

Grade 5 – 6: Geography

Extreme Weather

This resource can be used to plan an individual geography lesson or a unit of study. The suggested activities can be used in the order presented here, or they can be adapted for your lesson plan and classroom.

CURRICULUM OBJECTIVES

VIDEO OUTCOMES

Social studies / Geography / Environment and society

Explain the impact of humans on the physical environment.

Explain and give examples of how nature has impacted the physical environment and human populations.

Science / Weather and Climate

Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

TEACHER PACK OUTCOMES

Social studies / Geography / Environment and society

Explain the impact of humans on the physical environment.

Explain and give examples of how nature has impacted the physical environment and human populations.

Science / Weather and Climate

Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

Language Arts / Writing

Plan and conduct independent research from a variety of sources that represent varying perspectives; evaluate credibility and relevance of information, avoiding plagiarism, and share findings.

Activity	Resources	Outcomes
<p><u>Activity 1: What Is Extreme Weather?</u> Timeframe: 40 minutes Lesson overview: Students will be introduced to extreme weather, discuss the differences between "extreme" and "normal" weather, and identify examples of extreme weather observed on Earth.</p> <hr/> <p>Activate students' prior knowledge of weather by discussing the question "What is weather?".</p> <p>Ask students what they think makes weather "extreme", as opposed to normal or average weather.</p> <p>Watch the ClickView Miniclip <i>Extreme Weather</i>.</p> <p>After watching the video, discuss examples of extreme weather, as well as the reasons they occur and why they are occurring more frequently?</p> <p>Distribute a copy of the <i>What Is Extreme Weather?</i> worksheet to each student to fill in using the information presented in the video.</p> <p>Answers: Weather is considered extreme when it is:</p> <ul style="list-style-type: none"> • <i>Unusual</i> • <i>Unseasonal</i> • <i>Severe</i> • <i>Changed suddenly</i> <p>Natural influences include: <i>Ocean currents, the movement of air around the Earth's surface, the formation of clouds, the amount of water vapor in the atmosphere, the reflection of the sun's rays from the surface of ice and snow, and the natural cycles of greenhouse gases.</i></p> <p>Human influences include: <i>Burning of fossil fuels, deforestation, and farming – all of which contribute to global warming.</i></p>	<p>Smartboard / Digital display</p> <p>ClickView Miniclip – <i>Extreme Weather</i></p> <p><i>What Is Extreme Weather?</i> worksheet</p>	<p>Students will:</p> <ul style="list-style-type: none"> • Explain the impact of humans on the physical environment. • Explain and give examples of how nature has impacted the physical environment and human populations. • Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

Activity

Resources

Outcomes

Activity 2: Types of Extreme Weather

Timeframe: 25 minutes

Lesson overview: Students will learn about and define the various types of extreme weather.

Rewatch the ClickView Miniclip *Extreme Weather*.

After watching, recount the various types of extreme weather. Write these on the board.

For example: heat waves, cyclones, hailstorms, droughts, floods, thunderstorms, tornadoes, wildfires.

As a class, discuss:

- What characterizes each of these extreme weather events?
- What destruction do they cause?
- How do they change the landscape?

Distribute a copy of the *Types of Extreme Weather* worksheet for students to fill in. Students can use the Miniclip video and internet research to help them to complete it.

Smartboard / Digital display

ClickView Miniclip – *Extreme Weather*

Types of Extreme Weather worksheet

Devices with internet access

Students will:

- Explain the impact of humans on the physical environment.
- Explain and give examples of how nature has impacted the physical environment and human populations.

Activity	Resources	Outcomes
<p><u>Activity 3: Climate Change and Weather</u> Timeframe: 4 hours (1.5 hours of lesson time) Lesson overview: Students will learn about climate change and the impact it has on the Earth's temperature and weather by conducting an experiment with coolers and ice.</p> <hr/> <p>Ask students what they know about climate change and global warming.</p> <p>Rewatch the ClickView Miniclip <i>Extreme Weather</i> and pay particular attention to the 3:39 timestamp which discusses human influences on extreme weather.</p> <p>After watching the segment, ask students:</p> <ul style="list-style-type: none"> • What effect has human activity had on climate change? • How has climate change influenced extreme weather events? <p>To demonstrate how Earth's atmosphere works and the effects of global warming, conduct <i>The Cooler Test</i> using the instructions provided.</p> <p>Important note: The results in this experiment will differ depending on the season or weather on the day you conduct it.</p> <p>Students should discuss their predictions and observations during the experiment with classmates and answer the questions provided on the <i>The Cooler Test Instructions</i> in their notebooks.</p> <p>At the end of the experiment, explain that the lid on the cooler acts in the same way as our atmosphere. It keeps the Earth cool from the Sun's intense heat, making sure all living things are kept in a comfortable temperature as well as protecting the ice caps from melting.</p>	<p>Smartboard / Digital display</p> <p>ClickView Miniclip – <i>Extreme Weather</i></p> <p><i>The Cooler Test Instructions</i></p> <p>Notebooks</p> <p>Devices with internet access</p>	<p>Students will:</p> <ul style="list-style-type: none"> • Explain the impact of humans on the physical environment. • Explain and give examples of how nature has impacted the physical environment and human populations. • Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

Activity

Resources

Outcomes

Activity 4: Additional Resources

Timeframe: N/A

Lesson overview: Students can use these videos to learn more about extreme weather and natural disasters.

