CCPS Science Unit Plan

Grade	1st	**Subject**	Science	**Unit #**	2
Unit Name	Unit 2 : Weather		**Timeline**	6 weeks	
How to use the Framework	This Framework should be used to implement daily science instruction. The resources and instructional strategies reflected in the Framework will provide a foundation for effective implementation and student mastery of standards. Please see the hyperlinked abbreviation document to ensure understanding of all abbreviations used with this framework. CCPS Department of Science Website for access to all unit frameworks.				
Unit Overview	**Background Information:** Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time. In first grade, students use simple weather data and identify patterns within that data. Over the course of the unit, students will classify forms of precipitation as either solids or liquid. **Prerequisites:** Kindergarten : Unit 5 : Time Patterns & Organisms (Standard(s) - SKL2 a/b/c) **Throughout this unit, the teachers should**: ● *guide* students with sorting and classifying forms of precipitation as solids or liquids ● *support* students with planning and carrying out investigations ● *engage* students in tasks to analyze and interpret data ● *provide* opportunities for students to record and observe weather ● *support* students with organizing data in charts and graphs ● *expose* students to vocabulary terms to use in writing and dialogue **Throughout this unit, the students should:** ● *classify* forms of precipitation as either solids or liquids. ● *plan and carry out investigations* with weather data ● *analyze* seasonal changes in weather ● *observe and record* local weather data in different seasons ● *organize* weather conditions and represent it in tables and graphs. ● *connect and use* vocabulary terms to build core understanding **Science-1st-Teacher-Notes.pdf**				

Standards

GSE	Science and Engineering Practices	Crosscutting Concepts
S1E1 : Obtain, evaluate, and communicate weather data to identify weather patterns. **a**. Represent data in tables and/or graphs to identify and describe different types of weather and the characteristics of each type. **b**. Ask questions to identify forms of precipitation such as rain, snow, sleet, and hailstones as either solid (ice) or liquid (water). **c**. Plan and carry out investigations on current weather conditions by observing, measuring with simple weather instruments (thermometer, wind vane, rain gauge), and recording weather data (temperature, precipitation, sky conditions, and weather events) in a periodic journal, on a calendar, and graphically. **d**. Analyze data to identify seasonal patterns of change. (Clarification statement : Examples could include temperature, rainfall/snowfall, and changes to the environment.)	**Asking Questions and Defining Problems** in K - 2 builds on prior experiences and progresses to simple descriptive questions. **Planning and Carrying Out Investigations** to answer questions to test solutions to problems in K - 2 builds on prior experiences and progresses to simple investigations based on fair tests, which provide data to support explanations or design solutions. **Analyzing and Interpreting Data** in K - 2 builds on prior experiences and progresses to collecting, recording and sharing observations. **Constructing Explanations and Designing Solutions** in K - 2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence - based accounts of natural phenomenon and designing solutions. **Obtaining, Evaluating, and Communicating Information** in K - 2 builds on prior experiences and uses observations and texts to communicate new information.	**Patterns** in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. **Cause and Effect**– Events have causes that generate observable patterns.

NGSS Alignment

NGSS Alignment to Disciplinary Core Ideas

The Phenomenon Protocol

Anchoring Phenomena	Learning Targets
How do I know when I can go swimming outdoors? **S1E1a.projectable.PNG**	Students will represent data in tables and/or graphs to identify and describe different types of weather and the characteristics of each type.

How do I plan for a rainy day? **S1E1b.projectable.PNG**	Students will ask questions to identify forms of precipitation such as rain, snow, sleet, and hailstones as either solid (ice) or liquid (water).
How do weather conditions effect me? **S1E1c.projectable.PNG**	Students will plan and carry out investigations on current weather conditions by observing, measuring with simple weather instruments (thermometer, wind vane, rain gauge), and recording weather data (temperature, precipitation, sky conditions, and weather events) in a periodic journal, on a calendar, and graphically.
How do the trees change in a year? **S1E1d.projectable.PNG**	Students will analyze data to identify seasonal patterns of change.

Weekly Lesson Tasks

Navigation: Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Return to the top | Additional Resources

Week 1				
GSE: S1E1a		**Focused Concept:** Characteristics of different types of weather		
Learning Target:	**The students will represent data in tables and/or graphs to identify and describe different types of weather and the characteristics of each type.**			
Lab Safety and Materials	**General Safety Practices for the Elementary Science Classroom- TOC.docx** **Be careful using scissors.** (unsharpened pencil, pen cap, plastic straw, construction paper, scissors, plastic cup with lid, pebbles marker, and tape)			
SEP TEACHER TIP: To support students with the Science & Engineering Practices for this week, follow the guidance in this protocol: Analyze and Interpret Data.pdf				
Phenomenon: **S1E1a.projectable.PNG**		**DQ: What are the characteristics of different types of weather?**		
Day 1: Opening	**Day 2 : Guided Practice/ Transition**	**Day 3: Independent Practice**	**Day 4: Independent Practice**	**Day 5: Assessment / Summary**
Phenomenon Introduction: (5-7 minutes) Show students to following	**Introduce the driving Question:** Have students review the driving question:	**Review the driving Question:** ***What are the characteristics***	**Review the driving Question: What are the characteristics of different types of weather?**	**Review the Phenomenon (5-7 minutes)** Allow students to review the

