

What are the effects of weather events? In this integrated science and language arts lesson, students will explore causes and multiple effect in the context of reading and learning about various weather events and natural disasters.

Learning Objectives

- Students will be able to identify multiple effects that match corresponding causes using evidence from a text.
- Students will be able to explain relationships between weather events and corresponding effects.

Materials and preparation

- Supplemental resource: Lightning Excerpt (or another text of choice on lightning)
- Supplemental resource: Flash Floods Excerpt (or another text of choice on flash floods)
- Individual whiteboards and whiteboard marker (1 per student)
- List of weather events (for student selection)
- Variety of books on the following weather events: avalanche, blizzard, drought, wildfire, dust storm, wind storm, hurricane, tornado, flood, earthquake, tsunami
- Class set of [Weather Effects](#)
- Class set of [Comparing the Effects of Different Events](#) (optional, for students needing enrichment)

Key terms

- cause
- effect

Attachments

- Lightening Excerpt (PDF)
- Flash Floods Excerpt (PDF)
- Weather Effects (PDF)
- Comparing the Effects of Different Events (PDF)

Introduction (5 minutes)

- Invite students to describe a detail related to a weather event that happens in their region.
- Ask them to identify the effects. (Ex: When it rains, students need to wear raincoats or bring an umbrella. People need to drive slower because it's harder to see through the windshield.)
- Tell the students that sometimes there is not just one effect from a single cause. Tell the students that they will be reading and finding multiple effects that come from a single cause.

EL

Beginning

- Pre-teach the terms "cause," "effect," and "weather" and ask students to share the meaning in their home language (L1) or their new language (L2).
- Provide an everyday example before applying the terms "cause" and "effect" to weather.

Intermediate

- Allow ELs to turn and talk to partners about some causes and effects relating to weather. Allow them to share in their L1 or L2 before sharing with the class.

Explicit Instruction/Teacher modeling (10 minutes)

- Briefly review the terms **cause** and **effect**, reminding students that a cause is the reason something happens and the effect is the outcome or what happens as a result of the cause.
- Explain that sometimes there is not only one effect for a particular cause. There can be multiple effects.
- Tell the students that certain weather events can cause four main effects: effects on people, effects on future weather, effects on land, and effects on property.
- Using the Lightning Excerpt (or another text of choice), demonstrate the process of creating a flowchart that represents the ideas of the effects of lightning.

EL

Beginning

- Provide a familiar, everyday cause that has multiple effects.
- Give ELs a copy of the text with visuals and bilingual definitions to accompany the text.
- Give them a partially completed flowchart that ELs can fill in as you complete a flowchart.

Intermediate

- Encourage the ELs to underline or highlight the causes and effects as the teacher identifies them.
- Provide the flowchart in which ELs can paste predetermined phrases as the teacher models how to create a flowchart.

Guided Practice (15 minutes)

- Tell the students that they will now participate in locating the effects of flash floods.
- Display the excerpt on flash floods on an interactive whiteboard or written on chart paper. (If desired, you could also give out individual copies to students in addition to displaying the text at the front of the classroom.)
- Distribute individual whiteboards and whiteboard markers.
- Tell the students that they will use the text to create a chart on their individual whiteboards that represents the effects that are caused by flash floods.
- Invite students to share one of the four different effects (effects on people, future weather, land, and property). Guide students through the process and underline evidence from the text as they share their thinking.
- Ask students to create a flowchart (similar to the one that you created during teacher modeling) that represents the ideas found in the text.
- Circulate around the room to assist students as needed.

EL

Beginning

- Give ELs visuals to accompany the text and provide definitions in both their L1 and L2 of unfamiliar words.
- Provide phrases ELs can use to copy onto the whiteboard flowcharts.

Intermediate

- Allow students to use a dictionary to look up difficult words. Have them underline some of the causes and effects and allow them to match the cause to the effects.
- Provide a word bank of terms to use when they complete their flowchart.

Independent working time (15 minutes)

- Divide students into pairs or small groups.
- Utilizing the supplemental list of weather events, either assign each group a topic or allow students to choose a topic from the list of weather events so that the topics are jigsawed. (Each group should be responsible for a different topic.)
- Distribute selected texts to individual pairs or small groups.
- Distribute the Weather Effects worksheet to each pair of students.
- Tell the students to fill in the components of the worksheet to represent effects of their weather event that they found in the text.

EL

Beginning

- Group students with sympathetic partners who will read the text to the EL. Provide visuals for the text to assist in ELs comprehension of the text.
- Provide cloze sentences for ELs to complete the worksheet. Depending on student level, give them a word bank to help them complete the clozes.

Intermediate

- Group students with sympathetic partners who will read the text to the EL before allowing the EL to use a dictionary to look up unfamiliar terms.
- Provide key terms ELs can use to complete the worksheet.

Related books and/or media

- **BOOK:** [Everything Weather](#) by Kathy Furgang
- **BOOK:** [National Geographic Readers: Weather](#) by Kristin Baird Rattini
- Find [interactive books](#) for each child's level.

Differentiation

Enrichment:

- Use two or more weather events to locate a similar effect, using a Venn diagram to represent the information on Comparing the Effects of Different Events worksheet.
- Have students research the causes and effects related to climate change.

Support:

- Provide a partially filled in flowchart for students to use.
- Specify or highlight a section of the text for students to focus on.

