

Wind Activities Packet



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Wind Experiment

1. Collect the things listed on the chart.
2. Run off a chart for each student.
3. Have students predict which items they think that a fan (the wind) will blow.
4. Have them mark an X in the appropriate column.
5. Place each item on a table and set up a fan at low speed and see which items move.
6. Have students make adjustments to their data sheet with a different colored marker/crayon.
7. Turn the fan to medium and finally to high speed.
8. Did more things move?
9. Discuss the questions on the discussion sheet with your students and come to conclusions about various objects as they apply to the wind.



Before & After
Wind Discussion Questions

1. Does the shape of the object make a difference?
2. Does the size of the object make a difference?
3. Does the weight of the object make a difference?
4. Does the height of the object make a difference?
5. Does the speed of the fan low-medium-high make a difference?
6. What facts about objects, as they relate to wind, can you state now that we have done this wind experiment?

Graphing Time

Will the wind blow it? Prediction Sheet

| Item | Yes guess/actual | | No guess/actual | |
|--------------|------------------|--|-----------------|--|
| cap | | | | |
| book | | | | |
| marble | | | | |
| paperclip | | | | |
| pencil | | | | |
| crayon | | | | |
| puzzle piece | | | | |
| index card | | | | |
| Kleenex | | | | |
| thumb tack | | | | |
| rubber band | | | | |
| sticker | | | | |
| leaf | | | | |
| dice | | | | |
| marker | | | | |

Wind Chill

We've all heard it: "*Today's temperature is ____, but the wind chill drops it to _____. Brrrr it's cold outside!*"

So what is wind chill?

- Wind chill is the "felt" air temperature on exposed skin due to the wind.
- The wind chill temperature is always lower than the air temperature.
- Humidity on the skin can result in a higher "felt" air temperature.

To demonstrate this to your students do this easy evaporation experiment using hand sanitizer.

I love **Bath & Body Works**. They have fabulous smelling hand sanitizers. They're my #1 choice for little ones, because they don't burn like many of the alcohol-based ones on the market.

Even tho' we had a bathroom break before going to lunch, I'd always give my students the option to have a squirt of "magic soap".

They especially enjoyed the foaming kind of hand sanitizer.

Experiment:

- Have students rub their hands palm-to-palm together to warm them up.
- Do they feel warm? Yes.
- That heat is caused by friction.
- Squirt a dollop of hand sanitizer on their hands.
- Are they wet? Yes.
- Do they feel cooler? Yes.
- Have students wave their hands in the air to dry them.
- Did your hands feel colder while you were waving them than when you were not? Yes.
- That's because the air is moving which is wind and that caused wind chill.
- Are they dry now? Yes.
- That's evaporation (Part of the water cycle! Don't you love how much science this little easy-breezy experiment generates?!)
- Evaporation is a cooling process.
- Wind makes moisture on your skin evaporate faster, therefore making you feel colder, and that's why we have a wind chill factor!



Wind Pressure Experiment

Since wind is caused by high and low pressure it's nice if you can demonstrate what that is to your students.

One of my favorite knock-your-socks off experiments to show air pressure in the atmosphere is the "Egg Into A Bottle" trick.

Your students will be amazed!

Materials:

- Glass bottle with a long, narrow neck (Milk jugs are great.)
- Boiled egg
- Matches

Directions:

1. Display the bottle on a table so that all of your students can see it.
2. Peel the boiled egg. (I crack mine on my head or ask for a volunteer. It's amazing how students think that it won't be hard boiled even tho' I assure them that it will!)
3. Drop 3-4 lit matches in the bottle. (I take this time to reinforce the ***"Don't ever play with matches."*** lessons we learned in October during Fire Safety.
4. Some people light a strip of paper and insert it into the container. This expedites the match thing and really heats up the air so the egg will slide into the bottle quicker.
5. As soon as you're dropping the last match in, have a helper-student put the egg over the mouth of the bottle, SMALL end first, although I've also done it the other way as well. It just takes longer and will sometimes take a bit of the egg off.
6. In less than a minute the egg will be sucked inside the bottle!

Explanation:

- The matches heat the air inside the bottle.
- When air is heated it expands and takes up more room inside the container.
- As this hot air expands, some of it escapes out of the bottle.
- When the matches go out, the air inside the bottle starts to cool and contract, which takes up less room.
- This causes a lower pressure area inside the bottle than the higher pressure outside of the bottle.
- This difference in pressure is what causes the egg to get sucked inside the bottle.
- If you want to get the egg out of the bottle, tilt the bottle and have a fan blow some air into it.
- Kerplop-egg out of the bottle!

How this relates to the wind and weather:

- The barometric pressure at any given location is constantly changing.
- Those changes produce the winds, bring in clouds, or clear the way for sunny skies.
- Air pressure readings are important in weather forecasting.
- For instance, rising barometric pressure often coincides with clearing skies and fair weather; falling pressure indicates that wet or stormy weather may be on the way. Areas of very low pressure are associated with severe storms, such as hurricanes.

Click on the link to see this experiment on YouTube.

<http://www.youtube.com/watch?feature=endscreen&NR=1&v=ysh2mVMonM8>

This one shows the egg going in AND coming out of a beaker.

http://www.youtube.com/watch?v=zSXzo_LNh00&feature=related





A Fun Measuring Activity.

- I'm always trying to think of fun reasons for students to measure things.
- Seeing how far a balloon will "blow" when the "wind" gets knocked out of it incorporates your study of wind with measuring math skills!
- Put a piece of masking tape down on the floor to make a "start" line.
- Give each student a balloon and a sticker label with their name on it.
- Children blow up their balloon.
- Have them pinch it shut until it is their turn.
- Depending on the size of your room have 3-4 children line up on the starting line and release their balloon, in the hopes that it will propel itself forward and not just up up and away.
- When the balloons fall, have students mark the spot with their name label.
- When everyone's balloon has flown, have each student measure how far from the starting line their balloon "blew".
- Award stickers to the top 3 "flyers".

