

Floods

Author Jennifer Roman
Grade Level Kindergarten
Duration 3 class periods

National Standards

GEOGRAPHY

Element 5: Environment and Society

15. How physical systems affect human systems

Element 6: The Uses of Geography

18. How to apply geography to interpret the present and plan for the future

AZ Standards

SCIENCE

Earth and Space Standards

K.E1U1.4 Observe, describe, ask questions, and predict seasonal weather patterns; and how those patterns impact plants and animals (including humans).

Arizona Social Science Standards

GEOGRAPHY

Human-environment interactions are essential aspects of human life in all societies.

K.G2.1 Explain how water and weather impacts humans.

SIOP Elements

Preparation

Adapting content
 Linking to background
Linking to past learning
 Strategies used

Scaffolding

Modeling
 Guided practice
 Independent practice
Comprehensible input

Grouping Option

Whole class
 Small groups
 Partners
 Independent

Integrating Processes

Reading
 Writing
Speaking
Listening

Application

Hands on
 Meaningful
Linked to objectives
Promotes engagement

Assessment

Individual
 Group
 Written
 Oral

Arizona English Language Proficiency Standards

Kindergarten

Basic

Speaking and Writing

Standard 3 By the end of each language proficiency level, an English learner can speak and write about grade appropriate complex literary and informational texts and topics.

B-1 tell or dictate simple messages about a variety of topics, experiences, or events.

B-2: add appropriate drawings or other visual displays to provide additional detail to a variety of topics, experiences, or events.

Overview

Students often have a misconception that since Arizona is a desert, it cannot flood. However, floods

can occur in any state--even Arizona. Therefore, it is important for students understand the negative impacts that a flood can have on our landscape and families.

Floods

Purpose

In this lesson, students will use critical thinking and engagement activities to discuss, build, test, and reflect on their decisions on where to build a home. The lesson will build student awareness of the potential effects of floods and help students recognize the warning signs of a coming flood and how to prepare for floods. This lesson includes strategies for diverse learners (ELLs).

Key Vocabulary

flood- a large amount of water that covers land that is usually dry

weather- day to day temperature and condition of the air (sunny, warm, rainy, cold, etc.)

negative- a bad thing

positive- a good thing

protect- to take care of

swell- to get bigger

Materials

- Read aloud book Flood
- Art Supplies such as:
 - Popsicle sticks
 - Glue
 - Scissors
 - Small boxes
 - Pipe cleaners
 - Paper cups
 - Paper plates
 - Construction paper
 - Tape
 - Rubber bands
 - Straws
 - Cotton balls
 - Q-tips
- Pre-made mural with landscape
 - Separate sun and raincloud pieces
 - Separate blue pieces for the river
- Pictures of real floods
<https://kids.nationalgeographic.com/explore/science/flood/>
- Blank Houses template
- Vocabulary Cards
- Vocabulary Test (2 versions) and Answer Key
- Did my house survive? worksheet
- Planning for Floods worksheet
- Flood sounds: <https://youtu.be/13G4BBnJIYk>
- Rain sounds: <https://youtu.be/J6G0EuPAoKQ>

Objectives

The student will be able to:

1. Describe how water and weather can have a positive and/or negative on humans
2. Identify warning signs that stormy weather will lead to a flood
3. Reflect how living in one area is better than another

Procedures

SESSION ONE

Engage:

- a. Have students sit on carpet or tables as a whole class. Turn off lights to add to the experience and play the sounds of rain/storm. (2 min)
<https://youtu.be/J6G0EuPAoKQ>
- b. Ask students questions from the list below:
 - What do you hear?
 - What is that?
 - What happens when it rains?
 - What happens when it rains too much?
 - Would you like to learn about what happened to a family when it rained too much?**(Integrating Processes: Listening, Speaking)**

Explore:

- a. Introduce the picture book, Flood by Alvaro Villa, to the students by showing them the front cover.
- b. Have students come up with predictions for what the story might be about. Allow 2-3 students to share their thoughts.
- c. Point out the word "Flood" from the cover page
- d. Ask students if any of them knows what the word flood means. **(Preparation: Linking to past learning)**
- e. Ask follow-up questions from the list below:
 - Does the cover page look normal?
 - What can you tell me about this picture?
 - What is wrong with this picture?
- f. A few sentence stems that can be used to help students are:
 - I think the book is going to be about _____ because _____.
 - The picture is _____ because _____.**(Preparation: Linking to past learning, Scaffolding: Comprehensible input)**
- g. The picture book, Flood, has no words. The students should make meaningful connections by following the story using only the illustrations and listening to the different perspectives that each student brings. **(Scaffolding: Comprehensible input, Preparation: Linking to background, Integrated Processes: Listening)**