Technology Integration

- If desired, have students create their flowchart using Google drawings, Piktochart, or another program.
- Ask the students to represent the effects of their weather event by creating slides to represent their information.

Assessment (5 minutes)

- Have students complete a quick write in which they explain the relationship between the effects of their weather event and the corresponding causes. Consider using the sentence starter: "Two effects of ____

are..."

EL

Beginning

- Provide a paragraph frame for students to complete the quick write.

Intermediate

- Provide a few sentence starters ELs can use in their quick write. For example:
 - "My weather event is ____."
 - "The cause of the event is ____."
 - "One effect is ____."
 - "Another effect is ____."

Review and closing (5 minutes)

- Combine pairs or groups of students so that larger groups are formed.
- Ask the students to teach their peers what they learned about various effects of their weather events.

EL

Beginning

- Allow ELs to share their ideas in their L1 or L2.

Intermediate

- Challenge ELs to speak with partners in their L2 using the key vocabulary from the lesson.

Lightning Excerpt

(Teacher Modeling)

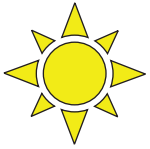
Boom! Flash! Thunder can be heard during a storm and lightning can be seen. Did you know that there can be more effects of lightning? The effects of lightning are not limited to what we can see in the sky! During a thunderstorm, there is always the risk of lightning hitting an object. This can be particularly dangerous when lightning hits objects that are near or close to a house. If lightning strikes the water pipes, the electric current can travel through the pipes. If a person is taking a shower or washing their hands they can get shocked! Lightning can also strike electrical lines. Even surge protectors cannot fully protect a computer. If lightning hits an electrical line the electricity from the lightning can travel through the wires. If your computer is plugged into a socket that is linked to the wires the burst of electricity can travel into your computer and ruin it. These are only a few effects when lightning strikes!

Flash Floods Excerpt

(Guided Practice)

At one moment it is raining and at the next moment, water is filling the road and spilling onto the land! This is called a flash flood. Flash floods can happen suddenly and with little warning. Flash floods might happen after a very heavy and prolonged rain. Water begins to cover the roads. If drivers continue to drive through the water they may get stuck. The water may flood their cars and ruin the engines. Even worse, cars can get swept away with only a small amount of standing water! People may not realize it, but once their car gets swept away they are at risk of getting seriously hurt or drowning.

Another risk during flash floods is contamination. The flooded water can spill over into water treatment plants. When the treatment plants are compromised the water may be contaminated with sewage. At that time drinking water is no longer safe and people may get very sick. There also might be a shortage of drinking water, due to the contamination. Flash floods can be very dangerous!



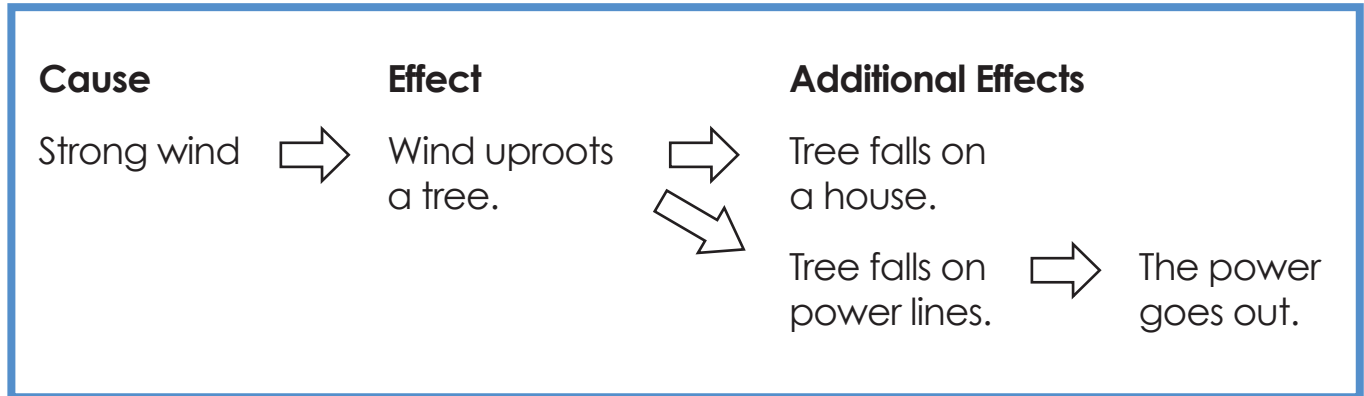
Weather Effects



Name: _____

Instructions: Research one type of weather event. Determine causes and effects that are related to your weather event. For each cause, write matching effects. Draw more arrows to show additional effects. Write about these effects.

Example



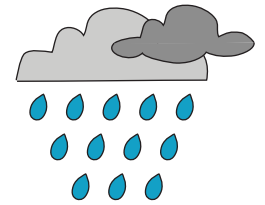
My weather event: _____

Cause	Effect	Additional Effects
_____	→ _____	
_____	→ _____	
_____	→ _____	
_____	→ _____	

Choose one group of causes and effects and explain the relationship between the causes and effects.



Comparing the Effects of Different Events



Name: _____

Instructions: Choose two events. List the effects of each type of event below. Then complete the Venn diagram, showing how the effects are similar or different.

Event One:

Effects:

Event One:

Effects:

Event: _____

Event: _____