Graphing Time

Which experiment did you like best?



| Will The Wind Blow It? | Wind Chill | Egg In A Bottle | Balloon Blast |
|------------------------|------------|-----------------|---------------|
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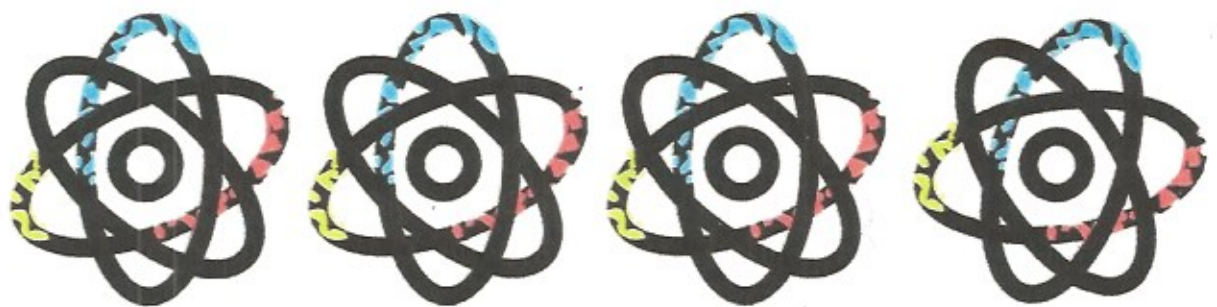
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| | | | |
| Total | Total | Total | Total |

We Are

Scientists!

Class Book By

Handwriting practice lines consisting of three sets of three horizontal lines (top solid, middle dashed, bottom solid).





My favorite science

experiment was the

because



Spring Time Pinwheels

Materials:

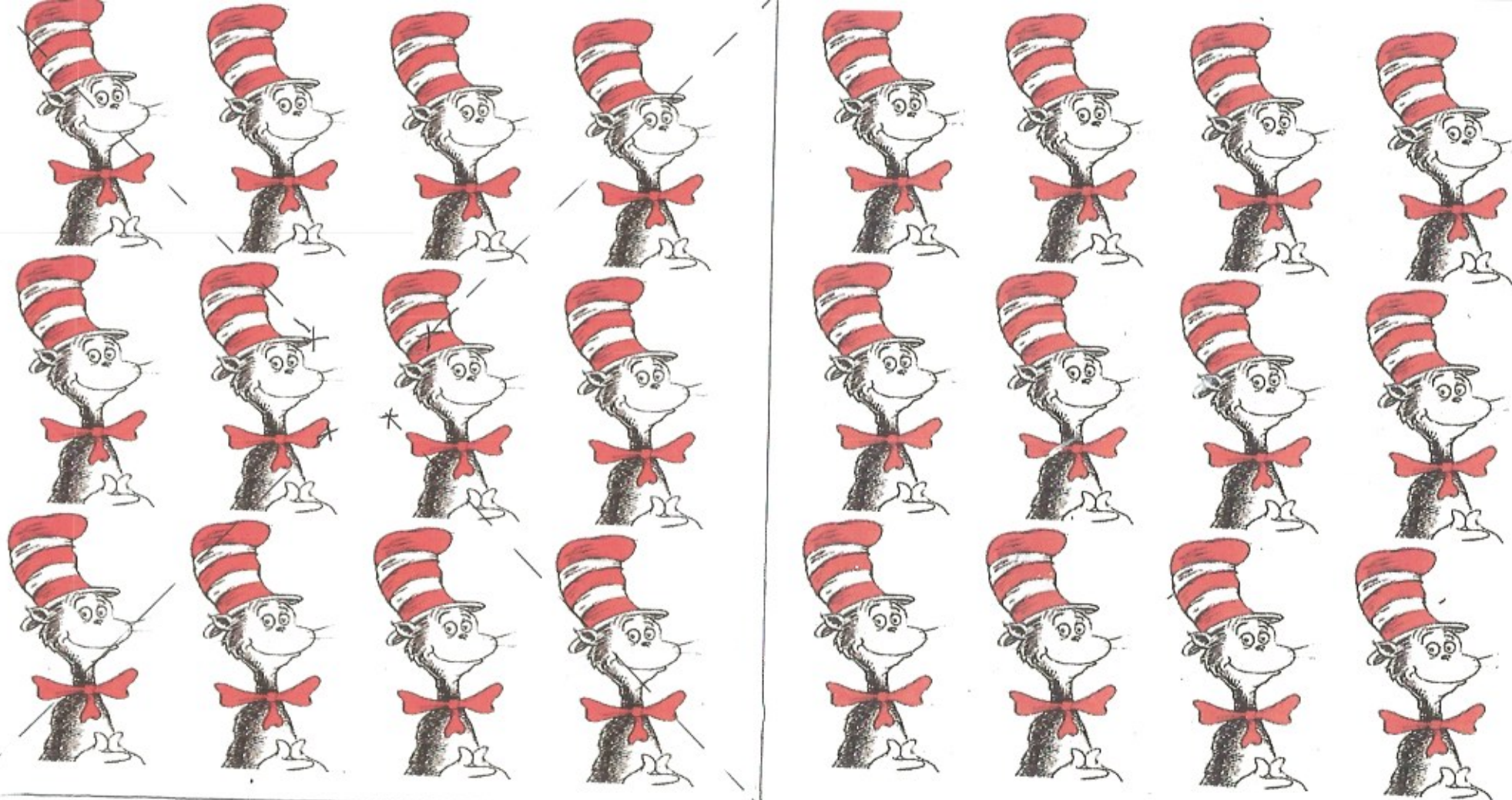
- Printed pinwheel paper or construction paper.
- Scissors
- Glue sticks
- Thumbtacks or brass brads
- Pencils with erasers or plastic straws
- Markers or crayons to add a design
- Optional: Stickers to add pizzazz

