

Objective

By the end of this lesson, you will be able to create a working weather vane and understand the basic principles of how it works.

Materials and Prep

- Cardboard or heavy paper
- Pencil or pen
- Ruler
- Scissors
- Pushpin
- Compass or smartphone with a compass app
- Markers or colored pencils
- String or fishing line
- Tape

No prior knowledge is required for this lesson.

Activities

1. Start by drawing and cutting out an arrow shape from the cardboard or heavy paper. This will be the indicator on your weather vane.
2. Use the ruler to draw a straight line across the arrow shape. This will be the axis of rotation for the weather vane.
3. Mark the center of the line and carefully poke a hole with the pushpin. Make sure the hole is big enough for the pushpin to fit through.
4. Take the compass or use a compass app on your smartphone to find the north direction. Align the arrow shape along the north-south axis, with the hole at the center.
5. Use the markers or colored pencils to decorate your weather vane arrow. You can make it colorful and creative!
6. Cut a piece of string or fishing line, about 30 cm long. Tie one end of the string to the pushpin, and the other end to a fixed point, such as a chair or table leg.
7. Attach the pushpin through the hole in the arrow shape, allowing it to rotate freely.
8. Place your weather vane outdoors in an open area, away from any obstructions. Observe how the arrow points in different directions depending on the wind.

Talking Points

- A weather vane is a simple device used to show the direction of the wind. It is also known as a wind vane.
- The arrow on the weather vane rotates freely around a fixed point, which allows it to align itself with the wind direction.
- By observing the direction in which the arrow points, we can determine the wind direction at that moment.
- The north direction is an important reference point for weather vanes. It helps us understand the other directions, such as east, west, and south.
- The pushpin acts as the axis of rotation for the arrow. It allows the arrow to move easily and point in different directions.
- When decorating your weather vane, you can use different colors and patterns to make it visually appealing.
- Remember to place your weather vane in an open area, away from trees or buildings, to ensure accurate wind direction readings.