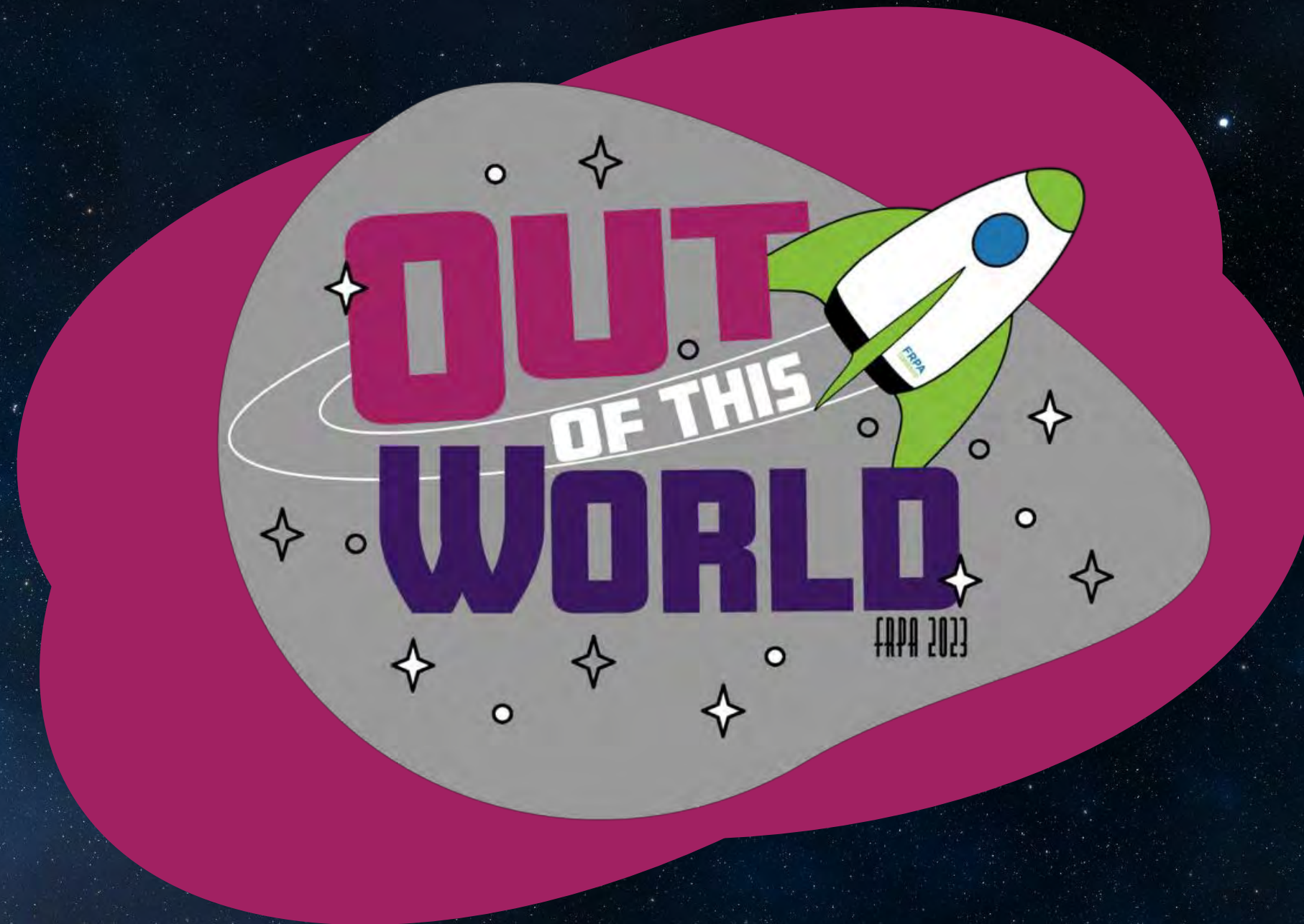


# Welcome to the 2023 FRPA Conference!



August 28 - 31, 2023 | Orlando, FL



# STEAM to Go!

## 4-H Crafty Clover Kits





**UF** | **IFAS Extension**  
UNIVERSITY of FLORIDA



Kristie Popa  
kpopa@ufl.edu  
Tycee Prevatt  
kpopa@ufl.edu



# LEARNING OBJECTIVES

- Participants will have an understanding of how to integrate 4-H activities into their Beyond afterschool activities/schedule.
- Participants will match 4-H STEAM activities to their pre-identified grade level standards.
- Participants will gain the ability to lead students in creating or completing science, math, and craft activities.



# October: Bats

- Standards:
  - SC.1.L.14.1: Make observations of living things and their environment using the 5 senses.
  - SC.1.L.17.1: Through observation, recognize that all plants and animals including humans need the basic necessities of air, water, food and space.
  - MAFS.1.MD.1.1: Order three objects by length.
  - MAFS.1.MD.1.a: Understand how to use a ruler to measure length to the nearest inch. Recognize that the ruler is a tool that can be used to measure the attribute of length. Understand the importance of the zero point and end point and that the length measure is the span between two points.
  - MAFS.1.OA.1.1: Use addition and subtraction within 20 to solve word problems<sup>1</sup> involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem (<sup>1</sup>Students are not required to independently read the word problems.)





# Bats: Lesson Plan

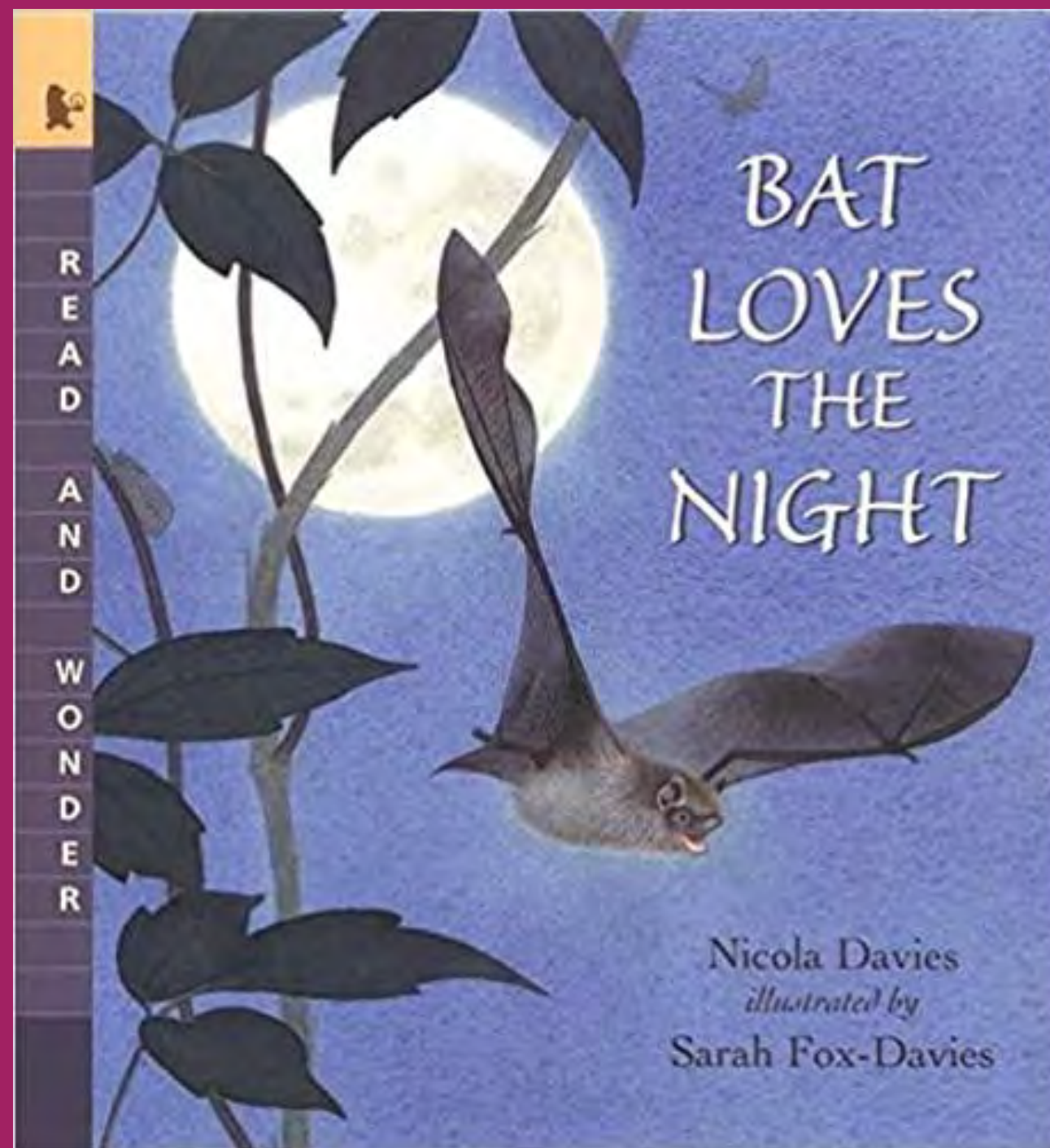
ACTIVITY (BRIEF DESCRIPTION)	INSTRUCTION & RESOURCES TO BE USED	MATERIALS
INTRO	Introduction to the lesson. Provide some facts about bats without saying what you are talking about. For example: <i>I fly but I am a mammal. I have fur and often eat insects or fruit.</i> See if the students can guess what animal you are talking about.	Basic bat facts factsheet
KWL	KWL – What do you <b>already know</b> about bats and what do you <b>want to know</b> about bats? Let's brainstorm! Complete the K and W sections of the KWL chart using the student's answers.	KWL Chart Marker
BEGIN CRAFT	Hand out a paper plate, coffee filter and markers to each child. Have students' complete step 1 on the directions for the craft. Once the student has decorated the coffee filter, you will need to lightly spray each coffee filter with alcohol. This will cause the marker to bleed into the entire coffee filter creating a tie dye look.	Coffee Filter Bat directions Coffee Filter Paper Plate Markers (not provided in kit) Spray bottle with alcohol
BOOK	Bat Book – Read <u>book</u> with students and discuss different characteristics of bats. For example, echolocation. Use the resource video for a more in-depth look at bats and echolocation.	Book: Bat Loves the Night Resource Video: <a href="https://www.youtube.com/watch?v=2Mii45v85YY">https://www.youtube.com/watch?v=2Mii45v85YY</a>

