Communicating During Disasters

THE PRESBYTÈRE
A LOUISIANA STATE MUSEUM

AUDIENCE: 6th-8th Grade Students

People need to communicate quickly and effectively during natural disasters and other emergencies. Public officials, first responders, and residents must be able to share warnings, instructions, and detailed information with one another.

This lesson plan for the home or classroom teaches students about emergency communication systems and the role they play during a crisis. The lesson plan includes examples from Hurricane Katrina in 2005 and the developing response to COVID-19 in 2020.

After completing this lesson, plan a visit to the Presbytère where you can learn more about emergency communications during Hurricane Katrina in the exhibition *Living with Hurricanes: Katrina and Beyond.*

LEARNING GOALS:

Goal	Impact Area
1. Students will learn the significance of effective communications systems during emergencies.	Knowledge and Awareness
2. Students will appreciate the importance of emergency preparedness.	Attitude
3. Students will practice integrating information, holding collaborative discussions, and basic research.	Skills

PLAN SUMMARY:

1. **Part 1:** Hurricane Katrina, 2005
    o   Review Hurricane Katrina timeline.
    o   Read the warning from The National Weather Service
    o   Answer discussion questions on Hurricane Katrina emergency communications
2. **Part 2:** COVID-19, Spring 2020
    o   Visit nola.ready.gov to learn about the COVID-19 response in New Orleans
    o   Answer discussion questions comparing COVID-19 with other emergencies
3. **Part 3:** Project – Design a better emergency communications plan
    o   Conduct research using additional resources
    o   Make an improved plan
4. **Part 4:** Plan a future visit to *Living with Hurricanes: Katrina and Beyond* at the Presbytère to learn more!

PART 1: HURRICANE KATRINA, 2005

READ the following timeline of the days leading up to Hurricane Katrina's landfall in New Orleans on Monday, August 29, 2005. Circle or highlight the moments when officials shared important information with the public.

- **Thursday, August 25**
  - **4:00 PM** – Tropical Storm Katrina becomes a Category 1 Hurricane

- **Friday, August 26**
  - **4:00 AM** – New Orleans enters the three-day cone of uncertainty
  - **10:30 AM** – Katrina's winds reach 100 mph, making it a Category 2 hurricane
  - **4:30 PM** – Louisiana Governor Kathleen Blanco declares a state of emergency
  - **10:00 PM** – Katrina's projected path is on the Mississippi-Louisiana border

- **Saturday, August 27**
  - **4:00 AM** – Katrina becomes a Category 3 hurricane with 115 mph winds and the forecast takes the storm directly over New Orleans
  - **9:00 AM** – The first phase of the Louisiana Emergency Evacuation Plan begins, which calls for evacuation of areas south of the Intracoastal Waterway 50 hours before a Category 3 or higher hurricane hits
  - **1:00 PM** – New Orleans Mayor C. Ray Nagin declares a state of emergency and announces that the Superdome will serve as a special-needs shelter
  - **4:00 PM** The contraflow plan—which reverses incoming traffic lanes to ease evacuation—is implemented; Mayor Nagin calls for a voluntary evacuation of New Orleans
  - **10:00 PM** – The National Hurricane Service predicts a surge of 15 to 20 feet above normal tides, locally as high as 25 feet. Mississippi declares a mandatory evacuation for coastal counties

- **Sunday, August 28**
  - **1:00 AM** – Katrina becomes a Category 4 hurricane, with winds of 145 mph
  - **7:00 AM** – Katrina is upgraded to a Category 5, with 160 mph winds
  - **9:30 AM** – Mayor Nagin issues the first-ever mandatory evacuation for New Orleans and announces the Superdome will serve as a shelter of last resort
  - **10:11 AM** – The National Weather Service New Orleans Forecast Office issues a dire warning…. (Read warning on next page)
  - **5:00 PM** Contraflow evacuation ends. Between 10,000 and 12,000 evacuees are at the Super-dome, along with 260 National Guard troops

READ the warning issued by Robert Ricks at the National Weather Service in Slidell, Louisiana:

