

K-6 Science

Flint Science Leaders Network

Agenda

- Introduction & explanation of summer work
 - Unit Overview
 - Lesson Format
 - Assessment Review
- Explore Units & Lessons online
- Speed Sharing

Intro to NGSS Video

<http://openaccess.kentisd.org/Courses/3325/Units/4464/Lessons/6865>

Our Summer Work

- Reviewed NGSS
- Rewrote science benchmark tests with Depth of Knowledge in mind
- Revised Oakland science grade level units or provided alternate lessons & resources
- Gathered materials from Williams for science units

Revised Pacing Chart

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June
K										
1										
2										
3				Earth Science Benchmark			Physical Science Benchmark Transition			Life Science Benchmark
4				Earth Science Benchmark			Physical Science Benchmark			Life Science Benchmark
5				Earth Science Benchmark			Physical Science Benchmark			Life Science Benchmark
6				Earth Science Benchmark			Physical Science Benchmark Transition			Life Science Benchmark

Earth	
Physical	
Life	

Unit Overview

- Flint Unit Resource Page
- Teacher Background & Resources
- Pretest
- Lessons
- Assessment

Flint Unit Resource Page

1st Grade Earth Science Unit

Grade Level: 1st

Unit: Sun & Weather

Time Frame: 1st Marking Period

Unit Essential Questions:

- What weather changes occur from day to day?
- What changes occur in the weather from season to season?
- What are some safety precautions for severe weather?

Big ideas: Patterns & Cycles of Weather & effect of Sunlight on Earth's Surface

Essential Concepts/Skills/

GLCE's

E.ES.E.2 Weather - Weather changes from day to day and over the seasons.

E.ES.01.21 Compare daily changes in the weather related to temperature (cold, hot, warm, cool); cloud cover (cloudy, partly cloudy, foggy); precipitation (rain, snow, hail, freezing rain); wind (breezy, windy, calm).

E.ES.01.22 Describe and compare weather related to the four seasons in terms of temperature, cloud cover, precipitation, and wind.

E.ES.01.23 Describe severe weather characteristics.

E.ES.01.24 Describe precautions that should be taken for human safety during severe weather conditions (thunder and lightning, tornadoes, strong winds, heavy precipitation).

E.ES.E.3 Weather Measurement - Scientists use tools for observing, recording, and predicting weather changes.

E.ES.01.31 Identify the tools that might be used to measure temperature, precipitation, cloud cover, and wind.

E.ES.01.32 Observe and collect data of weather conditions over a period of time.

NGSS:

K-PS3-1. Make observations to determine the effect of sunlight on Earth's surface.

K-PS3-2. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.

Flint Unit Resource Page (cont.)

PRE-PLANNING CONSIDERATIONS

Misconceptions that need to be addressed:

- Students may think that some objects, like blankets, produce their own heat. They need to be guided to understand that heat is transferred from one object to another. They should engage in activities that lead them to understand that objects can keep things warm by trapping heat.
- Students may think that heat and cold are very different instead of thinking of cold as the absence of heat. They should be shown that heat and cold are at opposite ends of a continuum.
- They may think that some substances cannot heat up. (i.e. air, sugar, flour). They will need to engage in activities that lead to an understanding that all substances heat up, but some do so more easily than others.
- Children have their own theories about why the weather changes. For instance “The same weather goes around the world and we get it when it is our turn.”

Flint Unit Resource Page (cont.)

Vocabulary

- | | |
|--|--|
| <ul style="list-style-type: none">● weather● severe weather● temperature● observe | <ul style="list-style-type: none">● predict● sunlight● design● record |
|--|--|

Supplies to gather or things that need to be done:

- | | |
|---|---|
| <ul style="list-style-type: none">● Crayons or colored pencils● Paper● Demonstration thermometer (with manual moveable alcohol line)● Glue● Hole punch● Ice cubes (1 tray)● Outdoor thermometer near classroom● Picture cards (<u>4cards</u>, 1 for each | <ul style="list-style-type: none">● Scissors (1 per group)● Soda straws or wood dowels (12 cm, per group)● Map of school with shelter area for severe weather● Flour● Glass (drinking)● Mesh sieve |
|---|---|

Flint Unit Resource Page (cont.)

Additional Science Learning Cycle Resources

| http://www.edheads.org/activities/weather/frame_loader.htm (interactive site on weather)

<http://www.pbslearningmedia.org/resource/ess05.sci.ess.eiu.risaset/observe-sunrise-and-sunset/> (sunrise/sunset video)

Teacher Background & Resources

Unit 4: Weather and Seasons **Teacher Background**



Scientific Background

This unit allows children to experiment and explore weather phenomena through hands-on investigation and observations of the world around. It involves a number of science processes. This unit emphasizes the scientific processes of observation and classification. In addition, the integration of the mathematics skill of telling time on a calendar is an ideal combination. The unit does not need to be done in a single consecutive series, and in fact is better done over a longer period of time. To maintain continuity in instruction over weeks or months, a permanent class bulletin board for weather ideas and weather graphs is necessary.