DISCUSSION	Discussion about bats and how they use their 5 senses (do they use them all?). Do you use your five senses the same way? Compare.	Bat Senses Factsheet
<u>KWL</u>	KWL – What did you <b>learn about bats</b> ? Discuss what students have learned and add to the "L" section of the chart.	KWL Chart Marker
CRAFT	Complete the remaining steps to create the coffee filter bats	Clothespin Scissors Googly Eyes Tacky Glue Black Cardstock White Gel Pen / Whiteout
ADDITIONAL MATH SHEET	Bat Measurement Addition & Subtraction Word Problems	Bat Math Worksheet / Activity





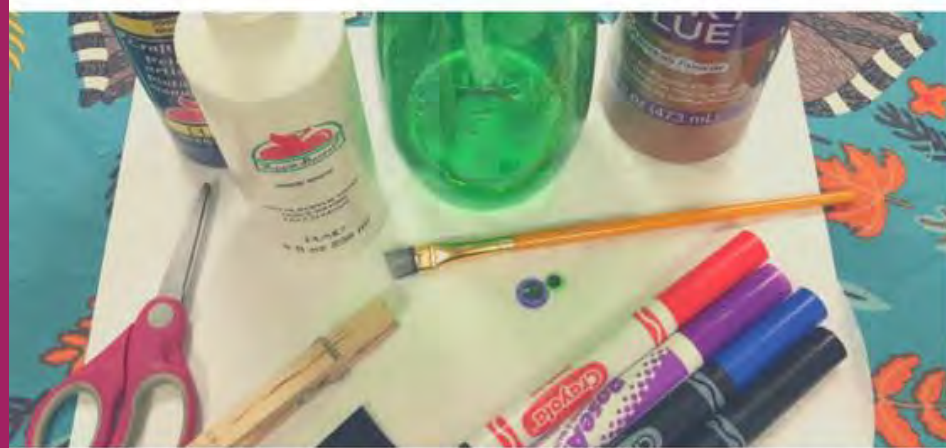
# Bats: Educational Book



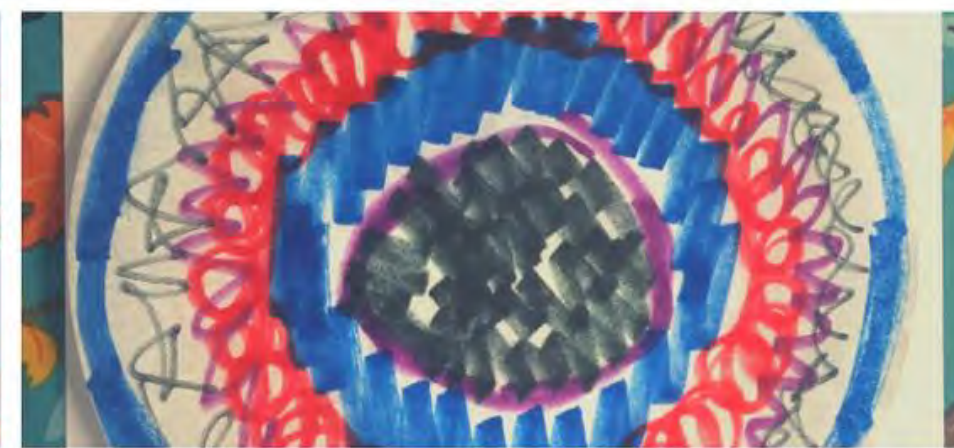


# Bats: Craft

## ☾ COFFEE FILTER BAT ☾



**Supplies:** wooden clothespin, round coffee filter, googly eyes, washable markers, spray bottle, alcohol, scissors, white paint, black construction paper, paper plate



**Step 1:** flatten your coffee filter and draw different patterns with several colors of washable markers. Darker colors are great for making bat wings! Place the coffee filter on the paper plate and lightly spray with alcohol (hold 6 -12 inches back when spraying). Set aside to dry.



**Step 2:** This step is already completed. Clip the clothespin on a piece of cardboard. Paint all sides of the clothespin with black craft paint. Set aside to dry.





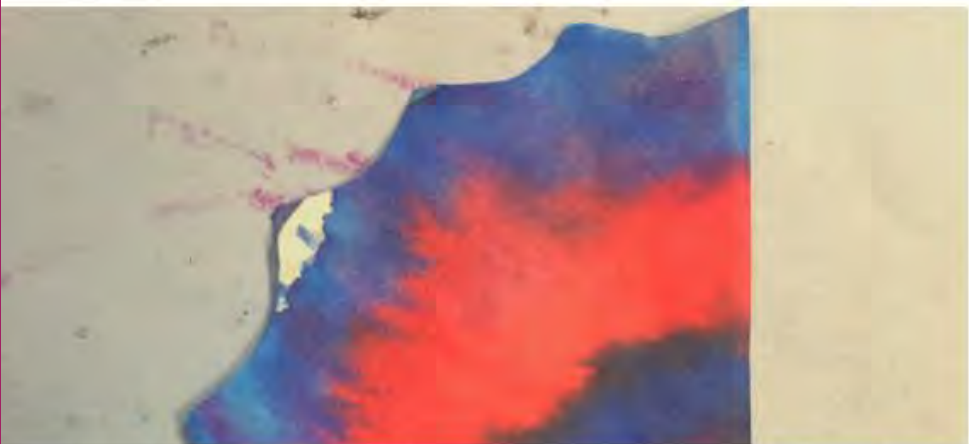
**Step 3:** Once the paint on the clothespin dries, place the self adhesive googly eyes on clothes pin. .






# Bats: Craft


 **COFFEE FILTER BAT** 



**Step 4:** Fold the dry coffee filter in fourths and cut a scallop edge with the scissors. Along the round edge only. Unfold the coffee filter so it is in half and cut a 3 inch slit up from the scalloped edge. Open the clothespin and insert the wings.




**Step 5:** Cut out ears using a rectangular strip of black card stock and cutting out a small triangle on one end. Attach the paper to the top of the clothespin with glue.



**Finished Product**

**UF** UNIVERSITY of  
**FLORIDA**  
IFAS Extension



**UF IFAS Extension Charlotte County**  
Kristie Popa - 4-H Extension Agent  
(941)833-3836  
kpopa@ufl.edu

Foundation of the Gator Nation - An Equal Opportunity Institution





# Bats: Educational Worksheet



## BAT MATH

Name\_\_\_\_\_

Use the tools provided to answer each of the bat math questions below. Show your work where you can!

### How far did Betty Bat fly?

On Monday, Betty Bat flew 5 miles. On Tuesday, Betty Bat flew 8 miles. How many total miles did Betty Bat fly?  
Show your work below.

Use the objects listed below to measure your bat.



Ruler (in.): \_\_\_\_\_

Paperclip: \_\_\_\_\_

Penny: \_\_\_\_\_

Cube: \_\_\_\_\_

Order the "bats" from smallest to largest.





# November: Pumpkins


- Standards:
  - SC.1.L.16.1 - Heredity and Reproduction. Make observations that plants and animals closely resemble their parents, but variations exist among individuals within a population.
  - SC.1.L.17.1 – Interdependence. Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.
  - MAFS.1.G.1.3 - Reason with shapes and their attributes. Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.





