigned. As in previous lessons, ask students to work with their partner to find each assigned word in the texts and underline or circle it. Then, using strategies listed on the anchor chart, determine the meaning of each word in context. Remind students to write the word, what it means, and a visual in the appropriate Glossary section of their journal. • Allow partners 4 or 5 minutes to determine the meaning of their words. Circulate to offer support and redirect as needed. • Using the Milling to Music protocol, have students meet with other students to share and exchange their words and the meanings they determined. Repeat two or three times, reminding students to meet with others who have a word they do not have yet when the music stops. • Ask students to return to their seats and call on members of the class to share aloud their words and what they think it means in context. Write the meaning next to the words posted for students.	• Some students may need a review of how to use some of the strategies listed on the anchor chart. Consider conducting a mini lesson on particular strategies that need more reinforcement. • Consider assigning students who struggle with language only one of the vocabulary words or intentionally assign those students words whose meaning is easily determined based on context clues in the text



Synthesizing Information From Texts About Natural Disasters:
What Makes An Earthquake A Natural Disaster?

Work Time (continued)	Meeting Students' Needs
• Academic Words: – <i>apart</i>: away from – <i>rated</i>: ranked or classified – <i>converging</i>: coming together or close to – <i>rotation</i>: turn or bend in a circular motion – <i>phenomenon</i>: something that happens rarely or not often – <i>veer</i>: turn or bend – <i>clusters</i>: group – <i>status</i>: rank or classification – <i>subject</i>: bound by or affected by • Science Words: – <i>disturbances</i>: group of thunderstorms • Have students return to their Earthquake and Hurricane Concepts note-catchers and revise any details they may have a new understanding of now that they have reviewed vocabulary. • If there is time, remind students to add these words to their glossaries, or they may do so for homework.	• Consider providing a list of the words and the definitions or synonyms defined by the class to students who would have difficulty copying them themselves from the posted list.
C. Rereading and Guided Practice: Synthesizing Information about Hurricanes (20 minutes) • Place students in groups of four. Ask them to take out the article “How Do Hurricanes Form?” as well as the Hurricane Concepts note-catcher in their journals. • Distribute the Synthesizing Information about Hurricanes Task Card and review the instructions with students. Clarify any questions. • Give groups 10 to 12 minutes to work together on the task card. Circulate to each group to clarify or redirect as necessary. • Call on each group to share aloud their synthesis about how a hurricane is a natural disaster. Listen for specific details from their note-catchers about the natural causes of hurricanes and their impact on the environment and people.	• Consider providing a text that is pre-highlighted to students who struggle reading complex text in order to help them focus on important evidence



Closing and Assessment	Meeting Students' Needs
A. Debrief and Review Learning Targets (5 minutes) - Remind students that today they have been working on these learning targets: * "I can synthesize information about earthquakes and hurricanes using details from several texts." * "I can determine the meaning of new words about earthquakes and hurricanes through context." - Invite students to share with their partner how their work today has helped them meet these learning targets. - Focus the class on the Earthquakes and Hurricanes anchor charts. Ask students to skim the statements about what they have learned and the questions they still have. Invite them to share with their partner: * "What new information have you learned about earthquakes and hurricanes?" * "What questions can we cross off because we now have the answer?" * "What new questions do you have?" - Call on several students to share aloud their answers to those questions. Be sure to add any new information to the "What We Have Learned" columns, cross off any questions they have answers for from the "Questions We Still Have" column, and add any new questions to the same column. - Collect students' Earthquake Concepts and Hurricane Concepts note-catchers. Distribute three evidence flags to each student.	For students who struggle with sharing aloud, let them know before the debrief that they will be called upon to share their thinking; this will give them time to prepare what they will say. Consider helping them craft a sentence and write it down.
Homework	Meeting Students' Needs
- Continue reading in your independent reading book for this unit at home. Read for evidence to add to the What Do We Know about Natural Disasters? anchor chart. - Add to your glossaries any new vocabulary words from today's lesson that you have not already added. Be sure to list the word, what it means, and a visual to help remind you of its meaning. <i>Note: Review the students' Earthquake Concepts and Hurricane Concepts anchor charts. Note any students who have irrelevant information in specific columns or lack information. Be sure to meet with those students individually or in small groups to clarify misconceptions or reteach as necessary.</i>	- Provide audio recordings of independent reading books for those students who struggle with reading books independently. - For students who struggle with language, narrow the list of vocabulary words to four or five that they must add to their glossaries.



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Grade 5: Module 4: Unit 1: Lesson 5

Supporting Materials



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Earthquakes Concepts Note-Catcher
For Teacher to Display

Earthquake Concepts:					
What happens before an earthquake?	What causes an earthquake?	What happens during an earthquake Chain of Events			What happens after an earthquake?
	Event/cause	Effect (what happens next) This, then, causes...	Effect (what happens next) This, then, causes...	Effect (What happens last)	
- Plates naturally and continually move. - They glide smoothly	Plates catch in places	- Pressure builds up - Buildings fall down - Trees break in half - Dishes and windows break	- Pressure becomes too strong, and plates suddenly shift. - Main shock - Tectonic plates move apart, bump into, or slide under each other - People are killed - People are frightened	- Waves of energy are released in concentric circles - Waves travel - The surface of the Earth tears apart or crunches up - A tsunami forms	- Waves lose energy as they travel - Aftershocks



Synthesizing Information About Hurricanes Task Cards

With your group, complete the following:

1. On your own, reread the article “How Do Hurricanes Form?”
Think about this question: “What makes a hurricane a natural disaster?”
2. With your group members, take turns sharing what you think about how hurricanes are a natural disaster.
3. On your own, mark the details on your Hurricane Concepts note-catcher with an “N” next to the details that would support how a hurricane is a natural event and a “D” next to the details that would support how a hurricane can be a disaster.
4. With your group members, take turns sharing the details you marked on your note-catcher. Be sure that everyone gets a turn to share and that all details that are marked are shared.
5. On your own, think about how you can use the details you marked to synthesize what you know about what makes a hurricane a natural disaster.
6. As a group, determine what you will share with the whole class using some of the details you marked on your note-catchers about what makes a hurricane a natural disaster.



