Weather Unit Teacher Masters: Table of Contents

Introductory Letter to Families

Teacher Masters

Family Links

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Dear Families,

Our class is beginning the Science Companion® Weather Unit. This yearlong unit builds on the natural curiosity children have about the world around them and encourages them to investigate the weather that permeates their everyday lives.

During the Weather Unit, the children will:

- Practice using tools that measure temperature and precipitation.
- Act as meteorologists to observe the weather and record a variety of details about it, both individually and as a group.
- Compile and analyze weather data to draw conclusions about weather patterns over the month and between seasons.
- Discover the role of sunlight as the primary cause of weather conditions on Earth.
- Explore water's different states and its various roles in weather.
- Learn how moving air creates wind and experience this invisible substance that surrounds us.

In addition to the work your child will do in class, you and your child can explore this rich topic together at home in the following ways:

- Talk routinely about the current weather. Use the Internet, newspaper, or television reports and stories to enrich your discussions about weather. If you'd like, you can use a home weather calendar and record data over weekends and vacations.
- Visit the library and search for books about weather to read together and share with the class. Book suggestions and recommended web sites about weather are listed on our web site at **www.sciencecompanion.com**. Click on Recommended Reading for book references and Lesson Web Links for web sites.
- Work together on the Family Link activities that are sent home from time to time. Your child may also want to repeat and vary some of the activities we do in class, as well as explain what they discovered and learned. Try to encourage their independent experimentation at home.

Throughout the school year, your child will learn that weather is a dynamic and sometimes unpredictable part of nature. Weather lends itself to a wealth of environmental experiences and provides a connection to a child's own world. Hopefully, you will share some of your child's enthusiasm, thereby learning with them while helping them explore.

Sincerely,

Weather Poems

Rain

Stevenson, Robert Louis

The rain is raining all around,
It falls on field and tree,
It rains on the umbrellas here,
And on the ships at sea.

Fog

Carl Sandburg

The fog comes
on little cat feet.

It sits looking
over harbor and city
on silent haunches
and then moves on.

Untitled

John Ruskin

Sunshine is delicious, rain is refreshing,
wind braces us up, snow is exhilarating;
there is really no such thing as bad weather,
only different kinds of good weather.

Mull Weather

Anonymous Scottish poet

It rained and rained and rained and rained,
The average was well maintained;
And when our fields were simply bogs,
It started raining cats and dogs.
After a drought of half an hour,
There came a most refreshing shower;
And then the queerest thing of all,
A gentle rain began to fall.

Next day 'twas pretty fairly dry,
Save for a deluge from the sky.
This wetted people to the skin,
But after that the rain set in.
We wondered what's the next we'd get,
As sure as fate we got more wet.
But soon we'll have a change again,
And we shall have
A drop of rain