# Pumpkins: Lesson Plan

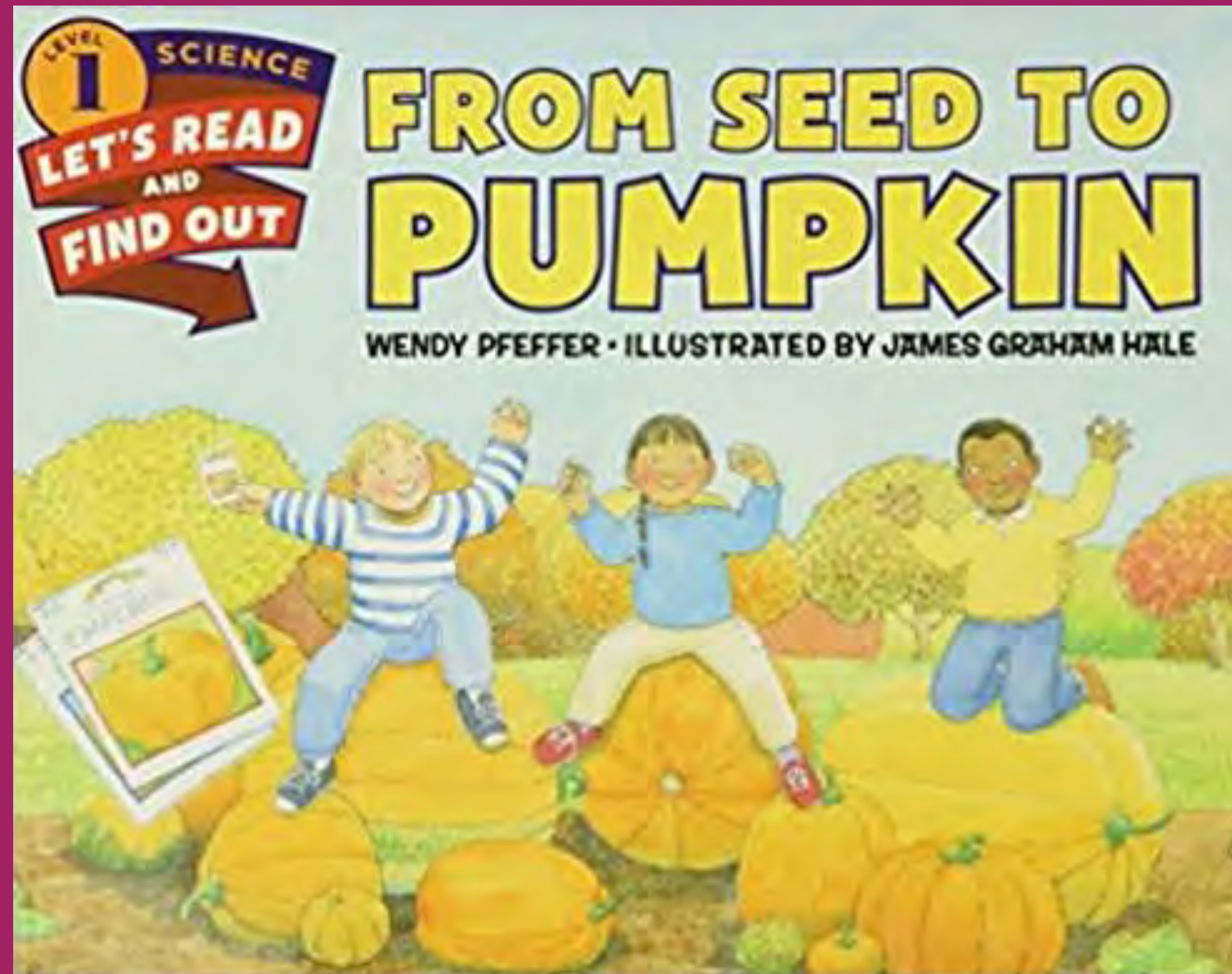
ACTIVITY (BRIEF DESCRIPTION)	INSTRUCTIONS & RESOURCES TO BE USED.	MATERIALS
INTRODUCTION TO THE LESSON	Introduction to the lesson. Provide some <u>fact</u> about pumpkins.	Pumpkin fact sheet
KWL – WHAT DO YOU KNOW ABOUT PUMPKINS/PLANT?	KWL – What do you <b>already know</b> about bats and what do you <b>want to know</b> about bats? Let's brainstorm! Complete the K and W sections of the KWL chart using the student's answers.	KWL Chart Marker
BOOK	Pumpkin Book – Read book with students and discuss that plants need Water, air, light & soil or nutrients. Talk about plants and temperature/weather - how some plants thrive in heat and some in cold.	Book: <u>From</u> Seed to Pumpkin
LIFECYCLE OF A PLANT	Discuss how a seed becomes a plant. Have <u>students</u> complete <u>worksheet</u> by numbering the pictures in the order of the plant lifecycle.	Lifecycle of a plant worksheet Laminated answer cards pencils

DIFFERENCES	Use various pumpkins to talk about the differences in size, shape and color – but that they are still all pumpkins	pumpkins
PUMPKIN CRAFT	Complete the steps in the how to sheet. Watch this how to video (ahead of time). <a href="https://www.youtube.com/watch?app=desktop&amp;v=ON-cmdOTskI">https://www.youtube.com/watch?app=desktop&amp;v=ON-cmdOTskI</a> 	Craft how to sheet Construction paper – orange, Green Construction Strips, Glue sticks, circle pattern, pencil, scissors
REVIEW	Review: That plants need water, air, sun and soil/nutrients to grow.	
KWL	KWL – What did you <b>learn about pumpkins</b> ? Discuss what students have learned and add to the “L” section of the chart.	KWL Chart Marker





# Pumpkins: Educational Book





# Pumpkins: Craft



## PAPER PUMPKIN



**Supplies:** orange & green construction paper, circle template, pencil, toothpick, scissors, and glue stick



How to Video:  
<https://www.youtube.com/watch?app=desktop&v=ON-cmdOTskI>



**Step 1:** Fold 2 sheets of orange construction paper into fourths. Trace the circle template onto construction paper, cut them out. (This step may have already been done.)



**Step 2:** Fold 8 circles in half.





# Pumpkins: Craft



## PAPER PUMPKIN



**Supplies:** orange & green construction paper, circle template, pencil, toothpick, scissors, and glue stick



How to Video:  
<https://www.youtube.com/watch?app=desktop&v=ON-cmdOTskI>



**Step 1:** Fold 2 sheets of orange construction paper into fourths. Trace the circle template onto construction paper, cut them out. (This step may have already been done.)



**Step 2:** Fold 8 circles in half.





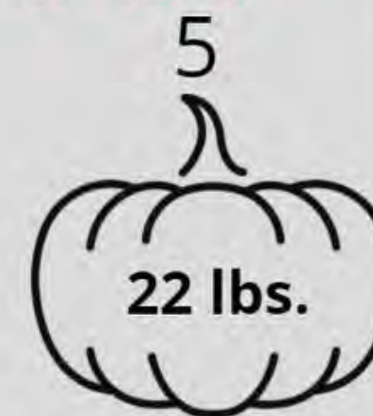
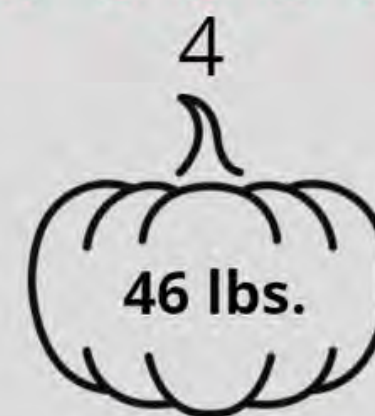
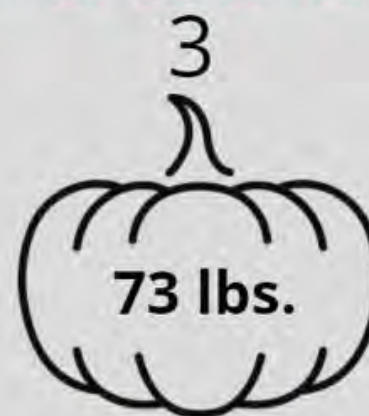
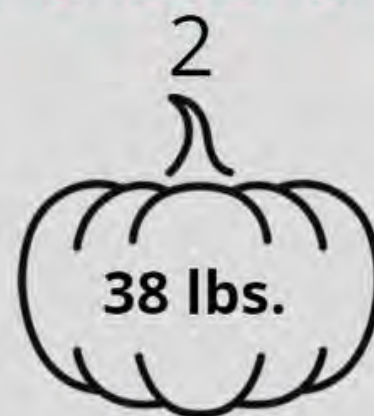
# Pumpkins: Educational Worksheet



## PUMPKIN OBSERVATION

Name \_\_\_\_\_

Look at the pumpkins below. Order the pumpkins from smallest to largest.  
According to the weight on the pumpkin.



There were 15 pumpkins in the patch. Some kids came by and picked some of the pumpkins, now there are only 4 left. How many pumpkins were picked? Show your work!





# Pumpkins: Educational Worksheet



## LIFE CYCLE OF A PLANT

Name\_\_\_\_\_

Like all living things, plants go through a life cycle. In this exercise, use the lines below to the pictures to number the pictures in their correct order in the plant's life cycle.



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





# December: Snowflakes

- Standards:
  - SC.1.N.1.2: Use the 5 senses as tools, make careful observations, describe objects etc.
  - SC.1.E.5.3: Investigate how magnifiers make things appear bigger and help people see things they could not see without them.
  - MAFS.1.G.1.3: Partition circles and rectangles into 2 and 4 equal shares, describe using words halves, fourths and quarters.
  - MAFS.1.G.1.AP.1.a: Distinguish 2D shapes based upon defining attributes.





