WILD, WILD WEATHER

UNIT OVERVIEW

Students tackle the mysteries and wonders of weather in this four part approach. The first section, "Weather Tracking Chart", involves students measuring and tracking the weather on a daily basis. In the second part, "Core Lessons", basic weather topics such as temperature, wind, pressure, clouds and precipitation are studied. Exciting activities integrated with student notes provide students with solid background information. The third part of the unit, "Enrichment Lessons" focuses on the more dramatic - examining tornadoes, hurricanes, thunderstorms and the greenhouse effect, again using student notes and activities. Six "Optional Activities" make up the fourth part of the unit.

PART I - WEATHER TRACKING CHART

Students keep track of the weather twice daily on a large-sized chart. Students begin the unit by measuring temperature and add other measurements to the chart as they are learned. Eventually students measure temperature, wind speed and direction, pressure, precipitation and cloud cover using student-made or teacher-made instruments, in most cases.

PART II - CORE LESSONS

This section covers basic weather topics by combining activities with student notes. The notes can be photocopied onto overhead projector transparencies or simply written on the board.

Solid Liquid Gas
 Changes of State
 Weather Whys (Worksheet)
 Temperature
 Baby Food Jar Madness

4. Wind - Wind Vane

5. High And Low Pressure - Weather Pictograms
6. Clouds - Clouds in a Jar

7. Precipitation - Pop Bottle Rain Gauge

PART III - ENRICHMENT LESSONS

Similar to Part II, this section uses overhead notes and closely related assignments to examine such things as tornadoes, hurricanes and thunderstorms. Teachers may use all these lessons or select a few depending on availability of time and suitability.

8. Thunderstorms - Popcorn Pilot (Creative Writing)

9. Tornadoes - Rating Tornadoes (Fujita Intensity Scale)

10. Hurricanes - Naming Hurricanes (Logic Puzzle)

11. Weather Forecasting - Weather Predicting
12. Greenhouse Effect - Letter To The Editor
13. Review - Matching Review

PART IV - OPTIONAL ACTIVITIES

These, mostly fun activities, can be integrated into the unit as the teacher sees fit.

1. Weather Wordsearches 4. Weather Reporters

2. Crossword Puzzle 5. Movie Review - "Twister"

3. Humidity Measurement 6. Groundhog Day

PART I - WEATHER TRACKING CHART

Students keep track of the weather twice daily on a large-sized chart. Students begin the unit by measuring temperature and add other measurements to the chart as they are learned. Eventually students measure temperature, wind speed and direction, pressure, precipitation and cloud cover using student-made or teacher-made instruments, in most cases.

Twice a day, have a pair of students leave the class for a few minutes to track the weather. The place and time should be consistent from day to day - preferably first thing in the morning and right after lunch. The next day, a different pair takes the measurements.

Begin by having students measure the temperature. When students have finished the section about wind, have them add wind speed and direction to the chart. Continue on with pressure, precipitation and cloud description.

Date	AM or PM	Students	Temp. (C°)	Wind Speed (km/h)	Wind Direction	Pressure (Kpa)	Cloud Description			
				2 2 2 2						
				Y -						
	-									

ISBN: 978-1-55319-004-2 ©rainbowhorizons.com RHPA41

WEATHER PICTOGRAMS

NAME: _

©rainbowhorizons.com RHPA41

Instructions: Use the clues to solve the tricky puzzles.

ISBN: 978-1-55319-004-2



WIND VANE

NAME: _

Instructions:

To build this simple weather vane that shows wind direction, you will n Step 1 Papermate pen, two M'Donald's straws, a piece of cardboard, some scotch heavy paper.

Cut out the square on the next page and glue it to a piece of cardboard us Step 2

a gluestick. Cut out the cardboard base.

Separate the ink cartridge from the body of a Papermate brand of pen. Step 3

At the center of the base where the lines cross, stick the ballpoint end of the pen cartridge about one cm through the cardboard, being sure that the cartridge is Step 4 straight up and down.

