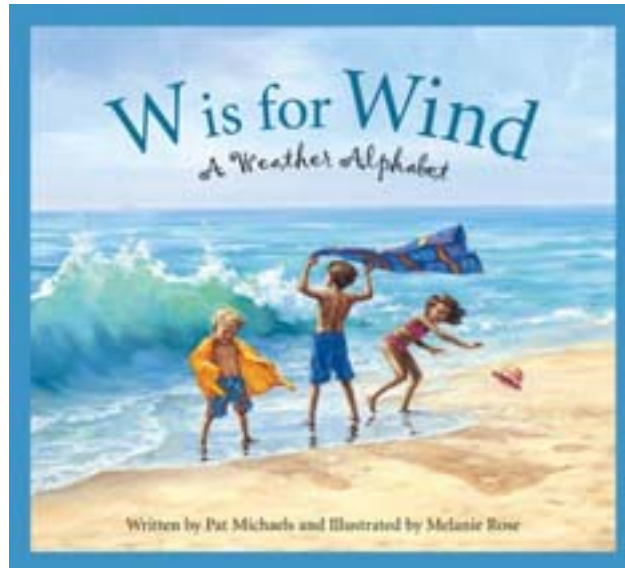


Teacher's Guide



W is for Wind A Weather Alphabet

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WEATHER CROSSWORD

You can find all the information you will need to complete this crossword in the book *W is for Wind*. It's a wonderful book that helps you to learn about our weather.

1. _____ **W**
2. _____ **E**
3. _____ **A** _____
4. _____ _____ **T**
5. _____ **H** _____
6. _____ _____ **E**
7. _____ **R** _____

1. cooled visible water vapor
2. frozen water
3. a colorless gas is water _____
4. the frozen version of dew
5. an electrical charge that strikes from the sky
6. the outer part of the atmosphere
7. keeps you dry in the rain



ALPHABETIZE THE WEATHER

W is for Wind is a fun and exciting book that will help you learn all about our weather. Find the following weather terms in the book and learn the part they play in our weather. Then put these weather terms in alphabetical order.

ozone

funnel cloud

dust

frost

poles

ice age

jet stream

sunshine

dew

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

DID YOU KNOW ?

Wis for Wind is a wonderful book that will teach you about the weather on earth. You can find the answers to all of these questions throughout the book.

Let your search begin!

1. The atmosphere is made up of _____.
2. A tornado can produce winds that reach over _____ miles per hour.
3. The most common type of lightening is called _____.
4. _____ protects us from the sun's harmful ultraviolet rays.
5. The dew point is really a _____.
6. The world's largest ice sheet is on the continent of _____.
7. Water freezes at _____ degrees Fahrenheit or _____ Celsius.
8. The world is divided in _____ time zones.
9. How long does it take for the earth to make one trip around the sun? _____
10. A person who studies the weather is called a _____.



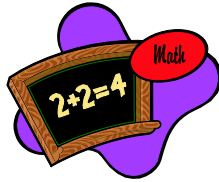
WEATHER WIZARDS

Did you ever wonder about the people who invented new and better ways to study the weather? *W is for Wind* holds the answers to whom some of these weather wizards were and to what they did.



Match each weather wizard with his or her claim to fame.

- | | |
|-------------------------------|--|
| ___ 1. Evangelista Torricelli | A. Kelvin temperature scale |
| ___ 2. William T. Kelvin | B. invented the first mercury thermometer |
| ___ 3. Roy G. Biv | C. flew a kite to measure electricity |
| ___ 4. Benjamin Franklin | D. invented the barometer |
| ___ 5. Gabriel Fahrenheit | E. the colors of the rainbow |
| ___ 6. Ted Fujita | F. invented tornado classifications |
| ___ 7. Chinese | G. invented scale to classify winds |
| ___ 8. Francis Beaufort | H. first used umbrellas as rain protection |



There's Math in the Weather

W is for Wind is a great book to help you learn about the weather. The weather has an effect on many of the decisions we make in our daily lives.

Blair has been keeping track of the high and low temperatures for several cities. Your task is to help her figure out the difference between the high and low temperatures. Thanks for the help! Circle the problems that would use the Celsius scale.

1. Detroit

38
- 9

2. Toronto

21
- 13

3. Miami Beach

72
- 45

4. Honolulu

81
- 59

5. Los Angeles

69
- 53

6. Montreal

17
- 9

What is the freezing point on the Fahrenheit scale _____ ?

On the Celsius scale _____ ?