# Pumpkins: Lesson Plan

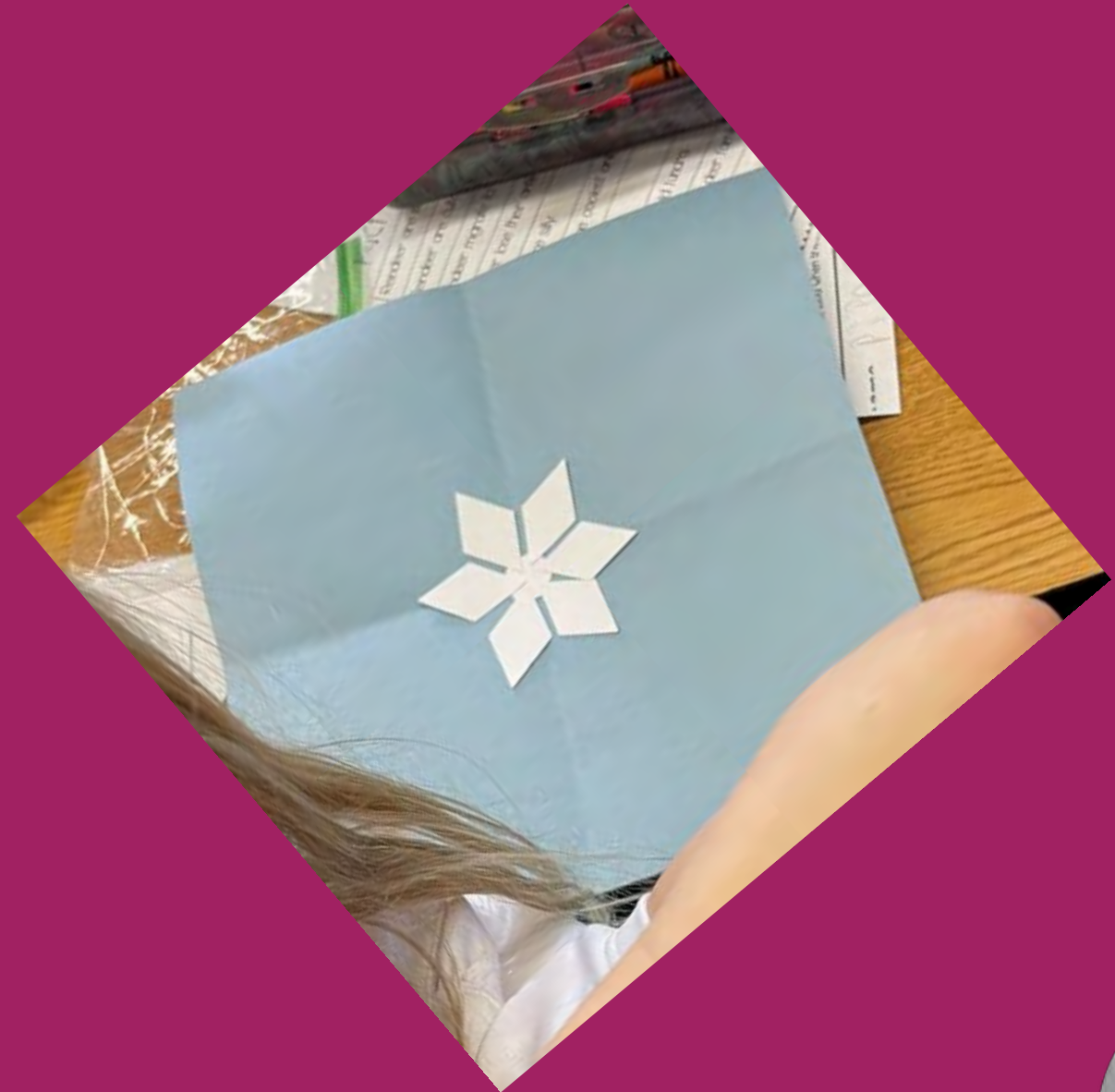
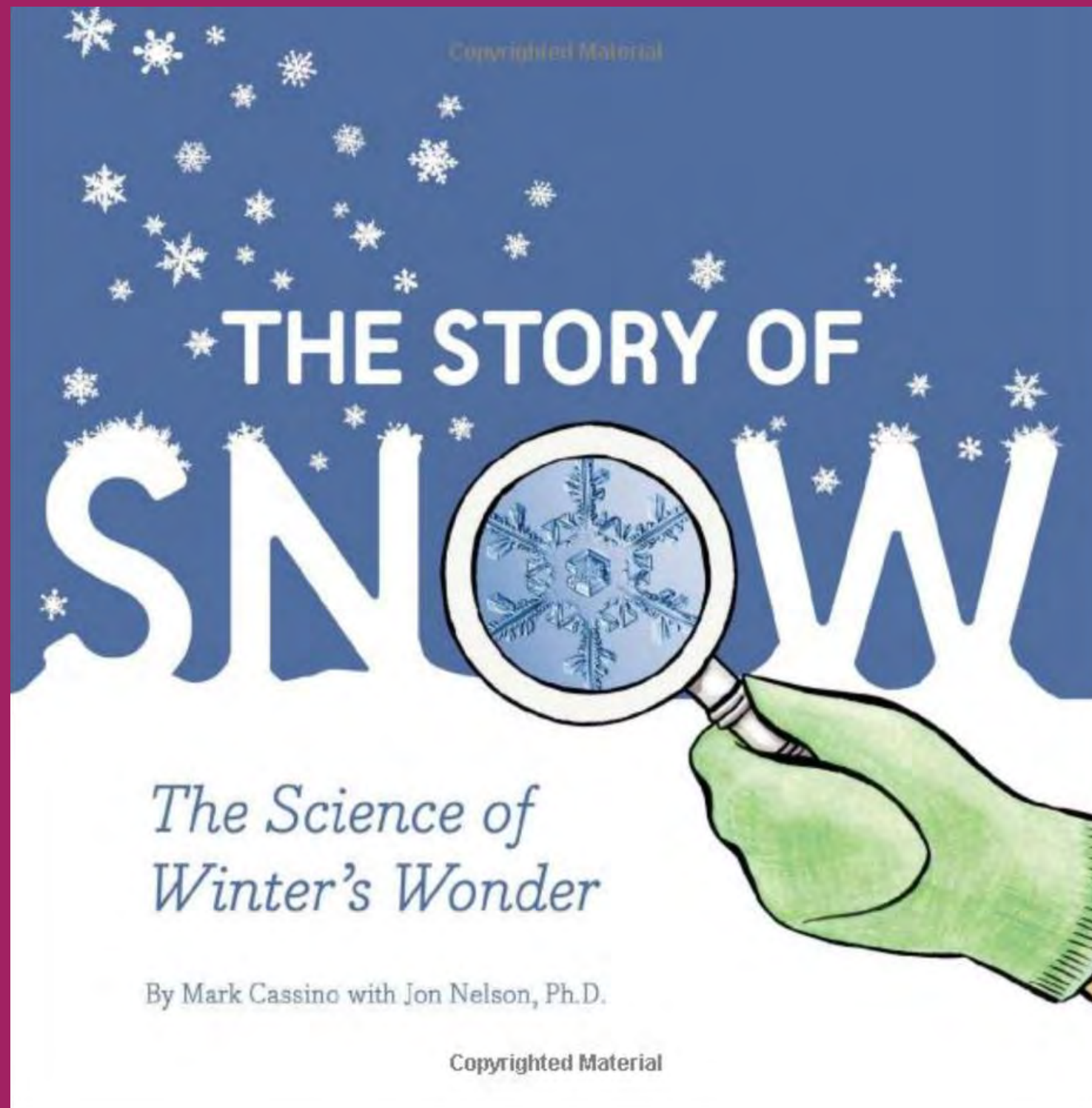
ACTIVITY (BRIEF DESCRIPTION)	INSTRUCTION & RESOURCES TO BE USED	MATERIALS
INTRODUCTION	Insta-snow experience. Don't tell students what they are doing, have them observe the powder before and the snow after using their senses. Discuss that this is not real snow, but as close as we can come to snow in Florida.	Insta-snow Clear plastic cups Stirring Stick Water Pitcher
ANTICIPATION GUIDE	Have students answer 5 quick t/f questions about snow to check their prior knowledge.	List of T/F questions
BOOK & CHART	Read <a href="#">book</a> and discuss. Create a chart while reading which includes what snow is/can/has.	Book Chart Paper or White Board Marker
MAGNIFICATION	Discuss how snowflakes look very different when they are magnified. Use the photos in the book to discuss the magnified snowflakes. Have students use a magnifying glass to explore different items. (Work in groups of 2-3)	Photos of magnified snowflakes Magnifying Glass Plate Yarn Salt Soil

SHAPE RECOGNITION	Provide students with shape worksheet. Discuss the names and characteristics of each shape.	Shape Worksheet
PATTERNED SNOWFLAKES	Hand out pre-cut shapes and have students separate them into stacks according to the shapes. Discuss what a pattern is. Have students create their own pattern for each of the 6 snowflake arms. Discuss the different shapes that can be found in their snowflake. Have students share their <a href="#">creation</a> .	Pre-cut shapes Construction paper Glue
RE-ASK ANTICIPATION GUIDE QUESTIONS	See what students have learned by re-asking the true/false questions	List of T/F questions
MATH WORKSHEET	Have students analyze the snowflake picture to determine how many of each snowflake they can find. Once they figure out the number of snowflakes, have them graph their findings.	Math Worksheet






