

PROJECT PLANNER

1. Project Overview

Project Title	Ready for Anything	Public Product(s) (Individual and Team)	Preparedness campaigns or guides for different natural hazards Individual Products Evidence of the inquiry process through note-taking documents and questions for experts Team/Whole Class Products Preparedness campaign or guide on how to best prepare for a natural hazard that will be presented at a local community/government meeting and during a showcase evening for all community members
Driving Question	How can we keep our communities safe in the face of natural hazards?		
Grade Level/ Subject	4th		
Time Frame	4 ½ weeks		
Project Summary	Students work in teams to learn about the causes, features, and risks of common natural hazards and then produce preparedness campaigns or guides for each major type of hazard. Students will conduct in-depth research on their natural hazards, including in-person or virtual interviews with people who have experienced these hazards firsthand, as well as with scientists, engineers, and disaster preparedness specialists.		

2. Learning Goals

Standards	<p>NGSS: 4-ESS3-2 Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.</p> <p>3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p>	Literacy Skills	<p>CCSS-ELA-Literacy</p> <p>W.4.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic.</p> <p>W.4.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p>
	<p>C3 Framework for Social Studies</p> <p>D2.Geo.10.3-5 Explain why environmental characteristics vary among different world regions.</p>	Success Skills	<p>Communication and Collaboration</p>
Key Vocabulary	<p>avalanche, blizzard, drought, earthquake</p> <p>hurricane, natural hazard</p> <p>tornado, tsunami</p>	Rubric(s)	<p>Collaboration Rubric 3-5 (PBLWorks)</p> <p>Presentation Rubric 3-5 (PBLWorks)</p>

3. Project Milestones

Directions: Use this section to create a high-level overview of your project. Think of this as the broad outline of the story of your project, with the milestones representing the significant ‘moments’ or ‘stages’ within the story. As you develop these, consider how the inquiry process is unfolding and what learning will take place. The Project Calendar (Section 4) will allow you to build out the milestones in greater detail.

Milestone #1	Milestone #2	Milestone #3	Milestone #4	Milestone #5	Milestone #6 Public Product
As an entry event, have students watch a video and begin to brainstorm questions about different natural hazards using the Question Formulation Technique.	The class will determine which of the natural hazards from Milestone 1 have the potential to affect their local community. Students choose the natural hazard they would most like to work on.	Students begin to research the causes, risks, and features of their natural hazard.	Students continue to research their natural hazard by asking experts, scientists, and/or people who have experienced the hazard about the impacts the hazard could have on their community.	Students draft their preparedness campaigns or guides to inform community members about potential hazards and how to prepare for the hazard if it were to affect their community.	Students share their preparedness campaigns and guides with community members.
Key Student Question	Key Student Question	Key Student Question	Key Student Question	Key Student Question	Key Student Question
What are some of the different natural hazards that threaten our community, nation, or world?	Which of the natural hazards threaten our local community?	What are the causes, risks, and features of our natural hazard?	What information can experts, scientists, and people who have experienced the hazard share to help us better understand how to prepare for natural hazards?	How can we inform our community about potential natural hazards?	Milestone 6: How can we help our community prepare for potential natural hazards?
Formative Assessment(s)	Formative Assessment(s)	Formative Assessment(s)	Formative Assessment(s)	Formative Assessment(s)	Summative Assessment(s)
Need-to-know questions (whole group)	Note-taking document (individual)	Learning log and note-taking document (individual)	Questions for the interviewee and notes from interviews (individual)	Draft of preparedness campaign or guide (team)	Preparedness campaign or guide (team)

4. Project Calendar

Driving Question: How can we keep our communities safe in the face of natural hazards?

Week: 1 Project Milestone: As an entry event, have students watch a video and begin to brainstorm questions about different natural hazards using the Question Formulation Technique.

Key Student Question(s): What are some of the different natural hazards that threaten our community, nation, or world?

Day 1:

After watching the video *Big Idea 8: Natural Hazards Affect Humans* by AGE education, have students break into smaller groups of two to three to create their initial need-to-know questions. Have students use a variation of the Question Formulation Technique (QFT) to help them create their lists.