Directions:

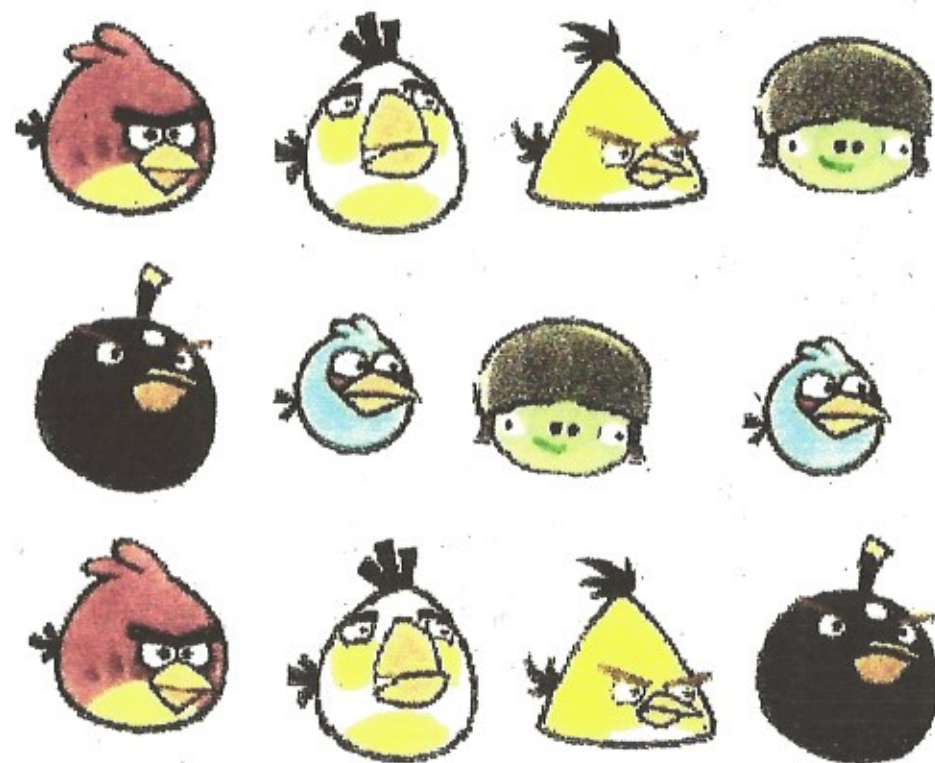
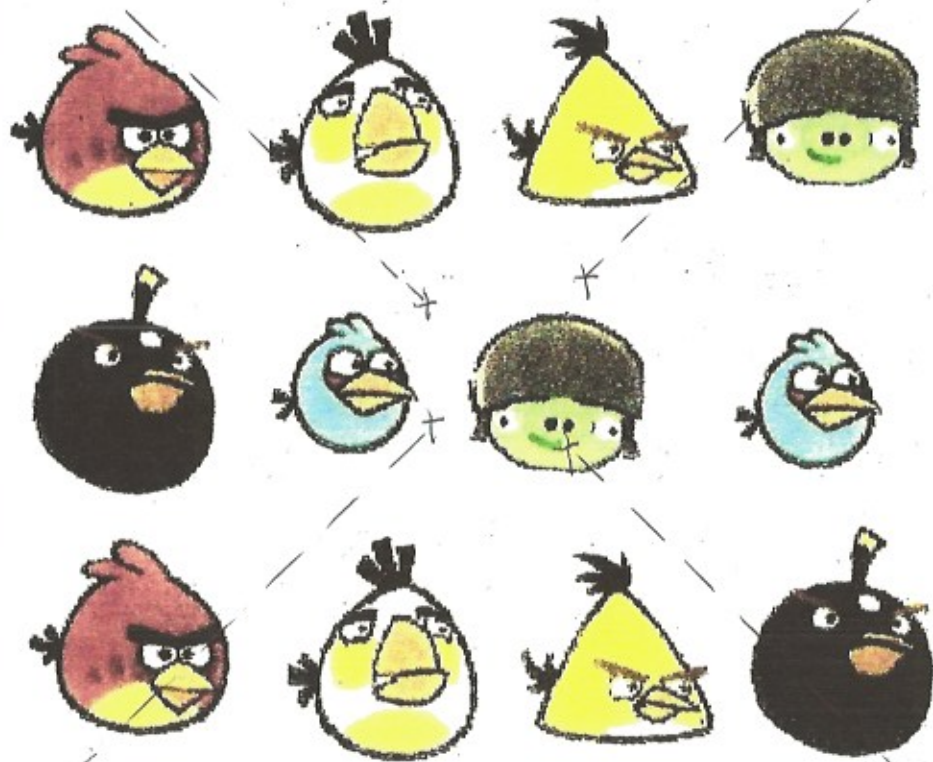
1. For my happy-face printed pinwheel, fold the pinwheel paper on the long dashed lines so that you will have a front and back.
2. Glue them together. Trim excess.
3. The plain pinwheels just need to be run off on brightly colored construction paper.
4. Students can jazz them up by adding stickers to the front and back or making a design on them with colored markers.
5. CUT on the diagonal dashed lines.
6. Remind students not to go past the X stop point.
7. Grab hold of each corner and bend it to the center dot, being careful not to crease the "petal" hump.
8. Push a thumbtack through the center and into the side of the eraser on a pencil.
9. Blow on the "petals" and it will spin.
10. Adjust the hole to make it a tad bigger if it doesn't easily spin.
11. I have also poked a hole in the center and inserted a brass brad and then attached the pinwheel to a straw. The hole for the brad needs to be bigger so that the pinwheel will spin around it. I cut a slit in the straw with an exacto knife to insert the ends of the brad tips and then fold back.