The March Wind

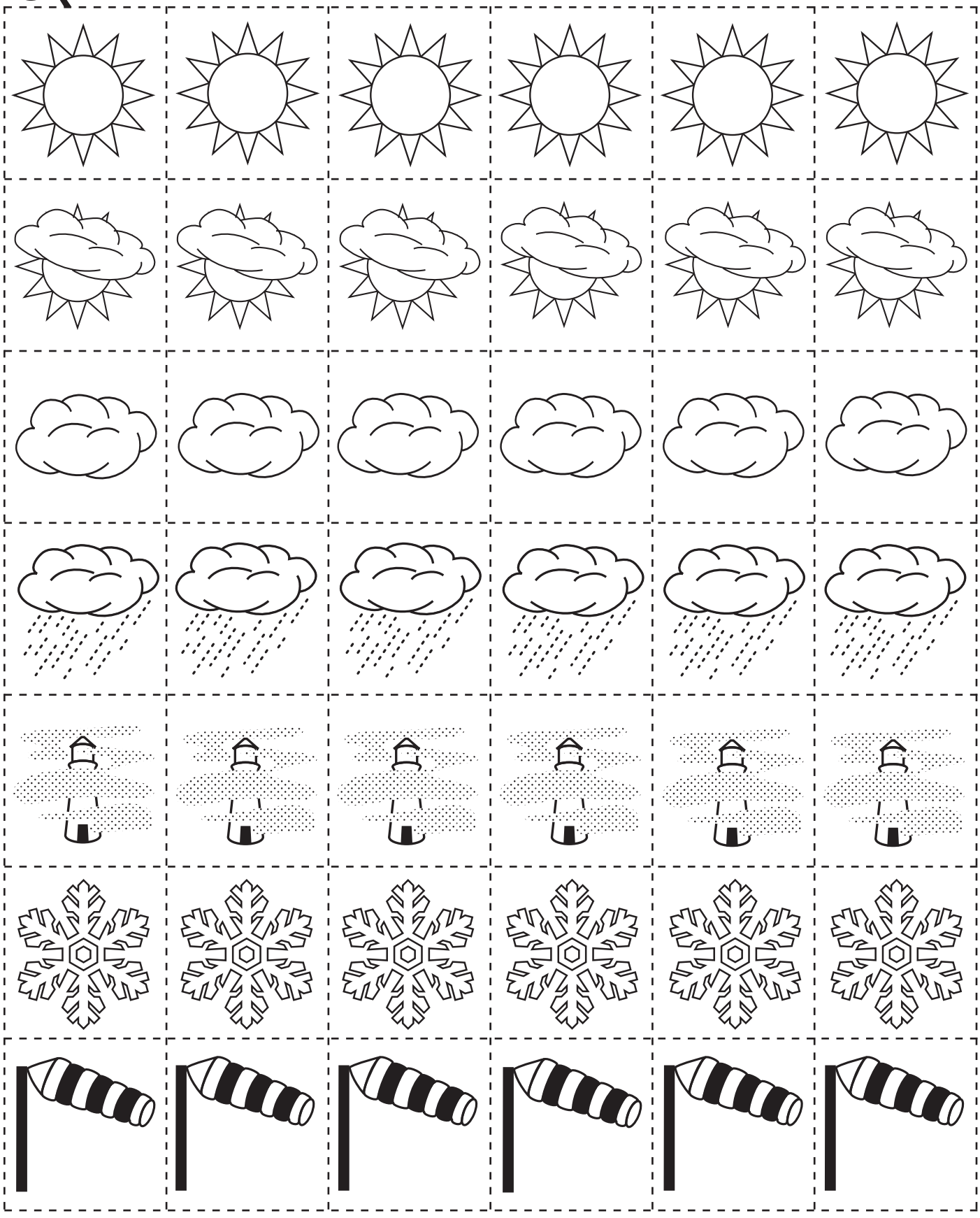
Anonymous

I come to work as well as play;
I'll tell you what I do.
I whistle all the livelong day.
"Woo-oo-oo! Woo-oo"