Students can develop their understanding of extreme weather and natural disasters through the following videos and playlists available in ClickView's Primary Library.

Hyperlinked video	URL
<u>Natural Phenomena</u> (Series: Curriculum Karaoke) Duration: 4 minutes Students read, sing and learn about various natural phenomena that constitute disasters (hurricanes, tornadoes, earthquakes, etc.), the work of agencies around the world that step in to help those affected when these occur, and responsibility for protecting our environment.	http://online.clickview.us/videos/41120158
<u>Natural Disaster</u> (Series: Think like a Global Citizen) Duration: 2 minutes This video explores how natural disasters can change a community.	http://online.clickview.us/videos/40917640
<u>Weathering</u> (Series: Miniclips: Earth's Changing Surface) Duration: 5 minutes What is weathering and how does it create magnificent structures on our planet? This Miniclip explains the process of weathering including the two main types: mechanical and chemical. Students will learn the different natural impacts on this process such as water, temperature change, wind, oxidation, and more.	http://online.clickview.us/videos/39382772
<u>Erosion</u> (Series: Miniclips: Earth's Changing Surface) Duration: 5 minutes What is erosion and how does it change the Earth's surface so drastically? This Miniclip explains the process of erosion including the various mechanisms such as water, wind, ice, and mass movement; defines sediment and deposition as part of this process; and explains how human influence has increased its prevalence through global warming and deforestation.	http://online.clickview.us/videos/39382770


1:1 devices with Internet connection

Access to the videos listed or of your own choosing

Students will:

- Explain the impact of humans on the physical environment.

Activity	Resources	Outcomes
<p><u>Activity 5: Research Task</u> Timeframe: Multiple lessons Lesson overview: Students will conduct a research task on an extreme weather event.</p>	<p>1:1 devices with Internet connection</p>	<p>Students will:</p> <ul style="list-style-type: none"> • Explain the impact of humans on the physical environment. • Explain and give examples of how nature has impacted the physical environment and human populations. • Plan and conduct independent research from a variety of sources that represent varying perspectives; evaluate credibility and relevance of information, avoiding plagiarism, and share findings.
<p>Students are to conduct research on one of the extreme weather event types.</p> <p>They are to find a recent example of this event to include in their research report.</p> <p>They must include the following in their research:</p> <ul style="list-style-type: none"> • Define this type of extreme weather • What is it characterized by? • What causes it? • Where and when has it recently occurred? • What was the name of this recent event? • Impacts on the landscape, biodiversity, population, and settlements due to this event • Damage costs (if applicable) due to this event • How has this event helped communities prepare for a similar weather event? • Photographs of the event <p>Students can present their findings in any way they deem suitable.</p>		
<p><u>Optional:</u> Have each student present their findings to the class to teach other students about their extreme weather event.</p>		

Activity	Resources	Outcomes
<p><u>Activity 6: Interactive Video</u> Timeframe: 15 minutes Lesson overview: Students will watch the ClickView Miniclip and answer the interactive questions to show their understanding of extreme weather.</p> <hr/> <p>ClickView has created an interactive video lesson to accompany the ClickView Miniclip <i>Extreme Weather</i>. It includes a range of question types such as multiple choice, missing word, and true or false.</p> <p>You can assign the interactive video to your students to do at any suitable point in your unit. Alternatively, you can edit the premade questions to suit your students or create your own interactive video.</p> <p>To share the interactive video with your students, follow these steps:</p> <ol style="list-style-type: none"> 1. Search for the Miniclip <i>Extreme Weather</i> that has the interactive logo (). 2. Click to view the video. 3. Click on the "Interactive videos" tab beneath the video. 4. Click the "Print as Worksheet" OR "Save to Workspace" button on the interactive video. 5. If you click "Save to Workspace", you can either click "Share with your students" or access it via your Workspace. <ul style="list-style-type: none"> • If you choose "Share with your students", copy the link and send it to your students. • Otherwise go to your Workspace, select the "Interactive videos" folder, and click "Share" to access the link and send to students. <p>Students can watch and answer the interactive questions either in class or at home. Their results will be collated for you to view from your Workspace.</p> <p>The following guides are available if you require assistance:</p> <p>Creating an interactive video How do I share an interactive video? How do I make my interactive video private/public?</p>	<p>Interactive video for the ClickView Miniclip – <i>Extreme Weather</i></p> <p>1:1 devices with Internet connection</p>	<p>Assessment</p>