
Fire and Animals



Purpose:

- In this activity, students will be introduced to ecological succession and how animals are adapted to survive and/or thrive after wildfire.

Objectives:

Students will:

- Identify at least 10 local animals that are adapted to live with, or thrive after wildfire by reading information cards about each species.
- Categorize local animals under appropriate stages of forest succession.

Materials:

Not provided in this kit:

- Dry erase markers

Provided in this kit:

- **Laminated High Intensity Fire Photo (1)**
- **Labeled Forest Succession Stage Photos (5)**
- **Unlabeled Forest Succession Stage Photos (5)**
- Laminated **Animals and Fire Cards** (5 sets of 4. 20 total)
- **Laminated Forest Succession Diagrams (5)** (laminated copy for each group)
- **Laminated Forest Succession Diagram Key** (teacher copy)
- **Forest Succession Background handout** (In binder. Optional reading)
- **Fact Sheet #3: Fire Effects on Wildlife/Fauna** (In binder. Optional reading)

Time Required: 1 hour

Appropriate grades: 3rd – 6th

NGSS and Common Core Standards:

3-LS4-3: Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

W.3.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.



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Activity:

Introduction	<p>Break the students up into five groups.</p> <p>Have a 10-minute discussion about what students think forest succession is before starting the lesson. Start by having the students think-pair-share about what they think the word “succession” means.</p> <p>Ask each group to share what they think forest succession means with the class and write their ideas on the board.</p> <p>Students will likely share the words “<i>success/succeed</i>.” Talk about how these words can mean “to grow as a person,” and how succession means “following one thing after another, like a cycle (seasons, sunrise/sunset). Ask the students to think of other things that are cyclical in nature. These processes can occur over one day (like sunrise/set), one year (seasons) or over hundreds of years like a forest. It’s a process of birth, growth, and eventually death.</p> <p>Students could also explore ideas such as the life cycle of humans and animals, recycling, etc. It’s the Circle of Life!</p> <p>After the discussion, have students imagine a high intensity fire swept through nearby and burned all the trees down (show them the High Intensity Fire Photo). The ask them the following questions and discuss:</p> <ul style="list-style-type: none">• What would the landscape look like 0-5 years after a high intensity fire? Show them the Labeled <u>Grass/Herbaceous Stage</u> Forest Succession Stage Photo and tape it to the wall.• What would the landscape look like 6-25 years after a high intensity wildfire? Show them the Labeled <u>Shrub Stage</u> Forest Succession Stage Photo and tape it to the wall.• What would the landscape look like 26-50 years after a high intensity wildfire? Show them the Labeled <u>Young Forest Stage</u> Forest Succession Stage Photo and tape it to the wall.• What would the landscape look like 51-150 years after a high intensity wildfire? Show them the Labeled <u>Mature Forest Stage</u> Forest Succession Stage Photo and tape it to the wall.• What would the landscape look like 150+ years after a high intensity wildfire? Show them the Labeled <u>Climax Forest Stage</u> Forest Succession Stage Photo and tape it to the wall. <p>Pass out one dry erase marker, a laminated Forest Succession Diagram, and a pack of laminated Animals and Fire cards to each group. Each group should have four Animals and Fire cards.</p>
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<p>Body</p>	<p>Have the students in each group read their Animals and Fire cards. Using information they learned from the class discussion, as well as from the information on the back of the Animals and Fire cards, have the students determine in which successional stage their animal would return to the forest after a high intensity fire, and write it on their Laminated Forest Succession Diagram. Give the students 10-15 minutes to write their four animals onto their Forest Succession Diagram.</p> <p>Once the class has completed their Forest Succession Diagrams, have them tape their cards to the wall beneath the appropriate Forest Succession Stage Photo. If you have the time and want the students to share with the class why they placed their animal where they did, you may do so. This does take a significantly longer amount of time to have each student share their card and reasoning. Discuss as a class to see if everyone agrees with the placement. Succession is a flexible process in nature, so there can be multiple correct answers. However, succession usually follows a general pattern. Be flexible and try to inspire students to think of creative reasons why their animal would arrive when it does. Refer to the Forest Succession Diagram Key for possible answers.</p>
<p>Closure</p>	<p>Remove the Labeled Forest Succession Stage Photos from the wall, but you can leave the animals taped to the wall.</p> <p>Have the students work in their same groups and give them each one of the Unlabeled Laminated Forest Succession Stages Photos. Have each group decide what stage of forest succession their photo represents. Have them share their answer with the class, as well as one animal they think returns to the forest in that stage and why. Once each group has shared, reiterate that forest ecosystems are always changing. In any ecosystem the diversity of plants influences the diversity of animals.</p>



Modifications:

- Assign as reading, or read as a class, the **Forest Succession Background Handout** and **Fact Sheet #3** handouts instead of having a discussion.
- Have the students work independently or in pairs to create a narrative or draw a picture that describes which animals return to the forest as it moves through each stage of succession. They do not have to include every animal, just a few of their favorites from each stage of succession.
 - **For Example:** *After the fire, wood boring insects arrive first, followed by birds like woodpeckers. As plants begin to grow, the seed-eating mammals arrive, followed by mid-size predators. As the plants get taller, larger browsers arrive followed by larger predator/carnivores.*
 - Have students share their narrative/drawing with the class. Ask students to tell you what the stages of forest succession are, one animal that returns in that stage, and why that animal returns when it does. Ask students until all five stages have been discussed.
- Take a field trip to a local burn site, or recently burned site, to see forest succession live in action. What types of plant life do you see returning? What wildlife do you see or hear in the area? What stage of succession is this area currently in?
- Walk to a nearby forested area, park, or neighborhood natural area and try to determine what stage of forest succession the piece of land is. This could also be an assignment. Have students take a photo of a forested area over the weekend and share their photo and what stage of succession it is in. What animals did they observe while at the site?

