



## 14. Story Time: Fire and Succession

**Overview:** Students view an animated, narrated presentation of the *The Storrie Story*. They participate in the presentation by contributing sound effects on cues. *The Storrie Story* describes the Storrie Fire of 2000 in the Plumas and Lassen National Forests and succession after fire. It covers forest communities and wildlife that occur in Sierra Nevada lower and upper montane forests.

**Note:** *The Storrie Story* has 5 chapters. You may want to spread the activity out over several days, presenting 1-2 chapters each day.

**Goal:** Increase student understanding of the many kinds of changes that occur in forest communities over time – with and without fire.

### Objectives:

- Students can listen to and learn about how fires affect the plants and animals that live in Sierra Nevada forests, and about how forests change over time.
- Students can participate in a listening activity by providing appropriate sound effects on cue.
- Students can write about or illustrate different types of fire and the responses of various organisms to fire.

**Subjects:** Science, Reading, Speaking and Listening

**Duration:** Several 30-minute class sessions

**Group Size:** Whole class

**New FireWorks terms:** refer to the *Storrie Fire Story* narrative for a list of potentially new terms

**ABOUT STUDENT PRESENTATIONS:** If you did **Activity E08. Who Lives Here? Adopting a Plant, Animal, or Fungus**, make sure all student presentations are completed before you do this activity.

Standards:		1st	2nd	3rd	4th	5th
Common Core ELA	Writing Standards	2,3,5,6	2,3,7,8	3,7,8	3,7,8	3,8
	Speaking and Listening	2,4,5,6	2,4,5,6	2,4,6	2,4,6	2,4,6
NGSS	Interdependent Relationships in Ecosystems		LS2.A, LS4.D	LS2.C, LS2.D,LS4.C		
	Weather and Climate					ESS2.D
	Matter and Energy in Organisms and Ecosystems					LS2.A
	Structure, Function, and Information Processing	LS1.A, LS2.B			LS1.A	
	Inheritance and Variation of Traits			LS1.B		
EEEGL	Strand 1	C,E,F,G				C,E,F,G

**Teacher Background:** Forests change over time in the process called *succession*. Fire is a dramatic force for change, but change occurs without fire, too. Some plants need sunny openings to grow well, so they thrive in the first years after fire, and some animals thrive on these plants. Other plants reproduce almost anywhere, even in deep shade. They may thrive in places not burned for a long time, and the animals that depend on them are present only in old forests. Some plants and animals can live almost anywhere, regardless of when a fire occurred or how the forest changes.

*The Storrie Fire Story* is a cartoon-illustrated narrative that describes succession through time in montane ecosystems of the Sierra Nevada and tells the story of a real wildland fire, the Storrie Fire that occurred in 2000 on the Plumas and Lassen National Forests. The story has 5 chapters:

- 1. Who's at Home Here?** introduces the plants and animals that have lived in the lower and upper montane forests of the Sierra Nevada for many centuries. This chapter sets the scene for the story of historical fire and succession, and changes that have occurred in the past 150-200 years.
- 2. Surface Fire Visits the Canyon** illustrates a low-severity fire spreading through the lower montane ecosystem and shows how the native plants and animals respond to this kind of fire.
- 3. Rollercoaster Fires** illustrates a mixed-severity fire spreading through the upper montane ecosystem. It shows the fire becoming very severe as it spreads through a Baker cypress stand. It shows how the native plants and animals respond.
- 4. Changing times** describes changes in montane forests over the past 100 years or so, as fire was excluded from montane forests of the Sierra Nevada.
- 5. The Storrie Fire** illustrates what happened in August of 2000, when a human-caused fire burned thousands of acres in the Plumas and Lassen National Forests. Then it describes how the landscape and the people responded to the fire.

After the class has heard the whole story of the Storrie Fire, students create their own artistic or written comparison/contrast of 2 chapters in the story.

### Materials and Preparation:

- Download 5 PowerPoint Presentations: ***StoryTime\_Chapter1.pptx***, and ***Chapters 2, 3, 4 and 5***.
- In the trunk, find the poster with the key to the Story Time characters (***CharactersKey.pptx***) and display it in your classroom.
- In the trunk, find the color printout of the narrative for *The Storrie Fire Story* (***TheStorrieFireStory.docx***) - or arrange to read it on a computer. If you intend to use the Internet links for sound effects, you will need to open the file on a computer. Review the first page of this document for instructions.
- Decide how you want students to prepare for sound effects. For animal sounds, you can have groups of students rehearse ahead of time by listening to the Internet links provided with the narrative. Or you can go to those links as you tell the story, having the whole class learn the bird call or animal sound together.

### Procedure for each of the 5 chapters:

1. Gather the students, perhaps in a circle, and prepare them for a story about a forest community. Explain: They should listen carefully to the story so they can see what fire does over many years, and so they are ready to create sound effects when you give them a cue.
2. Ask students to watch for a few special things in the stories:
  - Things that cause habitat changes over the years
  - Plants and animals that especially like just-burned forests
  - Plants and animals that especially like old, unburned forests
3. Read the story (***TheStorrieFireStory.docx***) along with the slides (***StoryTime\_Chapter1.pptx***, and ***Chapters 2, 3, 4 and 5***). Use lots of sound effects, even where the script does not call for them.

**Assessment:** You may want to make the printed narrative of *The Storrie Fire Story* from the trunk available so students can refer to it.

1. Explain: Think about the five chapters in *The Storrie Fire Story*. In every chapter except Chapter 1, we saw how forests change over time. We learned how forests change if fire occurs and also if it does not occur.
2. Review what happened in each chapter:
  - Chapter 1. Who's at Home Here? (setting the stage)
  - Chapter 2. Surface Fire Visits the Canyon (low-severity fire)
  - Chapter 3. Rollercoaster Fires (mixed-severity fire, including stand-replacing fire in a Baker cypress stand)

- Chapter 4. Changing times (a century or more without fire)
  - Chapter 5. The Storrie Fire (a big, severe fire that occurred in 2000)
3. Explain: You will create a comic strip/drawing or write 2 paragraphs that compare/ contrast 2 of the chapters. Your project should include these things:
- Plants that live there (if drawing, label them)
  - Animals that live there (if drawing, then label them)
  - Kind of fire that that occurred (if any)
  - What changes occurred during the chapter

<b>Evaluation:</b>	<b>Complete</b>	<b>Incomplete</b>
Comic strip/Drawing Option	-Student addressed all four items listed above.	-Student addressed less than four items.
Writing Option	-Student wrote two complete paragraphs in which they addressed the four items listed above.	-Student did not write 2 complete paragraphs <u>or</u> -Student addressed less than four items.