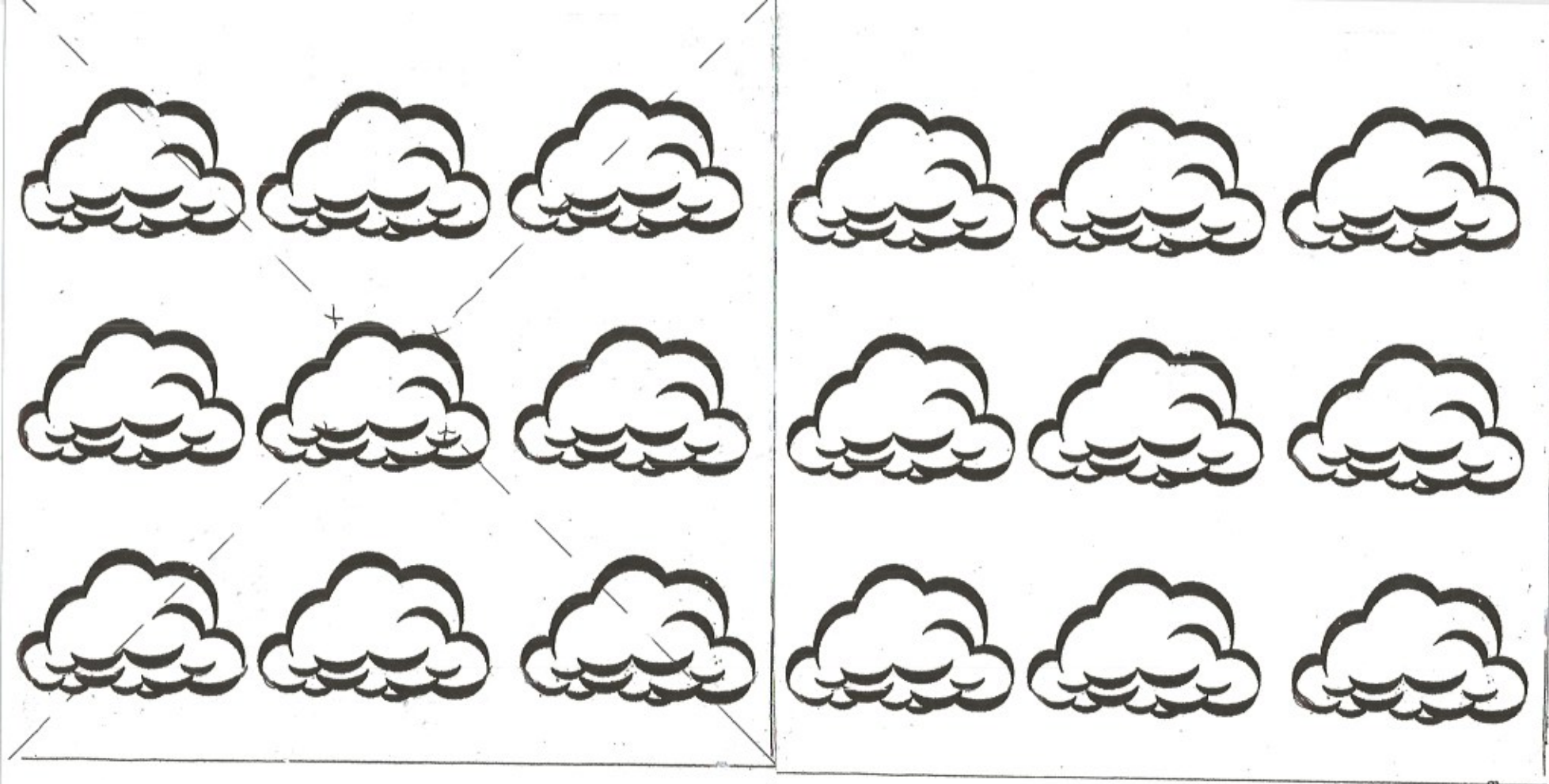




↑
Fold & glue together
--- cut
x = stop

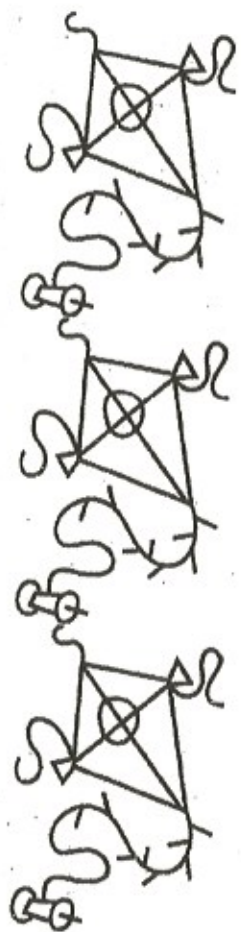


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Fold & glue together.
- - - - = cut
x = Stop