Choose several natural hazards for your students to learn more about, selecting from the following list:

Wildfires	Hurricanes
Tornadoes	Extreme heat
Flood	Blizzard
Mudslides	Tsunami
Earthquake eruption	Volcano
Drought	Avalanche

For each of the natural hazards you choose, hang a picture and article for each around the room. begin to brainstorm questions about different natural hazards using the Question Formulation Technique.

Form. Assess:: Need-to-know questions (whole group)

Day 2:

Discuss the expectations for the final product. Add to students' need-to-know questions about the topic and the project.

Ask questions to prompt students to think about what they know.

Authentic student curiosity should drive this process, but you may need to provide prompting and support to help students arrive at questions such as those listed here:

- What causes different natural hazards?
- How can we better prepare for natural hazards?
- How often do natural hazards occur?
- What natural hazards have affected our community in the past?

Form. Assess:: Need-to-know questions (whole group)

Day 3:

Day 4:

Day 5:

Notes: Consider collaborating with a librarian or media specialist to gather additional resources (e.g., print books, development of a resource page). For Milestone 4, identify scientists, experts, and people in your community who have experienced different natural hazards to help support students throughout this project in multiple ways.

Driving Question: How can we keep our communities safe in the face of natural hazards?

Week: 1

Project Milestone: The class will determine which of the natural hazards from Milestone 1 have the potential to affect their local community. Students choose the natural hazard they would most like to work on.

Key Student Question(s): Which of the natural hazards threaten our local community?

Day 1:	Day 2:	Day 3:	Day 4:	Day 5:
<p>Watch <i>Big Idea 8: Natural Hazards Affect Humans</i> again, but this time use a Frayer model graphic organizer as a note-taking document to help students better understand what natural hazards are, what causes them to happen, and the associated risks.</p> <p>Review the natural hazards and create a note-taking chart.</p> <p>Form Assess: Note-taking document (individual)</p>	<p>Model the process of researching one hazard</p> <p>Have students each choose one hazard and guide them through the process you modeled.</p> <p>Have students repeat this process several times so each student can explore a second hazard.</p> <p>Have students choose their top three hazards. Place students in project teams based on interest and have them begin researching their hazard.</p> <p>Revisit the list of need-to-know questions with students.</p> <p>Form Assess: Note-taking document (individual)</p>			

Notes: When modeling the research process, focus on a hazard that is not likely to affect your community, leaving the more relevant natural hazards available for student exploration.

Driving Question: How can we keep our communities safe in the face of natural hazards?

Week: 2

Project Milestone: Students begin to research the causes, risks, and features of their natural hazard.

Key Student Question(s): What are the causes, risks, and features of our natural hazard?

Day 1:	Day 2:	Day 3:	Day 4:	Day 5:
<p>Have students work in their project groups to find the causes, risks, and features of their natural hazard. teach students how to take notes throughout the inquiry process using a note-taking tool</p>	<p>Visit the school library and talk to a media specialist to help find additional resources.</p> <p>Have students continue to work in their project groups and use their note-taking tool.</p>	<p>When students feel they have asked and answered all of their questions, consider having them engage in a critique protocol to give and receive feedback from their peers on the information they've collected.</p>	<p>Have students make revisions to their research.</p> <p>Revisit the list of need-to-know questions with students.</p>	

Notes: Before engaging students in peer review, show Austin's Butterfly: Building Excellence in Student Work or A Group Critique Lesson (both videos feature Ron Berger demonstrating how to guide students in giving one another feedback that is kind, specific, and helpful).

Driving Question: How can we keep our communities safe in the face of natural hazards?

Week: 2

Project Milestone: Students continue to research their natural hazard by asking experts, scientists, and/or people who have experienced the hazard about the impacts the hazard could have on their community.

Key Student Question(s): What information can experts, scientists, and people who have experienced the hazard share to help us better understand how to prepare for natural hazards?