Layers of the Atmosphere

Does the atmosphere have layers? Yes, it does. Find out the name of each layer in the fun book about weather, *W is for Wind*.

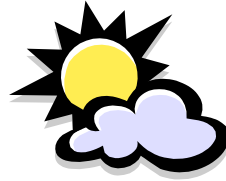
On the diagram of the earth draw and label each layer of the atmosphere. Name the layer that affects our daily lives

_____.





Which Would Be Better?

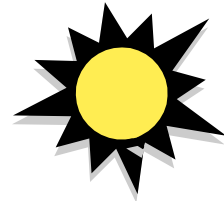


Wis for Wind is a fun-fact-filled book about our weather. Use this resource to help you find the appropriate choice for each question.

Circle the best choice.

You have an important soccer game today. Choose the best situation for the game from each of the five listed below.

1. high or low barometric pressure?
2. cumulonimbus or cumulous clouds?
3. evaporation or precipitation?
4. small or large amount of water vapor?
5. 1700 or 2400 hours?



Write a paragraph describing what the weather conditions would be for your soccer game.

Precipitation Falls



Precipitation is moisture that falls from the sky. Discover the many different types of precipitation in the book *W is for Wind*.

List the various forms of precipitation that fall from the clouds.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Write a paragraph describing what you like to do in your favorite form of precipitation.

Create the Water Cycle

You can create your own water cycle and observe how it works, right in your classroom. First, read about the water cycle in the fact-filled book *Wis for Wind*.

Water Cycle Experiment

Materials

plastic zip top bag

small paper cup

water

tape

Procedure

1. Fill cup with water
2. Carefully place cup in the corner of the bag. Put the bag on an angle to hang.
3. Tape the bag onto a sunny window
4. Observe the bag daily for one week
5. Record your observations

Write your conclusions about the water cycle.



I'll Huff and I'll Puff

The wind can take many shapes and forms. Learn the different forms the wind may take in *Wis for Wind*.

Explain what makes each type of wind unique.

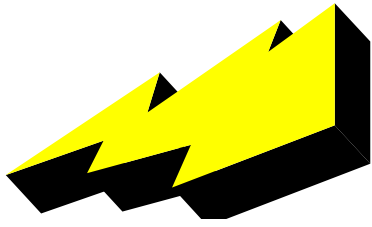
Dust devil

Hurricane

Tornado

Wind

Jet stream



Be a Meteorologist

What does a meteorologist do? You can find out if you can be a meteorologist in *W is for Wind*.

Become an amateur meteorologist for one week. Keep a record of the weather conditions at your home or school each day for one week. Include high and low temperatures, humidity, cloud coverage, and barometric pressure. Have fun!

Monday

Tuesday

Wednesday

Thursday

Friday

Art in the Northern Lights

Learn what causes the Northern Lights on the N page of *W is for Wind*, a great fact-filled book about our weather.

What is the scientific name for the northern lights?

Southern lights? _____

Art Project

Materials: black construction paper
 colored chalk
 spray bottle of water

Procedure:

1. Spray your paper lightly all over. Make it wet but NOT soggy.
2. Use the side of your chalk to make broad strokes that look like the northern lights.
3. Appropriate colors might include: white, yellow, red, green, blue, and violet.
4. When dry, spray your picture with a fixative to keep the chalk from smearing.

Poetry of a Rainbow

What do you know about rainbows? Learn what a rainbow really is made of in *Wis for Wind*. Use this information and your own experiences with rainbows to write an acrostic poem. An acrostic poem describes the word, using the first letter to start each line. An example:

W—whirling, wispy breeze
I—icy in the winter
N—nice on a hot day
D—dances through the leaves

Now try your skills with the rainbow.

R _____
A _____
I _____
N _____
B _____
O _____
W _____
S _____

Measuring Rainfall



How do meteorologists measure the amount of rain that falls?
Learn about meteorologists and rainfall in the book *W is for Wind*.

