

Dr. Seuss

STEM

Cat and the Hat Stacking Clips

How high can you stack Cat and the hat's hat? Use the clips and the paper to stack the clips as high as you can before it falls!

Plan: Looking at the materials, what is your first plan to stack as many clips as you can? Draw a quick sketch. Then, build!

Off The Places You Will Go Maze

Where will the frog go? Build a maze out of the materials you have. Outside as many frogs and worms as you can!

Plan: Draw a blueprint of your maze.

Hop on Pop Bouncy Balls

There is a lot of bouncing and hopping in *Hop on Pop*. How can you make a bouncy ball bounce?

Materials:

- 22 cup warm water
- 1 tablespoon borax
- 2 tablespoons cornstarch
- 1 tablespoon liquid glue
- food coloring

Directions:

- 22 cup warm water and borax
- 2 in a different cup the glue, cornstarch, and food coloring
- 4 Four glen mixture into the water/borax cup
- 4 One mixture will harden after 10 minutes-use a fork to take it out of the water
- 2 If the glue mixture is still sticky, squish it with your hands and dip it back in the water
- 4 Roll the mixture in your hands to make a ball

Experiment: How high does your ball bounce?

One Fish, Two Fish, Red Fish, Blue Fish Furry in a Bag

In the story *One Fish, Two Fish, Red Fish, Blue Fish*, it is all about Furry things. But, the last page has been ripped out! You need to create one more furry thing. Use your mystery bag to create the last page of the book! Take everything out of your bag first. Then, plan your furry object.

Objects: Write the materials that are in your bag. What might you use these items for?

Plan: Draw a quick sketch of what you are going to draw. Then, build!

Reflect: How did you...

Ten Apples up on Top Apples Stacking

Stack as many apples as you can!

Plan: Draw a quick sketch of you plan to stack as many apples as you can before the...

The B Book Balloon Magic

How can you inflate a balloon? With out using your mouth.

Materials:

- Baking soda
- vinegar
- balloons
- plastic bottle
- funnel
- measuring spoon
- pan
- string
- rubber

Directions:

- Put the funnel in the bottom
- Add 2 teaspoons of baking soda to the bottle
- Use a funnel to add the cup vinegar to the bottle
- Put the opening of the balloon around the open part of the bottle-try to not to let any baking soda get in the bottle
- When you are ready, lift the balloon to let the baking soda into the bottle

Reflect: What happened?

Experiment: Use the string to measure how big the balloon is

Time	Measurement

Binary Alphabet

	000001	N	001010
A	000010	O	001011
B	000011	P	001000
C	000010	Q	001001
D	000011	R	001010
E	000010	S	001011
F	000011	T	001000
G	000010	U	001001
H	000011	V	001010
I	000010	W	001011
J	000011	X	001000
K	000010	Y	001001
L	000011	Z	001010
M	000010		



8 different STEM activities

8 teacher resource pages too!

Ten Apples up on Top Apple Stacking

Stack as many apples as you can!

Plan: Draw a quick sketch of you plan to stack as many apples as you can before they fall!

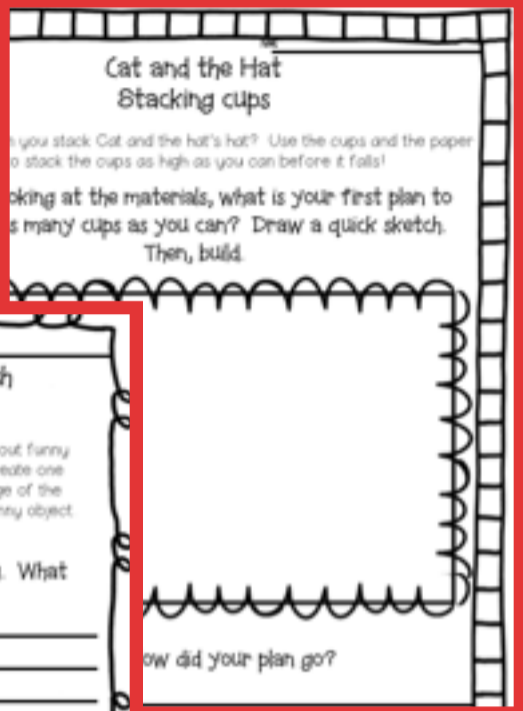


Cat and the Hat Stacking cups

Can you stack Cat and the hat's hat? Use the cups and the paper to stack the cups as high as you can before it falls!

Looking at the materials, what is your first plan to stack as many cups as you can? Draw a quick sketch. Then, build.

How did your plan go?

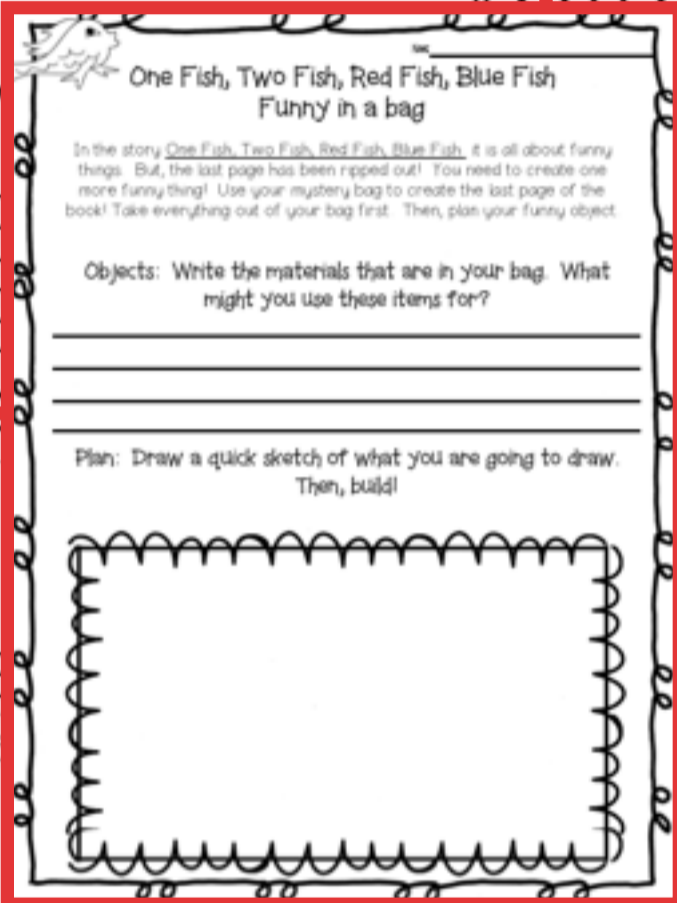


One Fish, Two Fish, Red Fish, Blue Fish Funny in a bag

In the story *One Fish, Two Fish, Red Fish, Blue Fish*, it is all about funny things. But, the last page has been ripped out! You need to create one more funny thing! Use your mystery bag to create the last page of the book! Take everything out of your bag first. Then, plan your funny object.