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Grade 5: Module 4: Unit 1: Lesson 6

Organizing Evidence From Multiple Informational Texts To Prepare For Writing: What Makes An Earthquake A Natural Disaster?



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**Organizing Evidence From Multiple Informational
Texts To Prepare For Writing:
What Makes An Earthquake A Natural Disaster?**

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2)
I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4)
I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)

Supporting Learning Targets

- I can group supporting details together about how earthquakes and hurricanes are a natural disaster.
- I can develop the topic with details and quotes from the texts.
- I can use accurate scientific vocabulary to explain earthquakes and hurricanes.

Ongoing Assessment

- Journal (glossaries)
- Writing about Hurricanes graphic organizer



Agenda	Teaching Notes
- Opening - Review Homework and Engaging the Writer (5 minutes) - Review Learning Targets (5 minutes) - Work Time - Model Planning: Organize Ideas about “What Makes an Earthquake a Natural Disaster?” (15 minutes) - Criteria for High-Quality Essays: Examining a Model Essay (15 minutes) - Independent Guided Practice: Planning For My “What Makes a Hurricane a Natural Disaster?” Essay (15 minutes) - Closing and Assessment - Debrief and Review Learning Targets (5 minutes) - Homework - Finish completing the Writing about Hurricanes graphic organizer if you did not finish during class. Be sure to bring this graphic organizer back to class with you, since you will need it for the End of Unit Assessment. - Continue reading in your independent reading book for this unit at home. Be sure to flag evidence as you are reading to add to the What Do We Know about Natural Disasters? anchor chart.	- In this lesson, students prepare for the End of Unit 1 Assessment (Lesson 7), a short essay that answers the question “What Makes a Hurricane a Natural Disaster?” - During work time, students see how to plan and then examine a model essay about the other natural disaster they have been studying: earthquakes. When using models, it is important to work with content students are familiar with (earthquakes) but that is different from the topic they themselves will write about (hurricanes). This ensures that students can follow the thinking but will not copy the model essay when they go to write their own. - Students also review criteria for high-quality essays, which builds on their writing from previous modules. In advance, think about specific connections you would like to reinforce with your students from their prior writing (particularly in Modules 2A and 3A). - Review: Fist-to-Five protocol (Appendix 1).



GRADE 5: MODULE 4: UNIT 1: LESSON 6
Organizing Evidence From Multiple Informational
Texts To Prepare For Writing:
What Makes An Earthquake A Natural Disaster?

Lesson Vocabulary	Materials
group, develop, topic, accurate	• Independent reading book • Journal • What Do We Know about Natural Disasters? anchor chart (Lessons 1–5) • Earthquake Concepts note-catcher (Lessons 2–5; one to display) • Writing about Earthquakes graphic organizer (one to display) • Model Essay: “Earthquakes” (one to display) • Writing about Natural Disasters essay rubric (one to display and one per student) • Writing about Hurricanes graphic organizer (one per student and one to display) • Hurricane Concepts note-catcher (Lessons 3–5) • Writing about Hurricanes graphic organizer (answers, for teacher reference) • Evidence flags (three per students)



Organizing Evidence From Multiple Informational
Texts To Prepare For Writing:
What Makes An Earthquake A Natural Disaster?

Opening	Meeting Students' Needs
A. Engaging the Reader (5 minutes) • Ask students to take out their independent reading book marked with the evidence flags from homework as well as their journals and turn to their glossaries. • Focus students on the What Do We Know about Natural Disasters? anchor chart that they have been adding to throughout the unit. • Have students review and share with a partner their evidence flags and vocabulary words. Ask: * “What new information can you add to the anchor chart?” • Call on several students to share aloud new information to add to the anchor chart. Be sure to add the information to the class anchor chart. Encourage students to add to their own anchor charts in their journals.	• Help struggling students determine what they will share aloud before asking them to do so; encourage them to write it down so they can refer to it as they share.



Opening (continued)	Meeting Students' Needs
B. Review Learning Targets (5 minutes) - Remind students that they have been working on learning about what makes earthquakes and hurricanes natural disasters by reading for relationships about the science concepts for each one. - Tell students they will now prepare for writing about how hurricanes are natural disasters by practicing with earthquakes today. - Remind students that they have had a lot of practice writing informational, or explanatory, texts in past modules, and the learning targets for today's lesson are not new to them. - Ask a student to read aloud the first learning target: “I can group supporting details together about how earthquakes and hurricanes are a natural disaster.” - Focus students on the word <i>group</i> and invite them to share with a partner what they remember about grouping details together when writing. Call on a few students to share aloud. Listen for: “The details that have to do with the same thing should be put together in writing, like in paragraphs,” and “All of the details should have to do with the same thing.” - Ask another student to read aloud the second learning target: “I can develop the topic with details and quotes from the texts.” - Focus students on the words <i>develop</i> and <i>topic</i>. Ask students to discuss with a partner: * “How do you develop something when writing?” * “What is the topic that we are writing about today?” - Call on a few partners to share aloud their discussions. Listen for: “You develop something when you write specific details about it, explaining it completely so the reader understands,” and “The topic we are writing about today is earthquakes.” - Read aloud the final learning target: “I can use accurate scientific vocabulary to explain earthquakes and hurricanes.” - Ask students to think about the word <i>accurate</i> and share with a partner what they think that word means. Invite a few students to share their thoughts. Listen for: “It means ‘correct’ or ‘used in the right way.’” Remind students that they should use their glossaries to help them know which words to use and how to use them correctly when writing their essay.	- Provide a nonlinguistic symbol for group (e.g., a picture of a group of people, objects, or animals). - Chart all questions posed to students and their answers for students to refer to throughout the lesson.



