

Weather-related Phenomenon of Iowa

Elizabeth Dexter – University of Northern Iowa, Cedar Falls, Iowa

Grade Level (Req.): 10th-12th grade	Content Area (Req.): Geography	Unit (Opt.):
Connections to Other Disciplines (Opt.): <ul style="list-style-type: none"> • • • 		
Time Frame (Req.): 2 class periods (or more depending on how long the students are allowed to research)	Goal (Req.): Students will learn about Iowa.	
	Objective (Req.): Students will identify the natural hazards that affect the state of Iowa. Students will identify Iowa's landscape and runoff. Students will compare surrounding state's natural hazards to those of Iowa; how is Iowa different? Students will analyze precautions necessary to avoid loss of property or death.	
Materials Needed (Req.): <ul style="list-style-type: none"> • Computer • Internet and references access • • • • • 	New Vocabulary (Opt.): <ul style="list-style-type: none"> • • • • • 	
Anticipatory Set/Introduction [Inquiry Question is required] (Req.): What natural hazards affect Iowa? The natural hazards of the state of Iowa will be discussed. The student will learn of a variety of phenomenon that affects the Midwestern United States. Effects from these disasters will be discussed as well as historical weather-related events which affected a large number of its people. Precautions will be discussed to deter future effects of these disasters. With the huge amount of snow Iowa has received this year, 2007-2008, what can we expect the outcome to be? Should we be prepared for flooding? What can we do to prevent it? Should we depend on government officials to help us or should we depend on our own devices? Phenomenon for discussion: heavy rain, drought, tornado, blizzard/white-out, crop failure leads to famine (starvation), humans die by drowning, soil erosion – fertile soil lost, livestock deaths, electrical systems failure, wastewater systems overflow/drinking water destroyed, air traffic is grounded, roads destroyed, traffic disrupted, homes destroyed, people are homeless, businesses are destroyed, people are unemployed, public buildings destroyed, people suffer from mental health problems.		
Instructional Sequence/Procedure (Req.): <ol style="list-style-type: none"> 1. Students will be placed in groups of 4 and given a specific phenomenon to discuss such as the dust bowl. They will be allowed research time in order to find the following items. They will form a timeline in order to visualize when the events occurred and the impact they had on the people of Iowa. Specific times where this event took place? Where, specifically? The number of people affected? The impact it had on the people of Iowa? The impact on the land? They will discuss ideas on how to prevent the loss of life or cattle in the future. Did the event have impact on the future of the people it affected? 2. Next the students will present their findings to the class in the form of a presentation about 		

what they discovered, taking turns for all to present. There will be no time for questions from the class; however, I will ask questions in case there is an important point they may have missed.

3. In their individual groups, the students will create and present a project in conjunction with the phenomenon assigned to their group. It should consist of an idea how to alert others of impending situations. What sort of radar or precaution can take place in order to prevent loss? Will there be shelters available for victims of their phenomenon? The project can be in the form of a graphic display, newscast, newspaper article, or a verbal announcement. They must discuss how they would present their idea to as many people as possible, taking in to account time availability in order to save lives or land. The purpose of their idea should be to reach as many people as possible.
4. Discussion will follow as to the effectiveness of their notification. Can the people in the area read? Do they typically depend on newspapers, in which they would need to be delivered or television? Do the people have television sets or radios for this type of communication? Is travel by car necessary for receiving the information and so on? Will evacuation be necessary and by what means?

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Formative Evaluation (Req.): Class discussion, ability to work in groups

Assessment (Req.): Crossword completion.

Iowa Core Curriculum Standards Used (Req.):

- Geography, grade 9-12: Understand how physical and human characteristics create and define regions.
- Geography, grade 9-12: Understand how human actions modify the environment and how the environment affects humans.
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Common Core Curriculum Standards Used (Opt.):

- Speaking and Listening, grade 6-12: Engage effectively in a range of collaborative discussions (one-on-one, in groups and teacher-led) with diverse partners on specific grade level topics,

texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

- Speaking and Listening, grade 6-12: Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; make sure the organization, development, substance, and style are appropriate to purpose, audience and task.
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NGS Standards Used (Req.):

- The physical and human characteristics of places
- How physical systems affect human systems
- How to apply geography to interpret the past
- To apply geography to interpret the present and plan for the future
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Five Themes of Geography Used (Req.):

- Human-Environmental Interaction
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School District Standards and Benchmarks (Opt.):

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21st Century Universal Constructs (Opt.): Complex Communication, Collaboration

Other Disciplinary Standards (Opt.):

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Other Essential Information (Opt.):