"MOST OF THE AREA WILL BE UNINHABITABLE FOR WEEKS . . . PERHAPS LONGER. AT LEAST ONE HALF OF WELL CONSTRUCTED HOMES WILL HAVE ROOF AND WALL FAILURE. . . . AIRBORNE DEBRIS WILL BE WIDESPREAD. PERSONS . . . PETS . . . AND LIVESTOCK EXPOSED TO THE WINDS WILL FACE CERTAIN DEATH IF STRUCK. . . . WATER SHORTAGES WILL MAKE HUMAN SUFFERING INCREDIBLE BY MODERN STANDARDS."

The whole message can be read at the following link:

https://www.iweathernet.com/wxnetcms/wp-content/uploads/hurricane-katrina-dire-warning.png

About 1.2 million people evacuated from southeast Louisiana, while about 100,000 people remained in New Orleans for a variety of reasons.

WHAT HAPPENED NEXT?

The storm and floodwaters caused a loss of electrical power and communications systems were destroyed. Residents could not reach emergency responders to request help. First responders did not know how many people needed to be rescued or where supplies were needed. People who evacuated could not reach their family members in the city. Rumors of civil breakdown delayed the arrival of emergency aid.

Local media performed heroically, getting news out to the world. The *Times-Picayune* managed to publish online even as events unfurled and released a print edition only four days after Katrina.

DISCUSS

- How can early hurricane forecasts be helpful to residents?
- How do you think residents of Louisiana learned about the evacuation orders? Through what media?
- Think about the language used in the message from the National Weather Service. Do you think this dire warning made an impact on people?
- What could have happened if the evacuation order was never issued?
- Do you track storms during hurricane season? Where do you find your information?
- What communication systems do you think were destroyed? What types of problems could that cause?
- What might have happened if communications systems failed *before* residents received the evacuation orders?
- Why was the print issue of the *Times-Picayune* particularly valuable to residents who remained in the city throughout the storm?

PART 2: COVID-19 Spring 2020

Currently, in spring 2020, countries around the world are responding to the spread of the virus COVID-19, commonly known as coronavirus. COVID-19 could have serious effects on public health in New Orleans and Louisiana.

Officials in New Orleans are sharing information to help keep residents safe and healthy.

VISIT the following link to learn more about how New Orleans is responding to COVID-19:

https://ready.nola.gov/home/

FIND information at ready.nola.gov, on how the city is working with telecommunications providers to provide uninterrupted internet and cellular service.

YOU CAN ask your family members to sign up to receive alerts related to COVID-19 using their cell phones. Text COVIDNOLA to 888777 to receive alerts.

DISCUSS

- o What types of actions are being recommended by the city of New Orleans to prevent the spread of COVID-19?
- o How are communication challenges during the COVID-19 pandemic different from communication challenges during a hurricane or other natural disaster?
- o Why do you think accurate information is important during this type of emergency?

Part 3: PROJECT – Design a better emergency communications plan

During Hurricane Katrina, widespread destruction and power failures made communication difficult. According to the Associated Press, it took 23 days for local utilities to restore power to 75% of customers—and then Hurricane Rita caused additional outages.[1] New Orleans needs to be better prepared for communications problems during and after major storms, and during other disasters.

Answer the questions below and complete the project.

QUESTIONS:

Reflect on what you have learned about Hurricane Katrina and COVID-19. Do additional research to answer the following questions:

1. What messages need to be communicated before, during, and after a disaster?

2. How were communication systems damaged during Hurricane Katrina and what problems did that cause?

3. How can New Orleans be better prepared to handle communications issues during a disaster? What types of technologies or systems can help residents communicate with each other and first responders more quickly and safely?

FIND additional resources on the next page.

PROJECT:

Based on your research, **design one possible solution to improve communications during and after a disaster and explain how your solution would help the people affected**. Share your solution with others!