Work Time	Meeting Students' Needs
A. Model Planning: Organizing Ideas about “What Makes an Earthquake a Natural Disaster?”(15 minutes) • Remind students that in the last lesson they prepared to write by synthesizing their thoughts about how earthquakes are natural disasters and by adding to their Earthquake Concepts note-catcher. Display the note-catcher (from Lesson 5). • Focus class members on the details marked with an “N” for natural and “D” for disaster. Ask students to reread these details with a partner. • Now display the Writing about Earthquakes graphic organizer. Ask students to think about and share with a partner: * “How is this graphic organizer the same as and different from ones you have used in the past?” * “What do you notice about the similarities between the note-catcher and the graphic organizer?” • Invite a few students to share aloud their discussion. Listen for: “The graphic organizer begins with a topic statement, has body paragraphs, and ends with a concluding statement, like ones we have used before,” “The details on the graphic organizer are some of the same ones marked on the note-catcher,” And “The details marked with an ‘N’ are listed under the heading ‘What makes an earthquake a natural event?’ and the ones marked with a ‘D’ are listed under the heading ‘What makes an earthquake a disaster?’” • Next, invite students to focus on, underline, and read aloud both the topic sentence and the concluding statement. Ask them to discuss with their partners: * How are these statements similar to or different from your synthesis about earthquakes?” • Call on a few students to share their thoughts aloud. Point out that the topic and concluding statements are similar to their synthesis. Some students may say that the two statements are the same as their synthesis; be sure that they note that the topic and concluding statements are similar but are not the same.	• Consider color-coding the Writing about Earthquakes graphic organizer so that each part is a distinct color to make it more visually clear for those students who have difficulty with writing.



Work Time (continued)	Meeting Students' Needs
B. Vocabulary to Deepen Understanding: Milling to Music (10 minutes) - Ask students: * “What is the next step in the writing process once you have organized your evidence and thoughts on a graphic organizer?” - Invite a student to share aloud. Listen for: “Write a first draft of your essay.” - Project and have students read silently the Model Essay: “Earthquakes.” Ask students to think and then discuss with a partner: * “What did you learn from this essay?” - Next, focus students on the structure of the essay. Ask them to think and then discuss with a partner: * “What do you notice about the essay and the graphic organizer?” - Invite a few partners to share aloud. Listen for: “The essay is in paragraph form, but the details are the same ones from the graphic organizer,” and “Some of the details were reworded or written a bit differently when written into complete sentences, but they say the same thing as on the note-catcher.” - Say to students: “It is always important to know the criteria for a high-quality essay before and as we are writing it. We are going to review the criteria for an informative or explanatory essay. This is not new to you. You have seen this and used these criteria for other essays.” - Display and distribute to students the Writing about Natural Disasters essay rubric. Invite students to skim the rubric looking at each indicator and category. Ask them to discuss with their partner: * “What do you notice about the criteria/rubric?” - Call on a few students to share aloud. Be sure they share: “There are criteria for each part of the essay: topic sentence, body paragraphs, and concluding statement,” and “There are criteria for conventions: spelling, punctuation, and grammar.” - Have students work with a partner to do the following: - Reread the Model Essay: “Earthquakes.” - Evaluate the essay according to the criteria on the rubric. - Be ready to share your scores and evidence as to why you chose that score.	- Students who struggle with reading text displayed may need their own Writing about Earthquakes graphic organizer and model essay. - Struggling readers may need to see the model essay one portion at a time. Consider revealing only one sentence at a time to students and pacing the criteria mini lesson accordingly. - Struggling writers may need a rubric with less indicators. Consider providing one for them that has fewer columns and indicators. - Write and post the directions of what students are to do with their partners as they work for them to refer to.



Work Time (continued)	Meeting Students' Needs
• Ask partners to join another pair of students and compare their scores. • Have a few groups share aloud their scores and evidence for why they chose that score. For any score that was less than a 4, invite students to share how the essay could be revised to become a 4 in that category/indicator. • As time permits, make a few of the revisions the students suggested (on the model essay, projected on the document camera).	
C. Independent Guided Practice: Planning for My “What Makes a Hurricane a Natural Disaster?” Essay (15 minutes) • Tell students that they will now have the opportunity to prepare for the End of Unit 1 Assessment, writing an essay about the ways in which hurricanes are natural disasters, by completing the Writing about Hurricanes graphic organizer. Explain that they will actually write the draft of their essay during the next lesson. Today they will just prepare for the writing. Remind students that although they learned about the skills they would be using and what makes a high-quality essay by examining the model earthquake essay, they are to use their own words and thoughts for their essay about hurricanes. • Distribute the graphic organizer to students and have them take out their Hurricane Concepts note-catchers. • Remind students they should use the Writing about Natural Disasters essay rubric as well as their glossaries in their journals to help them meet the criteria for a high-quality essay. Because this is in preparation for the End of Unit 1 assessment, they will work independently, not with their partners or groups. • Allow students to work on their graphic organizer for 10 minutes. Circulate to offer encouragement and redirection if necessary. Do not assist students with the content of the graphic organizer or the grouping of evidence from their note-catcher to their graphic organizer. That is part of the students' assessment of learning (see Writing about Hurricanes graphic organizer, answers, for teacher reference for ideas students may record.) • Students may finish the graphic organizer for homework if they need more time to complete it.	• Struggling writers may need to have the teacher pace their work in gathering evidence from their Hurricane Concepts note-catcher and placing it in their Writing about Hurricanes graphic organizer by working with them in a small group or allowing them to dictate their evidence to the teacher.



GRADE 5: MODULE 4: UNIT 1: LESSON 6
Organizing Evidence From Multiple Informational
Texts To Prepare For Writing:
What Makes An Earthquake A Natural Disaster?

Closing and Assessment	Meeting Students' Needs
A. Debrief and Review Learning Targets (5 minutes) • Invite students to share with a partner: * “What will you need to be sure to pay attention to when you write your essay tomorrow for the End of Unit 1 Assessment about ‘What Makes a Hurricane a Natural Disaster?’” • Call on a few students to share aloud their thoughts. • Using the Fist-to-Five protocol, have students self-assess their mastery of each learning target. Read aloud each learning target one at a time. Note any students who show a fist, one, or two fingers. Be sure to meet with those students individually to clarify or reteach before the End of Unit 1 Assessment. • Distribute three evidence flags to each student for homework.	• Consider helping struggling writers to write a step-by-step list of instructions of what to do during the assessment that they can refer to as they are working. • Consider making a copy of students’ Writing about Hurricanes graphic organizer for students who may have difficulty remembering to bring it back for the assessment.
Homework	Meeting Students' Needs
• Finish completing the Writing about Hurricanes graphic organizer if you did not finish during class. Be sure to bring this graphic organizer back to class with you, since you will need it for the End of Unit Assessment. • Continue reading in your independent reading book for this unit at home. Be sure to flag evidence as you are reading to add to the What Do We Know about Natural Disasters? anchor chart.	• Provide audio recordings of independent reading books for those students who struggle with reading books independently.