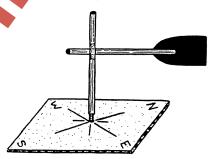
Tape the two straws together as shown. Make a 3 cm long, lengthwise cut on the end of one of the straws for the fin to fit into. Step 5

Cut out a fin that will fit into the cut. The shape of the fin is for you to decide but two are shown to act as guidelines. Tape the fin on. Step 6

Slide the straws over the pen cartridge and you have a working wind vane. Step 7

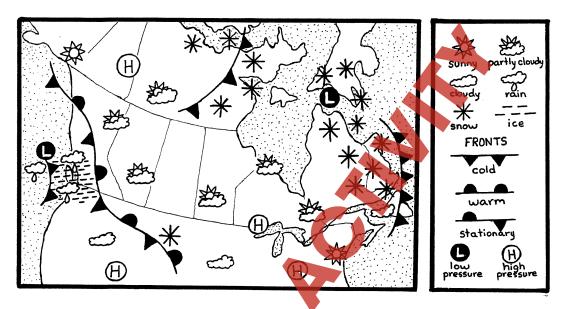
Measuring The Wind Direction

Hold the wind vane level in an open area, away from buildings, being sure that the N corner on the wind vane is pointing straight North. Remember that a West wind comes from the west and so



ISBN: 978-1-55319-004-2 ©rainbowhorizons.com RHPA41

Date: January 6, North America



Describe the weather in Winnipeg, Manitoba. (cloudy/sunny/hot/cool/rainy/snowy)

Describe the weather in Dawson, Yukon.

Describe the weather in Victoria, B.C.

ribe the weather in Goose Bay, Labrador.

ISBN: 978-1-55319-004-2 ©rainbowhorizons.com RHPA41

WEATHER CROSSWORD

NAME:

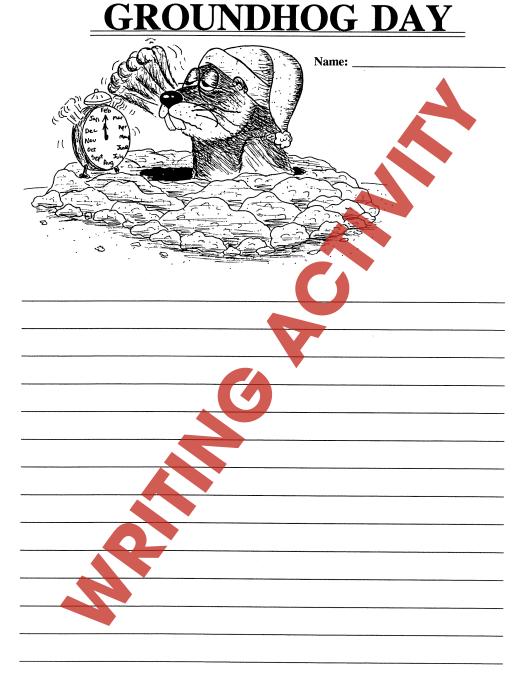
CLUES <u>Down</u>

- What a hurricage in Australia is called. A measure of how fast particles are moving.
- When a gas changes to a liquid. 3. This type of pressure means clear weather.
- Measures temperature.
- Greenhouse effect will cause changes to this.
- Highest energy state (also called vapour). 10. Caused by particles rubbing together in a
- cloud.
- 12. A high, strong wind.
- Like rain, these are made up of tiny water 15. droplets.
- Water in a solid state.

ISBN: 978-1-55319-004-2

<u>Across</u>

- When a liquid changes to a gas.
- Rain, hail and snow are examples of this.
- Measures pressure.
- High, whispy clouds made of ice crystals.
- 14. Measures wind speed.
- A meteorologist studies this.
- 17. Twister.
- 18. A severe tropical storm.
- 20. A liquid will do this if heat is taken away.



THUMBS UP OR THUMBS DOWN

	Name:									
TITLE OF MOVI	E:									
TITLE OF MOVE										
		<u> </u>								

		ver								
FINAL RATING:										
DNI, 070 1 55010 001 0		Orajahauha-da	Dur							
BN: 978-1-55319-004-2	42	©rainbowhorizons.com	кнР							

Wind

Wind is simply air that is moving. It is created when air flows from areas of high pressure to areas of low pressure. The larger the difference between the high and low pressure areas, the stronger the wind.