phenomenon card: S1E1a.projectable.PNG Use the see, think wonder strategy to guide student thinking. Provide students opportunities to share observations and develop questions. The teacher should record students' observations on chart paper and refer back to initial student ideas throughout the week. **Inquiry Activity** Have students use the following: **uConnectLab: What is it l...** **uConnectLab: What is it like outside today?** **Objective:** Students observe the weather outside. Follow facilitation instructions **(SAVAAS)** 1. Write a question you want to ask about weather. 2. Use your senses to observe the weather. Record your observations. 3. Analyze and Interpret Data- How do your observations answer your question? Tell a	***What are the characteristics of different types of weather?*** Use the strategy to support students with making connections and understanding the driving question (DQ). Visualizing the Driving Question Click here to access question words reference chart Record student answers on chart paper with the students or the teacher can complete the graphic organizer. **TEACHER NOTE: Students should not answer the driving question at this time. Students will need to collect information, data and understanding from the phenomenon strategy, inquiry activity, investigation, text or video protocol and vocabulary strategy to develop a response in the claim-evidence-reasoning format. **Claim-Evidence-Reasoning (CER)** **Objective:** Expose students to claim-evidence-reasoning (CER) student samples below to review and understand their peers' thoughts on the topic, initiating the process of developing skills for effective argumentation.	***of different types of weather?*** **Graphic Organizer** Chart paper (1 per group) NOTE** The chart paper should be divided into four sections and labeled similar to the chart below: Reporting the weather.pdf **TEACHER NOTE: This can be printed and students can work in partner pairs **Materials:** chart paper drawing utensils or writing utensils such as pencils, crayons/ colored pencils Weather Images.pdf **Inquiry Activity** **Mystery Science: How many different kinds of weather are there?** Show the students the following and have students work in groups to discuss during the prompts. Record students' observations and response on chart paper: Mystery Science Guided Discussion Activity Following the end of the guided video. Have students	**Text Annotation Protocol:** Have students read and annotate the following text: Have students read and annotate the following text: • **Weather** • **Temperature** • **Wind, Rain, Snow** • **Storms** **TEACHER NOTE: The teacher should be signed in to SAVVAS Realize to access the link above. The links will be separated by headers. However, this will be one text available to the students. Use the links above to help navigate to the text for this week. The teacher should facilitate the following process. Have the students follow the text protocol facilitation directions provided in the following strategy: K-2 Text Annotation Prot… Students should complete the following student handout as they work through the text annotation protocol: K-2 Text Annotation Student Document (editable) K-2 Text Annotation Stu… During the teacher-led discussion, the teacher should ask the following questions:	initial observations and questions from see, think, wonder strategy on Day 1. Have students review initial ideas. Ask students: *Have any of your ideas about the phenomenon changed? How?* Have students review their initial questions. Ask students: *What questions generated on Day 1 can you answer, now? What are your answers to those questions?* **Claim-Evidence-Reasoning** Students will write a response to the following driving question in the CER format. ***What are the characteristics of different types of weather?*** Review the claim-evidence-reasoning poster with the students. **TEACHER NOTE: Provide students with sentence starters by sharing on the board: K-2 Claim-Evidence-Rea… Have students write their claim-evidence-reasoning **Writing a claim** Have students develop a claim which is their answer to the driving question. Students should use all their knowledge from the phenomenon, inquiry

partner.

Inquiry Activity Task 2:
Science 4 Us: Weather

****Teacher Note:**

Follow guided instructions below:

Science 4 Us Weather En…

Overview:

1. Introduce the online Engage activity to students, and identify the objective.
2. Initiate the online activity and complete the first Notebook prompt.
3. Show the animated video portion of the online activity.
4. Complete the second Notebook prompt.
5. Facilitate a conversation using the discussion prompts (and hints) that follow the second notebook prompt.

The teacher will actively monitor students' progress and ask the following questions:

Have you ever seen any of the extreme weather we saw in those videos? What are some of the things you might need to get ready for extreme weather?

Graphic Organizer

Claim-Evidence-Reasonin…

The teacher should state the following to students:

"Claim-Evidence-Reasoning or CER is a way of writing that helps students understand and explain what they learn in science investigations and science ideas."

Review the claim-evidence-reasoning poster with students.

As a class or in student groups, provide students with this week's claim- evidence-reasoning sample.

Week 1-Weather Student S…

The teacher or students should read over student sample(s) to analyze claim-evidence-reasoning protocol. Ask students to use the CER observations chart to complete the following analysis protocol:

Claim-Evidence-Reasoning Record Observations Document (google doc)

Claim-Evidence-Reasonin… (PDF)

1. Identify the student's claim in the sample and have the teacher or students write their observations or questions.

complete the following activity:

Have students apply their knowledge of the four parts of weather. Each group should be given a weather images:

Weather Images.pdf and develop a table to identify and describe their weather.

Have the students put together a weather board and share their image and findings with the class.

**TEACHER NOTE:

This read aloud can be accessed through **Mystery Science** (grade K)

As you view the exploration and hands-on guided lesson with your students make sure to stop and read the **DISCUSS** portions.

The teacher will ask students: *What's the most interesting weather you've noticed? How would you tell someone what that weather was like?*

1. What is weather?
2. What are some parts of weather that you feel? What are some parts that you see?
3. On a rainy day, would you expect to see sunshine or clouds?

**TEACHER NOTE: Read and review the annotation protocol prior to providing this lesson to students. Students will need to be placed in groups or have an understanding of how the groups will change to limit time used for transitioning.

Vocabulary Strategy

Vocabulary Words:
weather
thermometer
rain gauge
anemometer
tornado
blizzard

Vocabulary Strategy:
Vocabulary Terms Chart
Provide students with the graphic organizer (editable) or pdf handout, explaining its sections: word, *What did it look like in the investigation?*, meaning, image/drawing, connection.
Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words. The teacher should provide the activity, investigation, and information analysis protocol to develop an answer to the question.

Writing evidence
Students should provide observational or numerical data as their evidence from their investigation and write a short caption or brief description of the data they provide to support their claim.

Have students use the following template to write their claim-evidence-reasoning (CER)
K-2 Student Writing Template (editable)
K-2 Student Writing Template (pdf)

**TEACHER NOTE: Have students review the student sample(s) of claim-evidence-reasoning on Day 2. Have students compare their writing to those students' samples. Ask the following questions:

How are your thoughts or understanding similar to another writer on the topic? How are your thoughts or understanding different to another writer on the topic? What would you like to learn more about? Why?

	2. Identify the student's evidence in the sample and have the teacher or students write their observations or questions. *3. Identify the student's reasoning in the sample and have the teacher or students write their observations or questions.* Ask the following questions to students as they analyze the student samples: Claim-Evidence-Reasonin… **TEACHER NOTE: As students review the student samples, they will begin to see or read vocabulary. Begin or continue a reference chart of questions or observations about vocabulary. Students will explicitly learn vocabulary on Day 4.		meaning of the word to the students and ask students to provide examples of how the word was represented during the investigation, phenomenon and/or inquiry activity. In the connection column, students should write how the word connects to concepts or observations they gathered during their classroom tasks. Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term. Have students collaborate, in groups, to complete the vocabulary terms chart for the other vocabulary terms. Allow groups to share their thinking through academic dialogue and compare their completed task with members of other groups.	

Week 2 Standards | Phenomenon | Weekly Lessons	
GSE: S1E1d.	**Focused Concept:** Seasons
Learning Target:	**Students will analyze data to identify seasonal patterns of change**
Lab Safety:	**General Safety Practices for the Elementary Science Classroom- TOC.docx**

SEP TEACHER TIP:
To support students with the Science & Engineering Practices for this week, follow the guidance in this protocol: Analyze and Interpret Data.pdf

Phenomenon: S1E1d.projectable.PNG

DQ: How can we identify the season based on weather patterns?

