

# Title: Blowing Breezes

**Subject:** Science

**Skills:** Observing, recording, drawing conclusions,

**Grade Level:** 2-5

**Length of Lesson:** initial lesson-30 minutes, observations-ongoing

**Overview:** Students will make a weather vane and use it to determine the direction of wind in various locations around the school. Students will also keep a weather journal and see if they can make connections between the wind and the weather.

**Background information:** Wind blows in from all different directions, at different speeds. The wind is a good predictor of the weather that is on its way. Wind that blows in from the west usually brings clear weather. Wind coming from the east usually means stormy weather. Wind that blows in from the north usually brings cooler weather, and wind from the south usually brings warmer weather.

## **Materials (per weathervane)**

2-3 inch triangles cut from cardboard

1 straw

1 straight pin

1 new pencil

Compass

Aluminum pie plate (optional)

Clay (optional)

## **Teaching the Lesson:**

1. Have the students hold a piece of paper, using the thumb and index finger, in front of their mouths. Instruct students to breath normally, and observe the movement of the paper.
2. Next have students blow gently out of their mouths, and observe the paper.
3. Finally, have them blow as though they were blowing out birthday candles, and observe the paper.
4. Ask students what happened to the paper with each different breath. How is this like the wind? What observations can we make when the wind blows outside? What moves?
5. Tell students that the wind not only moves things outside, but can also bring different weather to us, depending on where it comes from.
6. Have students record in their science journals the following chart:

<b>WIND DIRECTION</b>	<b>WEATHER</b>
North	Cooler
South	Warmer
Easter	Stormy
West	Dry

7. Have students, or groups, build their own weathervane. Have students cut two small slits into both ends of the straw, so that the slits are lined up.

8. Have students draw and cut out the two triangles (this can be done ahead of time for younger students). Mark both sides of one triangle with an "X"
9. Slide one flat side of each triangle into each end of the straw, so that it looks like a double-sided arrow.
10. Hold the straw horizontally, and push the straight pin through the middle of the straw and into the eraser of the pencil, being sure not to crush the straw. Younger students may need help with this step. The straw should spin freely.
11. Take the weathervane outside, and using a compass, determine which way the wind is blowing. Your weathervane will point in the direction that the wind is coming from. For example, if the "X" side is pointing east, the winds are coming from the east, which indicates a storm may be approaching.
12. You can extend this activity by labeling the pie plate North, South, East and West, and placing the pencil into a ball of clay, stuck in the middle of the pie plate.
13. Next, take your weathervanes outside and record the date, time, location, current weather and direction of the wind. You can do this in a few different areas around the school, being sure to include at least one open area where the wind is not blocked, and one that does have obstacles, for students to see how data can be affected by the location of the weathervane.
14. Repeat this procedure a few times a week for the next two weeks. Students should be able to notice a pattern of the wind direction, and the weather that approaches in the following days.
15. Have students watch the news or go online to research what the weather is in the surrounding states. They should record the weather to the north, south, east and west, and then compare that to the weather that arrives at the school in the next few days. If the wind was blowing in from the west, did the weather at your school match the weather that the states to the west experienced in the last few days?
16. Students can make another chart in the science journals as follows:

Other States to the...	Date	Other Weather	Our Wind Direction	Our Weather	Date
North					
South					
East					
West					

**Evaluation:**

Students can complete the chart individually, or in groups. Pose "what if..." questions to students for further evaluation. For example, "If the wind is blowing in from the north, and it is cold and rainy, what weather can you expect in your area?"