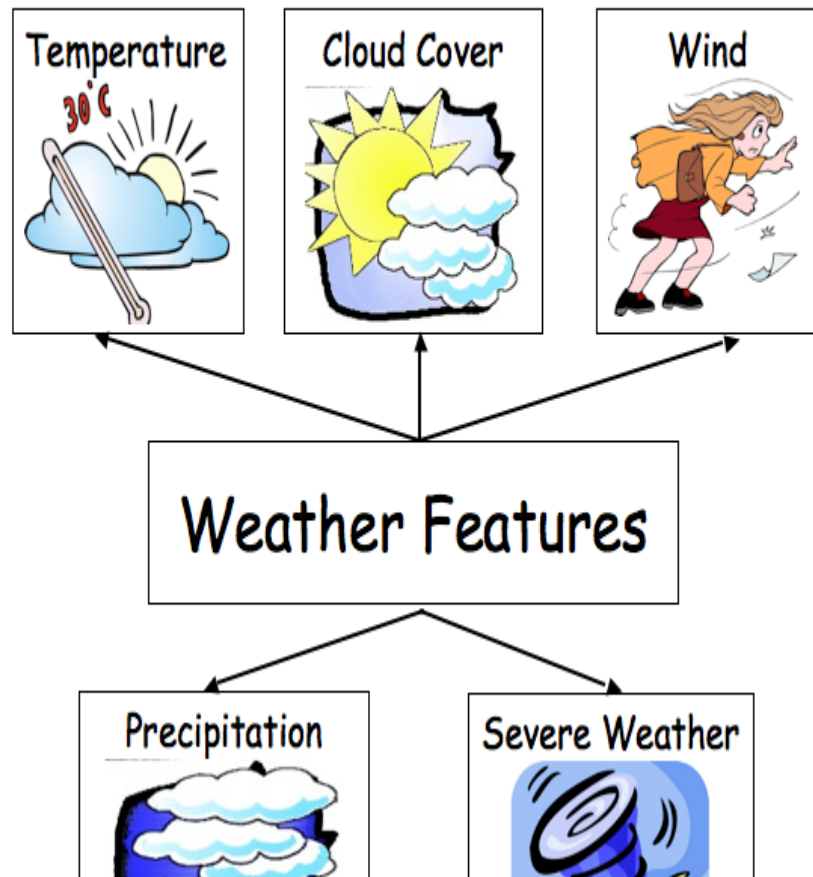
Resources

Word Cards for Unit 4



1 weather	2 weather feature
The conditions outside. 	A condition that makes up the weather. 
Example: The weather is hot.	Example: Rain is a weather feature.

Graphic Organizer for Unit 4



Lessons

Scientific Organization and Sequencing
Unit 4: Weather and Seasons

SC010400
Teacher Background

Lesson 1: Weather Stories

Big Ideas of the Lesson

- Weather has an affect on the things we do outside.
- Temperature is how hot or cold it is outside.

Abstract

In this lesson children identify their preconceptions about weather by drawing pictures of memorable weather events they have experienced and writing narratives. The teacher uses a graphic organizer to record important descriptors of these events (i.e., temperature, wind, moisture, and other).

Grade Level Context Expectation(s)

Children will:

- compare daily changes in weather related to temperature (e.g., cold, hot, warm,

Key Concept(s)

precipitation

temperature

Instructional Resources

Equipment/Manipulative

Lesson (cont.)

Sequence of Activities

Advance Preparation: Make a "Weather Words" (flipchart available-<http://flintsciencesource.weebly.com/1st--2nd-mk-periods-weather.html>) class chart as shown in Teacher Background. Plan to save the weather pictures and stories for future lessons.

1. Read aloud a book such as *The Snowy Day* by Ezra Jack Keats <https://www.youtube.com/watch?v=92zPv-TsBkk> , or one of the other literature connections listed above. This should be used to help spark children's memories.
2. Ask children to think about a day when the weather was important to what they did. Have several children briefly share their stories.
3. Mention that you liked the way the pictures in the story you read helped to show the weather, and

Lessons (cont.)

This is how the five senses posters might look in a classroom.

Assessment

Give each child a clipboard, a pencil, and a Senses Activity Sheet. Ask the children to take a walk around the room (or outdoors) and draw objects under the appropriate heading.

Application Beyond School

Children can share with their family how they use their five senses to learn about the world.