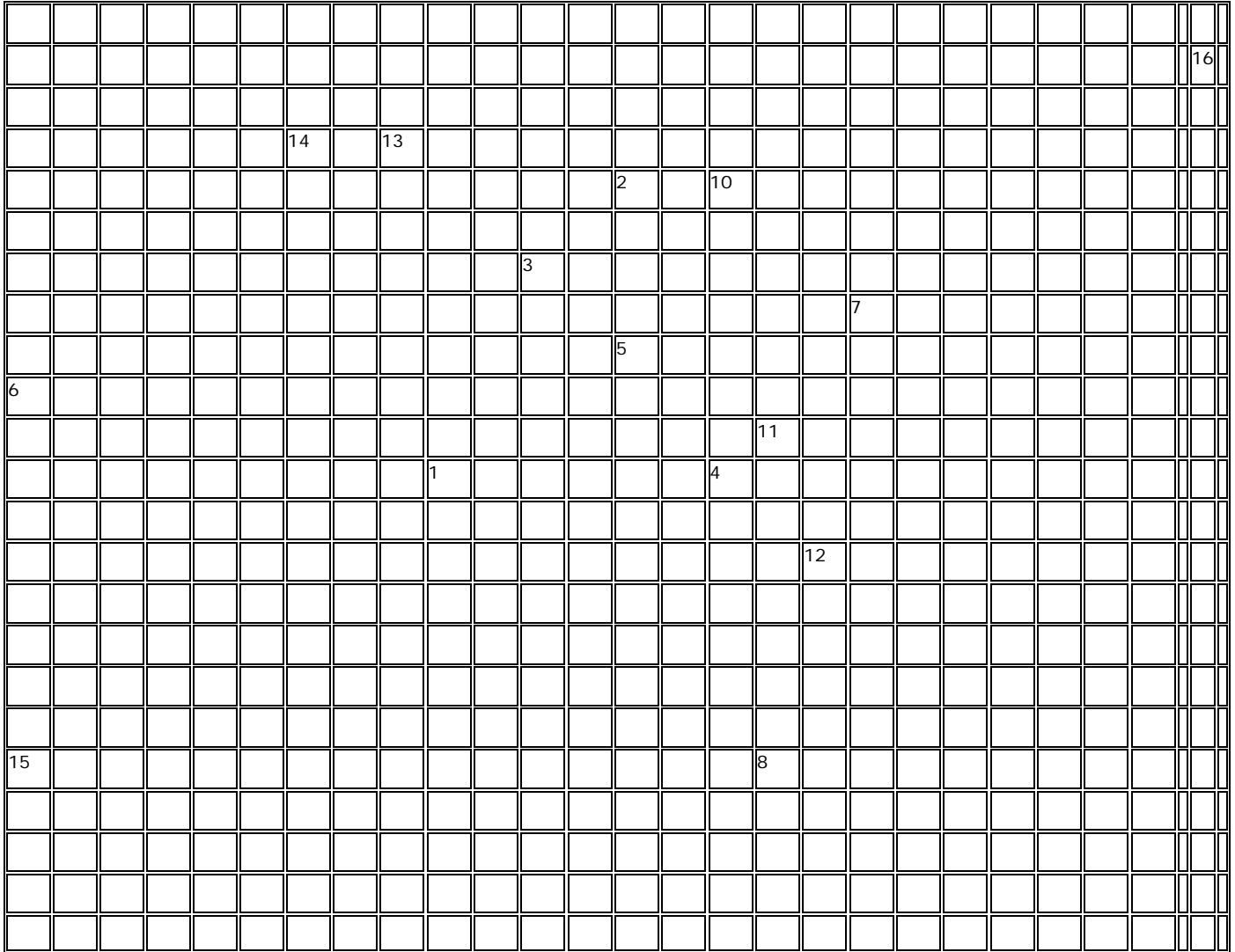
Other Resources (Opt.):

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Name: _____

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Please complete the crossword puzzle below



Across:

- 1. endless heat and dryness
- 5. overcome by water
- 6. due to drought or heavy precipitation
- 8. can cause flooding
- 10. gas
- 11. after destruction due to tornado or flood
- 12. can be a cause of a variety of hazards
- 15. winter storm

Down:

- 1. tornado effects
- 2. rising rivers and streams
- 3. causes accidents and power outages
- 4. causes destruction of property or death
- 7. caused by drought, tornado or winter weather
- 9. caused by flooding
- 13. high winds/blowing snow
- 14. can occur from a variety of hazards
- 16. can occur from variety of hazards

Name: _____

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KEY

Please complete the crossword puzzle below

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Across:

1. endless heat and dryness (drought)
5. overcome by water (drowning)
6. due to drought or heavy precipitation (cropfailures)
8. can cause flooding (heavyrain)
10. gas (radon)
11. after destruction due to tornado or flood (unemployment)

- 12. can be a cause of a variety of hazards (homeless)
- 15. winter storm (blizzard)

Down:

- 1. tornado effects (destruction)
- 2. rising rivers and streams (flooding)
- 3. causes accidents and power outages (icestorm)
- 4. causes destruction of property or death (tornado)
- 7. caused by drought, tornado or winter weather (Livestockdeaths)
- 9. caused by flooding (soilerosion)
- 13. high winds/blowing snow (whiteout)
- 14. can occur from a variety of hazards (electricalfailure)
- 16. can occur from variety of hazards (unsafedrinkingwater)