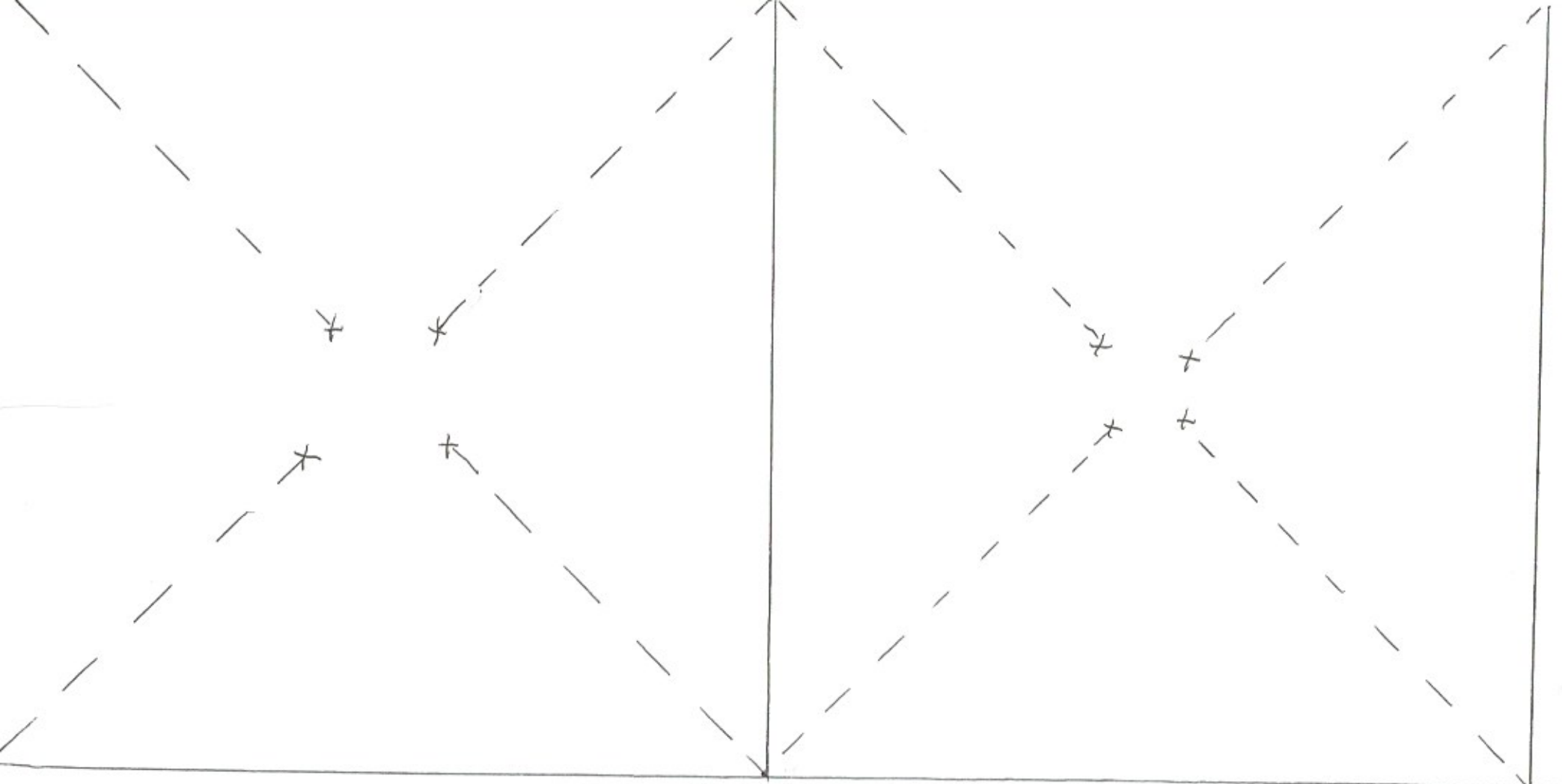


↑
 - run off on light blue
 - color clouds white/gray.
 fold & glue together.

— — — = cut
 x = stop



fold & glue together
Color Kites
--- = cut
x = stop



Run off on brightly
colored construction
Paper.