Day 1: Opening	Day 2 : Guided Practice/ Transition	Day 3: Independent Practice	Day 4: Independent Practice	Day 5: Assessment / Summary
Phenomenon Introduction: (5-7 minutes) Show the students the phenomenon card and accompanying video: S1E1d.projectable.PNG Use the see, think wonder strategy to guide student thinking. **TEACHER NOTE: provide students opportunities to share observations and develop questions. The teacher should record students' observations on chart paper and refer back to initial student ideas throughout the week. **Inquiry Activity Task 1:** **Jumpstart Discovery:** Use Jumpstart Discovery prompt on **SAVAAS Weather Changes and Seasons** Jumpstart_Weather and … **TEACHER NOTE: Follow facilitation instructions and also use **ELD Support**	**Introduce the driving Question:** Have students review the driving question: ***How can we identify the season based on weather patterns?*** Use the strategy to support students with making connections and understanding the driving question (DQ). Visualizing the Driving Question Click here to access question words reference chart Record student answers on chart paper with the students or the teacher can complete the graphic organizer. **TEACHER NOTE: Students should not answer the driving question at this time. Students will need to collect information, data and understanding from the phenomenon strategy, inquiry activity, investigation, text or video protocol and vocabulary strategy to develop a response	**Review the Driving Question:** ***How can we identify the season based on weather patterns?*** **Graphic Organizer:** Changes In Seasons - 12 … **Materials:** Image Cards Changes In … (Pre-cut one set per group) Seasons Description Car… (Teachers read aloud) Chart paper split into four sections, this is needed to build an anchor chart(one per class) **Investigation Facilitation:** **Objective:** Have students analyze patterns of change in seasons. Have students work in groups. Provide students with pre-cut image cards and graphic organizer. Image Cards Changes In … Changes In Seasons - 12 …	**Text Annotation Strategy** Have students read and annotate the following text: • **All About Weather and Seasons** **TEACHER NOTE: The teacher should be signed in to SAVVAS Realize to access the link above. The links will be separated by headers. However, this will be one text available to the students. Use the links above to help navigate to the text for this week. The teacher should facilitate the following process. Have the students follow the text protocol facilitation directions provided in the following strategy: K-2 Text Annotation Prot… Students should complete the following student handout as they work through the text annotation protocol: K-2 Text Annotation Student Document (editable) K-2 Text Annotation Stud…	**Assessment for Learning:** Have students complete the following assessment to conclude this week's lesson. **SAVVAS Topic 4 Lesson 2: Weather Changes and Seasons** **ELS19_NA_01_T4_L2_…** **TEACHER NOTE: The teacher may need to facilitate or read the questions for students to perform on quiz to best ability. **Review the Phenomenon (5-7 minutes)** Allow students to review the initial observations and questions from see, think, wonder strategy on Day 1. Have students review initial ideas. Ask students: *Have any of your ideas about the phenomenon changed? How?* Have students review their initial questions. Ask students: *What questions generated on*

Activity **Entering:** Say the names of objects in the picture, such as blossoms, trees, clouds, sky, and have students point to them. **Beginning:** Give students two-step oral directions for the activity. Model what they are to do if they have misunderstandings. **Developing:** Tell students what each partner is to do for the activity. **Expanding:** Read aloud the paragraph describing what students are to do for the activity. **Bridging:** After the activity, discuss with students the ways they acted out an activity they can do in springtime. Have them apply the ideas to act out activities they can do in summertime. **Inquiry Activity Task 2:** Graphic Organizer and Image/Video Cards Changes Through the Se… Changes Through the Se… Tell students: There are four seasons that happen throughout each year. There is winter, spring, summer, and fall. You will learn about the changes that	in the claim-evidence-reasoning format. **Claim-Evidence-Reasoning (CER)** **Objective:** Expose students to claim-evidence-reasoning (CER) student samples below to review and understand their peers' thoughts on the topic, initiating the process of developing skills for effective argumentation. **Graphic Organizer** **Claim-Evidence-Reasoni…** The teacher should state the following to students: "Claim-Evidence-Reasoning or CER is a way of writing that helps students understand and explain what they learn in science investigations and science ideas." Review the claim-evidence-reasoning poster with students. As a class or in student groups, provide students with this week's claim-evidence-reasoning sample. 2. Weather Stud Samples… The teacher or students should read over student sample(s) to analyze claim-evidence-reasoning	The teacher should read aloud the monthly description. Students should work in groups to determine the image that represents the monthly description. **TEACHER NOTE: Students may mix up some of the images. This is okay. Following the sorting activity, students will need to look for patterns in the images to determine which months belong to each season. **The chart paper split into four sections should be visible for students at this time. Do NOT write the four seasons until after the following discussion.** After students have sorted the images, ask students the following questions: *Do you all see any months that are alike? Which months are alike and how are they alike?* The teacher should record student ideas and sort their ideas in the chart paper split into the four sections. As students begin to identify which months are in one season, the teacher should list those months, similarities in weather, and other patterns of the season. When students have provided all details. The teacher should identify and label the seasons	During the teacher-led discussion, the teacher should ask the following questions (using **Depth of Knowledge levels of understanding**): 1. *What are the names of the four seasons?* 2. *Imagine a sunny day in summer. How does the temperature change from early morning to mid-afternoon?* 3. *How is the weather different in the summer than in the winter?* **TEACHER NOTE: Read and review the annotation protocol prior to providing this lesson to students. Students will need to be placed in groups or have an understanding of how the groups will change to limit time used for transitioning. **Vocabulary Strategy** **Vocabulary Words:** *season* *months* **Vocabulary Strategy:** **Vocabulary Terms Chart** Provide students with the graphic organizer (editable) or pdf handout, explaining its sections: word, *What did it look like in the investigation?*, meaning, image/drawing, connection Use a Think Aloud to	*Day 1 can you answer, now? What are your answers to those questions?*

happen in all the seasons. Have students view the images and play the videos according to the instructions provided for animals. Students should work in groups to describe the plants, animals and people during the seasons. **Weather:** Have students view the images. Based on last week's lesson, have students describe the weather. Have students record their observations and discussion in the graphic organizer. **Plants:** Have students view the differences of the plants in each season. Have students record their observations on the graphic organizer. **Animal:** Have students follow along with the videos and discuss with their groups the changes and behaviors of animals during each season. Have students record their ideas on the graphic organizer. **People:** Ask students the following: *What are some things you do outside or inside when the weather is really hot? What are some things you do outside or inside when the*	protocol. Ask students to use the CER observations chart to complete the following analysis protocol: Claim-Evidence-Reasoning Record Observations Document (google doc) Claim-Evidence-Reasoni… (PDF) *1. Identify the student's claim in the sample and have the teacher or students write their observations or questions.* *2. Identify the student's evidence in the sample and have the teacher or students write their observations or questions.* *3. Identify the student's reasoning in the sample and have the teacher or students write their observations or questions.* Ask the following questions to students as they analyze the student samples: Claim-Evidence-Reasoni… **TEACHER NOTE: As students review the student samples, they will begin to see or read vocabulary. Begin or continue a reference chart of questions or observations about vocabulary. Students will explicitly learn vocabulary on	associated with the students' details. To conclude the lesson, the teacher should provide a brief description of each season.	demonstrate how to use the graphic organizer with one of the provided vocabulary words. The teacher should provide the meaning of the word to the students and ask students to provide examples of how the word was represented during the investigation, phenomenon and/or inquiry activity. In the connection column, students should write how the word connects to concepts or observations they gathered during their classroom tasks. Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term. Have students collaborate, in groups, to complete the vocabulary terms chart for the other vocabulary terms. Allow groups to share their thinking through academic dialogue and compare their completed task with members of other groups.	

weather is really cold? How do you dress when it is hot outside? How do you dress when it is cold outside? Have students record these ideas on the graphic organizer.	Day 4.			

