

Thunderstorm Public Service Announcement

GRASPS Based Activity

Goal – Students will describe the formation of severe thunderstorms.
Students will recognize the effects of severe thunderstorms on the local environment, people, and businesses.
Students will identify safety hazards associated with severe thunderstorms.

Role – Students are meteorologists for the local college. They are currently working on a public service announcement for severe thunderstorms.

Audience – The meteorologists (students) are writing the announcement to be used by residents of local areas.

Situation – Students have been asked to create a public service announcement for severe thunderstorms. This announcement will inform people of the area on the formation of thunderstorms, and how they should prepare when one develops. Students are to research information and data about thunderstorms to integrate into their announcement. Students are to present their message with visual to the “residents of the area” (class).

Product – The study that the young climatologists will be creating will have two parts – a written report and a visual representation outlining important information. For the written report, students are to begin with the conditions that lead to the formation of the thunderstorm. The study should include safety hazards (flash flooding, lightning), the effects on the local environment (erosion, fires), people (electrocution, slips), and businesses (power outages, wind damage). The study should conclude with information on how people can safely survive the storm. Students are also to create a visual representation (poster, PowerPoint, Glog, Prezi) that provides important tips and information to local residents. A presentation of the information should follow once complete.

Standards – A rubric is attached to this activity.

Correlated Literature (with Lexiles) (Audio capable)
(All literature can be found on the Galileo website unless otherwise noted.)

A Fantastic Thunderstorm Detector. (1999). *Boys' Quest*, 5(1), 21. (970) (Audio capable)

Soutar, P. & Sullivan, M. (2004). Surviving severe weather. *Wichita Eagle*. Kansas. (1030)

Dashiell, J. (1997). Learning lightning safety. *Chemecology*. Oct. 1997: 12-14. *SIRS Discoverer*.
Web. 18 Jun 2012.

GRASPS

Thunderstorm Public Service Announcement

Tiers

Students may be grouped accordingly after evaluating a pre-assessment. You may use different names for the groups, such as colors – Red Tier (Tier 1), Blue Tier (Tier 2), and Green Tier (Tier 3). Groups may comprise of 2-4 students.

Tier 1 – Scored 0 - 64% on the pre-assessment

Tier 2 – Scored 65 - 89% on the pre-assessment

Tier 3 – Scored 90% or higher on the pre-assessment

Tier 1 – Students will be provided with a list of required concepts and terms expected. Students will use a template of the announcement to organize their data. Announcement will be rewritten in ink or typed using a word processor program. Once completed, products include the announcement and a visual aid. Visual should demonstrate the formation of a thunderstorm and emergency preparedness. Students may choose to use poster boards or construction paper.

Tier 2 – Students will be provided with a list of required concepts and terms expected. Announcement will be rewritten in ink or typed using a word processor program. Once completed, products include the announcement and a visual aid. Visual should demonstrate the formation of a thunderstorm and emergency preparedness. Students may choose to use PowerPoint, poster boards or construction paper.

Tier 3 – Students will be assigned a section of Georgia. Students must research the probability and severity of thunderstorms in the area. Once research is completed, products include the announcement and a visual aid. Announcement should include storm identification and time frame for occurrence. Also, announcement should promote emergency preparedness. Visual should demonstrate the formation of a thunderstorm and emergency preparedness. Students are to create an avatar that presents their information. (There are time limits on the presentation (60 – 90 seconds). (www.voki.com))

Other Internet websites that could be integrated are

- Prezi – zoomable presentation application (www.prezi.com)
- Glogster – an online poster maker (<http://edu.glogster.com/>)

As an extension for all students, the information from the Public Service Announcement could be added into a class blog for sharing with others. This is a great opportunity for students to collaborate with students across the nation, as well as community members or scientists.