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LEARNING

Grade 5: Module 4: Unit 1: Lesson 6

Supporting Materials



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Model Essay:
Earthquakes for Teacher Reference

Earthquakes are one of many natural disasters that affect the environment and humanity.

Earthquakes are natural events that occur as a result of geological happenings. The Earth's surface is made up of large masses of rocks that are called tectonic plates that are continually moving. An earthquake happens when pressure builds up around the plates until it is too much and they suddenly shift, or move. This causes energy waves to be released and travel across the Earth's surface.

Earthquakes are considered a disaster when the impact on the environment or people is very large and destructive. The waves of energy cause the ground to move and shake, breaking windows and other property. Sometimes the shaking is so bad that it makes buildings fall down and destroys trees. People can become very frightened and even be killed during earthquakes.

Earthquakes are events that cannot be avoided and can have devastating effects on our lives.



Writing about Natural Disasters Essay Rubric

	CCLS	4	3	2	1	0
CONTENT AND ANALYSIS (What makes a hurricane a natural disaster?)	W2 R1-9	- Clearly introduces the topic - Demonstrates insightful comprehension and analysis of the text(s)	- Clearly introduces the topic - Demonstrates grade-appropriate comprehension and analysis of the text(s)	- Introduces the topic - Demonstrates a literal comprehension of the text(s)	- Introduces the topic in a manner that is not logical - Demonstrates little understanding of the text(s)	Demonstrates a lack of comprehension of the text(s) or task



Writing about Natural Disasters Essay Rubric

	CCLS	4	3	2	1	0
COMMAND OF EVIDENCE (from both “Hurricanes” and “How a Hurricane Forms” articles)	W2 W9 R1-9	Develops the topic with at least three pieces of relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples from the text(s) for each body paragraph	Develops the topic with at least two relevant facts, definitions, details, quotations, or other information and examples from the text(s) for each body paragraph	Partially develops the topic of the essay with the use of some textual evidence, some of which may be irrelevant and inconsistently	Demonstrates an attempt to use evidence, but only develops ideas with minimal, occasional evidence that is generally invalid or irrelevant	Provides no evidence or provides evidence that is completely irrelevant



Writing about Natural Disasters Essay Rubric

	CCLS	4	3	2	1	0
COHERENCE, ORGANIZATION AND STYLE (What makes a hurricane a natural event [first body paragraph] and how is a hurricane a disaster? [second body paragraph])	W2 L3 L8	- Exhibits clear, purposeful organization - Uses grade-appropriate precise academic and scientific vocabulary - Provides a concluding statement that follows clearly from the topic and information presented and is different from the topic sentence	- Exhibits clear organization - Uses grade-appropriate academic and scientific vocabulary - Provides a concluding statement that follows from the topic and information presented	- Exhibits some attempt at organization - Inconsistently uses appropriate academic and scientific vocabulary - Provides a concluding statement that follows generally from the topic and information presented	- Exhibits little attempt at organization, or the attempts to organize are irrelevant to the task - Uses vocabulary that is imprecise or inappropriate for the text(s) and task - Provides a concluding statement that is illogical or unrelated to the topic and information presented	- Exhibits no evidence of organization - Uses vocabulary that is predominantly incoherent or copied directly from the text(s) - Does not provide a concluding statement

Writing about Natural Disasters Essay Rubric

	CCLS	4	3	2	1	0
CONTROL OF CONVENTIONS	W2 L1 L2	Demonstrates grade-appropriate command of conventions, with few errors	Demonstrates grade-appropriate command of conventions, with occasional errors that do not hinder comprehension	Demonstrates emerging command of conventions, with some errors that may hinder comprehension	Demonstrates a lack of command of conventions, with frequent errors that hinder comprehension	Is minimal, making assessment of conventions unreliable

- If the prompt requires two texts and the student references only one text, the response can be scored no higher than a 2.
- If the student writes only a personal response and makes no reference to the text(s), the response can be scored no higher than a 1.
- Responses totally unrelated to the topic, illegible, incoherent, or blank should be given a 0.
- A response totally copied from the text(s) with no original student writing should be scored a 0.



Writing about Hurricanes Graphic Organizer

Name:

Date:

Topic Sentence:

What makes a hurricane a natural event?

Detail 1:

Detail 2

Detail 3:

What makes a hurricane a disaster?

Detail 1:

Detail 2

Detail 3:

Concluding Statement:



Writing about Hurricane Graphic Organizer
(Answers for Teacher Reference)

Name:

Date:

Topic Sentence:

Earthquakes are one of many natural disasters that affect the environment and humanity.

What makes a hurricane a natural event?

Detail 1:

Tectonic plates on the
Earth's surface naturally
and continually move.

Detail 2

Pressure builds up around
the plates until it is too
much and they suddenly
shift, or move.

Detail 3:

Waves of energy are
released and travel across
the Earth's surface.

What makes a hurricane a disaster?

Detail 1:

Windows and dishes
are broken.

Detail 2

Buildings fall down and
trees are broken.

Detail 3:

People are frightened
and killed.

Concluding Statement:

Earthquakes are events that cannot be avoided and can have devastating effects on our lives.



EXPEDITIONARY
LEARNING

Grade 5: Module 4: Unit 1: Lesson 7

End of Unit Assessment, Part 1: On-Demand Essay “What Makes A Hurricane A Natural Disaster?”



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2)

I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4)

I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)

Supporting Learning Targets

- I can write a topic sentence to introduce the topic of my essay.
- I can develop the topic with details and quotes from the texts.
- I can use accurate scientific vocabulary to explain hurricanes.
- I can write a concluding statement for my essay.
- I can reflect on my learning about how the relationships between science concepts in texts can help explain natural disasters.