Connections

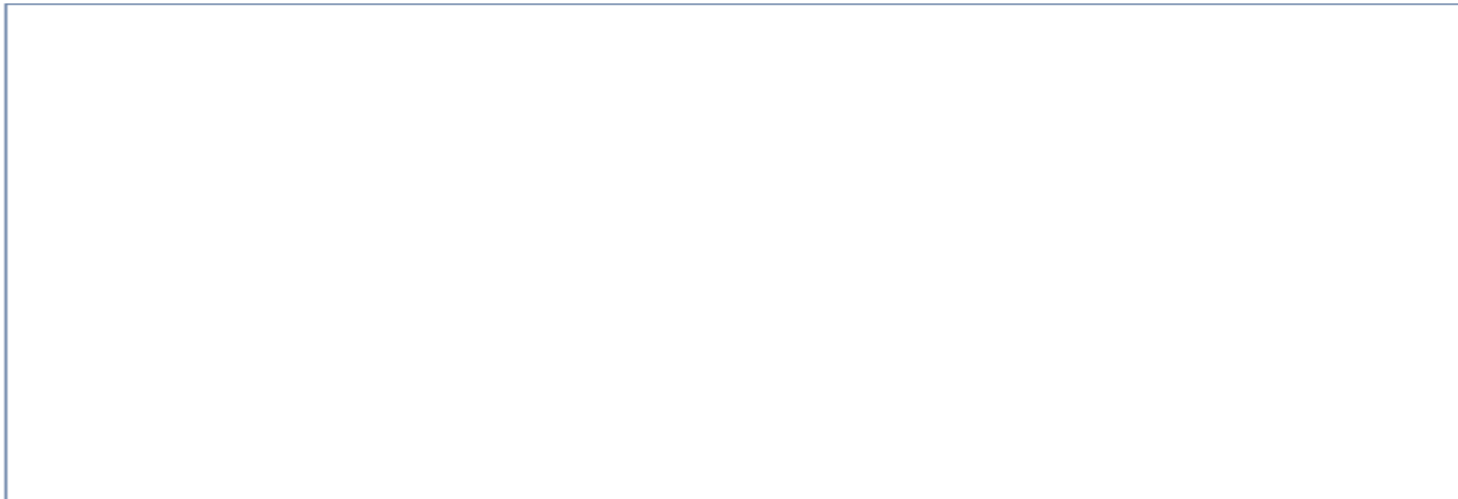
Mathematics

Upon completing the class chart or individual chart, the children could compare which sense had the most/least objects. The children could place pictures or objects on a floor graph of the five senses.

Lessons (cont.)

Lesson 1: Weather Stories

Do you remember a windy day? A snowy day? A hot day? Draw what the weather looked like below.

A large, empty rectangular box with a thin black border, intended for a student to draw a weather scene.

Write a weather story.

Assessments (K-2nd)

- Formative Assessments can be found at the end of each lesson.
- Summative assessment suggestions can be found on the Flint Unit Resource Page at the beginning of each unit.

Final Assessments (3rd-6th)

- Final Unit Assessments can be found at the end of each unit.
- If your grade level has more than one unit in Earth, Physical, & Life you may have assessments for each unit, but only one benchmark for each.

How to Access Units

You can access the units in 3 places.

- www.flintsciencesource.weebly.com
- Blackboard
- Google Drive

Science Website



SCIENCE SOURCE

HOME GRADE LEVELS SCIENCE READING NGSS WEB LINKS FIELD TRIPS MORE...

K	>	1ST MK PERIOD OBSERVING/QUESTIONING SENSES
1ST	>	
2ND	>	2ND MK PERIOD SOLID EARTH/EARTH MATERIALS
3RD	>	3RD MK PERIOD FORCE & MOTION
4TH	>	
5TH	>	4TH MK PERIOD-BASIC NEEDS OF LIVING THINGS >
6TH	>	
7TH	>	
8TH	>	
HIGH SCHOOL	>	

SCIENCE SOURCE

Please
addition
me so I

Cont

ve
se email

Blackboard

My Organizations

Organizations where you are: Participant

 [Curriculum and Instruction](#)

Science



ELEMENTARY



Elementary



Kindergarten



First



Second



Third



Fourth

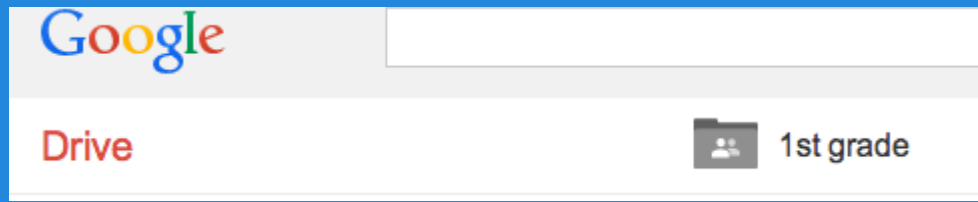


Fifth



Sixth

Google Drive



If you would like to access the units from Google Drive use this link:

Add Google link to units

or click on Google Drive link on www.flintsciencesource.weebly.com

Explore

- Locate Units
- Read through a few lessons
- Ask questions

Speed Sharing

- Technology tool (website, app, etc...)
- Favorite Science Lesson
- Field Trip Idea
- Something you discovered/learned
- **ANYTHING** that might help someone else

Questions/Comments