Public Service Announcement : Severe Thunderstorm

Student Name: _____

Class _____ Date _____

CATEGORY	4	3	2	1
Amount of Information	All topics are addressed with at least 2 sentences about each. (formation of thunderstorms, safety hazards, effects on local environment, effects on people, effects on business, and emergency preparedness). Evidence of high order thinking clearly demonstrated.	Most topics are addressed with at least 2 sentences about each. (formation of thunderstorms, safety hazards, effects on local environment, effects on people, effects on business, and emergency preparedness). Evidence of high order thinking demonstrated.	Some topics are addressed with at least 2 sentences about each. (formation of thunderstorms, safety hazards, effects on local environment, effects on people, effects on business, and emergency preparedness). Some evidence of high order thinking demonstrated.	Very few to no topics are addressed with at least 2 sentences about each. (formation of thunderstorms, safety hazards, effects on local environment, effects on people, effects on business, and emergency preparedness). Little to no evidence of high order thinking demonstrated.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Mechanics	No grammatical, spelling or punctuation errors.	Almost no grammatical, spelling or punctuation errors.	A few grammatical, spelling, or punctuation errors.	Many grammatical, spelling, or punctuation errors.
Diagrams & Illustrations	Visual is accurate and includes several bits of information to keep people safe. Poster is very neat, and shows creativity.	Visual is accurate and includes some bits of information to keep people safe. Poster is neat, and shows some creativity.	Visual is somewhat accurate and includes some bits of information to keep people safe. Poster is somewhat neat, and shows some creativity	Visual is not accurate and includes little information to keep people safe. Poster is not neat, and shows no creativity
Presentation	Students look ahead and speak very clearly. Students engage the audience.	Students look ahead and speak somewhat clearly. Students attempt to engage the audience.	Students look ahead most times and speak somewhat clearly. Students attempt to engage the audience.	Students do not look ahead or speak clearly. There is no attempt to engage the audience.

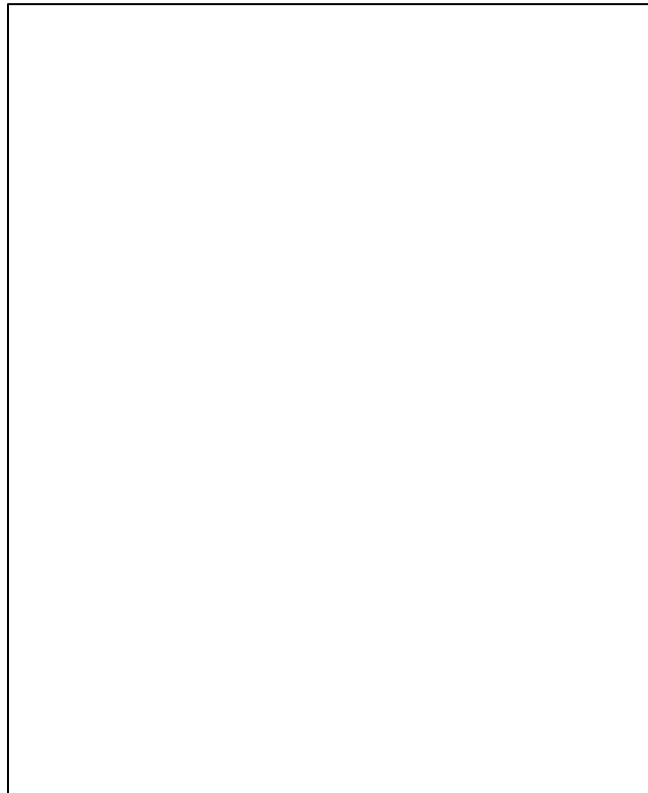
Points earned _____ out of 20

Grade _____

Graphic Organizer

Topic	Information
Formation	
Safety Hazards	
Effects on Local Environment	
Effects on People	
Effects on Business	
Emergency Preparedness	

Poster Sketch

A large, empty rectangular box with a thin black border, intended for a poster sketch. It is positioned centrally below the 'Poster Sketch' heading.

Common Core

L6-8WHST2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
- b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
- c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.
- d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
- e. Establish and maintain a formal style and objective tone.
- f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

L6-8RST1: Cite specific textual evidence to support analysis of science and technical texts.

L6-8RH2: Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

Georgia Performance Standards

S6CS5. Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.

- a. Observe and explain how parts are related to other parts in systems such as weather systems, solar systems, and ocean systems including how the output from one part of a system (in the form of material, energy, or information) can become the input to other parts. (For example: El Nino's effect on weather)
- b. Identify several different models (such as physical replicas, pictures, and analogies) that could be used to represent the same thing, and evaluate their usefulness, taking into account such things as the model's purpose and complexity.

S6E3. Students will recognize the significant role of water in earth processes.

- a. Explain that a large portion of the Earth's surface is water, consisting of oceans, rivers, lakes, underground water, and ice.
- b. Relate various atmospheric conditions to stages of the water cycle.

S6E4. Students will understand how the distribution of land and oceans affects climate and weather.

- a. Demonstrate that land and water absorb and lose heat at different rates and explain the resulting effects on weather patterns.
- b. Relate unequal heating of land and water surfaces to form large global wind systems and weather events such as tornados and thunderstorms.
- c. Relate how moisture evaporating from the oceans affects the weather patterns and weather events such as hurricanes.