Explain:

- Distribute sets of or project the vocabulary words and explain each word. Add the words to the Word Wall.
- Show and discuss “Why do floods happen?” video (3.41 min) https://youtu.be/Qe350nm_odA
- Show and discuss images of floods. <https://kids.nationalgeographic.com/explore/science/flood/>
- Then, show and discuss how using sandbags in a flood can help or not help. (1.54 min) <https://youtu.be/DCEplc5e9g> (**Integrating Processes: Listening and Speaking**)

SESSION TWO

Prior to this session; Create a mural with a sun and some land features like mountains, a river, etc.

Elaborate:

- Distribute one house to each student and instruct students to color one blank house and write their name on their houses.
- Model by coloring a house, writing your name on it and then putting the house on the mural. Have students place their houses on the mural using tape. (**Scaffolding: Modeling, Application: Hands on**)
- Take a picture of the mural after all houses have been placed.
- Ask a few students to share out why they chose to put their houses in certain areas of the mural such as near the river, or in the mountains etc. (**Integrating Processes: Listening and Speaking**)
- Take the sun off of the mural and add rain clouds. Discuss the rain cloud.
 - o If it rains a little is that okay?
 - o If it rains a lot what can happen?
- Cover both sides of the river with the extra blue (water) pieces. Ask students what occurred after you covered the sides of the river? Direct students to think about the houses that may have been next to the river and are now covered by the extra pieces or flooded. (**Application: Linking to objectives**)
- Distribute one strip from the Did my house survive? worksheet and have them assess their house on the mural. Have them return the strip with their name on it. (**Assessment: Individual**)
- Take a picture of the houses and any flooding.
- Explain to students that they will now have time to think about something that can protect their house from flood water. When they have an idea, they will draw it.
- Distribute the Planning for Floods worksheet.

- After drawing their designs, introduce the art supplies that are available.
- Give time for students to create their houses using flood prevention ideas. (**Application: Hands-on, Promotes Engagement, Linked to Objectives**)

SESSION THREE:

Prior to this session: Obtain a large horizontal container and fill it with dirt. Make sure the dirt is NOT evenly spread but has low and high spaces. It is also important that there is a line carved through the dirt to act as a river. Have a water source available like a hose attached to a faucet.

Evaluate:

- Explain to students that you will be going outside with their flood prevention ideas/houses to test if their structures will survive a flood.
- Direct students to place their structures somewhere in the container.
- After students are done placing their structures, use a water hose or a pitcher to start pouring water
- Ask these questions:
 - o Where the water is going?
 - o What is happening to the structures?
 - o How is the water changing the dirt (the landscape)? (**Scaffolding: Comprehensible input**)
- Take a picture of the houses and any flooding.
- Distribute one strip from the Did my house survive? worksheet and have them assess their structure in the container. Have them return the strip with their name on it. (**Assessment: Individual**)
- Look back at the mural and have students think about where they had their houses before the flood occurred. Ask students if they would like to change the location of their house now that they know what can happen if they are too close to the river. (**Scaffolding: Comprehensible input**)
- Give students time to move their houses. (**Application: Hands-on, Promotes Engagement, Linked to Objectives**)
- After moving houses take a picture once again
- Compare all three pictures and allow students to see 1) their first idea, 2) their second idea, and 3) their final idea of how to protect their home from flooding. (**Scaffolding: Comprehensible input**)
- Use the Did my house survive? worksheet to assess student learning. Students should have moved their house out of the flood plain. (**Assessment: Individual**)

Assessment

Floods

ELA

Vocabulary learned can be assessed. Students will demonstrate mastery with a score 80% or higher on the Vocabulary Test. There are two versions of the test provided.

Geography and Science

The did my house survive? worksheet can be graded. Students will demonstrate mastery by a score of Satisfactory (a happy face) on their third placement of the structure unless it is in the flood plain.

Did my house survive?			
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The Planning for Floods worksheet can be graded for completeness. Mastery will be considered 75% or higher.

Extensions

- Discuss the pros/cons of living near a river.
- Discuss the purpose of dams and/or design and build one.
- Experiment with changing the flow of the water when using the container filled with dirt.

Sources

Villa, Alvaro F., FLOOD. Minnesota: Capstone Young Readers, 2013

Flood sounds: <https://youtu.be/13G4BBnJIYk>

Rain sounds: <https://youtu.be/J6G0EuPAoKQ>

Slideshow of photos

<https://kids.nationalgeographic.com/explore/science/flood/>