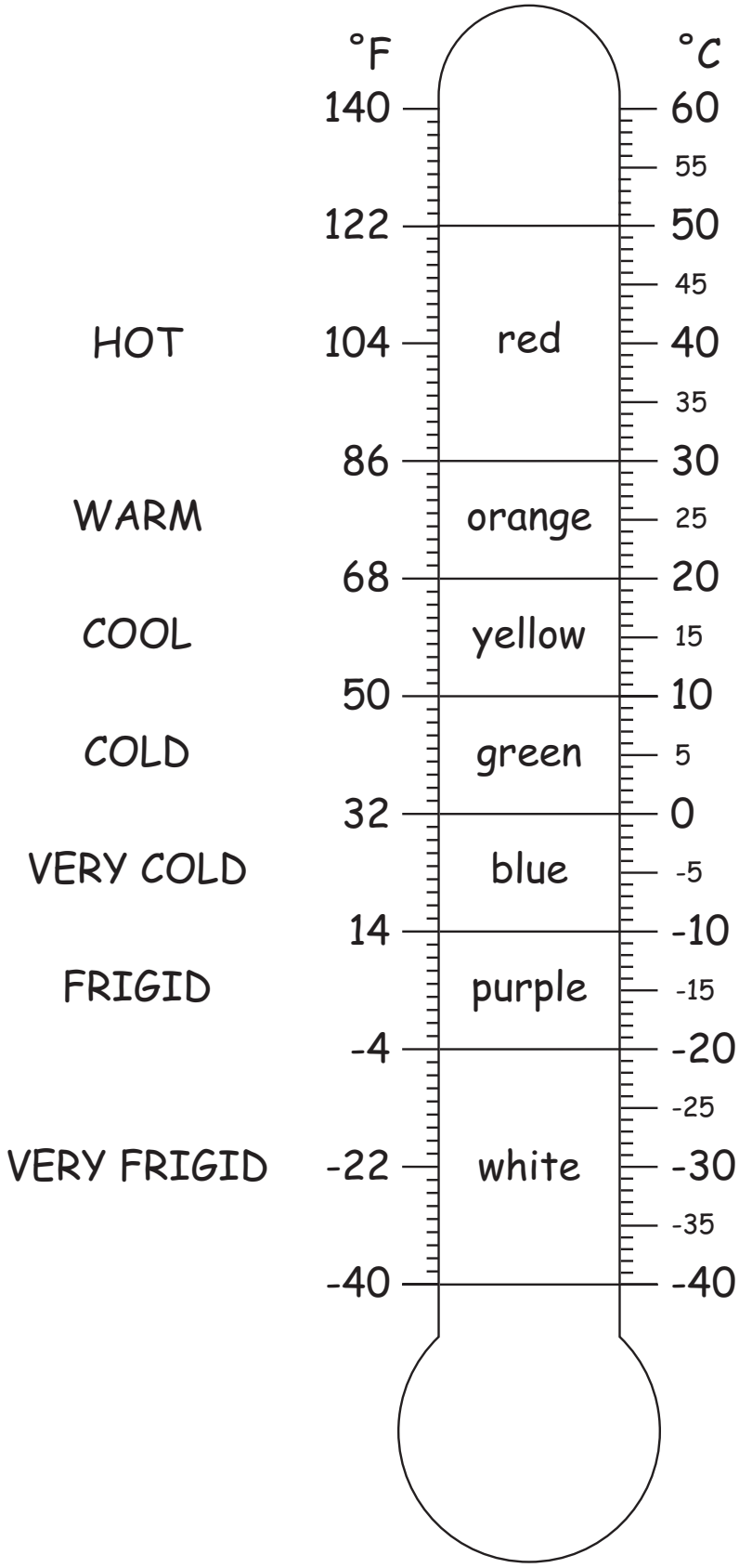
I toss the branches up and down
And shake them to and fro,
I whirl the leaves in flocks of brown, and send them high and low.

I strew the twigs upon the ground,
The frozen earth I sweep;
I blow the children round and round
and wake the flowers from sleep.

Weather Symbols



Thermometer



Weather Calendar

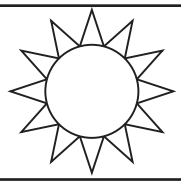
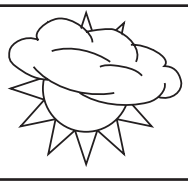
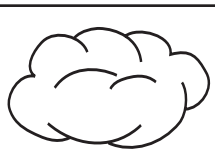
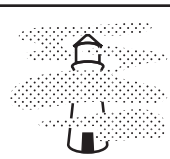
Class Weather Calendar for _____

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						KEY: Date, Sky Symbol, Temperature

Teacher Master: Weather Calendar (Lessons 6, 11, 16, 19-21, and 26-28)

31-Day Sky Observations Bar Graph

We have _____ days of observations for this month.

