EDUCATOR'S GUIDE

Wild Weather at Sea

Preparation

Overview and Objectives
This lesson is geared toward students with intellectual and developmental disabilities.

By connecting weather families have observed to the experiences of sailors on *Intrepid* and submarine *Growle*r, participants will learn the importance of teamwork to overcome challenging situations.

This lesson includes a slideshow in which an instructor can lead participants through

Standards

Common Core Anchor Standards

CCSS.ELA-LITERACY.CCRA.R.7

National Core Arts Standards

Creating Anchor Standard #1

Instructional Modalities

This activity was designed for both synchronous or asynchronous instruction.

For **synchronous instruction**, we recommend a platform that allows both for whole class discussion and for students to interact in small groups.

For **asynchronous adaptations**, we provide suggestions for teachers to provide additional support for the activities and for students to share their work with each other.

Materials

- **Wild Weather at Sea Powerpoint**
- **Wind Vane Activity Visual Instructions**
- **Intrepid's Arrow Template PDF**

Lesson

1. **Introductory Activity**
    a. Begin the lesson by using the slideshow to introduce why accurately predicting the weather is important to Navy ships and aircraft. .
    b. Guiding Questions:
        i. **Why is it important to know about the weather on a ship like *Intrepid*?**
        ii. **How do you find out about the weather?**
        iii. **What can we create to find out more about the weather on our own?**

2. **Core Activity**
    - Explain to participants that an aircraft carrier, like Intrepid, functions as a floating airport and that weather can affect both ships and airplanes.
        - Bad weather can make Intrepid's job harder to do, so knowing and predicting the weather helped Intrepid's crew prepare.

    - Participants may find out about the weather by looking up the weather forecast or by looking outside. Sailors on *Intrepid* had a couple different ways of learning about and predicting the weather

    - Ask participants to make observations about a photograph of Intrepid's Aerology Division. Participants may point out the crew's uniforms or instruments they are holding.
        - Members of Intrepid's Aerology Division would record weather observations every hour. If the weather was bad they would do this more often.
        - Aerology also launched weather balloons. Weather balloons float high up in the sky and send information about temperature and wind back to the ship.

    - *Intrepid* in good weather:
        - Sailors on the *Intrepid* enjoyed days with good weather.
            - Ask participants to look closely at the photograph. How are the crew enjoying the sunshine in this photo? Answer: They are having a game of wheelbarrow races!
            - Ask participants what they like to do on nice weather days.

- *Intrepid* in bad weather:
    - *Intrepid* sailed through a typhoon and a hurricane while it was in service. These storms have big waves, high winds, and lots of rain!
    - In this picture a giant wave is splashing against *Intrepid's* flight deck, which is almost eight stories high!
    - The crew knew what to do in bad weather to keep themselves and others safe, so no one was seriously hurt by weather.
        - Ask participants if their family has a bad weather plan. What do they think is most important for a bad weather plan?

- Pilots also have to prepare for bad weather.
    - Pilots are people that fly airplanes. They had to prepare for bad weather too! This is a photo of an *Intrepid* pilot from World War II.
        - Ask participants, what is the pilot in the picture wearing?
        - Ask participants what type of weather do you think he is dressed for? Use picture icons to spark ideas. Answer: He is wearing a leather jacket with a fuzzy collar and white scarf. There was less protection from the weather in a WWII plane than there is today, so the pilot is protecting himself from the cold.
    - During WWII, the Navy published manuals to help prepare pilots for different kids of weather.
        - Ask participants what are some of the titles they notice?
        - Ask participants why they think a pilot needs to learn about these weather patterns and how to fly in them?

- Ask participants if they have any ideas about what we can build to find out more about the weather on our own?

- Using the Wind Vane Activity visual instructions and Intrepid's Arrow Template attached, participants can make their own wind vane.
        - Wind Vanes can help you determine what direction the wind is blowing from. For example: If a wind vane is pointing north, you know that the wind is blowing North to South.

- The direction of the wind can help predict weather changes and indicate incoming storms.
- On Intrepid, the ship would often sail into the direction of a strong wind whenever possible to help airplanes launch more smoothly.

