

FireSmart™ BC Education Program

 **BRITISH COLUMBIA**
FireSmart™ (Grades 4–6)



Lesson Four

In this lesson, students will explore the possible connections and relationships between climate change and wildfire.



Lesson Question:

How closely related are climate change and wildfires?

Lesson Challenge:

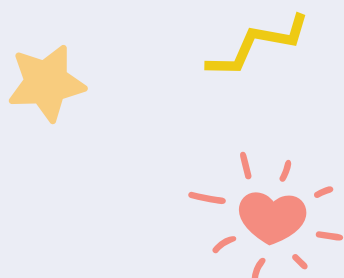
Create a shape or image that accurately represents the connections and relationships between climate change and wildfires.

Suggested Materials

- **Activity Sheet A:** Thinking About the Connections (one copy for each student)
- **Activity Sheet B:** My Thoughtbook (one copy for each student)
- **Activity Sheet C:** Mapping the Connections and Relationships (one copy for each small group)
- **Briefing Sheet A:** Climate Change and Wildfires (one copy for each small group)

Big Ideas

- All living things sense and respond to their environment. (Grade 4 Science)
- Earth materials change as they move through the rock cycle and can be used as natural resources. (Grade 5 Science)
- Natural resources continue to shape the economy and identity of different regions of Canada. (Grade 5 Social Studies)
- Complex global problems require international co-operation to make difficult choices for the future. (Grade 6 Social Studies)



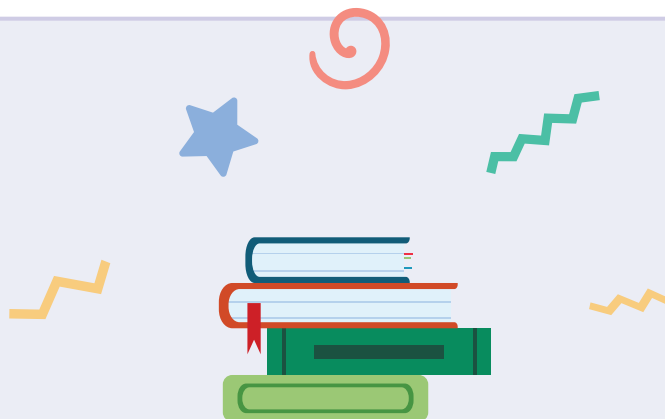
Start the Thinking



1. Begin the lesson by inviting students to suggest any effects or conditions that might be related to climate change. For example, students might suggest warmer summers or more storms. Note and display students' suggestions for use throughout this lesson.
2. Organize students into pairs or small groups and provide each student with a copy of Thinking About the Connections (Activity Sheet A).
3. Begin by introducing the question, "Which shape best shows the connection or relationship between climate change and wildfires?" Discuss each of the shapes and what they might suggest about the relationship.
4. Invite groups to select one of the shapes that they think shows the connection or relationship between climate change and wildfires. Prompt students to note their decision and reasons in the "My Initial Decision" section of the activity sheet.
5. Encourage groups to share their decisions and thinking with the class. As they do, use their ideas to co-develop or present the criteria for a strong connection or relationship. A strong connection or relationship would have:
 - many causes and effects that are clearly and directly linked. These connections would not be coincidences.
 - many causes and effects that are indirectly linked.

A weak connection or relationship would have no or few direct causes and effects and few indirect causes and effects.

6. Share the lesson question with students and briefly explain that their challenge is to create a shape or image that accurately represents the connections and relationships between climate change and wildfires.
7. Provide each student with a copy of My Thoughtbook (Activity Sheet B). Explain that a Thoughtbook is a place to draw or write ideas that can help answer the lesson question. Ask students to create an initial drawing in their Thoughtbooks of a shape or image that accurately represents the connections and relationships between climate change and wildfires. Assure students that their ideas can be big or small and in words or in pictures, and that they will be able to change and add to their ideas during this lesson.



Grow the Thinking



1. With students still in small groups, provide each group with a copy of Mapping the Connections and Relationships (Activity Sheet C).
2. Guide each groups' attention to the two examples of effects of climate change included on the activity sheet: "more storms and lightning" and "glaciers melt more quickly." Ask groups to make a decision: Which of these causes is a direct cause of wildfires, and which is an indirect cause?
3. Encourage groups to share their decisions and thinking with the class. Help them see that a direct cause is clearly linked to wildfires, and that an indirect cause may lead to other causes of wildfires.
4. Direct each groups' attention back to the lists of effects or impacts related to climate change created at the beginning of this lesson. Ask students to suggest which changes might be directly related to wildfires and which might be indirectly related. As students share, invite them to draw the changes on their activity sheet, correctly showing them as either direct or indirect causes.
5. Provide each group with at least one copy of Climate Change and Wildfires (Briefing Sheet A). Prompt groups to look for additional effects of climate change that may be connected or related to wildfires and then add them to their activity sheet (some of the climate change effects may not have any impact or connection to wildfires). Remind students to correctly show them as either direct or indirect causes.
6. Ask students to revisit their Thoughtbooks and their initial ideas for a shape or image that accurately shows the connection or relationship between climate change and wildfires. Encourage students to add to or change any of their ideas.

Reflect on the Thinking



1. After groups have completed their maps showing the connections between climate change and wildfires, revisit the lesson question: How closely related are climate change and wildfires?
2. Encourage groups to share their decisions and thinking with the class, reminding them to use details about direct and indirect causes to guide their thinking.
3. Guide students' attention back to Activity Sheet A and their initial decision about the relationship between climate change and wildfires. Prompt them to make a final decision about the shape that best represents the relationship and encourage them to include reasons for their decision.
4. To conclude the lesson, ask students to respond to the challenge by creating a shape or image that accurately represents the connections and relationships between climate change and wildfires.