31	31	31	31	31	31
30	30	30	30	30	30
29	29	29	29	29	29
28	28	28	28	28	28
27	27	27	27	27	27
26	26	26	26	26	26
25	25	25	25	25	25
24	24	24	24	24	24
23	23	23	23	23	23
22	22	22	22	22	22
21	21	21	21	21	21
20	20	20	20	20	20
19	19	19	19	19	19
18	18	18	18	18	18
17	17	17	17	17	17
16	16	16	16	16	16
15	15	15	15	15	15
14	14	14	14	14	14
13	13	13	13	13	13
12	12	12	12	12	12
11	11	11	11	11	11
10	10	10	10	10	10
9	9	9	9	9	9
8	8	8	8	8	8
7	7	7	7	7	7
6	6	6	6	6	6
5	5	5	5	5	5
4	4	4	4	4	4
3	3	3	3	3	3
2	2	2	2	2	2
1	1	1	1	1	1
					

31-Day Sky Temperature Bar Graph

We have _____ days of observations for this month.

31	31	31	31	31	31	31
30	30	30	30	30	30	30
29	29	29	29	29	29	29
28	28	28	28	28	28	28
27	27	27	27	27	27	27
26	26	26	26	26	26	26
25	25	25	25	25	25	25
24	24	24	24	24	24	24
23	23	23	23	23	23	23
22	22	22	22	22	22	22
21	21	21	21	21	21	21
20	20	20	20	20	20	20
19	19	19	19	19	19	19
18	18	18	18	18	18	18
17	17	17	17	17	17	17
16	16	16	16	16	16	16
15	15	15	15	15	15	15
14	14	14	14	14	14	14
13	13	13	13	13	13	13
12	12	12	12	12	12	12
11	11	11	11	11	11	11
10	10	10	10	10	10	10
9	9	9	9	9	9	9
8	8	8	8	8	8	8
7	7	7	7	7	7	7
6	6	6	6	6	6	6
5	5	5	5	5	5	5
4	4	4	4	4	4	4
3	3	3	3	3	3	3
2	2	2	2	2	2	2
1	1	1	1	1	1	1
White -40 to –21 °C -40 to –4 °F	Purple -20 to –11 °C -4 to 12 °F	Blue -10 to –1 °C 12 to 30 °F	Green 0 to 9 °C 32 to 48 °F	Yellow 10 to 19 °C 50 to 66 °F	Orange 20 to 29 °C 68 to 84 °F	Red 30 to 50 °C 86 to 122 °F

Blank Bar Graph

We made _____ total observations.

26	26	26	26	26	26	26
25	25	25	25	25	25	25
24	24	24	24	24	24	24
23	23	23	23	23	23	23
22	22	22	22	22	22	22
21	21	21	21	21	21	21
20	20	20	20	20	20	20
19	19	19	19	19	19	19
18	18	18	18	18	18	18
17	17	17	17	17	17	17
16	16	16	16	16	16	16
15	15	15	15	15	15	15
14	14	14	14	14	14	14
13	13	13	13	13	13	13
12	12	12	12	12	12	12
11	11	11	11	11	11	11
10	10	10	10	10	10	10
9	9	9	9	9	9	9
8	8	8	8	8	8	8
7	7	7	7	7	7	7
6	6	6	6	6	6	6
5	5	5	5	5	5	5
4	4	4	4	4	4	4
3	3	3	3	3	3	3
2	2	2	2	2	2	2
1	1	1	1	1	1	1

Directions: In each box above, write the type of data you observed.