Ongoing Assessment

- Writing About Hurricanes graphic organizer (from Lesson 6 or homework)
- End of Unit 1 Assessment, Part I
- Tracking My Progress, End of Unit 1 recording form



Agenda	Teaching Notes
1. Opening A. Share Homework and Engage the Writer (7 minutes) B. Review Learning Targets (3 minutes) 2. Work Time A. End of Unit 1 Assessment: “What Makes a Hurricane a Natural Disaster?” (35 minutes) B. Tracking My Progress: Reflecting on Learning (10 minutes) 3. Closing and Assessment A. Debrief (5 minutes) 4. Homework A. Continue reading in your independent reading book for this unit at home.	• Students take the End of Unit 1 On-Demand Assessment: “What Makes a Hurricane a Natural Disaster?” • They write an essay that uses evidence from each of the informational articles they read during this unit on hurricanes in order to describe how a hurricane is a natural disaster (see materials). • In the previous lesson, the teacher modeled the writing of the essay and students saw an exemplar using the information from the Earthquake Concepts graphic organizer. They will now use these practiced skills to write an on-demand independent essay to assess their proficiency with the W.5.2 standards. This is a first-draft essay—they will not be receiving feedback from the teacher or peers in order to improve their essay according to the rubric criteria. • Students will refer to the essays they write for Part I of the assessment, during Part II of the assessment in the next lesson, as they participate in a Science Talk. • Use the Writing about Natural Disasters essay rubric to assess student work.

Lesson Vocabulary	Materials
develop, accurate	• Independent reading book • Journal • What Do We Know about Natural Disasters? anchor chart (all previous lessons) • End of Unit 1 Assessment, Part I: On-Demand Essay: “What Makes a Hurricane a Natural Disaster?” • Lined paper (one piece per student) • Writing about Natural Disasters essay rubric (from Lesson 6, one each per student) • Writing about Hurricanes graphic organizer (from Lesson 6) • Tracking My Progress, End of Unit 1 recording form (one per student) • Evidence flags (three per student)



Opening	Meeting Students’ Needs
A. Share Homework and Engaging the Writer (7 minutes) • Ask students to take out their independent reading book marked with the evidence flags from homework, as well as their journals. • Focus students on the What Do We Know about Natural Disasters? anchor chart that they have been adding to throughout the unit. • Ask students to turn to their glossaries in their journals. Have students review and share with a partner their evidence flags and vocabulary words: * “What new information can you add to the anchor chart?” • Cold call on several students to share new information. Add the information to the anchor chart. Encourage students to add to their own anchor charts in their journals. • Ask students to think and then talk with a partner: * “What makes a natural event <i>natural</i>?” * “What makes a natural event a <i>disaster</i>?” • Cold call on a few partners to share their thinking aloud. Listen for: “Natural events happen because they are part of what just happens in the universe. Sometimes people know when these things happen, and sometimes they don’t,” and “A natural event becomes a disaster when it causes a lot of damage to the environment and/or people. Sometimes people even die.” • Give specific positive praise on facts or ideas that students have learned about natural disasters. Get them excited about the opportunity they will have to write their own essay about how hurricanes are a natural disaster in today’s end of unit assessment.	• Some students may need to focus on only one piece of evidence to add to the anchor chart instead of several at once.



Opening	Meeting Students’ Needs
B. Review Learning Targets (2 minutes) • Review the learning targets: * “I can write a topic sentence to introduce the topic of my essay.” * “I can develop the topic with details and quotes from the texts.” * “I can use accurate scientific vocabulary to explain hurricanes.” * “I can write a concluding statement for my essay.” • Review key vocabulary. Focus class members’ attention on the words <i>develop</i> and <i>accurate</i>. Ask students to think about and share with a partner the meaning of those words in the learning targets. • Invite a few students to share aloud their definitions. Listen for: “Develop means to completely explain using evidence and details when we write,” and “Accurate means that we use vocabulary correctly in our writing.”	• Students who struggle with recalling the meaning of many academic words at one time would benefit from learning target annotations from previous lessons if they were kept. Display them for students to see. Then divide the class into groups to focus on each one, allowing them to report to the class the meaning of the key academic vocabulary in each one.



Work Time	Meeting Students’ Needs
A. End of Unit 1 Assessment: “What Makes a Hurricane a Natural Disaster?” Essay (35 minutes) • Distribute the End of Unit 1 Assessment, Part I: On-Demand Essay “What Makes a Hurricane a Natural Disaster?” and lined paper. Invite students to quickly skim the assessment. • Display and direct students to focus on the Writing about Natural Disasters essay rubric (from Lesson 6). Review with students the criteria for a good essay. Address any clarifying questions. • Tell students they should use the following resources: – Writing about Hurricanes graphic organizer – Glossaries • Invite the class to begin. Circulate to supervise. Because this is a formal on-demand assessment, do not provide support other than formally approved accommodations. • If students finish the assessment early, they may read independently or begin work on the End of Unit Tracking My Progress recording form. Collect students’ End of Unit 1 Assessments.	• Provide extra time for completing the assessment for students who struggle with language. • Students who struggle with writing may need to dictate their essay for the end of unit assessment to a teacher.
B. Tracking My Progress: Reflecting on Learning (10 minutes) • Introduce the final learning target: “I can reflect on my learning about how the relationships between science concepts in texts can help explain about natural disasters.” • Ask students to recall the meaning of the word <i>reflect</i>. Listen for responses such as: “Look back at my work to think about what I did,” “how I did,” “what I am having trouble with,” and “what I am doing well.” • Distribute the Tracking My Progress, End of Unit 1 recording form. Explain that this is a self-assessment, exactly like the Tracking My Progress forms they completed for previous assessments. They will reflect on their progress toward the learning targets. Read through the tracker and provide clarification as necessary. • Ask students to independently complete their Tracking My Progress forms. Have them hold on to this sheet to refer to during the lesson debrief.	• Consider allowing students who struggle with language to dictate their Tracking My Progress to a partner or the teacher.