One of the most common causes of wind is the sun's uneven heating of the land and water. During the day, the land heats up faster than the water. This warm air above the land will rise, forming a low pressure area. As this air rises, cooler air from the sides (high pressure area) will come in to fill its place. This explains why the wind often "picks up" in the late morning and afternoon as air is warmed quickly, then "dies off" when the sun sets in the evening.

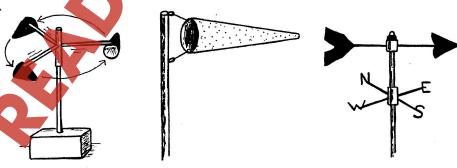


Measuring Wind

ISBN: 978-1-55319-004-2

Meteorologists measure windspeed using a device called an anemometer. It has little cups attached to it that spin. The more they spin, the faster the wind. If you don't have an anemometer, The Beaufort Wind Chart can also be used to estimate wind speed by looking at the effects of the wind. To measure wind direction, a wind vane or wind sock is used.

Remember, the direction of a wind is given by what direction it is coming from.



Anemometer Wind Sock

Wind Vane

WEATHER WORDSEARCH

NAME: _____

BLIZZARD
CHINOOK
CYCLONE
DEW
DRIZZLE
FROST

Find These Words:

HAIL
HURRICANE
LIGHTNING
RAIN
SLEET
SNOW

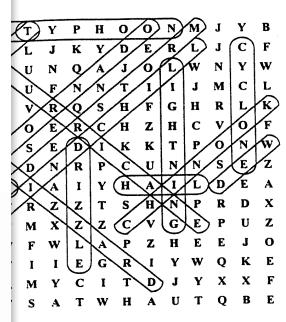
THUNDERSTORM TORNADO TYPHOON WEATHER WINDCHILL

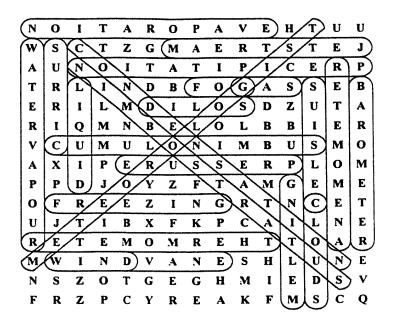
F	R	O	S	T	Y	P	H	O	O	N	M	J	Y	В	
\mathbf{G}	H	\mathbf{V}	E	L	J	K	Y	D	E	R	L	J	C	F	
L	Z	E	H	U	N	Q	A	J	O	L	W	N	\mathbf{Y}^{-}	\mathbf{W}	
H	L	F	Q	\mathbf{U}	F	N	N	T	I	I	J	M	C	L	
S	J	A	P	V	R	Q	S	H	F	G	H	R	L	K	
N	Q	T	U	O	E	R	C	H	Z	H	C	V	O	F	
O	\mathbf{W}	В	T	S	E	D	I	K	K	T	P	O	N	W	
W	E	Q	L	D	N	R	P	C	U	N	N	S	E	Z	
R	A	I	\mathbf{N}	I	A	I	Y	Н	A	I	L	D	E	A	
В	T	\mathbf{U}	W	R	\mathbf{Z}	Z	T	S	H	N	P	R	D	X	
N	H	R	\mathbf{T}	M	X	Z	Z	C	V	G	E	P	U	Z	
T	E	O	W	F	W	L	A	P	Z	H	E	E	J	0	
F	R	Q	\mathbf{V}	I	I	E	G	R	I	Y	W	Q	K	E	
\mathbf{N}	M	T	A	M	Y	C	I	T	D	J	Y	X	X	F	
S	U	Т	T	S	A	T	W	H	A	U	T	O	В	E	

NAL LESSON #1 - Weather Wordsearches

ordsearches have been included. The first is less difficult than the second.

Solutions





ESSON #2 - Weather Crossword

issword is based on material in the notes and is a good review activity.

Solution