Cloud Shapes

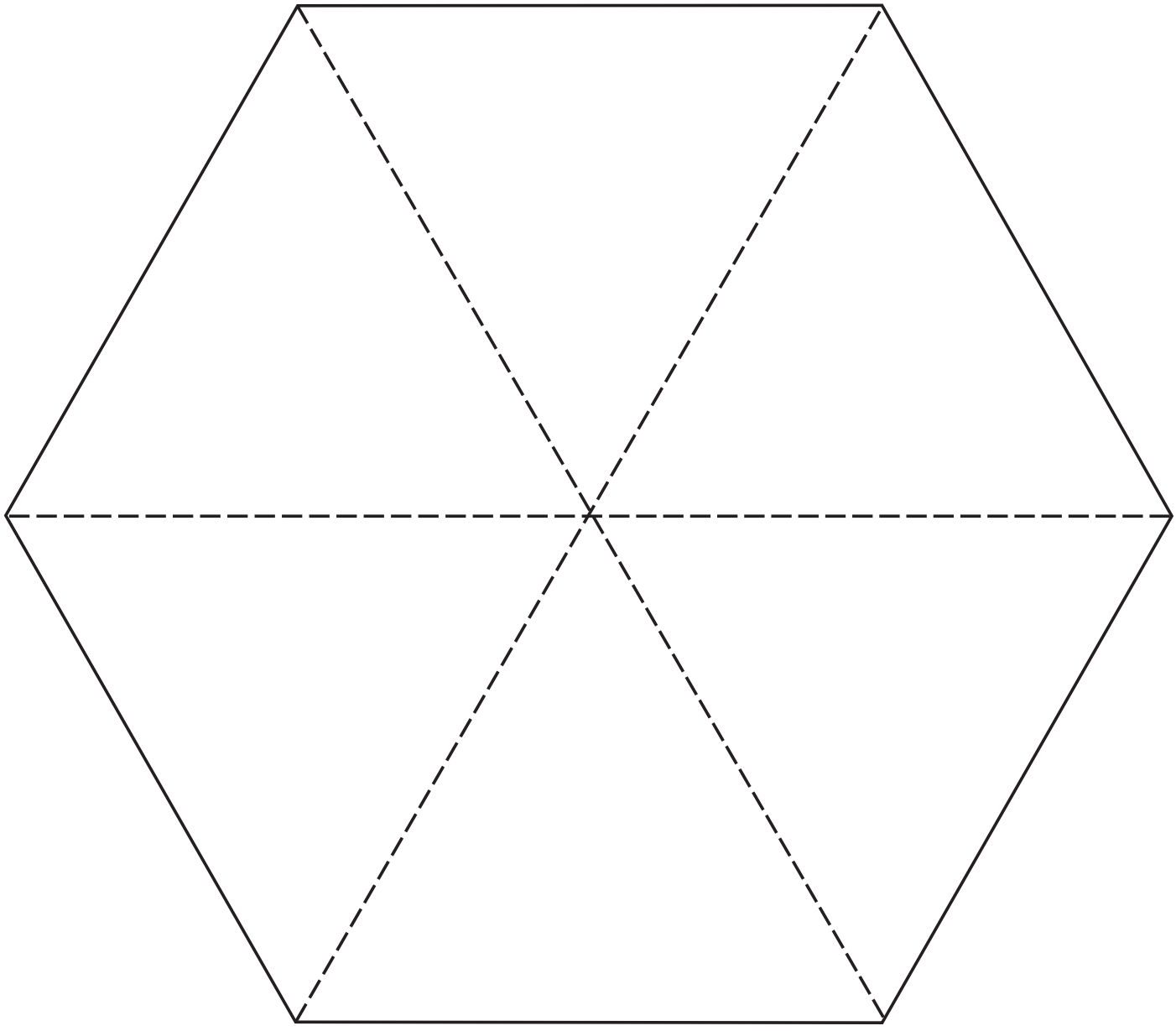
Cumulus

Cirrus

Stratus

Snowflake Pattern

1. Use tissue paper to trace the hexagon pattern.
2. Cut out the hexagon.
3. Fold the hexagon in half.
4. Fold hexagon in thirds and then in half again.
5. Cut a shape along the edge with many folds showing. (Don't cut tip of triangle)
6. Open to find your snowflake.