Directions for making a rain gauge

Materials

Plastic bottle about 10 inches tall
Pebbles or marbles
Waterproof marker
12 inch ruler

Procedure

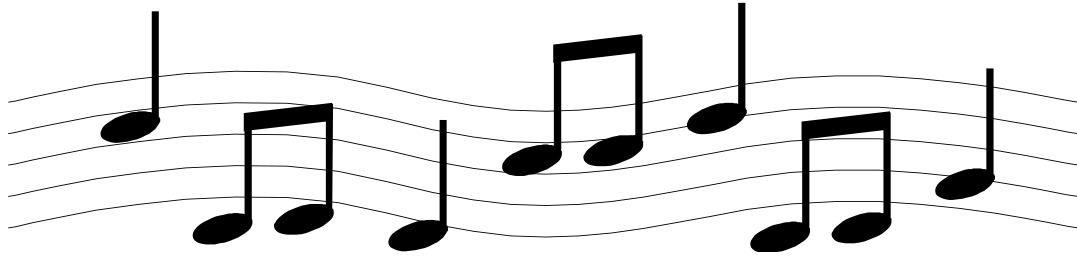
1. Place pebbles in the bottom of the container.
2. Fill container with water one inch deep.
3. Draw a line with permanent marker at the one inch depth.
4. Place the gauge outside in an open area.
5. Measure the rainfall at the same time each day.
6. Chart this information.
7. Check gauge for one week each month.
8. Compare your results for the year.

Remember the Rainbow



Isn't it wonderful to discover a rainbow in the sky? Did you know the colors of the rainbow are always found in the same order? Learn an easy way to remember the order of the colors in the book *W is for Wind*.

Use the information you learned to draw a rainbow using the correct colors and order. Label your colors.



Season Survey

There are special ways to enjoy yourself in each season of the year. Which is your favorite season? Do you prefer activities in the spring, summer, fall, or winter? Take a survey of your class and your family to find each person's favorite season.

Survey

Spring

Summer

Fall

Winter

Season Survey *continued*

Use the data you collected from this survey to make a pictograph representing the data. In a pictograph you use pictures to represent your numbers. Example: one flower equals five people.



We're Warming Up

Another ice age is coming! When will it happen? Not for a long time. Read about our previous ice ages in *W is for Wind*.

Together with two other students, brainstorm the consequences of the following situations.

1. The earth continues to warm.

2. An ice age comes.

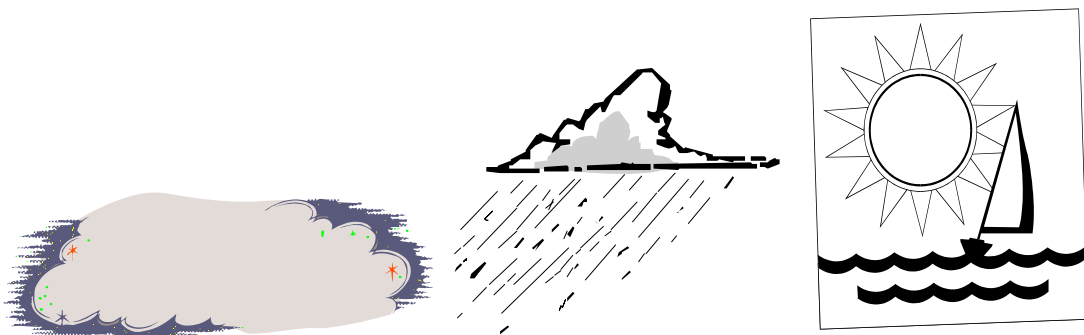
Decide which situation would do the most harm to our environment.

The Water Cycle

Did you know that you drink the same water that the dinosaurs drank? How is that possible? Learn about this and many other interesting facts about the weather in *Wis for Wind*.

After you have read about the water cycle, you will make your own water cycle using the pictures below.

Cut out the pictures and put them in the correct order. Draw arrows to show how the cycle works. Glue each paper on this or another sheet of paper. Label each step using the following terms: condensation, evaporation, precipitation.



W is for Wind
Answer Sheet

Weather Crossword- 1) dew 2) ice 3) vapor 4) frost 5) lightning 6) ozone 7) umbrella

Alphabetize the Weather- 1) dew 2) dust 3) frost 4) funnel cloud 5) ice age 6) jet stream 7) ozone 8) poles 9) sunshine

Did You Know – 1) gases 2) 300 mph 3) forked lightning 4) ozone 5) temperature 6) Antarctica 7) 32 F or 0 C 8) 24 9) 1 yr. or 365 days 10) meteorologist

Weather Wizards- 1) D 2) A 3) E 4) C 5) B 6) F 7) H 8) G

Math in the Weather- 1) 29 2) 8 3) 27 4) 22 5) 16 6) 8 Circle Toronto and Montreal; Fahrenheit scale freezing is 32 degrees, Celsius freezing is 0 degrees

Layers of the Atmosphere- Troposphere

Which would be better- 1) high 2) cumulous 3) evaporation 4) small amount 5) 1700 hours

Precipitation Falls- rain, mist, sprinkles, hail, freezing rain, sleet, graupel, ice pellets