Objects: Write the materials that are in your bag. What might you use these items for?

Plan: Draw a quick sketch of what you are going to draw. Then, build!



The Foot Book

Supplies:

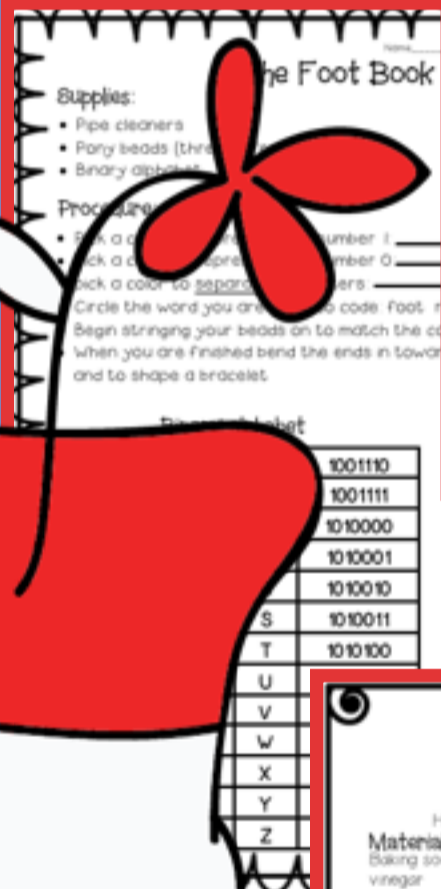
- Pipe cleaners
- Pony beads (three colors)
- Binary alphabet

Procedure:

1. Cut a pipe cleaner into three equal lengths.
2. Pick a color to represent number 1.
3. Pick a color to represent number 0.
4. Pick a color to represent letters.
5. Circle the word you are using to code foot.
6. Begin stringing your beads on to match the code.
7. When you are finished bend the ends in toward each other and to shape a bracelet.

Binary Alphabet

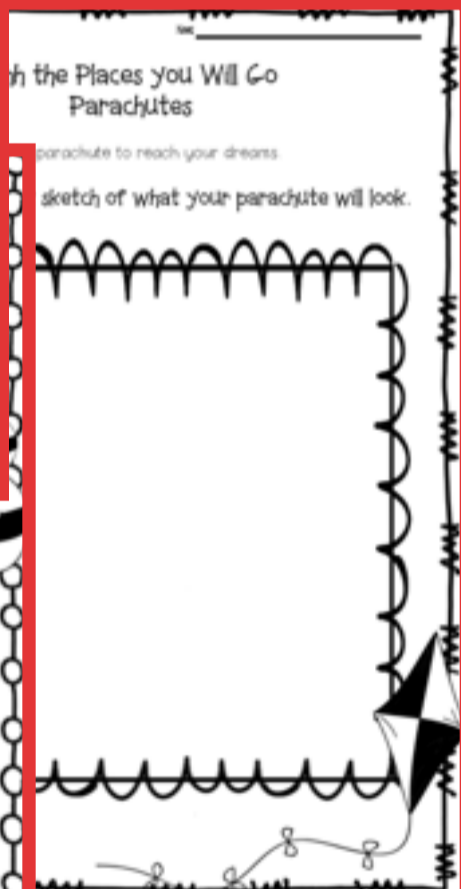
1	1001110
2	1001111
3	1010000
4	1010001
5	1010010
S	1010011
T	1010100
U	
V	
W	
X	
Y	
Z	



With the Places you Will Go Parachutes

Use a parachute to reach your dreams.

Draw a sketch of what your parachute will look.



The B Book Balloon Magic

How can you inflate a balloon? With out using your mouth.

Materials:

- Baking soda
- vinegar
- balloons
- plastic bottle
- funnels
- measuring spoon
- pan
- string
- ruler