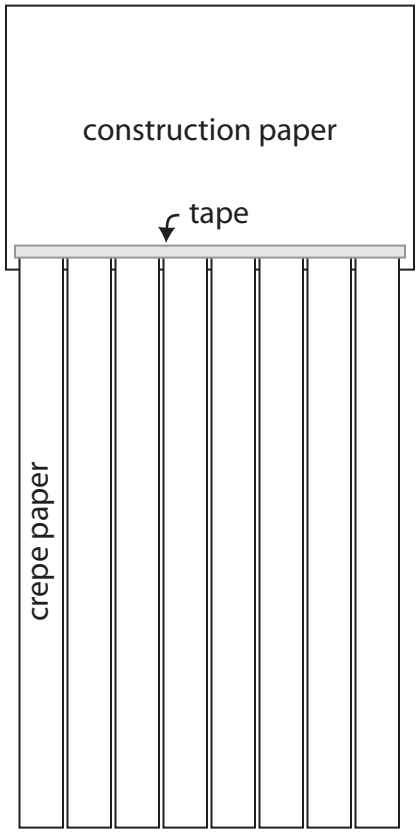
Making Windsocks

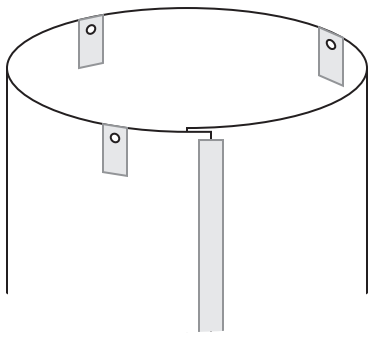
Materials

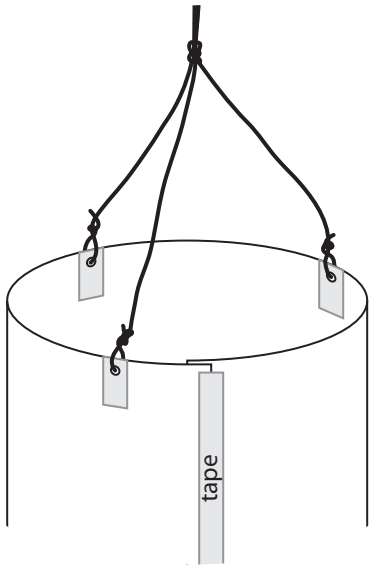
Item	Quantity	Notes
Classroom Supplies		
Construction paper, (11" x 17")	1 per child	To make windsocks.
Crayons, colored pencils or markers	1 set per group	To decorate windsocks.
Crepe paper streamers about 60 cm (24") long	8 per child	To attach to windsocks.
Hole puncher	1 per group	To make holes for windsocks.
Stapler (optional)	1 per group	To staple paper into cylinders.
Tape	1 roll per group	To attach streamers to windsocks and to reinforce holes.
Yarn, 45 cm (18") long	3 per child	To hold windsocks.

Directions

1. Decorate your construction paper.
2. Tape streamers along the bottom on the undecorated side.
3. Roll the paper into a tube. Staple or tape it together.
4. Mark three evenly spaced places around the empty edge with tape.
5. Punch holes through the tape.
6. String yarn evenly through each hole. Bring together and tie a knot.







