

Lesson 1: Flood Awareness

Performance Expectation:

- MS-ESS3-2- Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.

Timing: 60 minutes

Materials:

- Flood Investigation Science Notebook Page (optional)
- Storm Impact Science Notebook Page
- RGJ Article (<https://www.rgj.com/story/news/2017/12/11/snow-flood-dust-storm-8-worst-storms-northern-nevada/903536001/>)
- Flood Prediction Science Notebook Page

Lesson Directions:

- Introduction – Flood Investigation (20 minutes)
 1. Tell students they are going to be learning about floods and more specifically how scientists can predict floods to help mitigate their effect on communities.
 2. Pass out the Flood Investigation Science Notebook Page.
 - a. If doing virtually, ask students to open the document.
 3. Have students write/type any information they already know about floods.
 - a. This part can also include a discussion where students share their knowledge after they have answered the question.
 4. Have students look at the picture of Reno of the 1997 Flood and read the caption.
 5. Have students write down all the questions they have about the picture and caption.
 - a. This section could also be done as a discussion whole group. Show students the picture and caption. Have them generate questions and write them all down either on chart paper or virtually using a Jamboard.
 6. Have students write down all the topics they want to know about floods.
 - a. This part could also be done as a discussion with students sharing topics they still want to learn about. These ideas can be added to the chart paper or Jamboard as well.
- Storm Impact (20 minutes)
 1. Have students read the first two sections (The winter storm of 1996 and Flood soaks Reno-Sparks in 1997) of the Reno Gazette Journal Article (<https://www.rgj.com/story/news/2017/12/11/snow-flood-dust-storm-8-worst-storms-northern-nevada/903536001/>).
 2. Pass out or give access to the Storm Impact Science Notebook Page.

3. Have students answer the questions about the RGJ article on the Storm Impact Science Notebook Page, as well as the reflection question at the bottom.
 - a. The reflection question could also be used as a discussion question. Ask students to share their thoughts before or after they answer the question.
- Flood Prediction (20 minutes)
 1. Pass out or give access to the Flood Prediction Science Notebook Page.
 2. Ask students to think about how they think scientists predict floods and what information they think is important for scientists to know when predicting floods.
 - a. This could be done as a think, pair, share or a whole class discussion.
 3. Have students record their answers on the worksheet.
 4. Have students read through the different tools and measurements scientists use to predict floods.
 - a. This can be done whole group or individually. Discussions could also be had about students' thoughts on each of the tools.
 5. Ask students to look at the given data. Ask the students if they think the data provided is enough to predict an incoming flood and why or why not.
 - a. This would be a good place to have an optional discussion about how much data is enough data.