Week 3 Standards | Phenomenon | Weekly Lessons				
GSE: S1E1c		**Focused Concept:** Weather Conditions		
Learning Target:	**Students will plan and carry out investigations on current weather conditions by observing, measuring with simple weather instruments and recording weather data graphically.**			
Lab Safety:	**General Safety Practices for the Elementary Science Classroom- TOC.docx** **Be careful cutting out cards.** (plastic bag, weather report cards, weather report, pencil)			
SEP TEACHER TIP: To support students with the Science & Engineering Practices for this week, follow the guidance in this protocol: Plan and Carry Out Investigations.pdf				
Phenomenon: S1E1c.projectable.PNG		**DQ: How do weather conditions affect me?**		
Day 1: Opening	**Day 2 : Guided Practice/ Transition**	**Day 3: Independent Practice**	**Day 4: Independent Practice**	**Day 5: Assessment / Summary**
Phenomenon Introduction: Show the students the phenomenon card: **S1E1c.projectable.PNG** Use the see, think wonder strategy to guide student	**Introduce the Driving Question:** Have students review the driving question: ***How do weather conditions affect me?*** Use the strategy to support	**Review the Driving Question:** ***How do weather conditions affect me?*** **Graphic Organizer** **Weather Report Cards** **(Matching Cards)**	**Text Annotation Strategy** Have students explore and read aloud **Weather Events** The text for this week's lesson can be found through this link. Weather Events - Passag… The teacher should facilitate the	**Review the Phenomenon (5-7 minutes)** Allow students to review the initial observations and questions from see, think, wonder strategy on Day 1. Have students review initial ideas. Ask students: *Have any of*

thinking.

Provide students opportunities to share observations and develop questions. The teacher should record students' observations on chart paper and refer back to initial student ideas throughout the week.

**TEACHER NOTE:
This read aloud can be accessed through **Mystery Science**

Inquiry Activity

Have you ever watched a storm? (Exploration)

Have you ever watched a storm? (Hands - On Activity; Teachers view prior to the activity ONLY)

Breeze Buddy Activity Worksheet (PDF)

Breeze Buddy Activity (…

The teacher will have students construct a Breeze Buddy and then use the model outside. Provide students with the materials and a model of the Breeze Buddy. Allow students to use the activity sheet to plan how they will construct their Breeze Buddy with the materials you provide them.

Students should plan and carry out how they will construct their Breeze Buddy and test their

students with making connections and understanding the driving question (DQ).

Visualizing the Driving Question

Click here to access question words reference chart

The process can be recorded on chart paper with the students or the teacher can complete the graphic organizer.

**TEACHER NOTE: Students should not answer the driving question at this time. Students will need to collect information, data and understanding from the phenomenon strategy, inquiry activity, investigation, text or video protocol and vocabulary strategy to develop a response in the claim-evidence-reasoning format.

Claim-Evidence-Reasoning (CER)

Objective: Expose students to claim-evidence-reasoning (CER) student samples below to review and understand their peers' thoughts on the topic, initiating the process of developing skills for effective argumentation.

The teacher should state the following to students:

"Claim-Evidence-Reasoning or

S1E1c - Weather Report … (PDF)
S1E1c - Part I : Weather … (editable)

Materials
Plastic bag (place cards in bags)
Weather Report Cards (cardstock)
Weather Report (explore journal)

Investigation Facilitation

Weather Report Cards (part 1)

Preparation: Cut out the image cards (bottom of *Weather Report Cards)* and provide a set of cards to students. Place students in groups or in partners to limit the amount of prep of the image card set. Provide each student group or partner pair with a graphic organizer.

The teacher should read each day's weather report card and display it on the board. The students should record the temperature of the day, if there is any precipitation, the weather symbol and find the image that matches the day. They will have to work together to determine which images match the weather report card.

**TEACHER NOTE:
Students will observe a variation of weather cards and

following process. Have the students follow the text protocol facilitation directions provided in the following strategy:

K-2 Text Annotation Prot…

Students should complete the following student handout as they work through the text annotation protocol:

K-2 Text Annotation Student Document (editable)
K-2 Text Annotation Stu…

During the teacher-led discussion, the teacher should ask the following questions:

How are thunderstorms and hurricanes similar and different?

What are some examples of potential dangers of tornadoes and hail?

What are the differences between rain, sleet, and snow?

**TEACHER NOTE: Read and review the annotation protocol prior to providing this lesson to students. Students will need to be placed in groups or have an understanding of how the groups will change to limit time used for transitioning.

Vocabulary Strategy
precipitation
rain

your ideas about the phenomenon changed? How?

Have students review their initial questions. Ask students: *What questions generated on Day 1 can you answer, now? What are your answers to those questions?*

Claim-Evidence-Reasoning

Students will write a response to the following driving question in the CER format.

How do weather conditions affect me?

Review the claim-evidence-reasoning poster with the students

**TEACHER NOTE:

Provide students with sentence starters by sharing on the board:
K-2 Claim-Evidence-Rea…

Have students write their claim-evidence-reasoning

Writing a claim
Have students develop a claim which is their answer to the driving question, claim. Students should use all their knowledge from the phenomenon, inquiry activity, investigation, and information analysis protocol to develop an answer to the question.

design by waving the Breeze Buddy around in the air. Breeze Buddies do not have to look the same. Provide the students with the goal of the Breeze Buddy and give them time to construct. Following students creating their Breeze Buddy, allow students to take their designs outside. The students will describe the direction and speed of movement from the breeze buddy (strong winds, light winds, slow moving, and fast moving winds.) The teacher should ask the students: *How does the Breeze Buddy inform us of the weather? What have you learned about the wind?* **TEACHER NOTE: Prior to students engaging in the hands on **Breeze Buddy** activity the teacher will review the instructions. **Have you ever watched a storm? (Instructions)**	CER is a way of writing that helps students understand and explain what they learn in science investigations and science ideas." Review the claim-evidence-reasoning poster with students. As a class or in student groups, provide students with this week's claim-evidence-reasoning sample. 3. Weather Stud Samples… The teacher or students should read over student sample(s) to analyze claim-evidence-reasoning protocol. Ask students to use the CER observations chart to complete the following analysis protocol: Claim-Evidence-Reasoning Record Observations Document (google doc) Claim-Evidence-Reasoni… (PDF) *1. Identify the student's claim in the sample and have the teacher or students write their observations or questions.* *2. Identify the student's evidence in the sample and have the teacher or students write their observations or questions.*	decide which scenarios describe the pictures. Students will need help organizing their image cards. The teacher should monitor student progress and check for understanding as students select images to represent the days. If students struggle, be sure to review key words and ask students to identify the key word descriptions in the images they selected. If the image does not match, make note and revisit the concept with the students.	snow sleet hail **Vocabulary Strategy: Vocabulary Terms Chart** Provide students with the graphic organizer (editable) or pdf handout, explaining its sections: word, *What did it look like in the investigation?*, meaning, image/drawing, connection Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words. The teacher should provide the meaning of the word to the students and ask students to provide examples of how the word was represented during the investigation, phenomenon and/or inquiry activity. In the connection column, students should write how the word connects to concepts or observations they gathered during their classroom tasks. Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term. Have students collaborate, in groups, to complete the vocabulary terms chart for the other vocabulary terms.	**Writing evidence** Students should provide observational or numerical data as their evidence from their investigation and write a short caption or brief description of the data they provide to support their claim. Have students use the following template to write their claim-evidence-reasoning (CER) K-2 Student Writing Template (editable) K-2 Student Writing Template (pdf) **TEACHER NOTE: Have students review the student sample(s) of claim-evidence-reasoning on Day 2. Have students compare their writing to those students' samples. Ask the following questions: *How are your thoughts or understanding similar to another writer on the topic? How are your thoughts or understanding different to another writer on the topic? What would you like to learn more about? Why?*