# Pumpkins: Educational Book




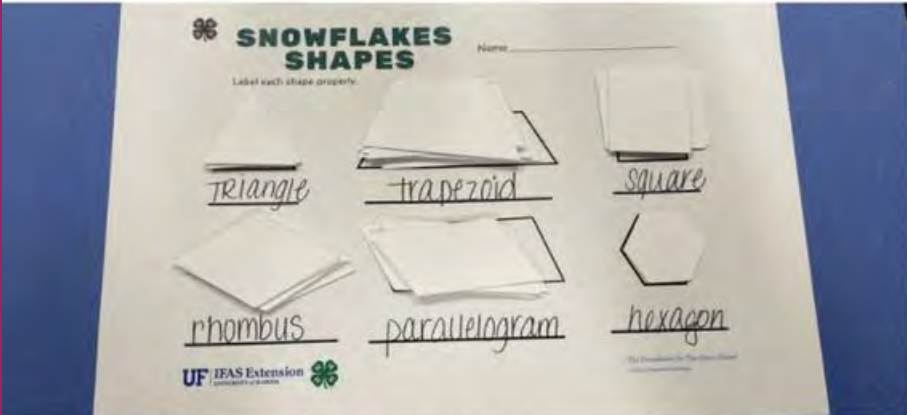


# Pumpkins: Craft




## PAPER SHAPE SNOWFLAKES

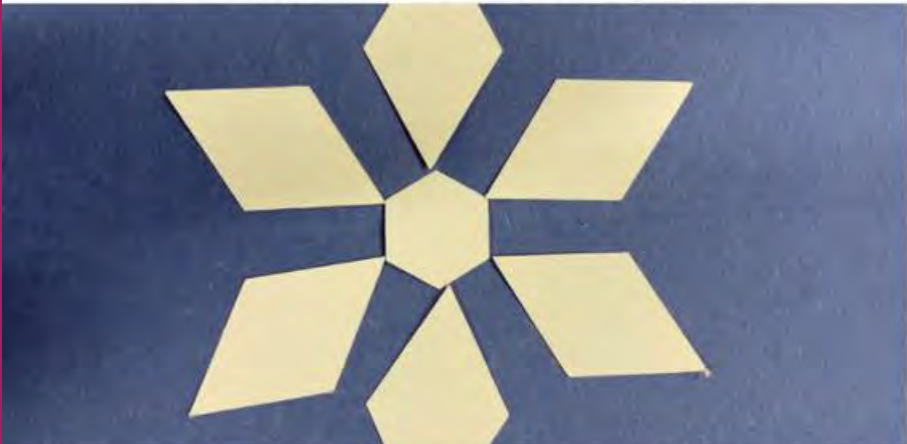




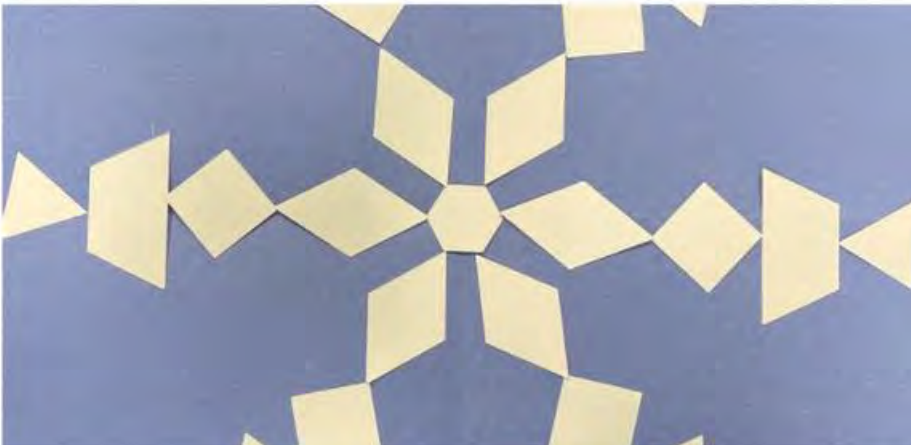
**Step 1:** Have students stack their paper shapes on their snowflake shape worksheet. There should be six of each shape (triangle, trapezoid, square, rhombus, and parallelogram). There will be one hexagon.



**Step 2:** Fold the 12x12 paper into fourths. This will help students find the center of the paper.



**Step 3:** Have students place the hexagon in the center of the paper. Create six "arms" of the snowflake using the various shapes creating identical patterns for each "arm."



**Step 4:** Once all of the shapes are glued to the paper, you will have a snowflake. Have students share the patterns that they used with the class.



# Snowflakes: Educational Worksheet

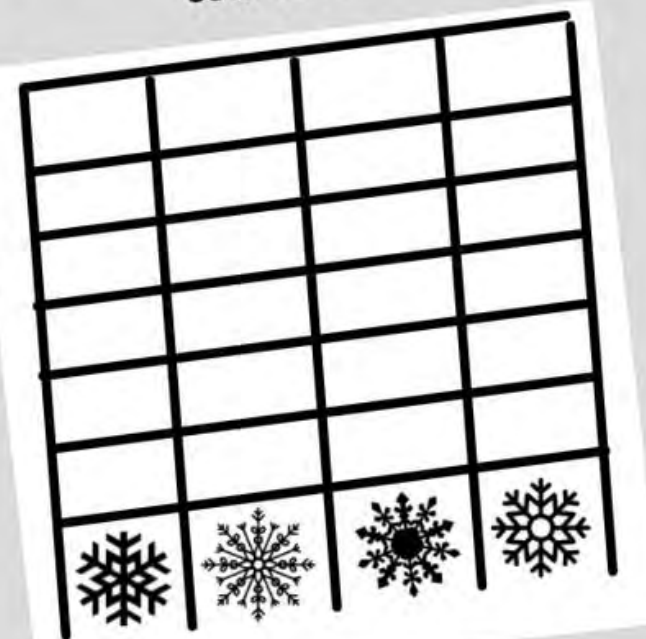


## SNOWFLAKES

Name\_\_\_\_\_

Start by counting each of the different snowflakes on the right side of the page. Once you have counted each snowflake, graph that number on the chart on the left side of the page.

*Graph the snowflakes that you counted.*



*How many of each snowflake can you find?*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





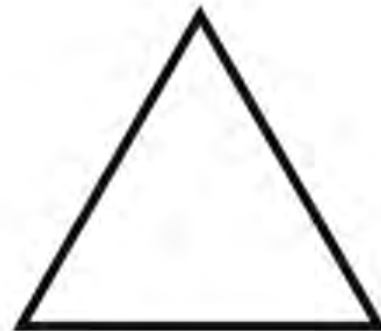
# Snowflakes: Educational Worksheet



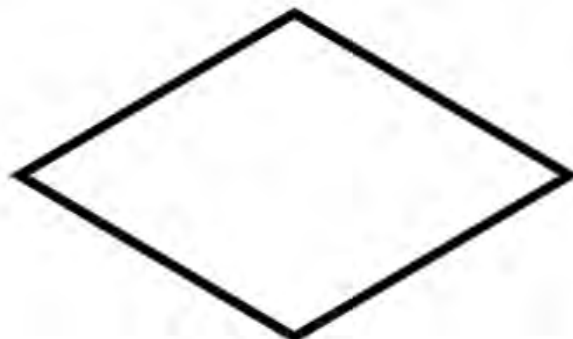
## SNOWFLAKES SHAPES

Name \_\_\_\_\_

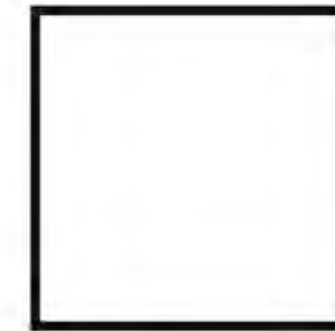
Label each shape properly.