Asynchronous Adaptation

Have participants go through the slideshow on their own and create their own Wind Vane. Have students take a picture of their wind vane in action and share it on a Padlet or Google Doc.

Additional Resources/ References

Video Resource: Navy Aerographer's Mate: https://youtu.be/ag3b6bEycdA?si=WjAdxVgTH-xubw9z

- This video outlines the work of Aerographer's mates in the current U.S. Navy. This video was created by the U.S. Navy and posted in 2018.

The Museum is deeply grateful to the funders that make our education programs possible:

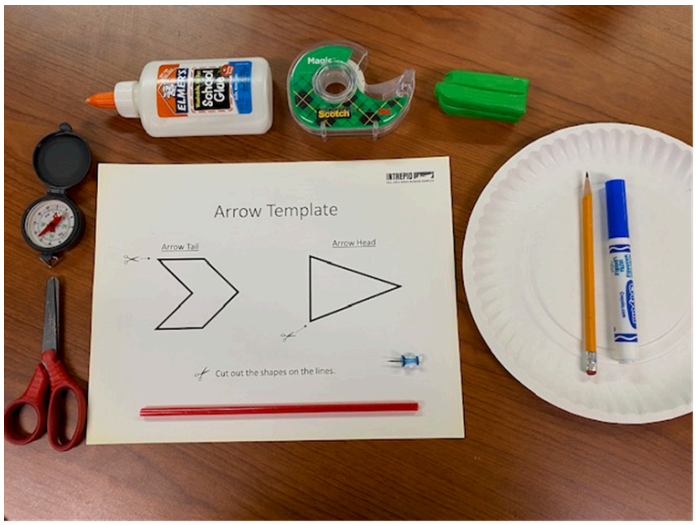
This project was made possible in part by the Institute of Museum and Library Services, Award ID: CAGML-247144-OMLS-20

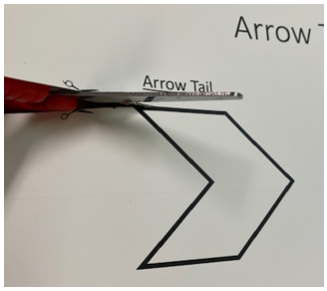
ACTIVITY 1: Make a Wind Vane

A wind vane can help you figure out the direction the wind is blowing. The direction of the wind can help forecast the weather.

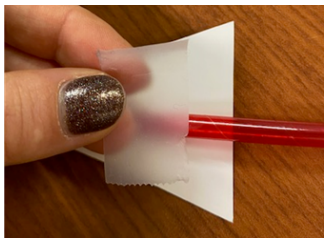
<u>To make a wind vane you will need</u>:

- sturdy paper like cardstock
- Intrepid's Arrow Template
- a push pin
- scissors
- tape
- glue
- a pencil with an eraser
- a straw
- modeling clay
- a paper plate
- a compass (can be one on a smartphone or tablet)
- a marker

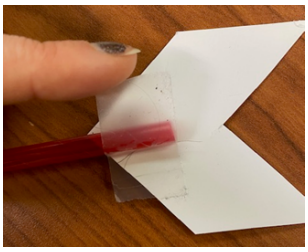




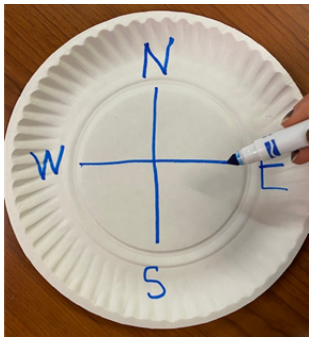
1. Print or trace Intrepid's Arrow Template onto sturdy paper. Cut out the arrow template on the lines.
* it doesn't have to be perfect!



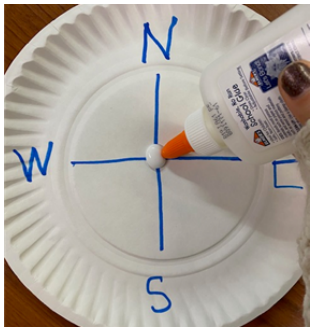
2. Tape the arrow head to one end of the straw.