	3. Identify the student's reasoning in the sample and have the teacher or students write their observations or questions. Ask the following questions to students as they analyze the student samples: Claim-Evidence-Reasoni… **TEACHER NOTE: As students review the student samples, they will begin to see or read vocabulary. Begin or continue a reference chart of questions or observations about vocabulary. Students will explicitly learn vocabulary on Day 4.		Allow groups to share their thinking through academic dialogue and compare their completed task with members of other groups.	

Week 4 Standards | Phenomenon | Weekly Lessons	
GSE:S1E1c	**Focused Concept:** Weather Instruments
Learning Target:	**The students will explain how weather instruments help identify weather conditions.**
Lab Safety:	**General Safety Practices for the Elementary Science Classroom- TOC.docx** **Make sure you are dressed properly for the weather.** (student handout, thermometer, rain gauge, wind vane)
SEP TEACHER TIP: To support students with the Science & Engineering Practices for this week, follow the guidance in this protocol: Construct Explanations and Argue from Evidence.pdf	
Phenomenon:	**DQ: How do weather instruments help me identify weather conditions?**

S1E1c.projectable.PNG				
Day 1: Opening	**Day 2 : Guided Practice/ Transition**	**Day 3: Independent Practice**	**Day 4: Independent Practice**	**Day 5: Assessment / Summary**
	****NOTE: Students will need to record and review data of the weather each day this week. This will need to take about 10 minutes each day for students to complete the activity.**			
Phenomenon Introduction: **(5-7 minutes)** Show the phenomenon card to the students S1E1b.projectable.PNG Use the see, think wonder strategy to guide student thinking. Provide students opportunities to share observations and develop questions. The teacher should record students' observations on chart paper and refer back to initial student ideas throughout the week. **Inquiry Activity** **(10-15 minutes)** **uInvestigate Lab: Which way is the wind blowing? (SAVAAS)** **Graphic Organizer** Students will need and will use the student lab sheet for provided in their consumable book or the access to the activity sheet: uInvestigate: Which way …	**Investigation Facilitation :** **(10 minutes)** Recording the Weather **(Instructions) Complete Day 2** Teacher will take students outside for 10 minutes to observe the weather. Students will return to class and write their observations in their Student Journal. **Student Journal (Digital)** **Student Journal (PDF)** **Introduce the Driving Question:** **(7-10 minutes)** Have students review the driving question: ***How do weather instruments help me identify weather conditions?*** Use the strategy to support students with making connections and understanding the driving question (DQ). Visualizing the Driving Question Click here to access question	**Review driving Question:** ***How do weather instruments help me identify weather conditions?*** **Graphic Organizer** **Student Journal (Digital)** **Student Journal (PDF)** **Materials** Students Handout thermometer rain gauge wind vane **Investigation Facilitation :** **30 minutes** S1E1c - Recording the … **(Teacher Instructions Above) Complete Day 3 (two tasks)** **Teachers will have students spend 10 minutes outside each day and students** will observe and record current weather conditions throughout the week. Have students view the data they've recorded on the previous day and this day. Have students discuss the changes in data from this day and the day before.	**Investigation Facilitation :** **(10 minutes)** Recording the Weather **(Instructions) Complete Day 4** Teacher will take students outside for 10 minutes to observe the weather. Students will return to class and write their observations in their Student Journal. **Student Journal (Digital)** **Student Journal (PDF)** **Text Annotation Strategy** Have students explore and read aloud **Mr. Jone's Garden** **(Student Handout)** The text for this week's lesson can be found through this link. The teacher should facilitate the following process. Have the students follow the text protocol facilitation directions provided in the following strategy: K-2 Text Annotation Prot… Students should complete the following student handout as	**Investigation Facilitation :** **(10 minutes)** Recording the Weather **(Instructions) Complete Day 5** Teacher will take students outside for 10 minutes to observe the weather. Students will return to class and write their observations in their Student Journal. **Student Journal (Digital)** **Student Journal (PDF)** Have students view the data they've recorded each day. Have students discuss the changes, similarities and differences in the weather. **Assessment for Learning** Have students complete the following assessment to conclude this week's lesson. **SAVVAS Topic 4 Lesson 1: Types of Weather** Weather Quiz.pdf **TEACHER NOTE: The teacher may need to facilitate or read the questions for students

Materials
unsharpened pencil
pen cap
plastic straw
construction paper
scissors
plastic cup with lid
pebbles
marker
tape

Teacher Facilitation:

Have students follow the procedure provided in the lab.

Objective: Students will design and build a wind vane and then use it to determine wind direction.

Lab Instructions:

1. Use all the materials. Draw your wind vane design on a piece of paper. Show your design to your teacher.
2. Build your wind vane.
3. Use your wind vane to find the direction of the wind. (Collect Data)
4. Evaluate Your Design- (Compare) Share data with a partner. Tell how the data are alike or different.

**TEACHER NOTE:
Explain the meaning of the directions north, south, east, and west as they relate to directions on Earth.

words reference chart

The process can be recorded on chart paper with the students or the teacher can complete the graphic organizer.

Be sure to create a reference for students to have throughout the week.

**TEACHER NOTE:Students should not answer the driving question at this time. Students will need to collect information, data and understanding from the phenomenon strategy, inquiry activity, investigation, text or video protocol and vocabulary strategy to develop a response in the claim-evidence-reasoning format.

(3-5 teachers and students should focus on developing claim, evidence, and reasoning)

Claim-Evidence-Reasoning (CER)
(10- 15 minutes)

Objective: Expose students to claim-evidence-reasoning (CER) student samples below to review and understand their peers' thoughts on the topic, initiating the process of developing skills for effective argumentation.

