SUBJECT: Severe weather and mitigation/adaptation strategies

GRADE LEVEL: 4-6

THEMES: Severe weather, climate change and changing weather, nature-based mitigation and adaptation strategies

In this episode, Olivia is in St. John's, Newfoundland. As part of the Go Green Race, she has to find a habitat marker for puffins. While out on the sea, she is faced with severe weather and must take precautions. Will she make the right choice?

Excerpt: **Warning! Warning!**

https://homeroom.earthrangers.com/podcast-listen-and-learn/warning-warning/

📄 LISTENING ORGANIZER

Before Listening

1. ACTIVATE PRIOR KNOWLEDGE

Ask students:

- Where is Newfoundland?
- What kinds of severe weather is common there?
- How can we find out more about the weather and precautions we should take?

Explain to students that they'll hear more about how we can learn that severe weather is coming and measures we can take to remain safe.

2. KEY VOCABULARY WORDS

Preview the vocabulary by reading aloud the terms and their definitions.

Focus on the term **weather alerts** and the different types of alerts, like watches and warnings: The short video Weather Watch vs Warning, what's the difference? (Ask-a-Scientist, Government of Canada) explains the difference between the two in an easy to understand manner. Weather alerts tell us what kind of weather is coming and how dangerous it might be. In Canada, there are three colours: yellow, orange, and red.

- **Yellow:** Bad weather that can sometimes break objects, cause problems, could hurt people or make them sick. The problems are small and only happen in some places for a short time. Yellow alerts happen the most often.

- **Orange:** Very bad weather that can break a lot of things, stop people from doing what they need to do, hurt people or make them sick. The problems are big, happen in many places, and might last for a few days. Orange alerts don't happen very often.

- **Red:** Very dangerous weather that can destroy things and could be life-threatening. The problems are very big, happen in a lot of places, and last a long time. Red alerts almost never happen.

Puffin: A small black and white seabird that has a multicoloured beak. Approximately 95% of Atlantic Puffin breeding grounds are in Newfoundland and Labrador.

Weather: What's happening outside right now or soon (what you are wearing today).

Climate: The usual weather in a place over a long period of time (what is in your closet).

Severe Weather: Weather that might cause damage, such as strong winds, or have a big impact on people, such as extreme heat.

Extreme Weather: When storms, heat, or cold are stronger or unusual for a place or time of year. The Earth's warming atmosphere causes the climate to change which affects ice, water, and weather patterns.

3. INTRODUCTION TO THE STORY

Explain to the students that in this episode, Olivia is participating in the Go Green Race. To stay in the race, she must find a marker in a Puffin habitat. Captain Reilly will help her get where she needs to go.

4. ACTIVE LISTENING SUPPORT

Introduce the Listening Organizer t-chart to the students and explain how to use it as they are listening.

While Listening

Remind students as they listen to write down notes about what they hear on the left side of their t-chart, and questions they have about what they hear on the right side.

REFLECT ON THE STORY

Ask students to respond to the listening comprehension questions and share their responses with a partner, small group, or the whole class.

Listening Comprehension Questions

1. Why does Olivia want to find her marker?

She wants to find her marker so she doesn't get eliminated from the race.

2. What is the first weather alert that Olivia receives?

She receives a yellow warning for strong winds.

3. What is the weather alert upgraded to?

It is upgraded to a red warning for severe thunderstorms and they have to take shelter immediately.

4. What does Emma tell Olivia?

That her safety is always more important than a race.

5. Even though Olivia arrives last for the race, she is not eliminated. Why?

Because she made the right choice by taking safety precautions. Safety is the most important thing.

Classroom Discussion Questions

Take time for student reflection on the audio story. Use the discussion questions to focus students on key themes and ways we can stay safe with severe weather.

1. Why should we pay attention to weather alerts?

Weather alerts give us information that we need to stay safe. They tell us what kind of weather to expect, such as strong winds, heavy snowfall, or extreme heat; what we can expect, such as reduced visibility or slippery roads; and what we should do, such as avoiding travel or wearing the right clothing.

2. What impact is climate change having on weather?

Climate change can make extreme weather, like thunderstorms, floods, heat waves and droughts, stronger and more frequent.

3. How can we protect ourselves from severe weather?

We can each take precautions like avoiding traveling in bad weather and wearing warm clothing when it is very cold. At a larger scale, there are also nature-based solutions that can help. For example, wetlands are being restored to help prevent flooding by acting like sponges. Farmers plant shelterbelts -- rows of tall trees -- to help protect crops from wind, snow and hail.

There are many innovative ways to mitigate the impacts of severe weather. As a class, research some nature-based solutions, including local examples, for different severe weather types.

EARTH RANGERS HOMEROOM

Changing Climate and Extreme Weather: This overview gives examples of solutions being used to keep people and wildlife safe for eight different types of extreme weather.

EARTH RANGERS MISSION

Ready for Anything: Children create an emergency preparedness kit so they are ready to stay safe in any kind of weather.

GOVERNMENT OF CANADA

Get prepared guides: Give information on what can be done to stay safe during different types of severe weather.

Resources for Educators: A collection of resources for all ages and levels.

"What is" Video series, short videos aimed towards children including What is Climate Change? and What is Climate change Adaptation?

Ask-A-Scientist series, short student-friendly videos where scientists answer questions including Can we stop climate change?, Will we get snow in the winter 2100?, and Are wildfires getting worse because of climate change?

Listen to the whole Earth Rangers Podcast episode

Learn more about the Earth Rangers Podcast

Listening Organizer: T-Chart

As you listen, write down notes about what you hear on the left side and questions you have about what you hear on the right side.

Notes	Questions
Olivia is looking for a puffin habitat	*Why do they have to take shelter?*