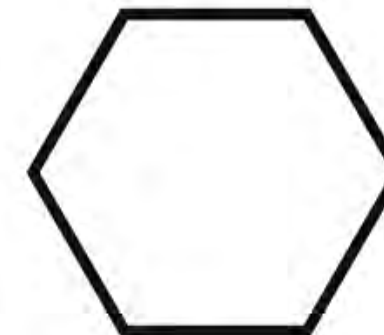
\_\_\_\_\_



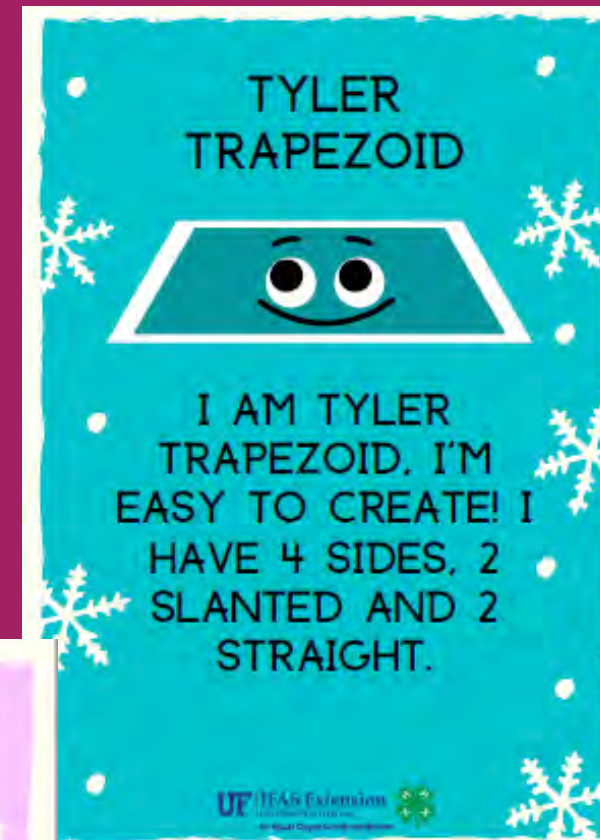
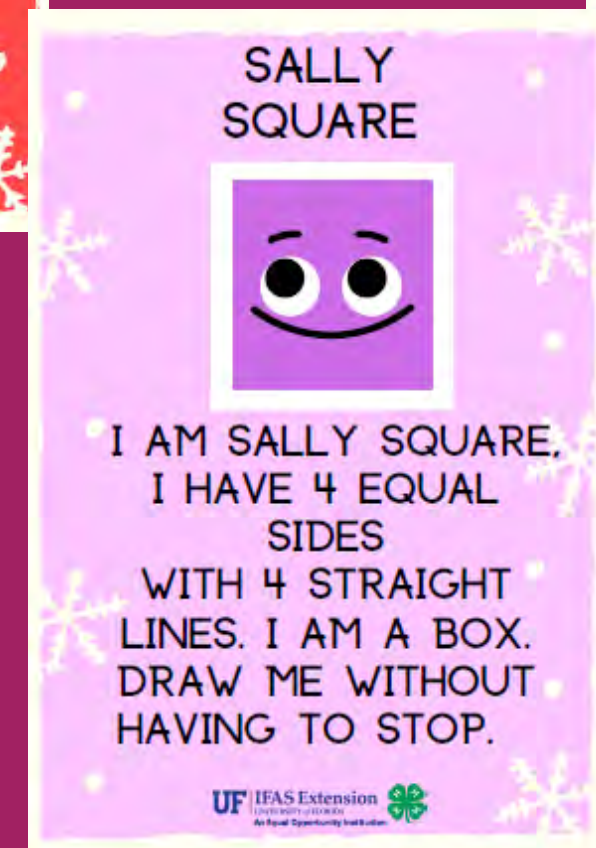
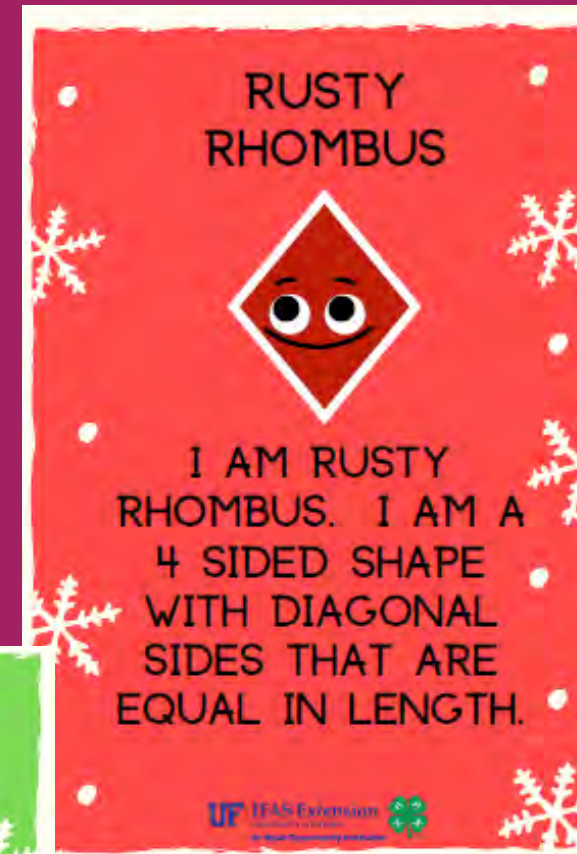
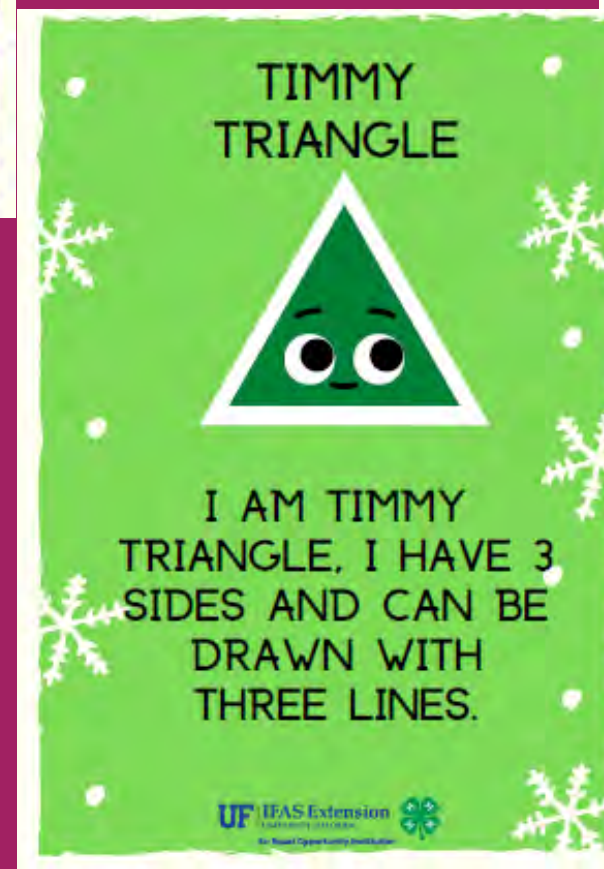
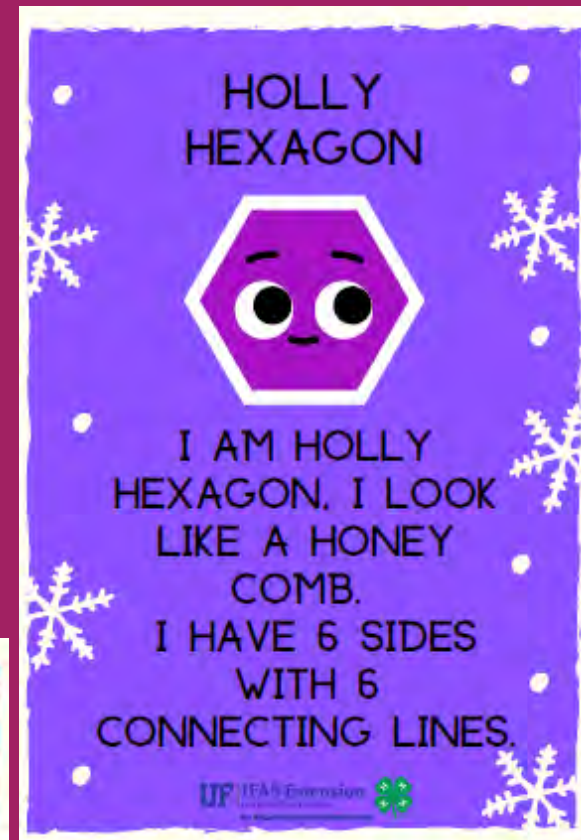
\_\_\_\_\_



\_\_\_\_\_



# Snowflakes: Shape Cards





# January/February: Groundhog

- Standards:
  - SC.1.N.1.3 - The Practice of Science - Keep records as appropriate - such as pictorial and written records - of investigations conducted.
  - MAFS.1.MD.3.4 - Represent and interpret data. (Supporting Cluster) - Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.






# Groundhog: Lesson Plan

## OBJECTIVES

Youth will gain knowledge of weather and how it affects the environment around them.

 Youth will gather and interpret data.