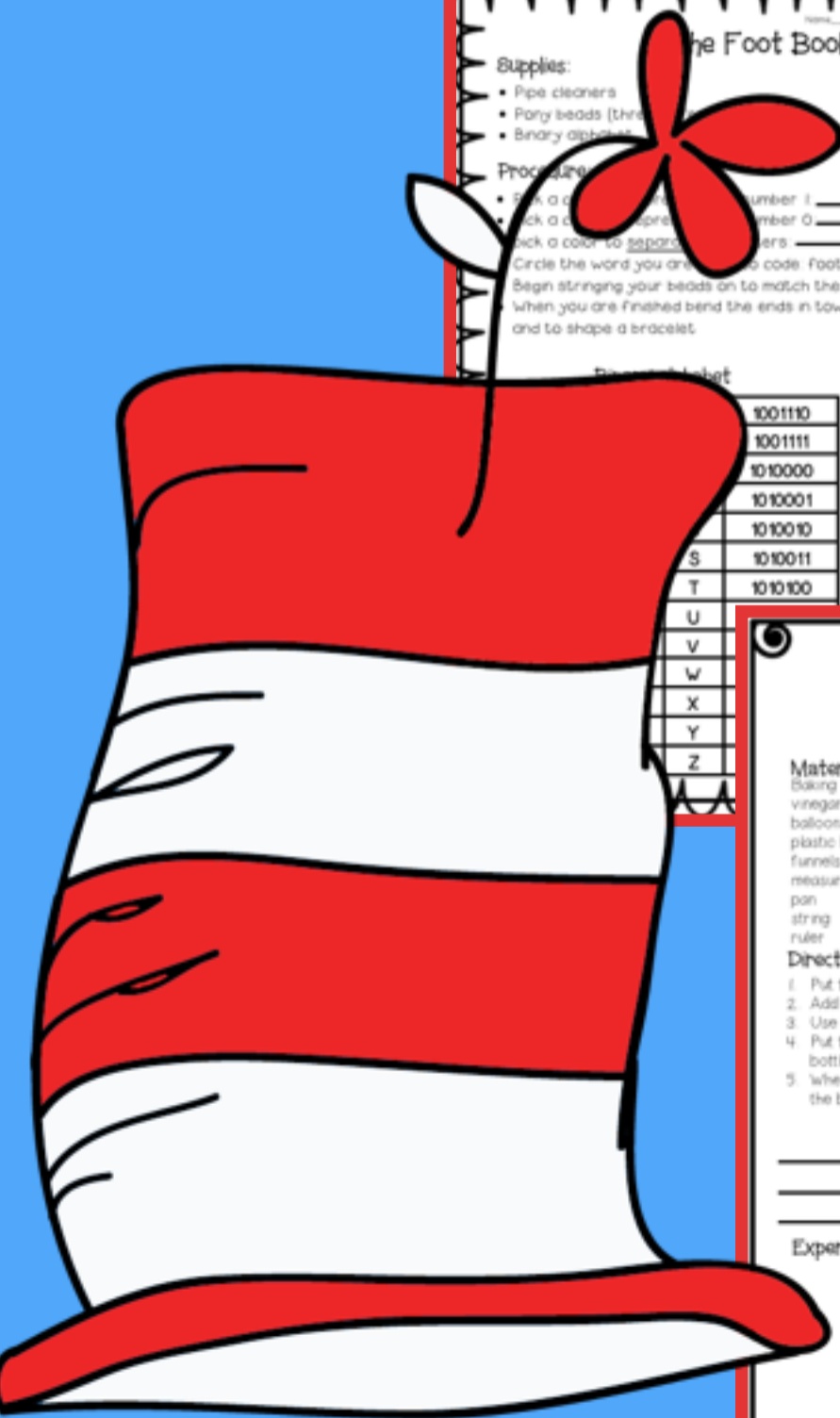
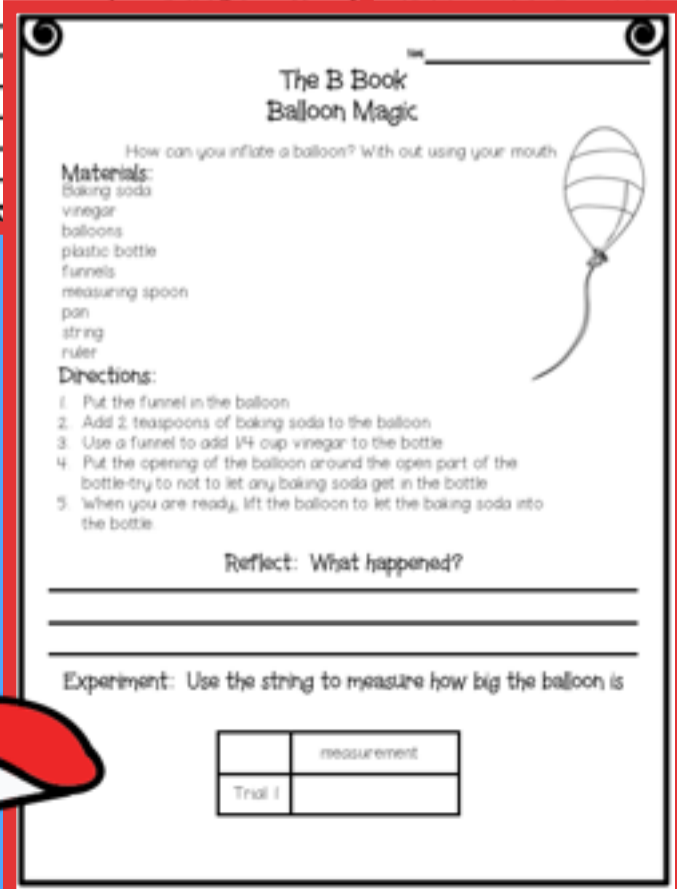
Directions:

1. Put the funnel in the balloon
2. Add 2 teaspoons of baking soda to the balloon
3. Use a funnel to add 1/4 cup vinegar to the bottle
4. Put the opening of the balloon around the open part of the bottle-try to not to let any baking soda get in the bottle
5. When you are ready, lift the balloon to let the baking soda into the bottle

Reflect: What happened?

Experiment: Use the string to measure how big the balloon is

	measurement
Trial 1	



TEACHER PAGE



STEM project #1

One Fish, Two Fish, Red Fish, Blue Fish

This STEM project is about making something funny for the last page of the book. Gather random materials and put them in a bag. Students will be using random materials to create funny objects. For better and different creations put different items in each bag!

Possible objects in mystery bag:

Tooth picks	markers	noodles
cotton balls	sticky notes	coffee filter
popsicle sticks	foil	straws
legos	toilet paper roll	rubber bands
tape	pipe cleaners	blocks
glue	q-tip	marshmallows
play doh	pom poms	sponges
paper	string	beads
glue	playing cards	plastic cup
crayons	pool noodle	balloons