Day 1:	Day 2:	Day 3:	Day 4:	Day 5:
<p>After the initial round of research and critique, have project groups generate a list of questions to ask experts, scientists, and people who have experienced the hazard themselves. After they generate their list of questions, help students find their experts.</p>	<p>Model for students how to write an email or draft a script for a phone conversation asking experts for their time to help the students with a project they are doing in school. During this initial conversation, explain that students will need to find out the best way to communicate with their experts in the future (email, phone, Skype, or in person) and set up a time to conduct the interview.</p> <p>Provide students with an opportunity to role-play with a peer prior to their interviews.</p>	<p>After the initial contact with their experts, have students prepare for their interview. If they plan to meet their interviewee in person or via video conference, have the students prepare their questions and practice with a peer before their meeting. If the student is conducting the interview through email, review how to write professional emails.</p> <p>Form Assess: Questions for the interviewee (individual)</p>	<p>Have students continue taking notes in the same format as they did with their initial research.</p> <p>Revisit the list of need-to-know questions with students.</p> <p>Form Assess: Notes from interviews (individual)</p>	

Notes: Scaffold the letter-writing process with all students prior to them making contact with their experts.

Driving Question: How can we keep our communities safe in the face of natural hazards?

Week: 3-4

Project Milestone: Students draft their preparedness campaigns or guides to inform community members about potential hazards and how to prepare for the hazard if it were to affect their community.

Key Student Question(s): How can we inform our community about potential natural hazards?

Day 1:	Day 2:	Day 3:	Day 4:	Day 5:

Provide students with sample preparedness campaigns or guides, such as those found at ready.gov or the Red Cross. As a class, identify what makes these guides more or less effective and create a shared list to guide student work.

Have teams review their research and prioritize ideas for how best to prepare and respond in the event of their natural hazard. Invite students to compare pros and cons of specific preparedness strategies, taking into account cost, effort required, effectiveness, and other attributes. Have students also consider their audience: and what the best mode would be for reaching this audience. Have students create a first draft of their campaigns/guides.

Before students begin working on their project, make sure to review your project rubric with teams to ensure all students know and understand what is expected in their final product.

Provide students with an opportunity to participate in a feedback carousel with their peers, experts, and/or community members. Guide students to reflect and revise their project based on the project rubric and feedback from peers, experts, or community members.

Have project teams make revisions to their work.

Revisit the list of need-to-know questions with students.

Form Assess: Draft of preparedness campaign or guide (team)

Notes: As an alternative to writing a paragraph, have students record as they share details about their community hero using apps such as Flipgrid or SeeSaw. Guide the recording by prompting the student with some basic questions.

Driving Question: How can we keep our communities safe in the face of natural hazards?

Week: 4 -5

Project Milestone: Students share their preparedness campaigns and guides with community members.

Key Student Question(s): How can we help our community prepare for potential natural hazards?

Day 1:

Prior to having students present their work, go over 17 Killer Presentations Tips for Students Who Want to Stand Out with your students to help them prepare. Then, give them an opportunity to share in front of their peers and receive feedback.

Day 2:

Provide students with an opportunity to present their work with audience members through a showcase evening and/or a presentation at a local community meeting. Elicit feedback from the attendees with the audience feedback form.

Assessment: Preparedness campaign or guide (team)

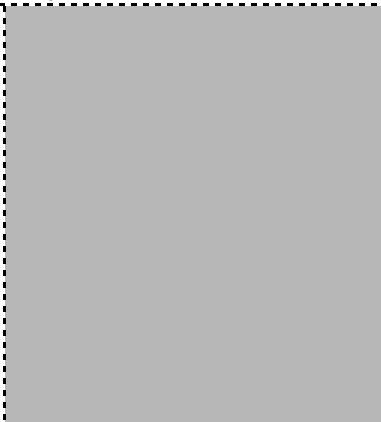
Day 3:

Have students return to their need-to-know questions and identify changes and new understandings.

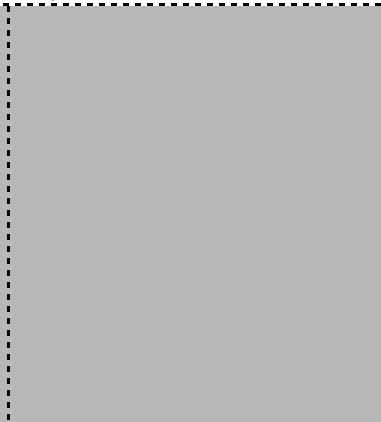
Closing reflection activities and resources might include the following:

- My Thoughts About the Project
- I Used to Think . . . now, I Think . . .

Day 4:



Day 5:



Notes: Prepare your students for their presentations using these tips to help your most reluctant presenters: How to Engage Reluctant (& Even Refusing) Presenters in PBL