## ACTIVITY (BRIEF DESCRIPTION)

## INSTRUCTIONS & RESOURCES TO BE USED

## MATERIALS

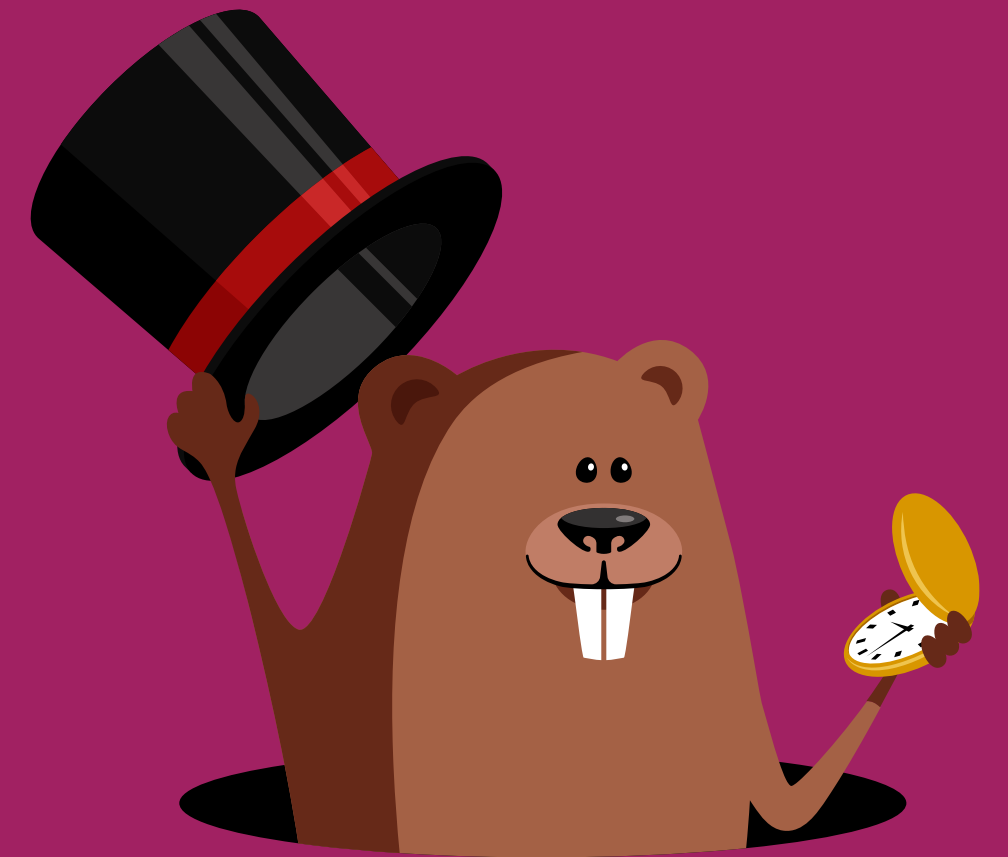
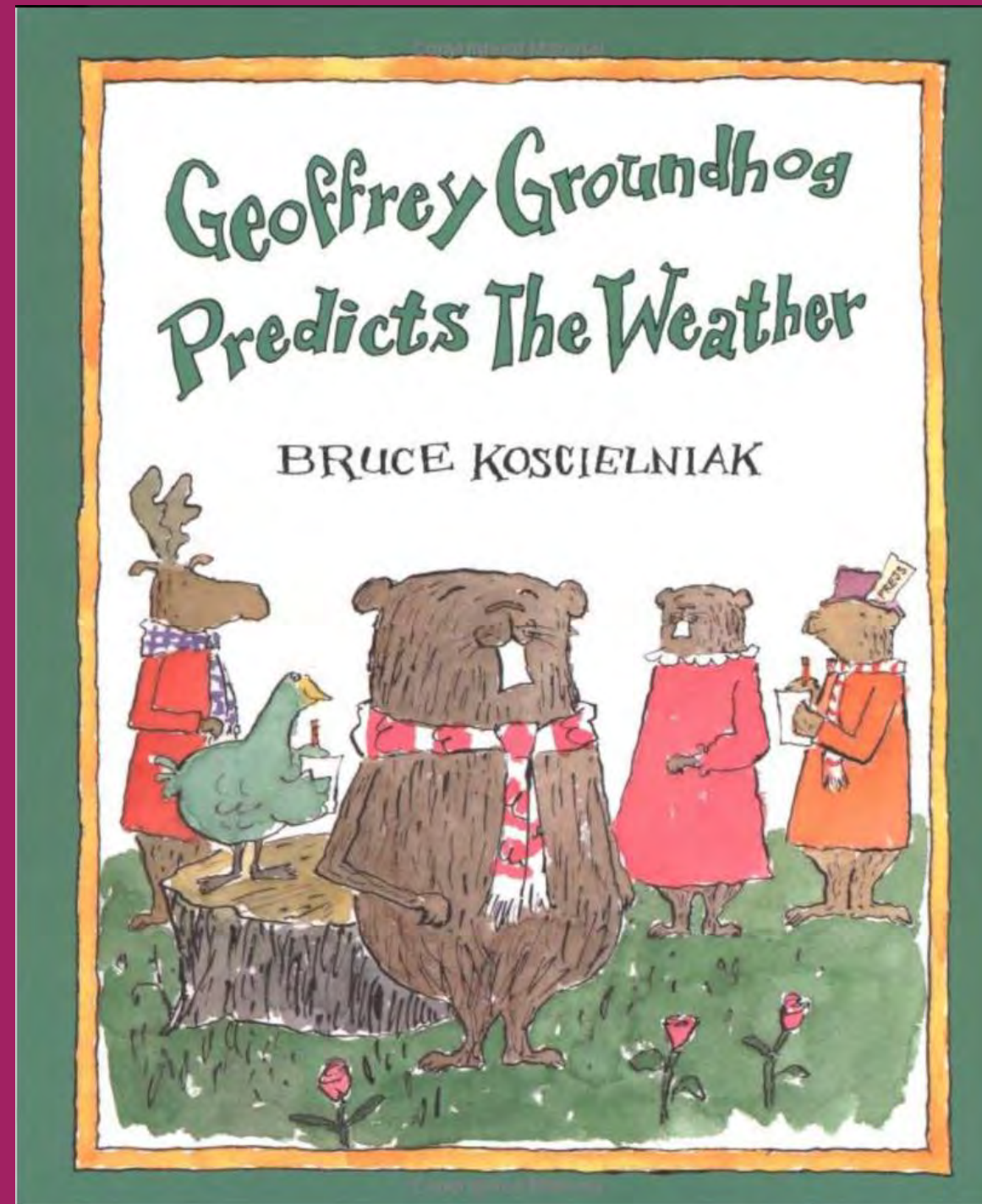
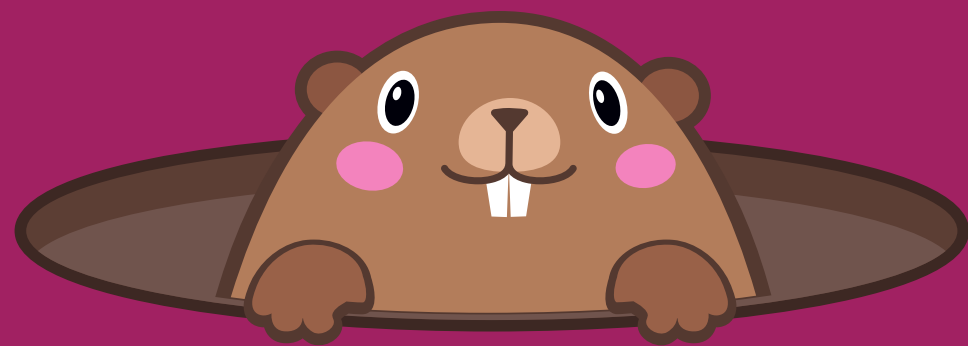
INTRODUCTION TO THE LESSON	Introduction to the lesson. Talk about the weather. Has it been cold? What do they think the weather will <u>be</u> next week?	
WHAT DO YOU KNOW ABOUT GROUND HOG DAY AND GROUND HOGS	What do you know about Ground Hog Day and Ground Hogs?	Ground Hog Day Facts & Groundhog Facts
BOOK	Geoffrey Groundhog Predicts the Weather by Bruce Koscielniak	Book

GROUND HOG CRAFT	<a href="http://mrsriccaskindergarten.blogspot.com/2012/02/groundhog-day.html">http://mrsriccaskindergarten.blogspot.com/2012/02/groundhog-day.html</a>	Instruction sheet for craft.  Paper cup, groundhog cutout, popsicle stick, hot glue, crayons, regular glue stick and poem/song. (Goes to the tune – I am a little tea pot)
SONG	Sing it with the kids	Poem on cup
MATH WORKSHEET	Have kids poll their peers on whether the groundhog will see his shadow. They can graph it on their worksheet.	Math Worksheet





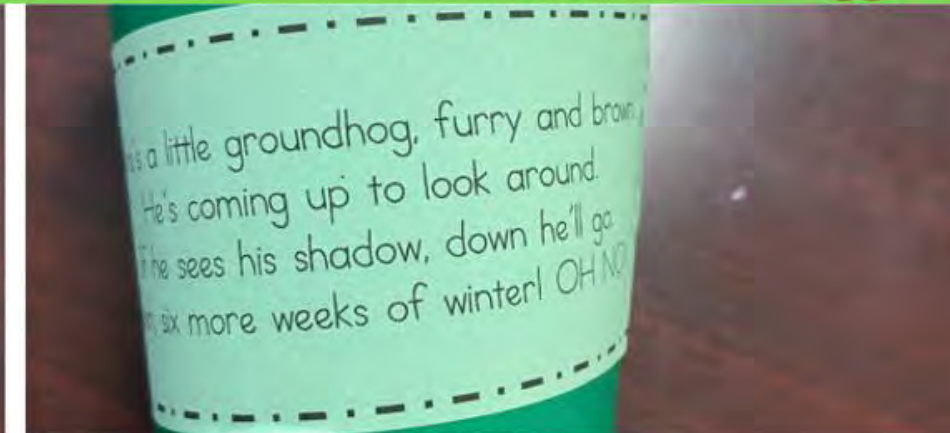
# Groundhog: Educational Book



# Groundhog: Craft



**Materials Needed:** markers or crayons, glue stick, hot glue and hot glue gun, popsicle stick, poem, groundhog cut out, and paper cup



**Step 1:** Glue song/poem onto cup.



**Step 2:** Color groundhog and hot glue onto cup.



**Step 3:** Insert ground hog into cup through the top and into slit.

Derived from: <http://mrsriccaskindergarten.blogspot.com/2012/02/groundhog-day.html>





# Groundhog: Educational Worksheet



## GROUNDHOG GRAPHING

Name\_\_\_\_\_

Will the groundhog see his shadow? Ask 5 classmates to predict whether or not the groundhog will see his shadow. and color in their answer below.

