BLOWING IN THE WIND

LESSON OVERVIEW

Grade Levels: K-5

Students will build their own windsock that can be used to make observations and predictions about the weather.

STANDARDS

NGSS **K-ESS3-2**	Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.
NGSS **ESS3.B**	Natural Hazards -Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events. (K-ESS3-2)
NGSS **K-2-ETS1-2**	Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

OBJECTIVES

- Students will create a windsock that they will use to make observations about the weather.
- Students will discuss ways to predict weather and how to stay safe during times of severe weather.

MATERIALS

- Construction paper
- Party streamers or tissue paper
- String
- Markers/crayons
- Tape
- Scissors

PROCEDURES

Procedures for Creating Windsocks

STEP 1: Give students a few minutes to decorate one side of their sheet of construction paper.

STEP 2: Cut four or five pieces of party streamers all to the same length, about one meter long.

If you do not have party streamers, you can cut strips of tissue paper to use instead.

STEP 3: Tape the streamers to the blank side of the construction paper along one of the longer sides so that they are about equally spaced.

STEP 4: Roll the sheet of construction paper into a column so that the streamers hang down and so that the decorations are on the outside. Secure the ends of the construction paper with tape.

STEP 5: Tape a piece of string across the opening of the end of the windsock that does not have the streamers. This string can be used to hang the windsocks outside.

STEP 6: Test the windsock in the wind and answer the following questions.

- Which places have the highest amounts of wind?
- Which places have the least amount of wind?

An extension activity would be to have the students record video of the windsock for a few seconds in the places they found to have the highest and least amounts of wind and write down their observational data.

Guiding Questions for a Class Discussion Following the Activity

- How can your windsock be used to predict whether or not a storm is approaching and/or how severe a storm will be?
- If you looked outside and noticed your windsock moving around a lot, what might this mean?
- What are some advantages of being able predict bad weather?

How Is a Windsock Useful?

Severe weather is usually accompanied by increases in wind speed. However, wind is not something that we can see with our eyes. When a windsock is placed outside, the amount that it blows around helps us see the wind. When the windsock blows around a great deal, we can conclude that there are very strong winds and perhaps a storm is coming. Being able to predict a severe storm allows us to prepare and take the necessary precautions to stay safe.

RUBRIC

	Target (3)	Meets (2)	Partially Meets (1)	Does Not Meet (0)
WINDSOCK DESIGN	Does a great job showing an understanding of design for a purpose.	Does an okay job with showing an understanding of designing for a purpose.	Tries but has great difficulty showing an understanding of the design process.	Does not show an understanding of design.
USE OF MATERIALS	Inventively chooses materials that are interesting and support the project's purpose.	Appropriately chooses materials to support the project's purpose.	Chooses materials but some work against the purpose of the project.	Does not choose appropriate materials.
COLLABORATION	Works well with others and discusses ideas in a fair, respectful, encouraging way and is considerate of the feelings of others.	Works okay with others and discusses ideas in a fair, respectful way, but may not have been encouraging. Considers the feelings of others.	Works with others, but did not contribute a fair share of work OR was discouraging and did not consider the feelings of everyone.	Did not work well with others and/or discusses ideas in an unfair, disrespectful way.
REQUIREMENTS	Meets all of the requirements for the project.	Meets most of the requirements for the project.	Meets some of the requirements for the project.	Does not meet the requirements for the project.
DEMONSTRATION OF KNOWLEDGE OF CONTENT IN DISCUSSIONS AND ACTIVITIES	Does a great job showing an understanding of the content covered in class.	Does an okay job with showing an understanding of the content covered in class.	Tries but has a difficult time showing an understanding of the content covered in class.	Does not show an understanding of the content covered in class.
Total				/15