— — — — Cut

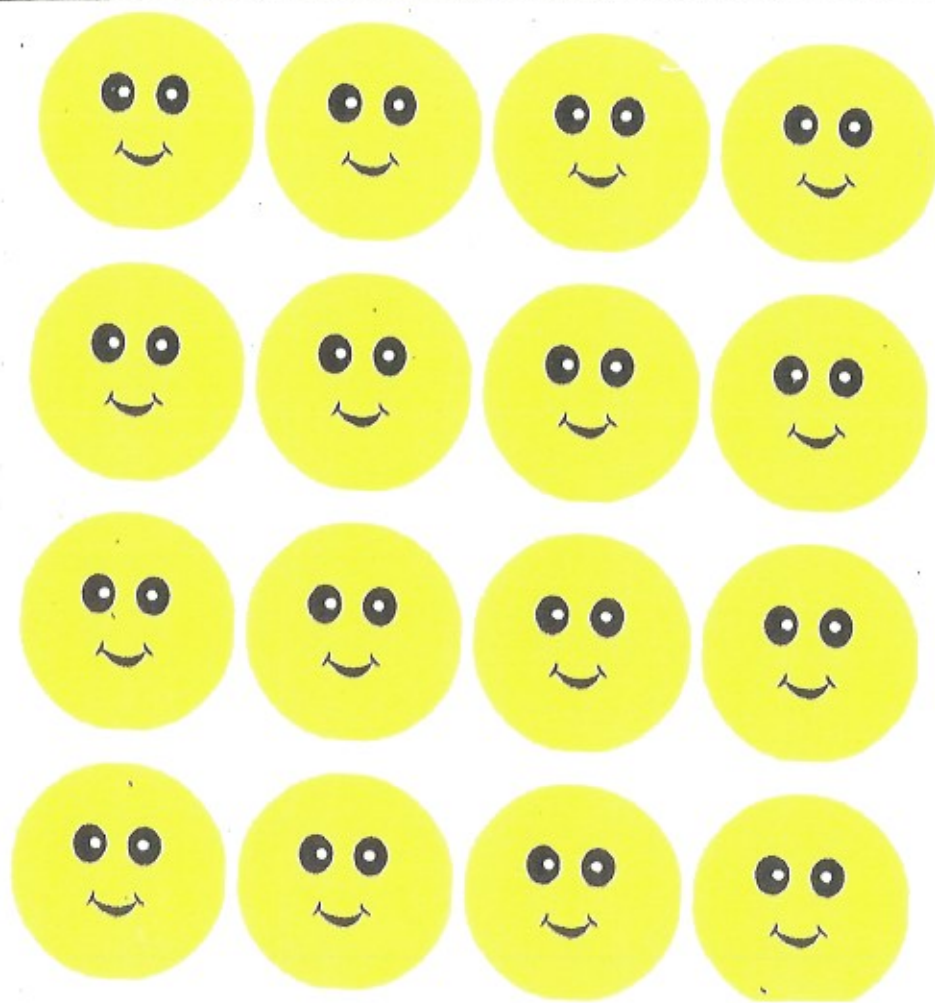
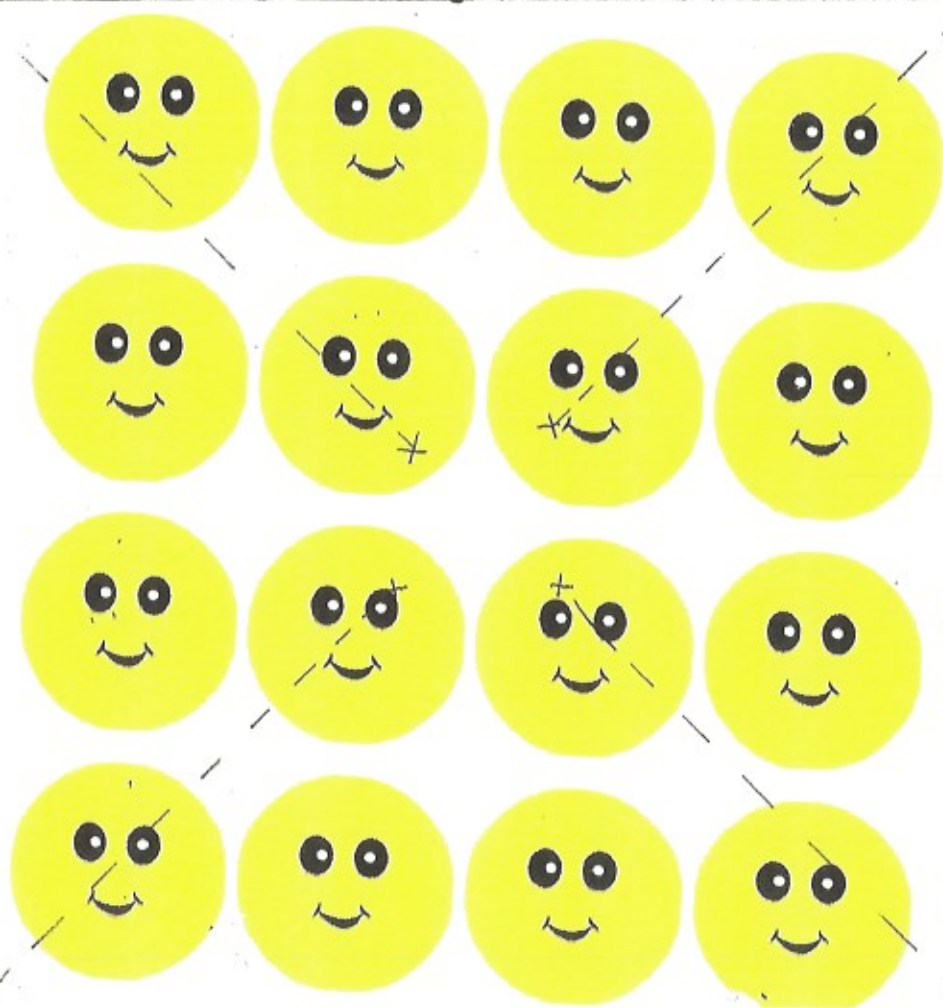
x = Stop

2 pinwheels

--- cut

x = stop

← fold & glue





Windy Art Extension: Rainbow Clouds

- Give students a straw and a sheet of ivory or white construction paper.
- Have children choose 2 colors of paint and squirt a dime-size dollop of one color in the middle of their paper with a smaller dot of the other color on top of the dime dollop.
- Using a straw, students blow “wind” at the paint blob making a design on the paper. (Watered down paint swirls better, and students don’t have to blow so hard.)
- The paint will swirl and make a pretty twirled pattern.
- When the paint can’t be moved any more, students choose another 2 colors and do the same thing.
- Repeat the process one more time so that students have all of the colors of the rainbow on their cloud.
- Set aside to dry.
- When the papers have dried, have students cut them into the shape of clouds. This makes a lovely bulletin board, or suspend back-to-back from the ceiling.
- Caption: ***Cloudy With A Chance Of Windy Colors*** or ***Wonderful Windy Rainbow Work***