The teacher should state the following to students:

Introduce students to the weather history and data archive (show this resource on the board)

Day 3 Tasks Graphs:
Weather Graphs

**TEACHER NOTE:
State that the Weather Archive tool and that these line graphs teach us how to track the weather throughout the day.

There are three graphs. You will show students a **temperature line graph, precipitation line graph, and wind line graph.**

The teacher will need to model thinking according to the instructions provided in the teacher guide for the Day 3 task.

S1E1c - Recording the …

Teacher will ask students questions to facilitate classroom discussion:

Which graph shows you when the temperature was hot outside? How do you know? Which graph shows you when the temperature was cold outside? How do you know? Which graph shows you when it was very windy outside? How do you know? Which graph shows you when it was not windy outside? How do you know? Which graph shows you when it was very rainy outside?

they work through the text annotation protocol:

K-2 Text Annotation Student Document (editable)
K-2 Text Annotation Stu…

During the teacher-led discussion, the teacher should ask the following questions:

What evidence from the text suggests Mr. Jones decided not to water his plants one day?

How did Mr. Jones use the weather tools to make decisions about his plants?

Why did Mr. Jones cover his tomato plants with blankets on one occasion?

**TEACHER NOTE: Read and review the annotation protocol prior to providing this lesson to students. Students will need to be placed in groups or have an understanding of how the groups will change to limit time used for transitioning.

Vocabulary Strategy
thermometer
wind vane
rain gauge
weather
data

Vocabulary Strategy:
Vocabulary Terms Chart
Provide students with the graphic organizer (editable) or

to perform on quiz to best ability.

Review the Phenomenon
(5-7 minutes)

Allow students to review the initial observations and questions from see, think, wonder strategy on Day 1.

Have students review initial ideas. Ask students: *Have any of your ideas about the phenomenon changed? How?*

Have students review their initial questions. Ask students: *What questions generated on Day 1 can you answer, now? What are your answers to those questions?*

The teacher will actively monitor students' progress and ask the following questions: *How does a wind vane help us understand the weather? How do we use the wind vane?*	"Claim-Evidence-Reasoning or CER is a way of writing that helps students understand and explain what they learn in science investigations and science ideas." Review the claim-evidence-reasoning poster with students. As a class or in student groups, provide students with this week's claim-evidence-reasoning sample. Select a CER student sample written in Week 3 for students to analyze this week The teacher or students should read over student sample(s) to analyze claim-evidence-reasoning protocol. Ask students to use the CER observations chart to complete the following analysis protocol: Claim-Evidence-Reasoning Record Observations Document (google doc) Claim-Evidence-Reasoni… (PDF) *1. Identify the student's claim in the sample and have the teacher or students write their observations or questions.* *2. Identify the student's evidence in the sample and have the teacher or students write their observations or questions.*	*How do you know? Which graph shows you when there was very little rain outside? How do you know?*	pdf handout, explaining its sections: word, *What did it look like in the investigation?*, meaning, image/drawing, connection Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words. The teacher should provide the meaning of the word to the students and ask students to provide examples of how the word was represented during the investigation, phenomenon and/or inquiry activity. In the connection column, students should write how the word connects to concepts or observations they gathered during their classroom tasks. Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term. Have students collaborate, in groups, to complete the vocabulary terms chart for the other vocabulary terms. Allow groups to share their thinking through academic dialogue and compare their completed task with members of other groups.	

	3. Identify the student's reasoning in the sample and have the teacher or students write their observations or questions. Ask the following questions to students as they analyze the student samples: + Claim-Evidence-Reasoni… **TEACHER NOTE: As students review the student samples, they will begin to see or read vocabulary. Begin or continue a reference chart of questions or observations about vocabulary. Students will explicitly learn vocabulary on Day 4			

Week 5 Standards | Phenomenon | Weekly Lessons	
GSE: S1E1b	**Focused Concept:** Precipitation as solid or liquid
Learning Target:	**The students will ask questions to identify forms of precipitation such as rain, snow, sleet, and hailstones as either solid (ice) or liquid (water).**
Lab Safety:	**General Safety Practices for the Elementary Science Classroom- TOC.docx**
SEP TEACHER TIP: To support students with the Science & Engineering Practices for this week, follow the guidance in this protocol: Ask Questions and Define Problems.pdf	
Phenomenon:	**DQ: How can I identify forms of precipitation as solid or liquid?**

Day 1: Opening	Day 2 : Guided Practice/ Transition	Day 3: Independent Practice	Day 4: Independent Practice	Day 5: Assessment / Summary
Phenomenon Introduction: (5-7 minutes) **Show the phenomenon to the students** S1E1b.projectable.PNG Use the see, think wonder strategy to guide student thinking. **TEACHER NOTE: provide students opportunities to share observations and develop questions. The teacher should record students' observations on chart paper and refer back to initial student ideas throughout the week. ***TEACHER NOTE**** **Inquiry Activity uInvestigate:** **Objective:** Students make and use a model to show how clouds form and identify precipitation as solids or liquids. **Graphic Organizer** Students will need and will use the student lab sheet for provided in their consumable book or the access to the activity sheet:	**Introduce the Driving Question:** Have students review the driving question: ***How can I identify forms of precipitation as solid or liquid?*** Use the strategy to support students with making connections and understanding the driving question (DQ). Visualizing the Driving Question Click here to access question words reference chart The process can be recorded on chart paper with the students or the teacher can complete the graphic organizer. Be sure to create a reference for students to have throughout the week. **TEACHER NOTE: Students should not answer the driving question at this time. Students will need to collect information, data and understanding from the phenomenon strategy, inquiry activity, investigation, text or video protocol and vocabulary strategy to develop a response in the claim-evidence-reasoning format.	**Review the Driving Question: *How can I identify forms of precipitation as solid or liquid?*** **Graphic Organizer** Student Handout Weathe… (pdf) Copy of GA_1E1AB_Ty… (editable) **Materials** 1 Pitcher of snow (blended ice cubes) (per class)1 Pitcher of sleet (crushed ice cubes) (per class)1 Pitcherofhail(ice cubes)(per class) 1 Pitcher of rain (liquid water) (per class) 4 Clear plastic cups (per table group) **Investigation Facilitation** **TEACHER NOTE: Ice will need to be crushed at different consistencies. Access to a freezer will be needed for this task. Having a large cooler could be helpful for this lesson. Teacher Instructions_ We… Follow the teacher facilitation notes above to assist students with carrying out the investigation. Ask students to compare: *Is the*	**Text Annotation Strategy** Have students explore and read aloud **Types of Weather (Student handout)** The text for this week's lesson can be found through this link. **(PDF)** Types of Weather -PRES… **(Google Slides)** The teacher should facilitate the following process. Have the students follow the text protocol facilitation directions provided in the following strategy: K-2 Text Annotation Prot… Students should complete the following student handout as they work through the text annotation protocol: K-2 Text Annotation Student Document (editable) K-2 Text Annotation Stu… **During the teacher-led discussion, the teacher should ask the following questions:** *What is one way you can tell it's raining outside?* *Can you describe what it's like outside when it's snowy?*	**Review the Phenomenon (5-7 minutes)** Allow students to review the initial observations and questions from see, think, wonder strategy on Day 1. Have students review initial ideas. Ask students: *Have any of your ideas about the phenomenon changed? How?* Have students review their initial questions. Ask students: *What questions generated on Day 1 can you answer, now? What are your answers to those questions?* **Claim-Evidence-Reasoning** Students will write a response to the following driving question in the CER format. ***How can I identify forms of precipitation as solid or liquid?*** Review the claim-evidence-reasoning poster with the students. **TEACHER NOTE: Provide students with sentence starters by sharing on the board: K-2 Claim-Evidence-Rea…