Closing and Assessment	Meeting Students’ Needs
A. Debrief (5 minutes) • Give specific positive praise for things students have learned about natural disasters. Ask students to share with a partner the reflections on their Tracking My Progress forms. • Invite several students to share out with the whole group. • Pique students’ interest for the upcoming unit. Say: “In Unit 2 you will apply what you have learned about natural disasters to help you understand imagery and point of view in literature.” • Collect students’ Tracking My Progress recording forms and distribute three evidence flags to each student.	• Strategically partner students so that students who struggle with language are paired with those who have stronger language skills.
Homework	Meeting Students’ Needs
• Continue reading in your independent reading book for this unit at home. Be sure to flag evidence as you are reading to add to the What Do We Know about Natural Disasters? anchor chart. <i>Note: Students will need their End-of-Unit 1 Assessment essays for Part II of the assessment in Lesson 8, a Science Talk. Make copies of students’ essays to review and assess so you are able to return students’ original essays in the next lesson.</i>	• Consider providing audio recordings of independent reading books to students who struggle with reading complex text.



EXPEDITIONARY
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Grade 5: Module 4: Unit 1: Lesson 7

Supporting Materials



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End of Unit 1 Assessment, Part I:
On-Demand Essay What Makes a Hurricane a Natural Disaster?

Name:

Date:

After reading two articles on hurricanes, write an essay that explains how hurricanes are a natural disaster. Support your discussion with evidence from the text(s).

Directions

1. Refer to the following resources: the articles “Hurricanes” and “How a Hurricane Forms” as well as your Hurricane Concepts note-catcher, the What Do We Know about Natural Disasters anchor chart, and the glossaries in your journal.
2. Identify at least three pieces of evidence to support what makes a hurricane a *natural* event and what makes it a *disaster*.
3. Refer to the Writing about Hurricanes graphic organizer to remind yourself of how to organize your essay before writing.
4. Write an essay that includes the following:
 - a topic sentence
 - two body paragraphs with evidence
 - * paragraph 1: What makes a hurricane a natural event?
 - * paragraph 2: What makes a hurricane a disaster?
 - a concluding statement
 - accurate academic and scientific vocabulary



Tracking My Progress:
End of Unit 1

Name: _____

Date: _____

Learning Target: I can write a topic sentence to introduce the topic of my essay.

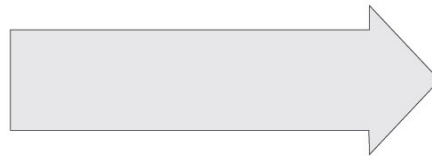
1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help
to learn this.**



**I understand
some of this.**



I am on my way!



3. The evidence to support my self-assessment is:



Tracking My Progress:
End of Unit 1

Name: _____

Date: _____

Learning Target: I can develop the topic with details and quotes from the texts.

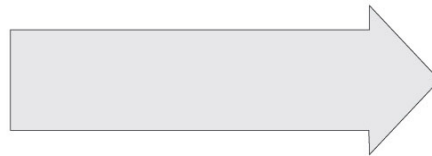
1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help
to learn this.**



**I understand
some of this.**



I am on my way!



3. The evidence to support my self-assessment is:



Tracking My Progress:

End of Unit 1

Name: _____

Date: _____

Learning Target: I can use accurate scientific vocabulary to explain about hurricanes.

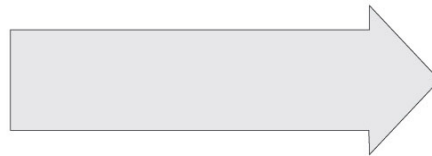
1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help
to learn this.**



**I understand
some of this.**



I am on my way!



3. The evidence to support my self-assessment is:



Tracking My Progress:

Mid-Unit 1

Name: _____

Date: _____

Learning Target: I can write a concluding statement for my essay.

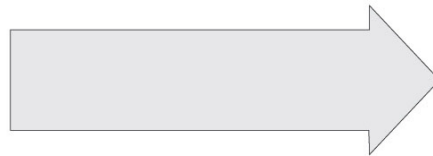
1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help
to learn this.**



**I understand
some of this.**



I am on my way!



3. The evidence to support my self-assessment is:



EXPEDITIONARY
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Grade 5: Module 4: Unit 1: Lesson 8

End of Unit 1 Assessment, Part II: Science Talk



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can prepare myself to participate in discussions. (SL.5.1)
I can draw on information to explore ideas in the discussion. (SL.5.1)
I can follow our class norms when I participate in a conversation. (SL.5.1)
I can ask questions that are on the topic being discussed. (SL.5.1)
I can connect my questions and responses to what others say. (SL.5.1)
After a discussion, I can explain key ideas about the topic being discussed. (SL.5.1)

Supporting Learning Targets

- I can ask questions of my peers that are relevant to natural disasters.
- I can share my ideas about natural disasters with my peers during a Science Talk.
- I can use the ideas of my peers to help inform my ideas about natural disasters.
- I can gather evidence from informational texts to prepare for a Science Talk about natural disasters.
- I can synthesize my ideas about natural disasters.

Ongoing Assessment

- Science Talk note-catcher
- Journal: Synthesis Statement



Agenda	Teaching Notes
- Opening - Engaging the Speaker and Listener: Communicating Like Scientists (3 minutes) - Introducing Learning Targets: What Are Relevant Questions? (7 minutes) - Work Time - Reviewing Criteria for High-Quality Speaking and Listening: Establishing Norms For a Science Talk” (10 minutes) - Preparing for and Participating in a Science Talk (20 minutes) - Synthesizing Information from a Science Talk (10minutes) - Closing and Assessment - Debrief (8 minutes) - Review Learning Targets (2 minutes) - Homework - Continue reading in your independent reading book for this unit at home.	- If students experienced Module 2A, they will be familiar with the Science Talk protocol, which they participated in during Unit 1 of that module. Familiarize yourself and the students once more with the protocol (Appendix 1). The purpose is to give the students an experience that allows them to practice and be assessed on the Speaking and Listening standards. - Consider the suggested compelling questions in the lesson; feel free to craft a different question if students have become interested in some other compelling angle on this topic. Just be sure that the question is provocative and open ended. - Envision the process for Work Time Part B: Orchestrating a Science Talk can be a bit complex. Students begin in two concentric circles (an inner circle of students facing an outer circle of students). - At the end of this lesson, build students’ excitement about Unit 2. They will read two central texts, <i>Eight Days</i> and <i>Dark Water Rising</i>, fictional novels about characters who experience natural disasters. Unit 2 emphasizes CCLS RL.5.6 and RL.5.7.