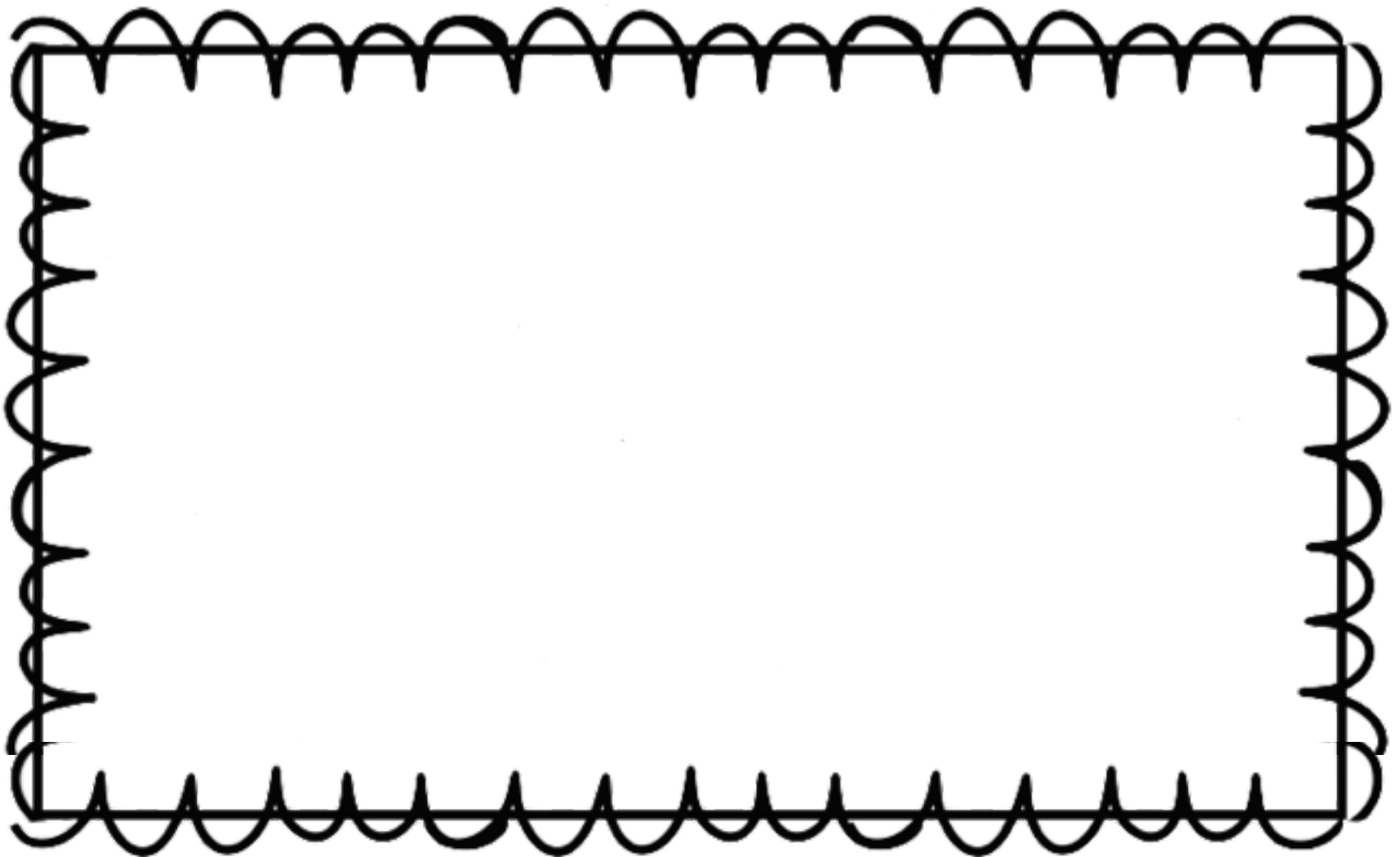
NAME _____

One Fish, Two Fish, Red Fish, Blue Fish Funny in a bag

In the story One Fish, Two Fish, Red Fish, Blue Fish it is all about funny things. But, the last page has been ripped out! You need to create one more funny thing! Use your mystery bag to create the last page of the book! Take everything out of your bag first. Then, plan your funny object.

Objects: Write the materials that are in your bag. What might you use these items for?

Plan: Draw a quick sketch of what you are going to draw.
Then, build!



Reflect: If you could add one more item what would you add?

How would you use that item?

Write about it! What funny object did you make? What do we call it? What does it do? Why is it funny?

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STEM project #2

Cat and the Hat

This STEM project you are stacking red solo cups and paper. Give student solo cups and small 6x6 pieces of paper and have them try to make the biggest tower than can out of only these materials

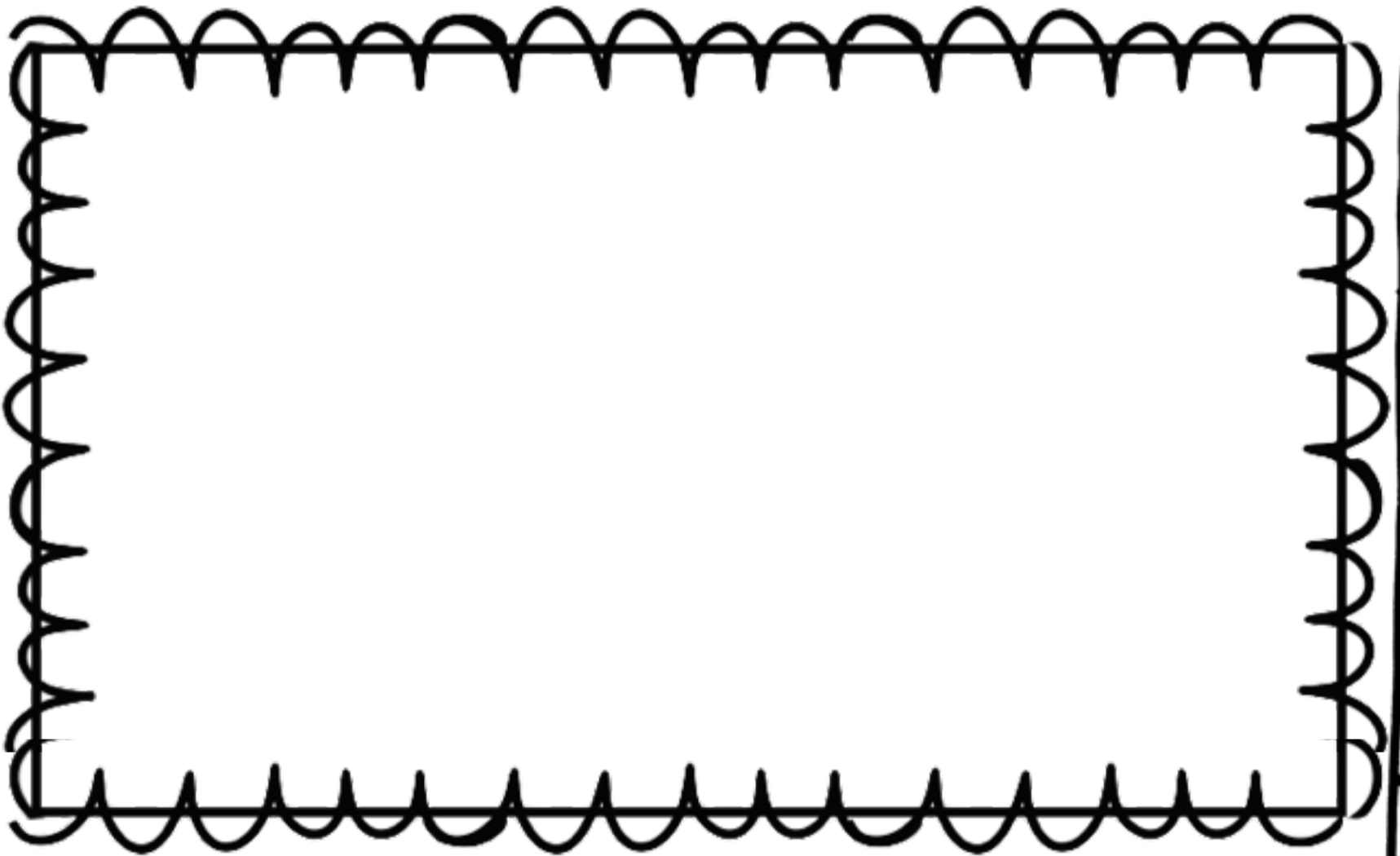


NAME _____

Cat and the Hat Stacking cups

How high can you stack Cat and the hat's hat? Use the cups and the paper to stack the cups as high as you can before it falls!

Plan: looking at the materials, what is your first plan to stack as many cups as you can? Draw a quick sketch. Then, build.



Reflect: How did your plan go?

What change could you make to try and make it taller?
Could you add another material?

Try to revise your structure to make it even taller.

Did your revised plan work? If not, what do you need to
make it work?

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STEM project #3

Ten Apples up on Top

This STEM project is stacking “apples.” Yes, you could use real apples. Or you could fill balloons with sand or rice. Have students stack as many “apples” as they can before they fall? Get your students to think of ways they could make it even taller.



