

# Reagan Library

## CA Wildfire Simulation

Understanding the significance of wildfires and their impact on communities is crucial for high school students due to the following reasons:

**Human and Property Impact:** Wildfires can have devastating effects on people's lives, homes, and businesses. By being aware of the data and numbers associated with wildfires, students can grasp the scale of the impact. For example, they can learn that wildfires can lead to injuries, loss of life, displacement of residents, and destruction of homes and infrastructure.

**Economic Consequences:** The financial impact of wildfires is substantial. Students should understand that wildfires can result in significant costs to taxpayers, including expenses for firefighting efforts, emergency response, rebuilding homes and infrastructure, and providing aid to affected communities. By examining relevant data and numbers, students can appreciate the economic burden and the importance of preventive measures.

**Environmental Considerations:** The ecological consequences of wildfires are far-reaching. Students can learn about the destruction of wildlife habitats, loss of biodiversity, and long-term ecological recovery. They can explore data on the extent of deforestation caused by wildfires and the impact on air quality due to smoke and ash.

By immersing themselves in this simulation, students will gain a deeper understanding of the complex dynamics involved in managing wildfires and the critical roles played by various stakeholders. It also promotes teamwork, decision-making, and problem-solving skills while fostering empathy and civic responsibility.

Overall, raising awareness of wildfires' significance and engaging students in simulations enhances their knowledge about the real-world impact of wildfires, fosters preparedness, and empowers them to contribute effectively in addressing such crises in the future.

**Role Assignment Link**

## Pre-Visit Activities

### Required Lessons

If you only have one day to prepare for this simulation, these activities are the minimum students should review and complete prior to your Reagan Library visit.

## **Day 1: Understanding Wildfires, Fire Prevention, and California State Structure**

**Objective:** To provide students with an overview of wildfires, fire prevention strategies, and the basic structure of California state leadership and emergency responders.

### **Lesson Plan:**

#### Introduction and Engaging Activity (10 minutes):

Begin the lesson by introducing the "Reagan Library California Wildfire Simulation" and its objectives.

Conduct a group discussion or a game-based activity to encourage students to talk to each other about their understanding of wildfires and the impact they can have on communities. For example, you can ask questions like, "What do you know about wildfires?", "Have you ever been affected by a wildfire?", or use a game format like wildfire-themed trivia.

#### Reviewing How Fires Work and Fire Prevention (20 minutes):

- Introduce the basic concepts of how fires work, including the fire triangle (fuel, oxygen, heat) and the stages of fire (ignition, growth, combustion, extinction).
- Show a video or a TED Talk related to wildfires, such as "How Wildfires Spread and How They Can Be Stopped" by Janice Coen.
- Discuss effective fire prevention methods, such as controlled burns, fuel management, and community awareness campaigns. Use real-world examples and data to emphasize their importance.

#### Understanding California State Structure and Emergency Responders (20 minutes):

- Provide an overview of the basic structure of California state leadership and emergency responders involved in wildfire management, such as CAL FIRE, Office of Emergency Services (OES), and Incident Command System (ICS).
- Explain relevant acronyms and terms associated with emergency responders, such as Incident Commander (IC), Fire Behavior Analyst (FBAN), and Incident Action Plan (IAP).
- Use visual aids, diagrams, or short videos to illustrate the roles and responsibilities of different agencies and how they collaborate during wildfire emergencies.

#### Conclusion and Wrap-up (5 minutes):

- Summarize the key points covered during the lesson and their significance in preparing for the "Reagan Library California Wildfire Simulation."
- Assign a short reflection task, such as writing a brief paragraph or discussing in pairs, where students share their thoughts on one important thing they learned during the lesson.

### **Additional Resources:**

- [TED Talk: "How Wildfires Spread and How They Can Be Stopped" by Janice Coen](#)
- CAL FIRE website: [Link](#)
- California Office of Emergency Services (OES) website: [Link](#)
- FEMA Incident Command System (ICS) Overview: [Link](#)

## **Additional Lessons**

If you have a few more days to prepare for the CA Wildfire Simulation, here are additional Activities you and your students can review and complete prior to your visit.

### **Case Study**

#### Introduction to the Thomas Fire:

The Thomas Fire was one of the most devastating wildfires in California's history, igniting on December 4, 2017, near the community of Santa Paula in Ventura County. Fueled by strong Santa Ana winds and dry conditions, the fire quickly spread, posing a severe threat to numerous communities in its path. The Thomas Fire garnered national attention as it continued to grow rapidly, becoming a monumental challenge for firefighters and emergency responders to control.

#### Day 1 (December 4, 2017):

The Thomas Fire began in the evening hours near Thomas Aquinas College in Santa Paula. Strong gusts of wind rapidly pushed the flames toward nearby neighborhoods, forcing immediate evacuations. As the fire spread, it quickly consumed dry vegetation and ignited additional hotspots.

#### Day 2 (December 5, 2017):

The second day saw the Thomas Fire continue to expand, prompting the closure of major highways and the evacuation of residents in several communities. The fire's rapid growth made it challenging for firefighters to gain control, leading to requests for additional resources from neighboring regions.