uInvestigate: How can yo… **Materials** jar hot tap water ice cubes plate rainmaker sheet **uInvestigate Lab: How can you make it rain? (SAVAAS)** Have students follow the procedure provided in the lab. **Lab Procedure:** 1. Put a plate on top of the jar with hot water. 2. Put ice on the plate. Draw what you see on the bottom of the plate on the Rainmaker Sheet. 3. Tap the plate. Tell a partner what happens. 4. Explain- Why do you think it rained in the jar? Tell a partner. Support students with following the procedure. Actively monitor students' progress. Ask students to compare: *Is the rain more like a solid or liquid? How do you know?* Allow students to view the images and introduce solids and liquids. Solid or Liquid.pdf **TEACHER NOTE:	**Claim-Evidence-Reasoning (CER)** **Objective:** Expose students to claim-evidence-reasoning (CER) student samples below to review and understand their peers' thoughts on the topic, initiating the process of developing skills for effective argumentation. The teacher should state the following to students: "Claim-Evidence-Reasoning or CER is a way of writing that helps students understand and explain what they learn in science investigations and science ideas." Review the claim-evidence-reasoning poster with students. As a class or in student groups, provide students with this week's claim-evidence-reasoning sample. Select a CER student sample written in Week 1 for students to analyze this week The teacher or students should read over student sample(s) to analyze claim-evidence-reasoning protocol. Ask students to use the CER observations chart to complete the following analysis	*rain more like a solid or liquid? How do you know? Is the snow more like a solid or liquid? How do you know? Is the hail more like a solid or liquid? How do you know? Is the sleet more like a solid or liquid? How do you know?* Allow students to view the images and introduce solids and liquids. Solid or Liquid.pdf	*How does sunny weather make you feel?* **TEACHER NOTE: Read and review the annotation protocol prior to providing this lesson to students. Students will need to be placed in groups or have an understanding of how the groups will change to limit time used for transitioning. **Vocabulary Strategy** rain, sunny partly cloudy weather thunderstorm **Vocabulary Strategy: Vocabulary Terms Chart** Provide students with the graphic organizer (editable) or pdf handout, explaining its sections: word, *What did it look like in the investigation?*, meaning, image/drawing, connection Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words. The teacher should provide the meaning of the word to the students and ask students to provide examples of how the word was represented during the investigation, phenomenon and/or inquiry activity. In the connection column, students should write how the word connects to concepts or	Have students write their claim-evidence-reasoning **writing a claim** Have students develop a claim which is their answer to the driving question, claim. Students should use all their knowledge from the phenomenon, inquiry activity, investigation, and information analysis protocol to develop an answer to the question. **Writing evidence** Students should provide observational or numerical data as their evidence from their investigation and write a short caption or brief description of the data they provide to support their claim. Have students use the following template to write their claim-evidence-reasoning (CER) K-2 Student Writing Template (editable) K-2 Student Writing Template (pdf) **TEACHER NOTE: Have students review the student sample(s) of claim-evidence-reasoning on Day 2. Have students compare their writing to those students' samples. Ask the following questions: *How are your thoughts or understanding similar to*

Explain the meaning of the directions north, south, east, and west as they relate to directions on Earth.	protocol: Claim-Evidence-Reasoning Record Observations Document (google doc) Claim-Evidence-Reasoni… (PDF) *1. Identify the student's claim in the sample and have the teacher or students write their observations or questions.* *2. Identify the student's evidence in the sample and have the teacher or students write their observations or questions.* *3. Identify the student's reasoning in the sample and have the teacher or students write their observations or questions.* Ask the following questions to students as they analyze the student samples: Claim-Evidence-Reasoni… **TEACHER NOTE:As students review the student samples, they will begin to see or read vocabulary. Begin or continue a reference chart of questions or observations about vocabulary. Students will explicitly learn vocabulary on Day 4.		observations they gathered during their classroom tasks. Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term. Have students collaborate, in groups, to complete the vocabulary terms chart for the other vocabulary terms. Allow groups to share their thinking through academic dialogue and compare their completed task with members of other groups.	*another writer on the topic? How are your thoughts or understanding different to another writer on the topic? What would you like to learn more about? Why?*

Week 6 Standards | Phenomenon | Weekly Lessons				
GSE: S1E1c		**Focused Concept: Weather conditions**		
Learning Target:	**Students will use data from weather conditions to provide a plan to prepare for a weather storm.**			
Lab Safety:	**General Safety Practices for the Elementary Science Classroom- TOC.docx** **Be careful with using scissors, apply small amounts of glue.** (scissors, crayons, tape, glue**,** different types of paper, variety of cardboard objects, long and thin objects)			
Phenomenon: **S1E1c.projectable.PNG**		**DQ: How do people prepare for different weather conditions?**		
SEP TEACHER TIP: To support students with the Science & Engineering Practices for this week, follow the guidance in this protocol: Analyze and Interpret Data.pdf				
Day 1: Opening	**Day 2 : Guided Practice/ Transition**	**Day 3: Independent Practice**	**Day 4: Independent Practice**	**Day 5: Assessment / Summary**
Phenomenon Introduction: (5-7 minutes) **Show the following phenomenon to the students:** Extend: Ask students to look at their models and thinking recorded from last week. Is there anything they would change, improve, or add to their original idea. Use the see, think wonder strategy to guide student thinking. Teachers should provide students opportunities to share	**Introduce the driving Question:** Have students review the driving question: ***How do people prepare for different weather conditions?*** Use the strategy to support students with making connections and understanding the driving question (DQ). Visualizing the Driving Question Click here to access question words reference chart Record student answers on chart	**Review the driving Question:** ***How do people prepare for different weather conditions?*** **Graphic Organizer** Mystery Science_ How c… **Materials** crayons, colored pencils, pencils **Investigation Facilitation** In this Read-Along lesson, students listen to an illustrated digital storybook with student participation. If you would prefer to read it aloud yourself, you can switch to the	**Text Annotation Strategy** Have students read and annotate the following text: Getting Ready for Differ… The teacher should facilitate the following process. Have the students follow the text protocol facilitation directions provided in the following strategy: K-2 Text Annotation Prot… Students should complete the following student handout as they work through the text annotation protocol:	**Review the Phenomenon (5-7 minutes)** Allow students to review the initial observations and questions from see, think, wonder strategy on Day 1. Have students review initial ideas. Ask students: *Have any of your ideas about the phenomenon changed? How?* Have students review their initial questions. Ask students: *What questions generated on Day 1 can you answer, now? What are your answers to those questions?*

observations and develop questions. The teacher should record students' observations on chart paper and refer back to initial student ideas throughout the week.