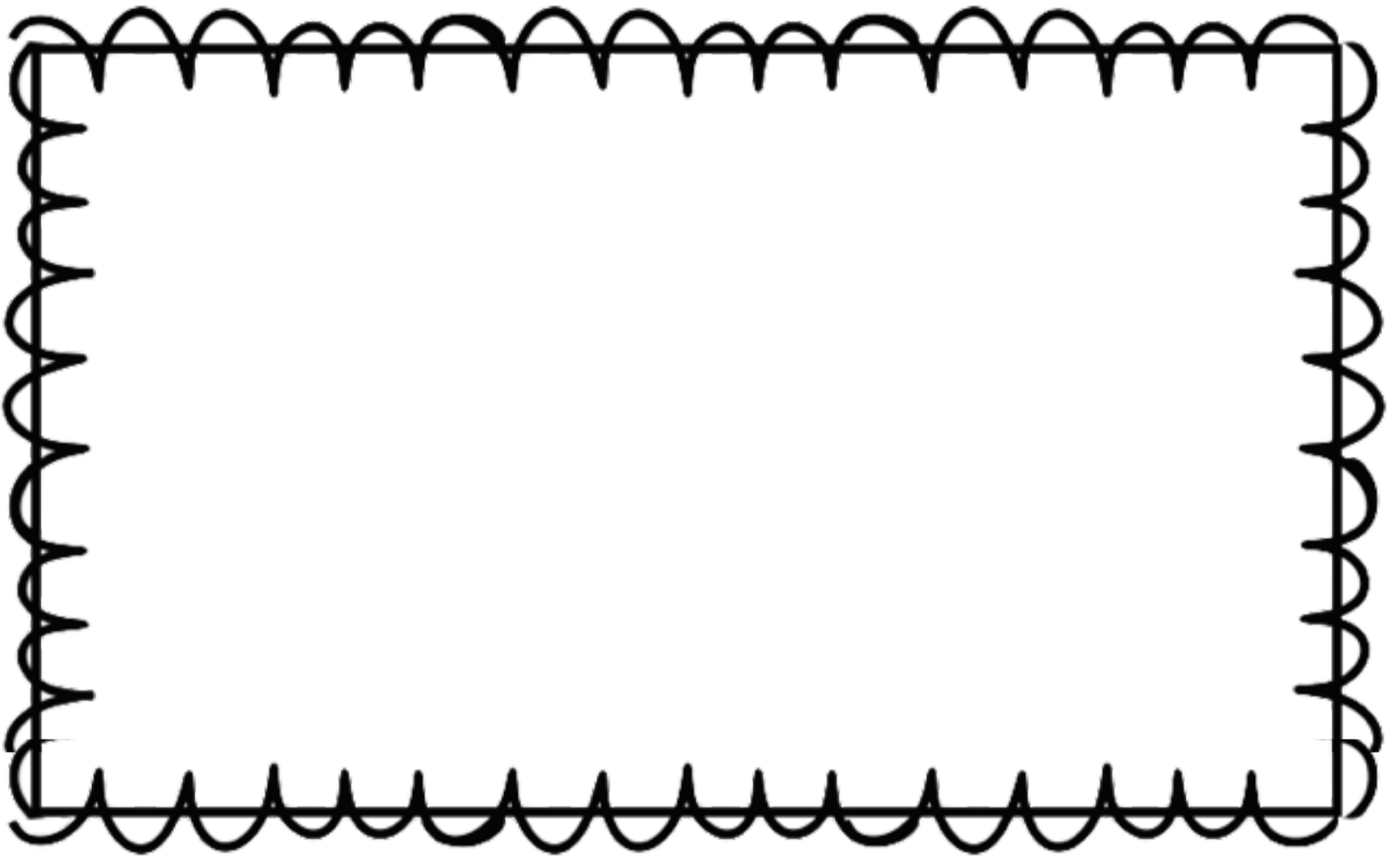


NAME _____

Ten Apples up on Top Apple Stacking

Stack as many apples as you can!

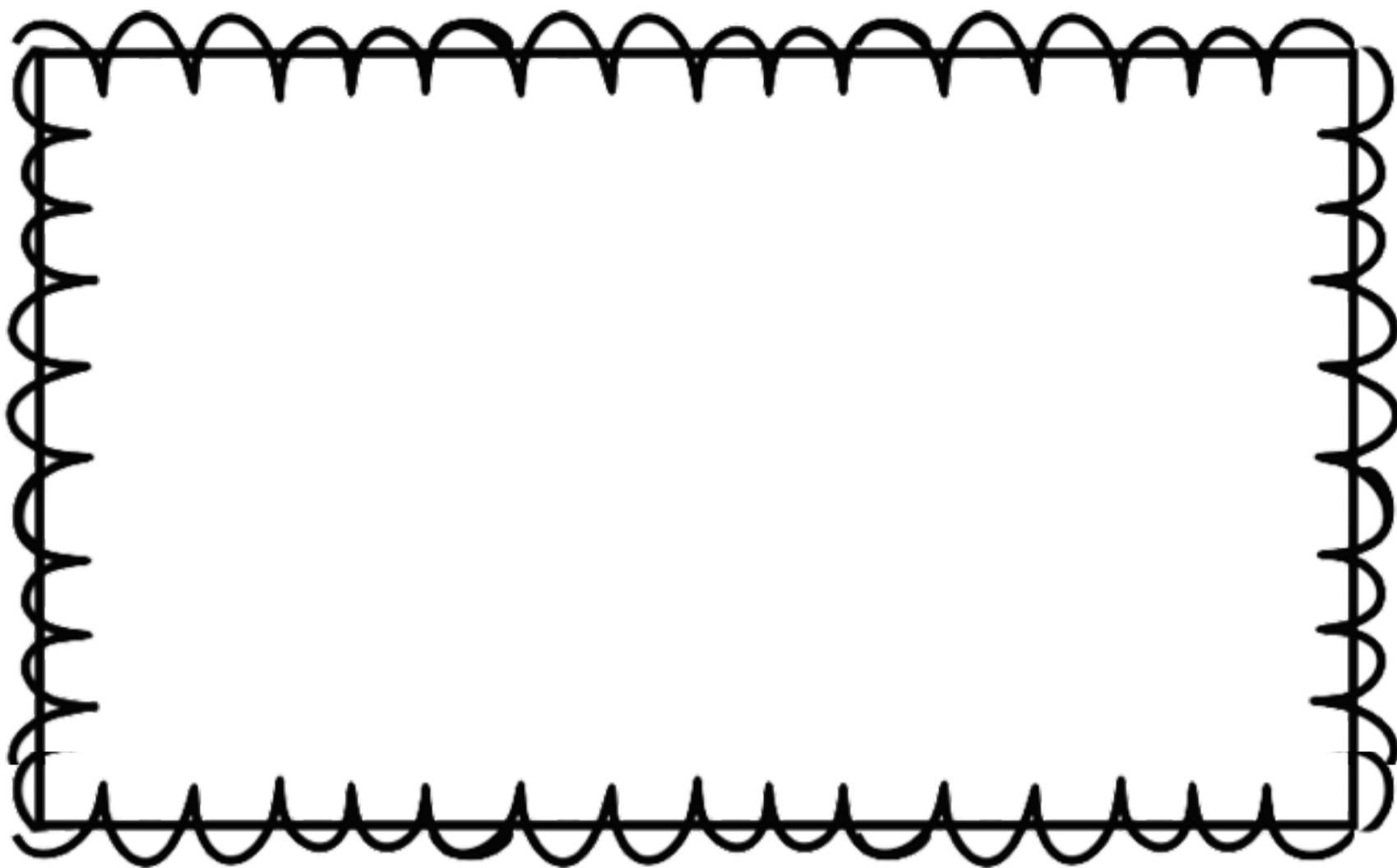
Plan: Draw a quick sketch of you plan to stack as many apples as you can before they fall!



