



Natural Hazards Engineering Research Infrastructure

Social Vulnerability 2023 NHERI REU CONVERGE Facility University of Colorado, Boulder

- **Summary** - This lesson will cover social vulnerability using the recent historical event of the 2021 Marshall Fire as a case-study. Students will first learn about the first-hand accounts of the Marshall Fire. Then, they will read a short story about wildfires as a group. Students will then create puppets using paper bags and other supplies to reenact what they should do in a wildfire context and how to best support socially vulnerable populations.
- **Audience**- Grade: Elementary 3rd to 5th Grade
- **Lesson Objectives**
 - Students will define social vulnerability.
 - Students will be able to apply social vulnerability to disaster events.
 - Students will be able to compare between real historical events and fiction.
- **Educational Standards**
 - Colorado Department of Education Social Studies Standards:
 - History Standards: SS.3.1.2
 - Geography Standards: SS.3.2.1; SS.4.2.2
 - Civics Standard: SS.4.4.1
- **Material List**
 - Paper Bags for all students
 - Trink and Sam: The Big Fire Book
 - Art Supplies (decorate the puppets)
 - Markers
 - Crayons
 - Scissors
 - Glue
 - Construction Paper
 - Projector
 - Internet Connection
- **Introduction** - The motivation of this lesson is to introduce elementary-age kids to the concept of social vulnerability and how it can be applied to a disaster event in the case of the 2021 Marshall Fire. The Marshall Fire was a recent and very relevant

disaster for Colorado that can showcase social vulnerability and as well as being compared against fictitious representations of wildfires.

- **Procedure**

- Vocabulary:
 - Disaster - disruption of social functions and routines that can occur in a natural event.
 - Wildfire - a large, destructive fire that spreads quickly over woodland or brush.
 - Social Vulnerability - the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.
- Background knowledge
 - The teacher will check the knowledge of the students about the vocabulary of the lesson through the technique of brainstorming.
 - The teacher will explain the vocabulary, using examples from Colorado as a reference.
 - Students will make inferences about how disasters, specifically wildfires, can impact socially vulnerable populations. They will be able to share examples of stories they know from their neighbors and relatives to illustrate their inference.
- Before the activity
 - Oral reading and socialized conversation:
 - The students and the teacher will first read the Marshall fire website and storymap orally.
 - Then, the students and the teacher will read the story *Trinka and Sam: The Big Fire*. They will use the puppets created by the teacher during the storytelling.
 - During the reading process, the teacher will be able to answer the students' doubts. In addition, the teacher will be able to establish a relationship between the content of the story and the vocabulary.
 - Guide for socialized conversation:
 - Explain why the story is a fable.
 - Describe the geographic and the cultural landscape mentioned in the story and in the Marshall Fire Resources.
 - Describe the similarities and differences with the environment of your community.
 - Explain the moral of the story.
- During the activity
 - Construction of puppets and oral presentations:
 - The teacher will divide the students into subgroups of three to five members.
 - The students must rewrite an ending to the story of the story, taking into account what was discussed in the lesson.

- They will write the new ending of the story on the worksheet.
 - The students will make puppets using the paper bags, construction paper and reusable material available.
 - With the puppets created, each subgroup will present their alternate story.
 - The story should include ways for the students to help their neighbors, friends, and loved ones in the case of a disaster, particularly if they are of a socially vulnerable community.
 - After the activity
 - The teacher will offer a summary of what was learned in the lesson.
 - Clarify the doubts of the students.
- **Assessment**
 - Application work:
 - The teacher will give a worksheet (example in annex) to the students and will explain the instructions.
 - Students will complete the worksheet individually.
 - Upon completion of the task, the teacher and students will discuss the worksheet.
- **Wrap-up** - The wrap-up activity for this lesson will be a simple exit slip where at the end of the lesson students will write one to three items on what they found to be the most interesting of the lesson on a slip of paper. This activity would hopefully help the students think back to the lesson and what they really enjoyed.
- **Resources**
 - Trinka and Sam: The Big Fire
 - <https://www.nctsn.org/resources/trinka-and-sam-big-fire>
 - <https://www.marshallfiremap.com/#heroSection>
 - <https://storymaps.arcgis.com/stories/30a5f0e57a354d7cb7ad5bbad170ebc4>

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Stories of the Marshall Fire & Trinka and Sam: The Big Fire

Name: _____ **Date:** _____

Directions: Read the questions carefully and answer in complete sentences.

- 1. Who are the characters in the story?**
- 2. What is the story about?**
- 3. How does Trinka and Sam's story compare with the real-life histories of the Marshall Fire?**
- 4. How do these stories connect with the vocabulary words of the lesson?**
- 5. What are some ways we could help socially vulnerable peoples in disaster situations?**