Part 4: PLAN A VISIT – The Presbytère

PLAN a future visit to the Presbytère, where you can learn more about the role of emergency communications during Hurricane Katrina at the exhibition *Living with Hurricanes: Katrina and Beyond.*

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[1] Associated Press, "Length of outage after Sandy not unusual," *SFGate* (San Francisco, CA), November 16, 2012, https://www.sfgate.com/nation/article/Length-of-outage-after-Sandy-not-unusual-4045567.php

RESEARCH RESOURCES

Organizations and Government Initiatives

- **Amateur Radio Emergency Services (ARES)** – ARES consists of licensed amateurs who volunteer their radio skills and equipment to serve the public when disaster strikes.
    - o National ARES: http://www.arrl.org/ares
    - o Louisiana ARES: http://www.laarrl.org/ss/la-ares/

- **Emergency Communications Division** – Established by the Department of Homeland Security in 2007 in response to communication challenges during Hurricane Katrina, this division supports emergency communications.
    - o https://www.cisa.gov/emergency-communications-division

- **Evacuteer –** Evacuteer is a nonprofit created in 2009 which coordinates volunteers to help with City-Assisted Evacuation before natural disasters.
    - o https://evacuteer.org/about

- **Federal Emergency Management Agency (FEMA) Emergency Communications Tips** – FEMA explains how to communicate during an emergency and how to prepare for a power outage.
    - o https://www.fcc.gov/emergency

- **Louisiana Wireless Information Network (LWIN) –** LWIN is the largest statewide radio system in the country and strives to provide seamless communication among all responders during emergencies
    - o http://gohsep.la.gov/ABOUT/UNIFIED-COMMAND-GROUP/Interoperability-Subcommittee/LWIN

- **Louisiana First Responder Network Authority (FirstNet) –** FirstNet builds and manages a nationwide, high-speed, broadband network dedicated to public safety.
    - o http://firstnet.louisiana.gov/about/about-louisiana-firstnet.html#

Articles

- **"The impact of Hurricane Katrina on communications infrastructure"** – scholarly article by Louise K. Comfort and Thomas W. Haase
    - o https://www.researchgate.net/publication/242196608_The_Impact_of_Hurricane_Katrina_on_Communications_Infrastructure
    - o Comfort, Louise K. and Thomas W. Haase. "Communication, coherence, and collective action: The impact of Hurricane Katrina on communications infrastructure." *Public Works Management & Policy* 10, No. 1 (2006): 1-16. Accessed January 28, 2020. DOI: 10.1177/1087724X06289052

- **"Cell phone service must be restored quicker after hurricanes"** – article by Thomas Frank
    - o https://www.scientificamerican.com/article/cell-phone-service-must-be-restored-quicker-after-hurricanes/
    - o Frank, Thomas. "Cell phone service must be restored quicker after hurricanes." *Scientific American,* October 8, 2019. https://www.scientificamerican.com/article/cell-phone-service-must-be-restored-quicker-after-hurricanes/.

RELEVANT GRADE LEVEL EXPECATIONS

This lesson plan addresses the following GLEs in the Louisiana Student Standards for English Language Arts (ELA).[2]

6th Grade
- **Integration of knowledge and ideas** (ELA)
  - o Integrate information presented in different media or formats as well as in words to develop a coherent understanding of a topic or issue
- **Research to build and present knowledge** (ELA)
  - o Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate
- **Comprehension and collaboration** (ELA)
  - o Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on topics, texts, and issues, building on others' ideas and expressing their own clearly

7th Grade
- **Research to Build and Present Knowledge** (ELA)
  - o Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation
- **Comprehension and collaboration** (ELA)
  - o See description above for 6th Grade
- **Presentation of knowledge and ideas** (ELA)
  - o Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples.

8th Grade
- **Research to Build and Present Knowledge** (ELA)
  - o Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration
- **Comprehension and collaboration** (ELA)
  - o See description above for 6th Grade
- **Presentation of knowledge and ideas**
  - o Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details.

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[2] https://www.louisianabelieves.com/docs/default-source/teacher-toolbox-resources/k-12-ela-standards.pdf?sfvrsn=36