Reflect: How did your plan go?



Make a new plan. Try to design a new way to stack the apples to try to make it even taller. Sketch your new plan.



Reflect: How did your new plan work?

How could you make it even taller?

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STEM project #4

Ohh the Places you Will Go

This STEM project has students making mazes.

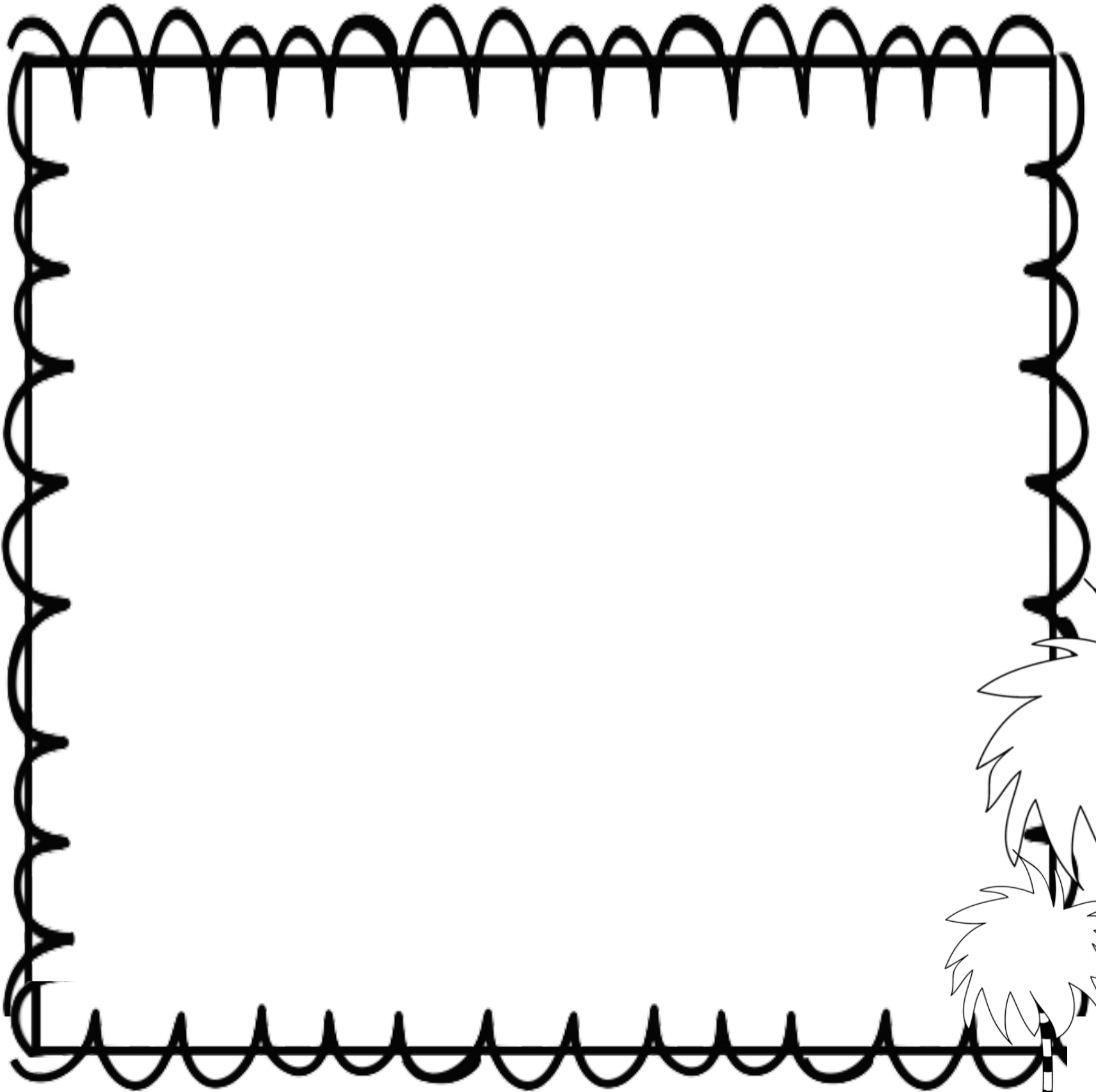
You can make mazes out of straws, popsicle sticks, or legos. Give students one of those items with tape, scissors, and a piece of paper to attach it to and set them free! Having cars or little people to go through the maze is always a crowd pleaser.

NAME _____

Ohh The places you Will Go Maze

Where will life bring you? Build a maze out of the materials you have.
Include as many twists and turns as you can!

Plan: Draw a blueprint of your maze.



Reflect: Did you follow your blueprint or did you make changes? If you'd made changes What changes did you make?

If you did not make any changes, what is one change you could make?

Have someone try to go through your maze. Could they do it easily? Did you trick them?

TEACHER PAGE

STEM project #5

Ohh the Places you Will Go

This STEM project has students designing parachutes reach their dreams. Gather the following materials and set your students loose to make a parachute.

Plastic bags
plastic wrap
string
tape
foil
card board
coffee filter
paper
dixi cups
pipe cleaners

mini figures (lego, polly pockets, etc.)