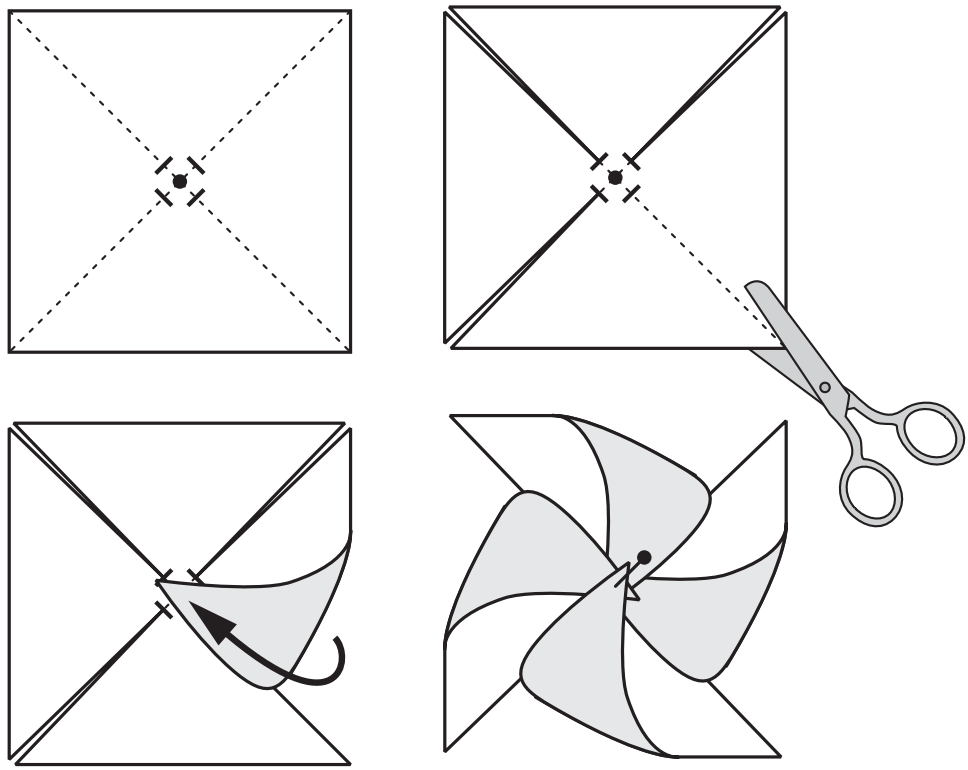
Making Pinwheels

Materials

Item	Quantity	Notes
Classroom Supplies		
Crayons, colored pencils	1 set per group	To decorate pinwheels.or markers
Paper, stiff, 15 cm (6 in) square	1 per child	To make pinwheel.
Pencil with eraser	1 per child	To hold pinwheel.
Plastic or wooden beads	1 per child	To put on pinwheel.
Rulers	1 per child	To measure pinwheels.
Scissors	1 pair per group	To cut pinwheel.
Straight pin	1 per child	To attach pinwheel to pencil.

Directions

1. Decorate your paper.
2. Fold the paper diagonally both ways.
3. Mark the center with a dot.
4. Measure and mark 2 cm from center dot along each crease line.
5. Cut along the crease lines to within 2 cm of the center point.
6. Holding the paper, take each right-hand corner in turn and bring it to the center point (let it overlap slightly).
7. Push the pin through all four layers and the paper behind.
8. Place a bead along the pin.
9. Stick the pin into the side of the pencil eraser.



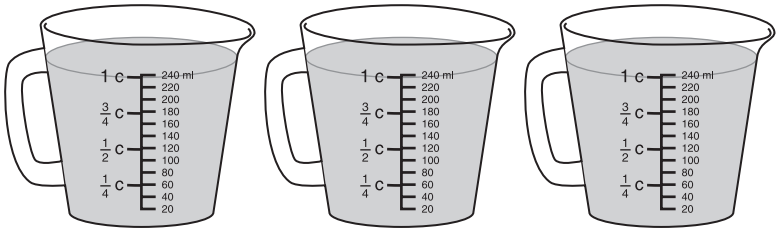
Making Soap Bubbles and Wands

Materials

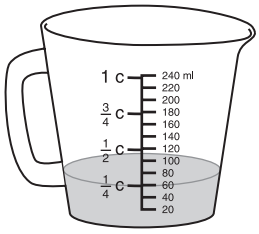
Item	Quantity	Notes
ExploraGear		
Jar, clear plastic with lid, 450 mL (16 oz)	1 per class	To mix soap bubble in.
Wire, 20 cm (8 in) long	1 per child	To make bubble wand.
Classroom Supplies		
Dish soap (Dawn® or Joy® brand)	60 mL (1/4 cup)	To make soap bubbles.
Glycerine (optional)	15 mL (1 Tbs)	To make soap bubbles.
Measuring cups	1 set	To measure soap bubble mix.
Measuring spoons	1 set	To measure soap bubble mix.
Water	700 mL (3 cups)	To make soap bubble.

