

What's the "Matter" with the Weather!!!?

Context: The States of Matter is a 3rd Grade Science Standard of Learning. At this point the students have learned about it and they have also learned about various types of weather and how the states of matter relate to the water cycle. They have an understanding of examples of each state of matter, as it is found in nature and are ready to implement what they are learning into a design project to help them integrate and retain the information that they have learned. This is also an assessment to show me, the teacher, the knowledge they have retained about the three states of matter, weather and the water cycle and how all of this is related.

Skills Needed: The ability to use scissors, glue, crayons, and paper materials needed to creatively represent the three states of matter. Students also need to understand and apply the concepts of paper popup design, as well as simple machines/mechanisms.

Goals of Activity: Students will take what they know about paper pop up design and simple machines/mechanisms and design a pop of that models the states of matter...solid, liquid, and gas as they occur naturally within the water cycle as presented in weather.

Literature: *Joe-Joe the Wizard Brews Up Solids, Liquids, and Gases*, by Eric Braun

Cloudy with a Chance of Meatballs, by Judi and Ron Barrett

Both books read aloud to the students. Students may also refer to their textbooks.

Time Frame: Three, 45 minute class periods

Group Size: Individual project

Materials:

Card Stock

Scissors

Pencils

Markers

Color Pencils

Crayons

Glue Stick

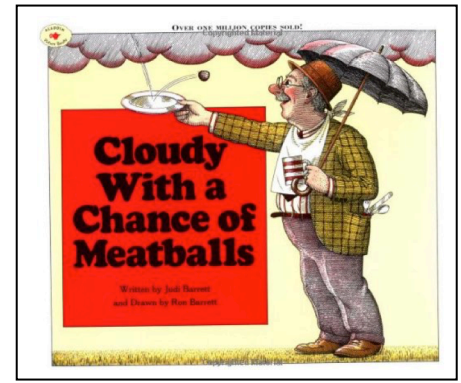
Glue

Brads/Fasteners

Construction Paper

Markers

Tools:



QUICK VIEW

Grade: 3

Time: Three 45 minute sessions

Group: Individual

Safety: Review skills for materials provided

Goals:

- Critical thinking skills
- Research skills
- Problem solving skills
- Science – States of Matter, Weather, Water Cycle

Standards:

Virginia SOL

Science: 3.3c, 3.9,

Standards for Technological Literacy

STL8, STL9, STL3, STL11, STL16



Scissors

hot glue gun

hole punch

stapler

Crop-O-Dile

Masking Tape

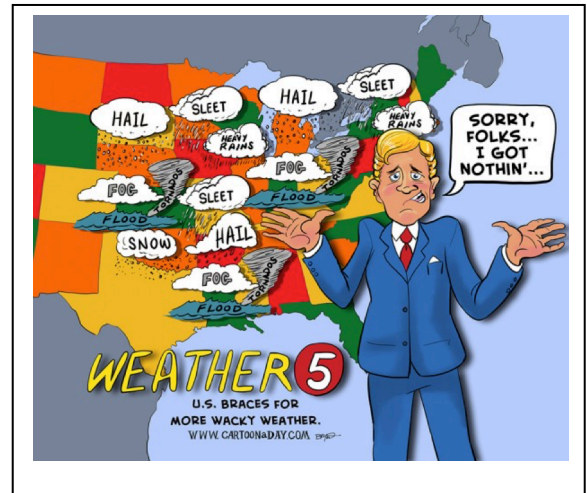
Safety Measures: Review use of safety procedures for provided materials

Classroom Set-Up: Tables/desks, hot glue station, and student-safe tools and materials in a central location. Teacher will be assisting students and walking around to provide support.

What's the "Matter" with the Weather!!!?

Background: You are a meteorologist at the local television station. You have to produce your weather report for the next three days. Your community has had a variety of weather lately and this today is no exception! Things are moving from hot to cold. The sun is shining one minute and then precipitation is falling as rain, hail, and snow, the next. It's going from freezing to thawing outside, at a rapid rate. Things are just plain wacky!

Challenge: You are challenged with creating a weather report model/presentation for a single day that must include all three states of matter as they move from the solid to liquid to gas, via freezing, thawing, evaporating, melting, etc. Your weather report must include at least one pop up part and one moveable part. You will need to write your weather report neatly on a half sheet of notebook paper. Your report must include all three states of matter (solid, liquid, and gas). Your design must be creative and neatly completed. Upon completing your project you are required to present your weather report and model for the class as the meteorologist/weather person.