Wind Fact-Tinsel Cloud

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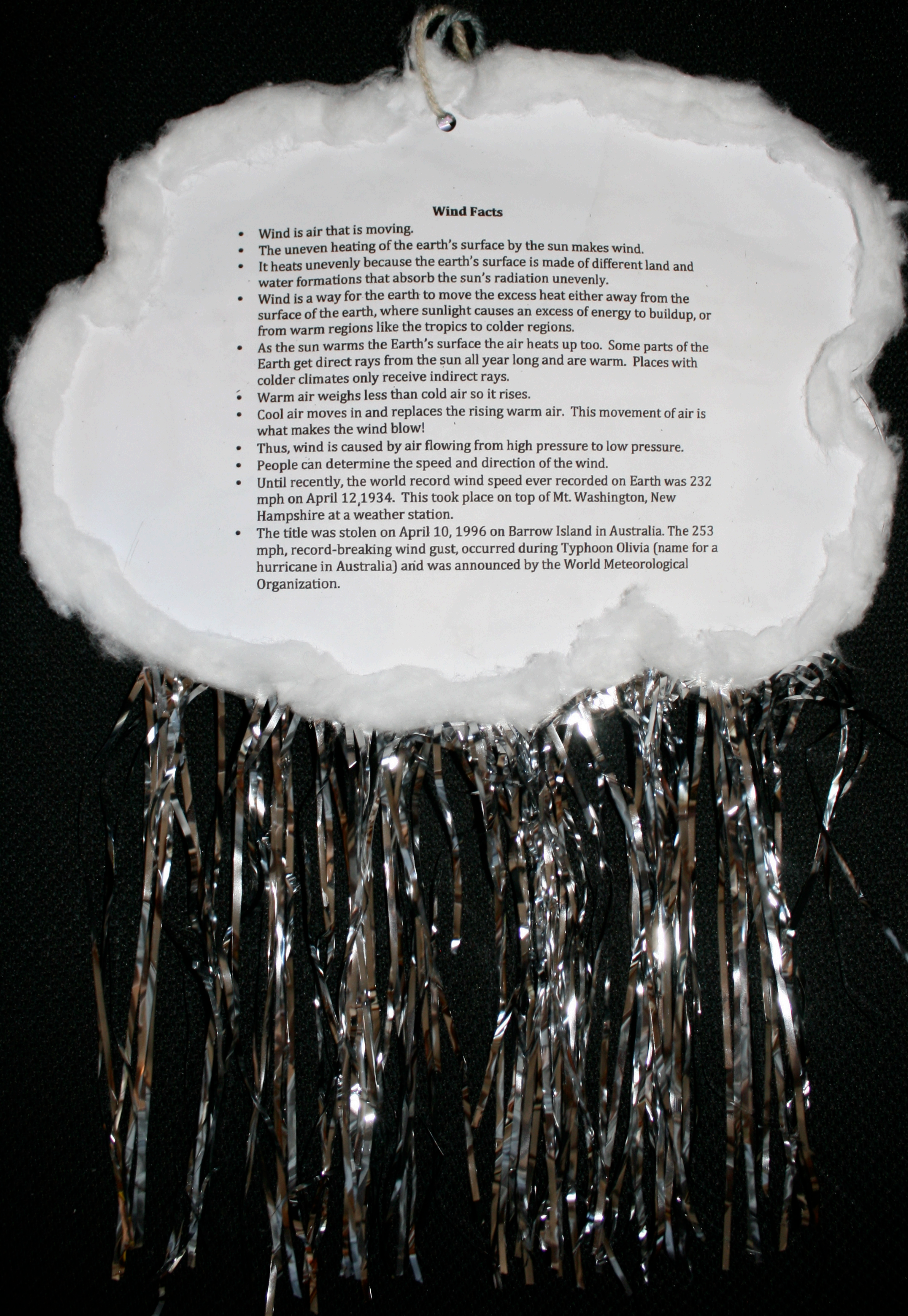
Materials:

- Cotton balls
- Elmer's glue
- Glue sticks
- Tinsel
- Scotch tape
- Yarn or curling ribbon
- Scissors
- School photo
- Aluminum foil
- White construction paper
- Markers or crayons to write with.
- Hole punch
- Kleenex or tissue

Directions:

1. Run off the cloud templates on white or ivory construction paper.
2. If you don't want to do the writing prompt with really young children simply run off the blank cloud.
3. Read and review the Wind Facts with your students.
4. Do some of the experiments so that these concepts make sense and they will remember them.
5. Students cut out their front and back clouds
6. Rub a glue stick across the right hand side of the back of the "wind fact" cloud.
7. Press a piece of aluminum foil onto the sticky cloud.
8. Flip it over and trim the excess so that it fits the cloud shape.
9. Rub the glue stick over the rest of the cloud, being careful not to get any on the aluminum foil portion.

10. Gently bunch up 2 ½ pieces of Kleenex or some squares of tissue paper and press them onto the sticky surface. This will give your cloud a puffy 3D look.
11. Explain to students what *"Every cloud has a silver lining."* means.
12. Brainstorm with them about some of the "cloud" problems they might have or "bummers" that have happened to them and then discuss the "silver linings" that have made them tolerable or better. i.e., *"I skinned my knee."* Was the bummer thing that happened to me, but the "silver lining" was that *I got hugs and kisses from my mom or a cool princess band-aide.*
13. Students fill in the blanks with their "cloud" and "silver lining" answers.
14. If you want to add a bit of pizzazz, make copies of children's school pix and have them glue their photo next to the writing prompt.
15. Students write their name somewhere on the top of this cloud.
16. Fold the right side of the plain or writing prompt cloud's edge backward, so that the silver lining will peek out.
17. Rub glue on the back of this cloud, being careful not to put any glue on the folded over piece or on the bottom of the cloud.
18. Press onto the tissue paper. Make sure to rub lots of glue around the top and side edges so that they stick together.
19. Fold 4-5 strands of tinsel in ½ and cut.
20. Lay the tips of these pieces on a piece of scotch tape and then tape it to the bottom of the inside of the cloud. I did this 5 times.
21. Put a thin line of Elmer's glue over the top of the tinsel and press the top of the cloud down.
22. A bit of glue might seep out so blot it dry with a Kleenex.
23. Drizzle glue around the edge of the cloud.
24. Pull apart cotton balls so that they are long strands of "cotton fluff" and press them on the wet glue.
25. Repeat this process on the other side of the cloud.
26. Punch a hole in the top and suspend with a piece of yarn or white curling ribbon for extra pizzazz.
27. These look outstanding hung from the ceiling in the hallway as they spin and twirl with a slight breeze. The tinsel looks lovely as it shimmers in the "wind".