Lesson Vocabulary	Materials
relevant, share, use, inform, evidence, synthesize	• End of Unit 1 Assessment, Part I: On-Demand Essay “What Makes a Hurricane a Natural Disaster?” (from Lesson 7; students’ completed on-demand essays) • Journals • Students’ Earthquake Concepts note-catcher (from Lessons 2–6) • Students’ Hurricane Concepts note-catcher (from Lessons 3–7) • What Do We Know about Natural Disasters? anchor chart (from Lessons 1–7) • Science Talk Norms anchor chart (Module 2A, Unit 1, Lesson 10) • Science Talk note-catcher (one per student) • End of Unit Assessment, Part II: Science Talk Scoring Guide (one per student for teacher scoring) • Sticky notes

Opening	Meeting Students’ Needs
A. Engaging the Speaker and Listener: Communicating Like Scientists (2 minutes) • Congratulate students on all the learning they have done about natural disasters. Remind them that they have also been focusing on how scientists determine how earthquakes and hurricanes become natural disasters. • Tell students that today they are going to demonstrate how scientists think and discuss, or communicate, their ideas with other scientists by participating in a Science Talk. Remind them of the Science Talk that they participated in during Module 2A, when they were learning about biodiversity in the rainforest. Say: “Now we are going to do what scientists do when they get together.”	• Some students may need to focus on only one piece of evidence to add to the anchor chart instead of several at once.



Opening (continued)	Meeting Students' Needs
B. Introduce Learning Targets: What Are Relevant Questions? (8 minutes) • Introduce the first learning target: * “I can ask questions of my peers that are relevant to natural disasters.” • Focus students’ attention on the word <i>relevant</i> in the learning target. Ask what it means to ask relevant questions about natural resources. Listen for students to share ideas like: “Related to what we have read/viewed,” “Connected to natural disasters,” “Important to help us understand more about natural disasters,” etc. • Remind students of the guiding question by asking a student to read it aloud: * “What is a natural disaster?” • Focus the class on resources that they have to help them think about relevant questions associated with the guiding question. Redistribute students’ completed End of Unit 1 Assessment, Part I: On-Demand Essay “What Makes a Hurricane a Natural Disaster?” (collected at the end of Lesson 7). • Orient students to their other resources: their journals (specifically their Earthquake Concepts and Hurricane Concepts note-catchers) and the What Do We Know about Natural Disasters? anchor chart (posted). • Ask students to briefly review all the resources available to them and think about possible questions they would like to ask their peers about natural disasters. • Direct them to write down at least three questions on the next blank sheet in their journal. • Ask students to share their questions with a partner, reminding them to listen to whether the questions are relevant to natural disasters.	• Consider highlighting, or pointing out, sections of the resources that would be helpful in formulating questions for students who struggle with large amounts of information at once. • Consider allowing students who struggle with writing the opportunity to dictate their questions to a peer or teacher.



Work Time	Meeting Students' Needs
A. Reviewing Criteria for High-Quality Speaking and Listening: Establishing Norms for a Science Talk (10 minutes) • Say to students: “Remember that a Science Talk is a discussion about a question scientists have. While scientists discuss these big questions with one another, it is important for them to create a set of rules, or norms, that they will all follow so everyone’s ideas can be heard and considered.” • Introduce the next two learning targets by reading them aloud: * “I can share my ideas about natural disasters with my peers during a Science Talk.” * “I can use the ideas of my peers to help inform my ideas about natural disasters.” • Review the Science Talk Norms anchor chart and focus students’ attention on the phrases: “share my ideas” and “use the ideas of my peers to help inform.” Ask students to read with a partner what it says for what it looks/sounds like to “share my ideas” with peers. • Cold call a few students to share out what they read, listening for ideas such as: “Wait my turn to speak, so I am heard,” “Don’t shout/speak too loudly,” “Make sure everyone gets a turn to speak,” “No one person does most/all of the speaking,” and “Use information from the text to support my ideas,” etc. Invite students to share any other ideas they may have thought of that are not listed. Add students’ ideas to the anchor chart. • Ask students to recall what it looks/sounds like to “use the ideas of my peers to help inform my ideas,” by asking them to read with their partner what is listed. Invite a few students to share aloud, listening for thoughts like: “Not thinking I have the one/right answer to the question,” “Listening to what other people say,” “Considering evidence others use when discussing questions—does it match my own/make me think about the question differently?” or similar suggestions. Record any new ideas students may have on the anchor chart. • Give students a moment to consider which one they think will be most useful during a Science Talk with their peers, and why. • Ask students to turn to a partner and share their thinking. Then invite several students to share with the whole group.	• Display and review the directions for a Science Talk for students to refer to during the protocol. • Consider providing certain norms for students who struggle with collaboration and discussion to focus on during the Science Talk.



Work Time (continued)	Meeting Students' Needs
B. Preparing for and Participating in a Science Talk (20 minutes) • Introduce the fourth learning target by reading it aloud: * “I can gather evidence from informational texts to prepare for a Science Talk about natural disasters.” • Invite several students to define the word <i>evidence</i> (facts or details from the text that support a point, an answer, or a discussion) and share some examples of evidence from the resources they have available. • Remind students that they can refer to all the resources listed in the opening of this lesson: note-catchers, their End of Unit 1 Assessment On-Demand Essay, and the informational texts used within this unit. • Tell students they are now going to participate in a Science Talk, like real scientists do. Remind students to refer to the Science Talk Norms anchor chart as they participate in a Science Talk with their peers in order to ensure that all ideas are heard. • Distribute the Science Talk note-catcher to students. Point out the three columns they will need to make notations in during the Science Talk: – Question: Record the question they are discussing. – Evidence: Record the evidence—from articles, journal notes, or anchor charts—that they refer to during their discussion of the question. – Gist: Write a brief statement of what their partner said. • Have students gather in two concentric circles with their chairs and resources (their journals, texts, essay, and note-catcher). Be sure each student in the inner circle is facing a partner in the outer circle. • Remind students of the guiding question: * “What is a natural disaster?” • Ask students to refer to the questions they wrote in their journal that were relevant to natural disasters and write them in the Question column in their Science Talk note-catchers. • Remind students that as they discuss their ideas about the questions, they will need to use evidence from their resources to support their thinking and follow the norms established for the Science Talk. • Invite students to begin the Science Talk, taking turns to ask each other questions they have written down.	• Model the Science Talk protocol by choosing a student to have a discussion with around a predetermined question, being sure to model norms listed. • Strategically place students in circles so that stronger readers and writers are in one circle and those students who struggle with complex text or language are in another one.