Criteria:

- 1 pop up element in the design
- 1 moveable part (remember...you may use mechanisms/simple machines to create this part!)
- You must include all three states of matter in your model
 - Solid
 - Liquid
 - Gas
- You must write a half page weather report including the three states of matter.
- Neat and creative

Materials:

Card Stock	Scissors
Pencils	Markers
Color Pencils	Crayons
Glue Stick	Glue
Brads/Fasteners	Construction Paper/Markers

Tools:

Scissors	stapler
hot glue gun	Crop-O-Dile
hole punch	Masking Tape

STL Standards 8, 9, 3, 11, 16 Elements of Design, Technology, and Engineering

SOL Science Matter, Water Cycle, Weather

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3rd grade Design Brief
Spiller Elementary

Portfolio: What's the "Matter" with the Weather!!!?

Name: _____

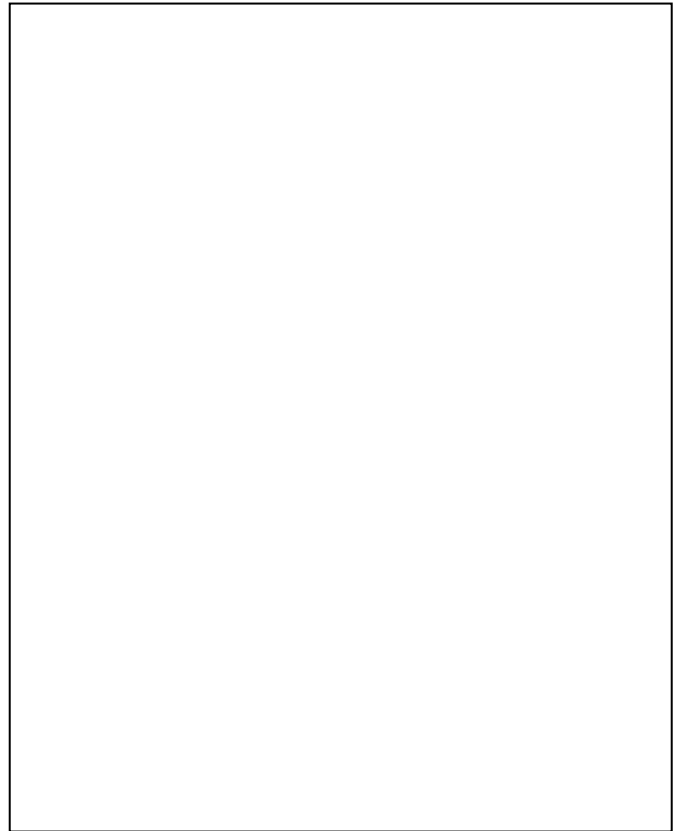

Date: _____

1. What is the problem?

State the problem in your own words.

2. Brainstorm solutions.

Sketch or describe possible ideas and solutions.



3. Build your Weather Report Model.

- I included a pop up element in the design
- I included a moveable part (remember...you may use mechanisms/simple machines to create this part!)
- I include all three states of matter in your model
 - Solid
 - Liquid
 - Gas
- I wrote a half page weather report including the three states of matter.
- My work was neat and creative

4. What is your moveable part?

5. What is your pop up feature and why did you choose to design it this way?

6. What issues did you come across while building your model and how did you solve them?

7.

Problem	Solution

8. What was one thing that you could have done to improve your model?

Name: _____

Date: _____

Rubric for: What's the "Matter" with the Weather!!!?

Criteria Assessed	Beginner	Apprentice	Master	Expert
Portfolio				
I restated the problem in my own words.				
I brainstormed 2 ideas/sketches.				
I kept notes about problems and solutions.				
I shared at least one way I could have improved the model.				
Weather Report				
I included all three states of matter (solid, liquid, gas)				
My report sounded like an actual weather report				
I used complete sentences for my weather report.				
My weather report was neat and easy to read.				
Oral Presentation				
I used oral language to clarify what was happening in my model				
The oral language I used was like what a meteorologist would use				

Weather Model				
Creativity				
Neatness				
My model showed all three states of matter (solid, liquid, gas)				
My model showed the states of matter in the form of weather				