Wind Facts

- Wind is air that is moving.
- The uneven heating of the earth's surface by the sun makes wind.
- It heats unevenly because the earth's surface is made of different land and water formations that absorb the sun's radiation unevenly.
- Wind is a way for the earth to move the excess heat either away from the surface of the earth, where sunlight causes an excess of energy to buildup, or from warm regions like the tropics to colder regions.
- As the sun warms the Earth's surface the air heats up too. Some parts of the Earth get direct rays from the sun all year long and are warm. Places with colder climates only receive indirect rays.
- Warm air weighs less than cold air so it rises.
- Cool air moves in and replaces the rising warm air. This movement of air is what makes the wind blow!
- Thus, wind is caused by air flowing from high pressure to low pressure.
- People can determine the speed and direction of the wind.
- Until recently, the world record wind speed ever recorded on Earth was 232 mph on April 12, 1934. This took place on top of Mt. Washington, New Hampshire at a weather station.
- The title was stolen on April 10, 1996 on Barrow Island in Australia. The 253 mph, record-breaking wind gust, occurred during Typhoon Olivia (name for a hurricane in Australia) and was announced by the World Meteorological Organization.

Diane



May the wind blow your troubles away!
Every cloud has a silver lining!

My "cloud" is

SKinning my Knee.

My "silver lining" is

having my mom hug me.

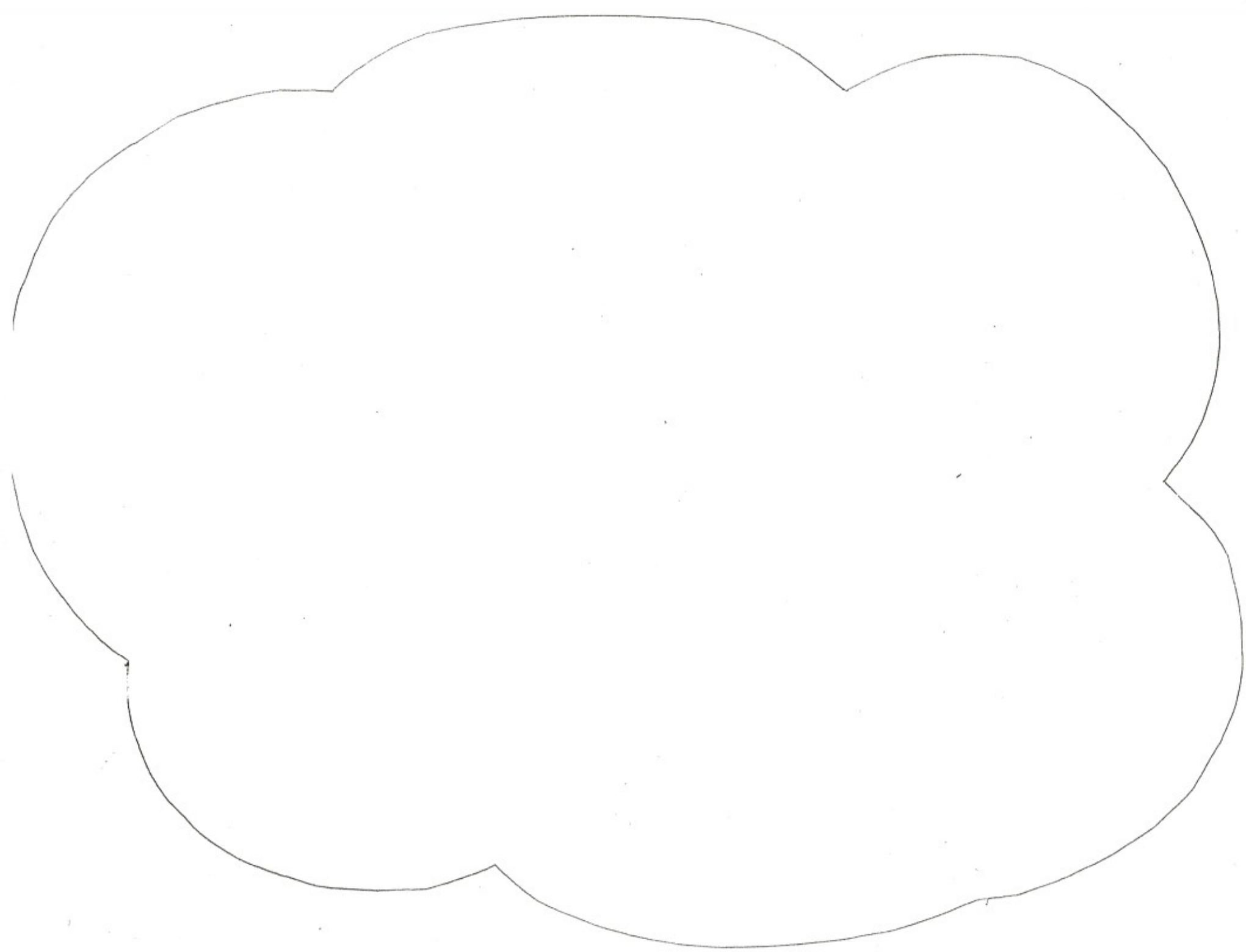
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May the wind blow your troubles away!
Every cloud has a silver lining!

My "cloud" is

My "silver lining" is



Graphing Time

Is it windy today? Data Recording Sheet

[illegible]



Rock A Bye Baby

Rock a bye baby
In the tree top
When the wind blows
The cradle will rock
When the bough breaks
The cradle will fall
And down will come baby
Cradle and all

YouTube video of this nursery rhyme with music.
<http://www.youtube.com/watch?v=CrkUQOuLHOk>



No!

[illegible]