



Shutterfly Photo Story Lesson Plan

Subject: Science – Next Generation Science Standards

Grade level: 3

Lesson Title: The World’s Climate Zones

Common Core/State Curriculum Standards:

NGSS.3-ESS2-2 Earth’s Systems

Students who demonstrate understanding can:

NGSS.3-ESS2-2 Obtain and combine information to describe climates in different regions of the world.

Science & Engineering Practices:	Disciplinary Core Ideas:	Crosscutting Concepts:
Obtaining, Evaluating, and Communicating Information Obtaining, evaluating, and communicating information in 3-5 builds on K-2 experiences and progresses to evaluating the merit and accuracy of ideas and methods. <ul style="list-style-type: none">Obtain and combine information from books and other reliable media to explain phenomena.	ESS2.D: Weather and Climate <ul style="list-style-type: none">Climate describes a range of an area’s typical weather conditions and the extent to which those conditions vary over years.	Patterns <ul style="list-style-type: none">Patterns of change can be used to make predictions.

Common Core State Standards Connections:

• **English Language Arts Standards – Reading – Informational Text – Grade 3**

Key Ideas

CCSS-ELA-Literacy.RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

Integration of Knowledge and Ideas

CCSS-ELA-Literacy.RI.3.9 Compare and contrast the most important points and key details presented in two texts on the same topic.

• **English Language Arts Standards – Writing – Grade 3**

Research to Build and Present Knowledge

CCSS-ELA-Literacy.W.3.8 Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.

• **Mathematics – Standards for Mathematical Practice**

CCSS.Math.Practice.MP2 Reason abstractly and quantitatively.

CCSS.Math.Practice.MP4 Model with mathematics.

ISTE NETS for Students:

2. Communication and Collaboration:

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. Students will:

- b. communicate information and ideas effectively to multiple audiences using a variety of media and formats.

Learning Objectives:

- Students will understand the general distinctions between weather and climate.
- Students will appreciate the difficulty of identifying climate trends based on limited data.
- Students will make observations about weather conditions over a period of time.

Students Learning Targets:

- As a result of this lesson, students will have an understanding of climates in different regions of the world.
- As a result of this lesson, students will be able to name and describe the six climate zones.
- As a result of this lesson, students will be able to read a climate map.
- By creating their own published storybook, students will learn to communicate ideas and information to specific audiences, as well as strengthen their familiarity with the writing process.

Instructional Strategies:

- Discussion (small/large group) – class discussions on the writing process
- Direct instruction - providing foundational information for the lesson
- Cooperative learning – collaboration on storyboards, peer review/editing
- Independent practice – creation of a climate zone book using the Photo Story iPad App

How Students Will Use Shutterfly Photo Story:

Students will create a Photo Story book demonstrating their understanding of the world's different climate zones. Students will record what they learn about the six climate zones in the world: tropical, dry, mild, continental, polar, and high elevation.

Required Materials/Lesson Length:

Materials:

- Climate-related library books
- Climate maps of the world
- Weather pages from a newspaper with world weather maps
- Weather websites
- Sentence strips for word cards
- iPads with Photo Story App
- Internet access

Lesson Length: Two to Three Weeks working in school and at home

- Create a personal dictionary of unfamiliar words: 1 hour in class/homework
- Brainstorm/Outline climate report ideas: 2 hours in class/homework
- Draft: 1-2 hours in class/homework
- Editing/Revision: 1-2 hours in class/homework
- Images – Photos/Illustrations: 1-2 hours/homework
- Compilation: 3-4 hours

Resources:

- World climate zones:
<http://www.geography.learnontheinternet.co.uk/topics/climatezones.html>
- Benoit, Peter. *Climate Change*
- Cole, Joanna. *The Magic School Bus and the Climate Challenge*
- Web page maintained by the NASA Goddard Institute for Space Studies explains temperature changes that have occurred globally over the past century, and provides an interactive database of temperature records from around the globe that can be plotted and viewed by users.
- <http://data.giss.nasa.gov/gistemp/>
- A Student's Guide to Global Climate Change - <http://epa.gov/climatechange/kids/index.html>
- EPA: Climate Change - <http://www.epa.gov/climatechange/>

Procedures/Activities: (*What will the teacher and students do?*) (*Prior Knowledge, Opening Activity, Step-by-Step Learning Activities, Closure, Post-Instruction Reflection*)

Opening Activities:

- Explain to students that they will be scientists as they study climates in different regions of the world.
- Throughout the lesson, students will have an opportunity to create a science storybook about the world's different climate zones using an iPad and the Shutterfly Photo Story app.
- Show some examples of science storybooks.

Learning Activities:

- Establish a climate research mission for students:
 - As head of a new National Climate Observation Post, you need to create a Climate Map to illustrate the world's different climate zones.
 - Research the six climate zones in the world: tropical, dry, mild, continental, polar, and high elevation.
 - Within each climate zone are further distinctions that indicate a more specific type of climate. Explain these distinctions.
- Have students record their findings in their classroom journals.
- Based on their research, have students create their Photo Story book about the world's six climate zones.
- Have students create their own illustrated climate map for their book.
- Have students use photos to illustrate their climate map and color in the climate zones with shades that seem appropriate. They might want to use blue for polar regions or red for desert regions.
- Consider doing this exploration of climate zones in cooperation with another school (or schools) in a completely different geographic location. Classes could exchange data with each other for comparison and discussion. Internet access would enhance the links to other schools.

Closure:

Students will present their multimedia Shutterfly Photo Story books about the world's different climate zones to their class and share their Photo Story book with their parents. As a culminating activity, each student will receive a published and printed copy of his or her Shutterfly Photo Story book. Printed copies of the students' books will be shared in their classroom and school libraries.

Reflection:

Discuss with students how well they rate their knowledge of the world's climate zones. How did they enjoy creating their climate zones book? What was their favorite activity?

Differentiation:

Additional differentiation will be determined after formative assessment.

- Invite students to read their climate zone books to peer reading buddies with the assistance of parent volunteers.

Special Education/ESL Accommodations & Modifications:

- Have students work closely with an adult during the writing process.
- Pairing students while researching climate zones would benefit students who have difficulty with visual interpretation of data.
- Write vocabulary, e.g. weather and climate vocabulary on the board and read words aloud. Vocabulary words can also be visually demonstrated using an illustration or action and redefined in very simplistic terms.
- Have students create their world's climate zones books collaboratively, rather than independently.

Extensions:

- How does the climate in which you live affect how you live? Does it influence how you spend your time, like being outdoors or indoors? Does it affect what people do for a living?
- Keep track of the weather for a week in your hometown and in five other cities: Cairo, Egypt; Nome, Alaska; Sydney, Australia; Moscow, Russia; and Manaus, Brazil.
- On a world map locate all six locations. Which had the least and the most precipitation (rain or snow)? Which had the highest and lowest average daily temperatures?
- Identify the climate zone for each of the six locations.

Assessment:

- Teacher observations
- Classroom work participation
- Completed Photo Story book about world's different climate zones.
- Have students complete this journal entry: The world's climate zone project was (easy) (okay) (hard) for me because ... (Circle one)