Inquiry Activity Task 1:

Science4Us: Weather Module - Engage

Teacher Guide
Weather Module - Engag…

Follow the teacher guide provided. Use the quick walkthrough to guide student support

Quick Walkthrough : What to expect
Weather Engage Science…

Allow students to work in partner pairs or groups. Actively monitor students progress and ask the following questions:

Have you ever seen any of the extreme weather we saw in those videos? What are some of the things you might need to get ready for extreme weather?

Inquiry Activity Task 2:
Objective: Upon completion of this activity, students will have explored key concepts by examining Earth's weather and formulating ideas and questions to investigate as the module

paper with the students or the teacher can complete the graphic organizer.

****Teacher Note:** Students should not answer the driving question at this time. Students will need to collect information, data and understanding from the phenomenon strategy, inquiry activity, investigation, text or video protocol and vocabulary strategy to develop a response in the claim-evidence-reasoning format.

Claim-Evidence-Reasoning (CER)

Objective: Expose students to claim-evidence-reasoning (CER) student samples below to review and understand their peers' thoughts on the topic, initiating the process of developing skills for effective argumentation.

Graphic Organizer

Claim-Evidence-Reasoni…
The teacher should state the following to students:

"Claim-Evidence-Reasoning or CER is a way of writing that helps students understand and explain what they learn in science investigations and science ideas."

Review the

non-narrated version. In the story, JJ and his grandfather get ready for a big thunderstorm. In the activity, Get Ready for a Storm, students learn about other kinds of storms and act out ways to prepare for storms.

The Big Storm Read Aloud

Prepare for a storm Activity

Have students complete the following activity:
Mystery Science_ How c…

The teacher should ask students the following questions:
What are the different ways we can prepare for a storm? How does understanding the weather help us prepare for storms?

K-2 Text Annotation Student Document (editable)
K-2 Text Annotation Stu…

During the teacher-led discussion, the teacher should ask the following questions:

What are the different ways we can prepare for a storm? How does understanding the weather help us prepare for storms?

**TEACHER NOTE: Read and review the annotation protocol prior to providing this lesson to students. Students will need to be placed in groups or have an understanding of how the groups will change to limit time used for transitioning.

Vocabulary Strategy

Vocabulary Words:
prepare
storm
safety

Vocabulary Strategy:
Four Square
Provide students with the graphic organizer (editable) or pdf handout, explaining its four sections: word, meaning, picture, and sentence.

Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words.

Claim-Evidence-Reasoning

Students will write a response to the following driving question in the CER format.

How do people prepare for different weather conditions?

Review the claim-evidence-reasoning poster with the students

**TEACHER NOTE: Provide students with sentence starters by sharing on the board:
K-2 Claim-Evidence-Rea…

Have students write their claim-evidence-reasoning

writing a claim
Have students develop a claim which is their answer to the driving question, claim. Students should use all their knowledge from the phenomenon, inquiry activity, investigation, and information analysis protocol to develop an answer to the question.

writing evidence
Students should provide observational or numerical data as their evidence from their investigation and write a short caption or brief description of the data they provide to support their claim.

Have students use the following template to write their

proceeds. Weather _ Science4Us O… Teacher instructions and the students' task in the link provided above. **Procedure:** 1 Distribute student handout, "Exploring the Weather," and a set of word and picture cards to each student. 2 Students work with partners or in small groups to complete handout. 3 Circulate and assist students with completion as appropriate. 4 Use the completed student handout to lead a discussion about Earth's weather. **Accommodations:** If students have difficulty completing the activity, a variety of accommodations can be employed. The teacher can lead the class to complete the activity together as a whole group. The activity can be completed at a center with an aide or with the teacher. The activity can be completed with the assistance of a peer buddy. The activity can be completed with a science buddy from an older grade.	claim-evidence-reasoning poster with students. As a class or in student groups, provide students with this week's claim-evidence-reasoning sample. Select a CER student sample written in Week 5 for students to analyze this week The teacher or students should read over student sample(s) to analyze claim-evidence-reasoning protocol. Ask students to use the CER observations chart to complete the following analysis protocol: Claim-Evidence-Reasoning Record Observations Document (google doc) Claim-Evidence-Reasoni… (PDF) *1. Identify the student's claim in the sample and have the teacher or students write their observations or questions.* *2. Identify the student's evidence in the sample and have the teacher or students write their observations or questions.* *3. Identify the student's reasoning in the sample and have the teacher or students write their observations or questions.*		Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term. Have students collaborate to complete the four square strategy for the other vocabulary terms. Monitor student progress, sharing new ideas for class discussion, and help students distinguish essential from non-essential characteristics. Allow groups to share their thinking through academic dialogue and compare their completed task with members of other groups.	claim-evidence-reasoning (CER) K-2 Student Writing Template (editable) K-2 Student Writing Template (pdf) **TEACHER NOTE: Have students review the student sample(s) of claim-evidence-reasoning on Day 2. Have students compare their writing to those students' samples. Ask the following questions: *How are your thoughts or understanding similar to another writer on the topic? How are your thoughts or understanding different to another writer on the topic? What would you like to learn more about? Why?*

	Ask the following questions to students as they analyze the student samples: Claim-Evidence-Reasoni… **Teacher Note: As students review the student samples, they will begin to see or read vocabulary. Begin or continue a reference chart of questions or observations about vocabulary. Students will explicitly learn vocabulary on Day 4.			

Labs / Investigations

Mandatory Labs	Explore Learning Gizmo	Mystery Science
SAVVAS - Which way the wind is blowing? **SAVVAS - How can you make it rain?** **SAVVAS - How does the weather change in a week?**	**Science 4 Us: Weather** **Science 4 Us Weather Engage.pdf**	**Weather Report Cards** **Recording the Weather** **Weather Recordings**

Additional- Resources/Tasks

Supplemental Labs	**SAVVAS Interactives** **Tools for Measuring Weather** **Four Seasons**
Culminating Performance Task	*CER **What are the characteristics of different types of weather?*** *CER **How does weather change from day to day?*** *CER **How does weather conditions affect me?*** *CER **How do weather instruments help me identify weather conditions?*** *CER **What can you tell about the weather and seasons?***
STEM Activities	**SAVVAS** - uDemonstrate : **How does the weather change in a week?**

Lesson Plan Guidance	**Copy of Department of Science CCPS Lesson Plan Guidance Document .pdf**