Activity Sheet A: Thinking About the Connections

Choose the shape that best shows the connection or relationship between climate change and wildfires.

Which shape best shows the connection or relationship between climate change and wildfires?



Shape A:

no connection
or relationship

Shape B:

a small or weak
connection or relationship

Shape C:

a big or strong
connection or relationship

My Initial Decision

Reasons for My Thinking

- shape A
- shape B
- shape C
- shape D

Activity Sheet A: Thinking About the Connections

My Final Decision

Reasons for My Thinking

- shape A
- shape B
- shape C
- shape D



Activity Sheet B: My Thoughtbook

Lesson Question:

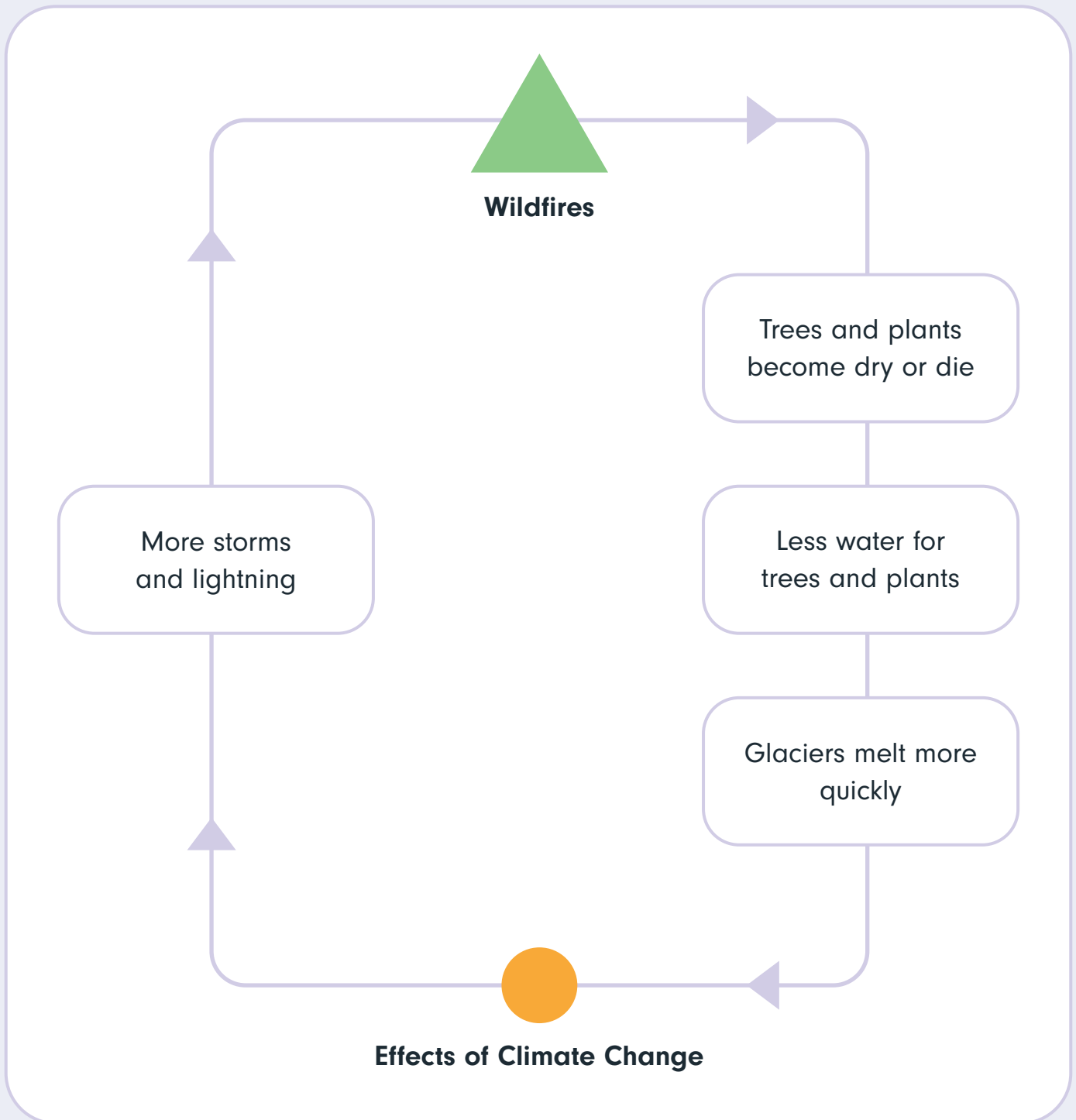
How closely related are climate change and wildfires?

Lesson Challenge:

Create a shape or image that accurately represents the connections and relationships between climate change and wildfires.



Activity Sheet C: Mapping the Connections and Relationships



Briefing Sheet A:

Climate Change and Wildfires

As the climate warms

- There will be less snow.
- Snow will melt earlier each year.
- Earlier melting and less snow will lead to longer fire seasons.
- Trees will be stressed and weakened by drought.
- Drier weather will lead to more insects.
- There will be higher temperatures and less summer precipitation.
- There will be changes in the types of trees that make up the forests. Species that are well suited to resist fire (for example, thick-barked species such as Douglas fir and western larch), and species with the ability to widely spread their seeds after a fire (for example, western hemlock, fir, and spruce) will be more likely to thrive.
- Trees that require shade and those less able to resist fire or spread seeds will be less likely to survive.
- Water temperatures in creeks, rivers, lakes, and oceans will change—some will be warmer and some will be cooler.
- Changes in river flow and temperatures will lead to changes in the types of fish and other creatures found in rivers.
- Less snow and less water from melted snow in the spring will change erosion patterns.