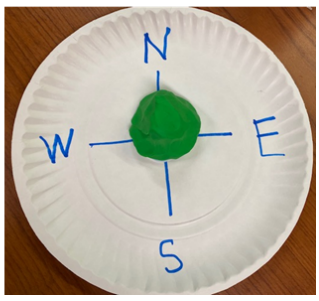
3. Tape the arrow tail to the other end of the straw.



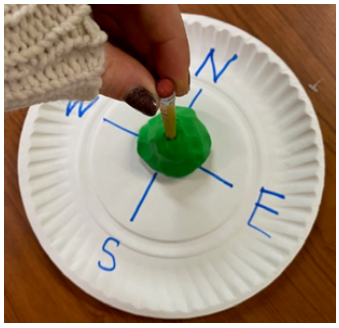
4. Draw a compass on your paper plate.
Make sure to remember to add letters for the directions North, South, East and West.



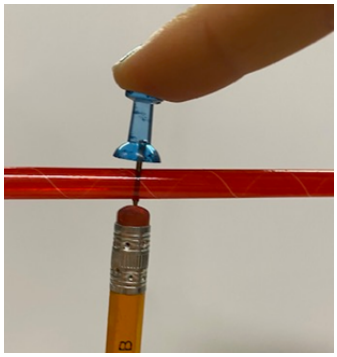
5. Put some glue in the middle of the plate, where the directions meet.



6. Mold the clay into a lump. Place it on the glue in the center of the paper plate.

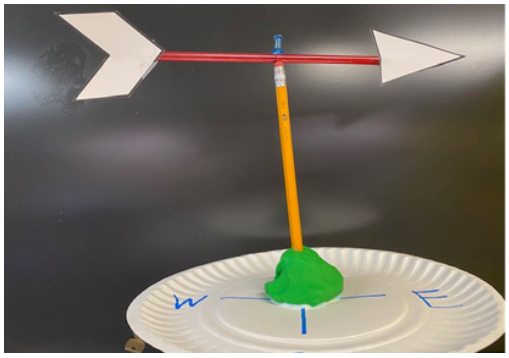


7. Push the pointy end of the pencil into the clay. Mold the clay around the pencil so that it stands straight up.



8. Push the pin through the center of the straw and into the pencil eraser.

*Ask an adult or a friend for help if this is hard



You are finished building your wind vane!

When you are ready to test your wind vane, take your project and your compass outside.

Testing Your Wind Vane

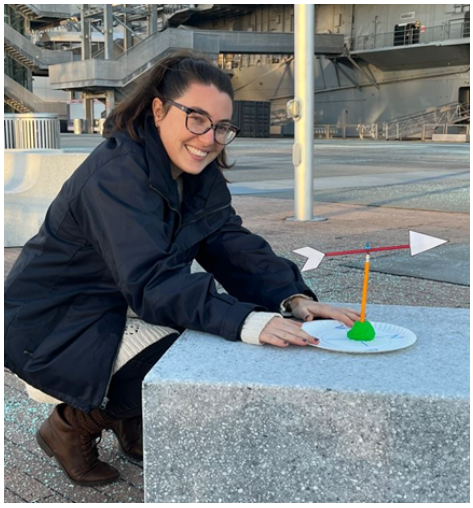
1. Use your breath to make sure your project can spin! If the arrow does not spin, loosen the pin and try again.

2. Find North on your compass. You can use a compass like the one in the picture or a compass on a smartphone or tablet.

To find north, put the compass on a flat surface.

One arrow of the compass always points north, the other always points south. On this compass the north arrow has white paint on it.

3. Find a flat surface. Set up your wind vane so that North on the paper plate faces the same direction as North on your compass.



4. If it is very windy, you may need to hold down the plate!

Observe the wind vane. The arrow points to the direction the wind is blowing from.

If the arrow is pointing to the North, the wind is blowing North to South!