#### Day 3 (December 6, 2017):

On the third day, the Thomas Fire crossed into neighboring Santa Barbara County, posing an even greater threat to populated areas. Firefighting efforts intensified, with teams battling the blaze from the ground and air. Containment measures were implemented, but the fire continued to spread in multiple directions.

#### Day 4 (December 7, 2017):

The fire's relentless progression led to further evacuations in Santa Barbara County, with thousands of residents seeking safety. Emergency shelters and support centers were established to aid evacuees. The Thomas Fire showed no signs of abating, and concerns grew over its impact

on air quality and public health.

#### Day 5 (December 8, 2017):

The Thomas Fire reached critical proportions, becoming one of the largest wildfires in California's history. The intensity of the flames made it challenging for firefighters to access some areas, leading to strategic decisions on priority locations for containment efforts.

#### Day 6 (December 9, 2017):

As the fire continued to spread, containment efforts focused on protecting critical infrastructure, including power lines and communication networks. Smoke from the fire led to hazardous air quality levels, prompting health warnings for residents in surrounding regions.

The fire was not 100% contained until January 12th, 2018.

#### Aftermath and Impact:

The Thomas Fire left a trail of destruction in its wake. Hundreds of homes and businesses were reduced to ashes, and thousands of residents faced the heartbreaking reality of losing their homes and possessions. The economic impact was immense, with firefighting efforts and recovery costs reaching billions of dollars, placing a significant burden on taxpayers.

Tragically, the fire claimed the lives of several individuals, including brave firefighters who sacrificed their lives while battling the blaze. The emotional toll on the affected communities was profound, with grief and resilience intertwined.

The Thomas Fire also had far-reaching environmental consequences. Vast stretches of land were scorched, affecting wildlife habitats and the natural ecosystem. The fire's impact on air quality and respiratory health was a pressing concern for residents in the affected regions.

Despite the devastation, the Thomas Fire highlighted the unwavering dedication of emergency responders, community support networks, and the resilience of those affected. It served as a critical wake-up call for Californians to reflect on the importance of fire prevention, effective emergency response, and community preparedness for future wildfires. Lessons learned from the Thomas Fire would inform strategies and policies to mitigate the impact of future wildfires and enhance the safety and well-being of communities statewide.

Students can work in small groups to answer the following questions:

What were the primary factors that contributed to the rapid spread of the Thomas Fire during its initial days? How did the Santa Ana winds and dry conditions exacerbate the situation? How did the Thomas Fire impact the communities it affected? Discuss the immediate and

long-term consequences for residents, homes, and businesses.

What were the challenges faced by firefighters and emergency responders in controlling the Thomas Fire? How did they strategize containment efforts despite the fire's rapid growth?

Reflect on the impact of the fire on the environment and wildlife habitats. How can wildfires like the Thomas Fire disrupt the natural ecosystem, and what measures can be taken to restore the affected areas?

Analyze the economic implications of the Thomas Fire. How much did it cost taxpayers for firefighting efforts and recovery? Discuss the long-term financial burden on communities and the state.

Reflect on the emotional toll the Thomas Fire had on affected communities. How did residents cope with the loss of homes and possessions, and what support systems were put in place to help them?

Discuss the significance of air quality during a wildfire. How did the smoke from the Thomas Fire impact the health of residents in surrounding regions, and what measures were taken to address public health concerns?

Consider the role of emergency responders during the Thomas Fire. How did their dedication and bravery contribute to mitigating the fire's impact and protecting critical infrastructure?

Identify the lessons learned from the Thomas Fire. What strategies and policies can be implemented to enhance fire prevention and community preparedness for future wildfires?

How can communities come together to support one another during and after a major wildfire? Discuss the importance of collaboration and solidarity in the face of such disasters>

These discussion questions aim to facilitate a comprehensive conversation among students about the various aspects of the Thomas Fire, including its impact, response efforts, environmental consequences, and the lessons it offers for future wildfire management. Encourage students to draw connections between different topics and apply critical thinking skills to address the complexities of wildfire challenges.

## **Vocabulary**

# Standards

## CA 11th & 12th English Standards:

- CCSS.ELA-Literacy.SL.11-12.4: Present information, findings, and supporting evidence effectively, adapting speech to a variety of contexts and tasks.
- CCSS.ELA-Literacy.SL.11-12.5: Make strategic use of digital media in presentations to enhance understanding of findings, reasoning, and evidence.
- CCSS.ELA-Literacy.W.11-12.6: Use technology, including the internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

## CA 11th and 12th Social Studies Standards:

- CA.11-12.CC.RH.2.3: Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
- CA.11-12.CC.RH.2.6: Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.
- CA.11-12.CC.RH.2.7: Integrate and evaluate multiple sources of information presented in diverse formats and media in order to address a question or solve a problem.
- CA.11-12.CC.RH.2.8: Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.

## CA 11th & 12th Science Standards:

- CA.11-12.PS.4.1: Evaluate the evidence regarding the nature and properties of fire and the fire-fighting techniques used to control and prevent fires.
- CA.11-12.PS.4.3: Evaluate the potential impacts of wildfires on urban and rural areas, considering factors such as human safety, ecosystem health, and economic consequences.
- CA.11-12.PS.4.4: Design and evaluate strategies for fire prevention and management, considering factors such as climate, fuel sources, and human activities.