Work Time (continued)	Meeting Students' Needs
• Use the End of Unit Assessment, Part II: Science Talk Scoring Guide to monitor student progression toward the learning targets. Be sure to listen to all student conversations briefly specifically to assess students on the learning target about sharing their ideas. Redirect and support students briefly if needed, but avoid leading the conversation. • Approximately every 5 minutes, ask students in the inner circle to move two places to the left. They now will be facing a new partner. • Ask these new pairs to discuss another question. • Students will move three times, so they have the opportunity to discuss the questions and make notations with three of their peers. • As students talk in pairs, circulate to note which students are speaking and what ideas they are sharing. Record on sticky notes any particularly intriguing comments made by students and additional questions that may arise during student discussions. These will be used during Work Time Part C and added to the class What Do We Know about Natural Disasters? anchor chart. • If specific pairs are losing momentum, offer additional probing questions to ensure that they remain on topic and explore the question fully.	



Work Time (continued)	Meeting Students' Needs
C. Synthesizing Information from a Science Talk (10 minutes) - Place students in triads. - Introduce the day's final learning target by reading it aloud: * "I can synthesize my ideas about natural disasters." - Focus students' attention on the word synthesize. Invite students to share what they remember about the meaning of this word from previous lessons, and listen for them to share ideas such as: – "Put all the ideas together" and "Summarize ideas/thoughts/information." - Tell students: "You just had an opportunity to participate in a Science Talk around one of our guiding questions about natural disasters. Here are some of the ideas I heard from the class ..." (Read aloud the intriguing questions/comments recorded onto sticky notes while listening to student conversations during the Science Talk.) - As you read aloud each comment/question, ask students why it is a compelling comment/question, and place sticky notes onto the class What Do We Know about Natural Disasters? anchor chart, for ongoing reference throughout this module. - Ask students to discuss the following questions with their triad partners: * "What questions and answers did you and your peers discuss?" * "What evidence from your resources did you and/or your peers use to support your thinking?" - After 5 minutes, invite triads to share out with the whole group. - Ask students to start a new page in their journals. Tell them that they will write a synthesis statement responding to the guiding question they discussed during the Science Talk. For this statement they are to write their answer to the following question: * "What is a natural disaster?" - Remind them to use evidence and details from the discussions they just had during the Science Talk. They will have an opportunity to continue synthesizing, or thinking about all that they have learned, in future lessons as well.	Allow students who struggle with writing to dictate their synthesis statement to a peer or teacher.



Closing and Assessment	Meeting Students' Needs
A. Debrief (5 minutes) • Ask students to share their synthesis statements with their triads, being sure to listen for new ideas and thoughts about natural disasters. • Invite several students to share their synthesis statements with the whole group. • Add any new ideas to the What Do We Know about Natural Disasters? anchor chart.	• Consider reading aloud students' synthesis statements for those who struggle with language.
B. Review Learning Targets (2 minutes) • Read aloud the following learning target: * "I can share my ideas about natural disasters with my peers during a Science Talk." • Ask students to give a thumbs-up to show they met the target or a thumbs-down to show they still need to work on the target. Call on several students to share why they gave themselves a thumbs-up or thumbs-down, prompting them to refer to the norms they determined for the Science Talk Norms anchor chart as a way to support their self-assessment. • Repeat for this target: * "I can use the ideas of my peers to help inform my ideas about natural disasters." • Collect students' Science Talk note-catcher and journals to review their synthesis statement as a component of Part 2 of their End of Unit 1 Assessment.	
Homework	Meeting Students' Needs
• Continue reading in your independent reading book for this unit at home. <i>Note: Students will begin reading one of the central texts, Eight Days, in the next lesson to start Unit 2. Each student will need access to the text for the first few lessons of Unit 2.</i>	• Consider providing audio recordings of independent reading books to students who struggle with reading complex text.



EXPEDITIONARY
LEARNING

Grade 5: Module 4: Unit 1: Lesson 8

Supporting Materials



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Science Talk Note-Catcher

Question	Evidence	GIST What my partner said...



Science Talk Scoring Guide

Learning Target	0	1	2	3	Teacher Comments
I can ask questions of my peers that are relevant to natural disasters.	There were no questions listed or questions were not about natural disasters.	There were some questions listed and some of them were about natural disasters.	There were at least three questions listed and they were about natural disasters.	There were several detailed questions listed and all were about natural disasters.	
I can share my ideas about natural disasters with my peers during a Science Talk.	Did not participate in the Science Talk.	Shared one or two ideas with their partners but had to be prompted to do so.	Independently shared ideas with their partners, without prompting from the teacher or their partner.	Independently shared ideas with their partner and probed for deeper understanding by paraphrasing, sharing more details, and asking further questions.	



Science Talk Scoring Guide

Learning Target	0	1	2	3	Teacher Comments
I can use the ideas of my peers to help inform my ideas about natural disasters.	Did not complete a synthesis statement or it was not about natural disasters.	Synthesis statement was about natural disasters; however, it contains few details about how their ideas have changed or stayed the same.	Synthesis statement has some details about how their ideas about natural disasters have stayed the same or changed.	Synthesis statement contains details and elaborations about how their ideas about natural disasters have either changed or stayed the same.	
I can gather evidence from informational texts to prepare for a Science Talk about natural disasters.	There was no evidence listed or evidence was not from texts read.	There was some evidence listed and some of it was from the texts read.	There was evidenced listed for each question from texts read.	There were multiple pieces of evidence listed from the texts read.	