Directions for Soap Bubble

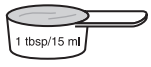
1. Put 700 mL (3 cups) of water in a jar.



2. Add 60 mL (1/4 cup) of dish soap.



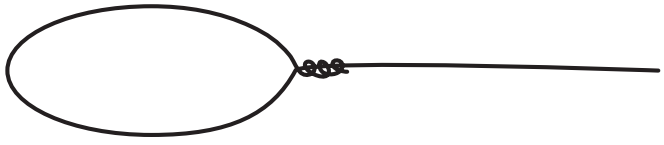
3. Add 15 mL (1 tablespoon) of glycerine.



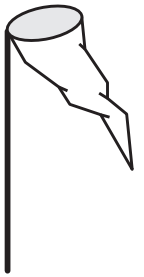
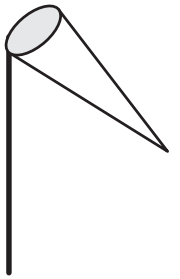
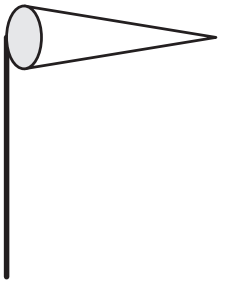
4. Put the lid on the jar, and swirl or shake the mixture.
5. Rinse your hands well.

Directions for Bubble Wand

Bend your wire so it looks like this:



Wind Scale

	 **Calm**	 **Gentle**	 **Moderate**	 **Strong**
Tree	Still	Leaves move	Branches move	Branches sway
Windsock	Limp	Flaps gently	Lifted by wind	Held high in wind
Pinwheel	Still	Spins slowly	Spins quickly	Blur of motion
Bubbles	Fall to ground	Drift and rise	Fly away fast	Zoom away
Motion to make this wind	Stand still	Walk	Run	Ride a bike
Speed	0-1.5 km/hr (0-1 mph)	1.5-8 km/hr (1-5 mph)	8-16 km/hr (5-10 mph)	16-40 km/hr (10-25 mph)

Name: _____ **Date:** _____

Family Link with Science

Weather News

Our class is studying **weather** in science class. We need to do the following activities:

With a family member, find an example of weather news on TV, on the radio, in a newspaper, or somewhere else.

Write down two new or interesting weather words below:

Bring your **weather words** to class.

Family Link with Science

Thermometers

Find out about thermometers in your home, such as food thermometers, fever thermometers, or weather thermometers. How are they used?

Name: _____ **Date:** _____

Family Link with Science

Freeze and Melt Water

In our weather unit for science class, we are studying how water can change from a liquid to a solid, and back to a liquid. Try these explorations with a family member at home:

Freezing

1. Place a small object in a plastic cup. Then fill the cup half full of water.
2. Use a marker or a piece of tape to mark the cup's water level.
3. Talk with a family member about what you think will happen when you put the cup in a freezer.
4. Place the cup in a freezer. Feel free to visit it from time to time to observe what is happening.
5. Leave the cup in the freezer until the water is completely solid.

Melting

1. Remove the cup from the freezer. What do you notice? Has the level of the water changed?
2. Pop the ice out of the cup onto a plate.
3. Take some time to explore how the ice looks and feels.

Name: _____ **Date:** _____

Family Link with Science

Frost

Breathe on a car window on a crisp, cold morning. What happens? Do you see frost or dew? You can get a feel for just how cold it is by the result you get.

Name: _____ **Date:** _____

Family Link with Science

Frost

Breathe on a car window on a crisp, cold morning. What happens? Do you see frost or dew? You can get a feel for just how cold it is by the result you get.

Name: _____ **Date:** _____

Family Link with Science

Wind Tools

We made some tools in science class for observing the wind: windsocks, pinwheels, and soap bubbles. Try these at home with a family member.

Name: _____ **Date:** _____

Family Link with Science

Wind Tools

We made some tools in science class for observing the wind: windsocks, pinwheels, and soap bubbles. Try these at home with a family member.