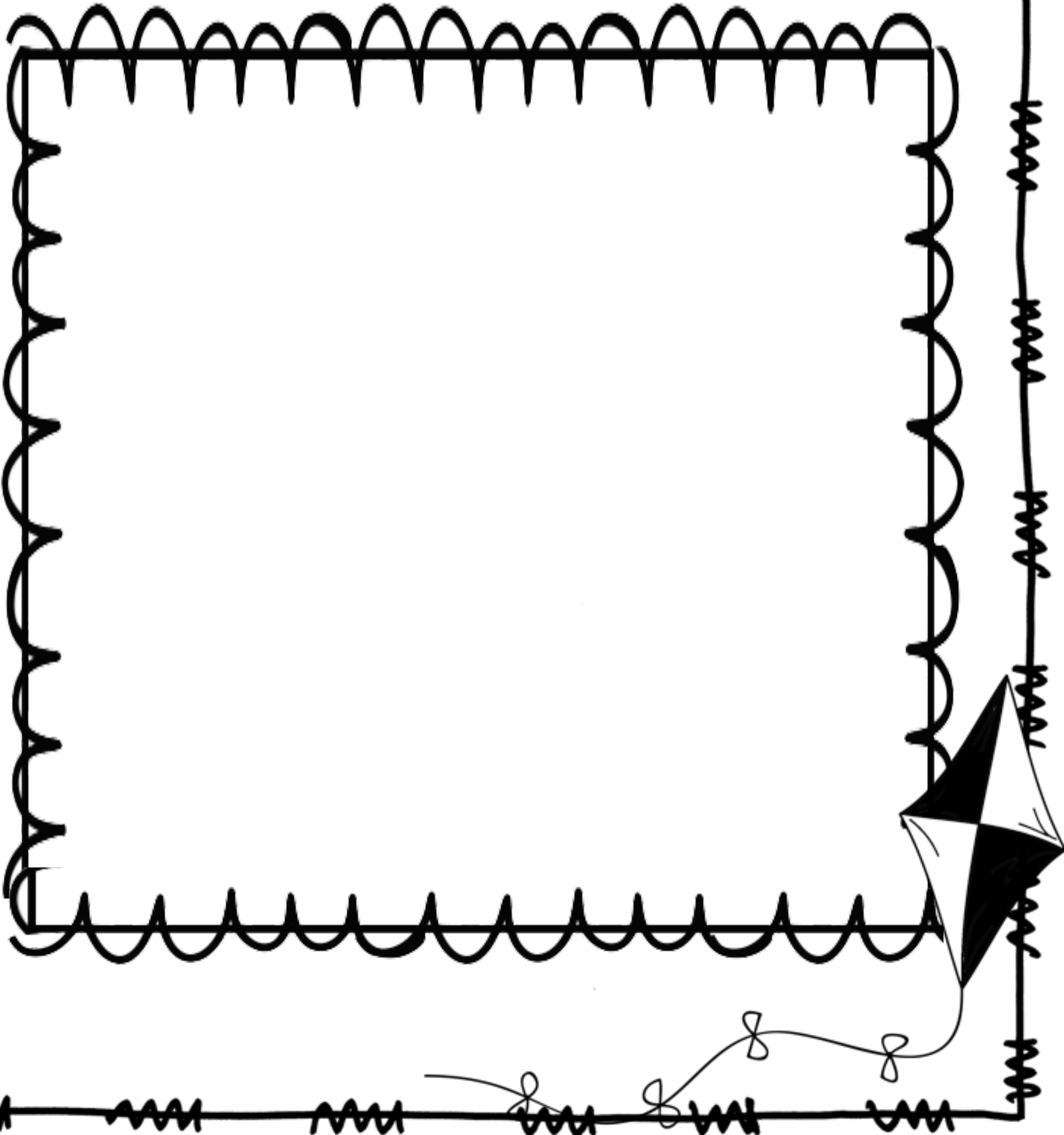
You will need a stop watch

NAME _____

Ohh the Places you Will Go Parachutes

Build a parachute to reach your dreams.

Plan: Draw a quick sketch of what your parachute will look.



Experiment: How long does your parachute stay in the air?

Stand on a chair and let your parachute go. Time how long your parachute stays in the air. Record your answers.

	Time
Trial 1	
Trial 2	

Reflect: Did your parachute stay in the air as well a you thought?

Make a change to your parachute and experiment again.

Experiment: How long does your parachute stay in the air?

Stand on a chair and let your parachute go. Time how long your parachute stays in the air. Record your answers again.

	Time
Trial 1	
Trial 2	

Reflect: Did your improvements help?



TEACHER PAGE

STEM project #6

Hop on Pop

This stem project has students making bouncy balls! The following materials are needed

1/2 cup warm water
1 tablespoon borax
1 tablespoon cornstarch
2 tablespoons liquid glue
food coloring
ruler

NAME _____

Hop on Pop Bouncy Balls

There is a lot of bouncing and hopping in Hop on Pop. How can you make a bouncy ball bouncy?

Materials:

- 1/2 cup warm water
- 1 tablespoon borax
- 1 tablespoon cornstarch
- 2 tablespoons liquid glue
- food coloring
- ruler

Directions:

1. In a cup mix warm water and borax
2. In a different cup mix glue, cornstarch, and food coloring
3. Pour glue mixture into the water-borax cup
4. Glue mixture will harden after 10 seconds- use a fork to take it out of the water
5. If the glue mixture is still sticky, squish it with your hands and dip it back in the water.
6. Roll the mixture in your hands to make a ball.



Experiment: How high does your ball bounce?

Bounce your ball. Measure how high it bounces.

	Time
Trial 1	
Trial 2	

Plan: How can you make your ball bounce higher?



Experiment : Try it again!

Bounce your ball. Measure how high it bounces.

	Time
Trial 1	
Trial 2	

Reflect: Did your ball bounce higher?

TEACHER PAGE

STEM project #7

The Foot Book

This STEM project is coding! You need three different color pony beads and pipe cleaners!

Name _____

The Foot Book

Supplies:

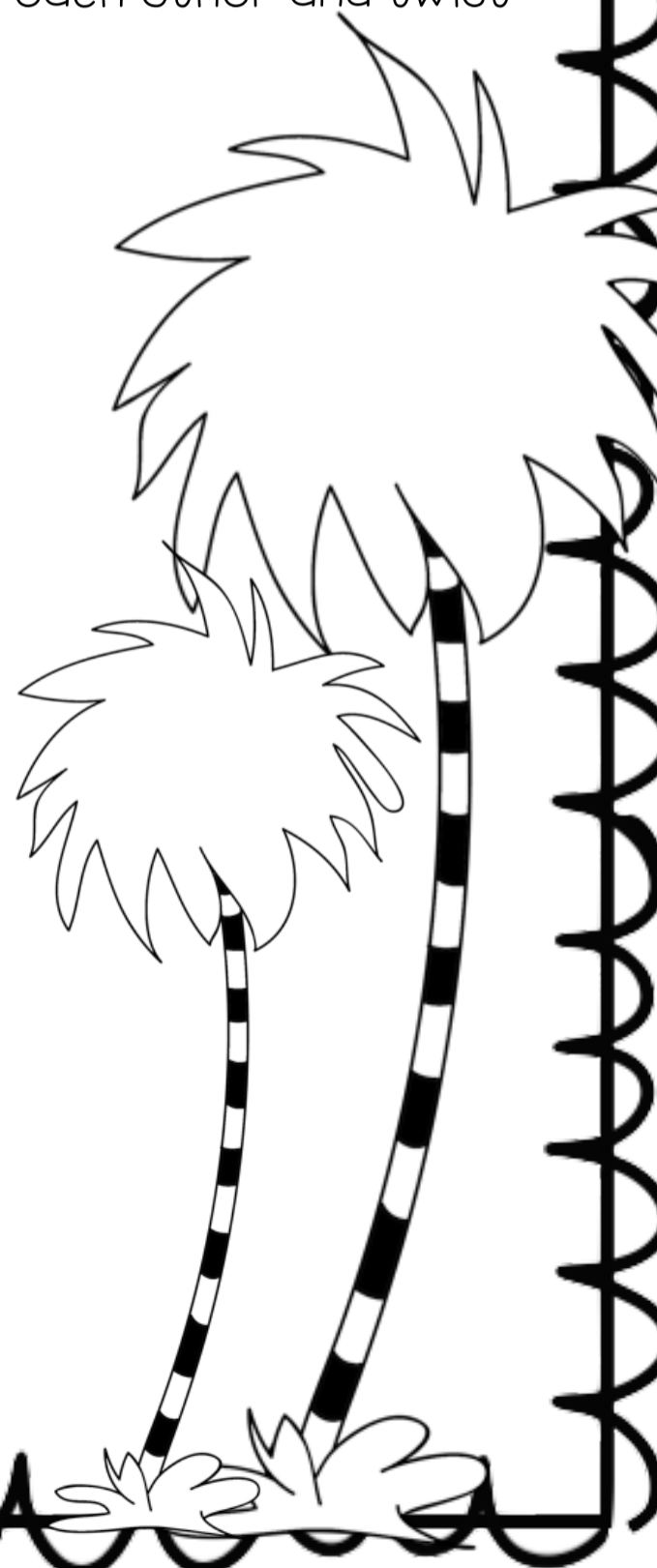
- Pipe cleaners
- Pony beads (three different colors)
- Binary alphabet

Procedure:

- Pick a color to represent the number 1: _____
- Pick a color to represent the number 0: _____
- pick a color to separate the letters: _____
- Circle the word you are going to code: foot red black feet sick slow
- Begin stringing your beads on to match the code
- When you are finished bend the ends in toward each other and twist and to shape a bracelet

Binary alphabet

A	1000001	N	1001110
B	1000010	O	1001111
C	1000011	P	1010000
D	1000100	Q	1010001
E	1000101	R	1010010
F	1000110	S	1010011
G	1000111	T	1010100
H	1001000	U	1010101
I	1001001	V	1010110
J	1001010	W	1010111
K	1001011	X	1010111
L	1001100	Y	1011001
M	1001101	Z	1011010



TEACHER PAGE

STEM project #8

The B Book

This Stem project is making a chemical reaction to inflate a balloon. You will need the materials below

Baking soda
vinegar
balloons
plastic bottle
funnels
measuring spoon
pan
string
ruler

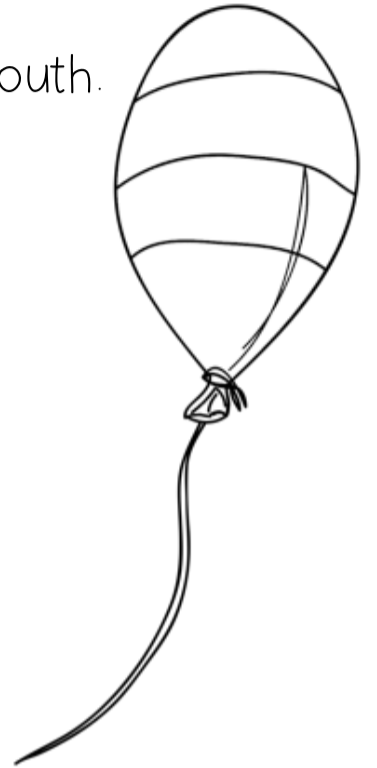
NAME _____

The B Book Balloon Magic

How can you inflate a balloon? With out using your mouth.

Materials:

Baking soda
vinegar
balloons
plastic bottle
funnels
measuring spoon
pan
string
ruler



Directions:

1. Put the funnel in the balloon
2. Add 2 teaspoons of baking soda to the balloon
3. Use a funnel to add 1/4 cup vinegar to the bottle
4. Put the opening of the balloon around the open part of the bottle-try to not to let any baking soda get in the bottle
5. When you are ready, lift the balloon to let the baking soda into the bottle.

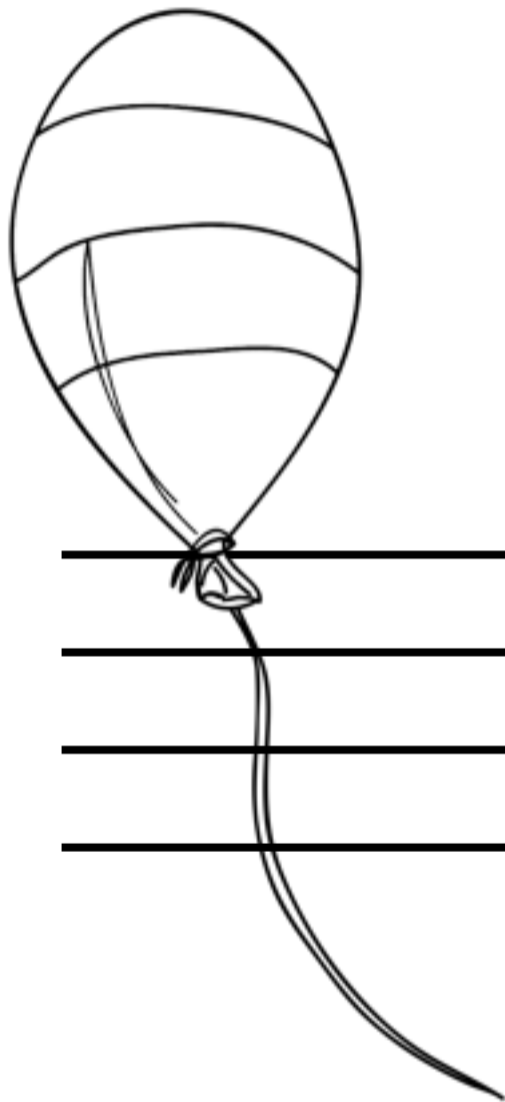
Reflect: What happened?

Experiment: Use the string to measure how big the balloon is

	measurement
Trial 1	

Plan: What could you do to make the balloon get bigger?

Experiment: Dump out your mixture and try it again using what you wrote above.



	measurement
Trial 2	

Reflect: Did your plan work?

THANK YOU

Credits

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