Use one circle per answer.

**Yes**

☐☐☐☐☐

**No**

☐☐☐☐☐

25 groundhogs are in their homes. 10 groundhogs come outside to play.  
How many groundhogs are left in their homes?



# March: Butterfly

- Standards:
  - MAFS.1.NBT.2.3 – Reason with shapes and their attributes. Compare two two-digit numbers based on meanings of the tens and ones digits
  - SC.1.E.6.3 - Earth Structures. Recognize that some things in the world around us happen fast and some happen slowly.
  - SC.K2.CS-CS.2.6 - Problem solving and algorithms –(Butterfly life cycle). Illustrate thoughts, ideas, and stories in a step-by-step manner using writing tools, digital cameras, and drawing tools.





# Butterfly: Lesson Plan

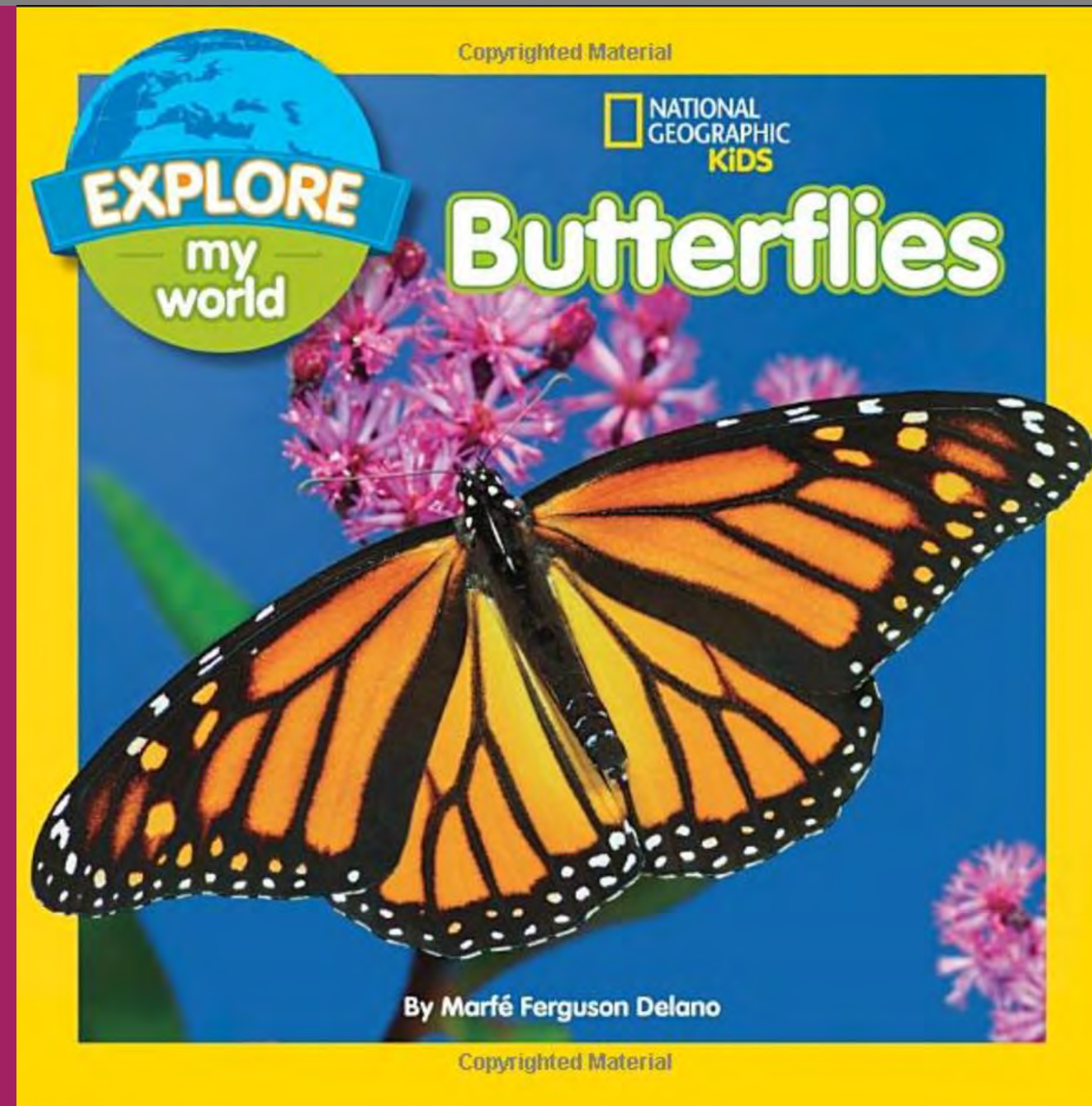


ACTIVITY (BRIEF DESCRIPTION)	INSTRUCTIONS & RESOURCES TO BE USED	MATERIALS
INTRODUCTION TO THE LESSON	Ask youth questions such as: I start as an egg, then I crawl before I fly. What am I? Go over Butterfly Facts	Butterfly fact sheet
BOOK	Read National Geographic Kids – Butterflies	Book
GO OVER LIFECYCLE OF BUTTERFLY	Review Butterfly Life Cycle: <ul style="list-style-type: none"> <li>• Egg</li> <li>• Caterpillar</li> <li>• Chrysalis</li> <li>• Butterfly</li> </ul>	Life Cycle Wheel
BUTTERFLY CRAFT	Make Butterfly craft – full directions can be found at: <a href="https://www.notimeforflashcards.com/2014/06/monarch-butterfly-craft.html">https://www.notimeforflashcards.com/2014/06/monarch-butterfly-craft.html</a>	How to make the craft instruction sheet. Wooden Peg, markers, pipe cleaner, streamers
REVIEW	Have youth in groups of 4 put the butterfly lifecycle flash cards in order	Lifecycle flashcards
BUTTERFLY MATH WORKSHEET	Have youth do the math problems and then draw lines to the matching butterfly	Math worksheet





# Butterfly: Educational Book





# Butterfly: Craft



**STREAMER BUTTERFLIES**

**Materials Needed:** Streamer pieces, pipe cleaner, markers, and wooden peg.

**Step 1:** Color peg with marker.

**Step 2:** Insert streamer pieces into the slit of peg.

**Step 3:** Finish with a pipe cleaner to make antenna.

Derived from: <https://www.notimeforflashcards.com/2014/06/monarch-butterfly-craft.html>



# Butterfly: Educational Worksheet



## MATCH THE BUTTERFLIES

Name\_\_\_\_\_

Use addition to solve each of the equations.  
Draw a line to match the butterflies with the same sum.

$3 + 8 = \square$

$13 + 6 = \square$

$17 + 7 = \square$

$6 + 13 = \square$

$7 + 17 = \square$

$8 + 3 = \square$





# Butterflies of Florida

## BUTTERFLIES OF FLORIDA GULF FRITILLARY BUTTERFLY



LEAFIS EDIS  
PUBLICATION W88NY 423

UF IFAS Extension  
An Equal Opportunity Institution

## Gulf Fritillary Butterfly (frit-il-lar-y)

- Can be found in all 67 Florida counties.
- They can be found as far South as South America.
- They have a wingspan of 2.5-3.5 inches.
- The upper surface of the wings is bright orange with black markings.



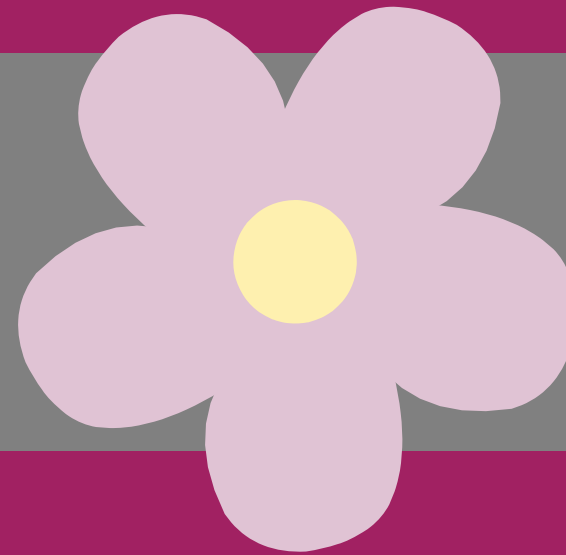
# April: Flowers

- Standards:
  - SC.1.L.14.2: Identify the major parts of plants including stems, roots, leaves and flowers.
  - SC.1.L.17.1: Recognize that all plants and animals including humans need the basic necessities of air, water, food and space.
  - MAFS.1.OA.3: Add and subtract within 20.





# Flowers: Lesson Plan

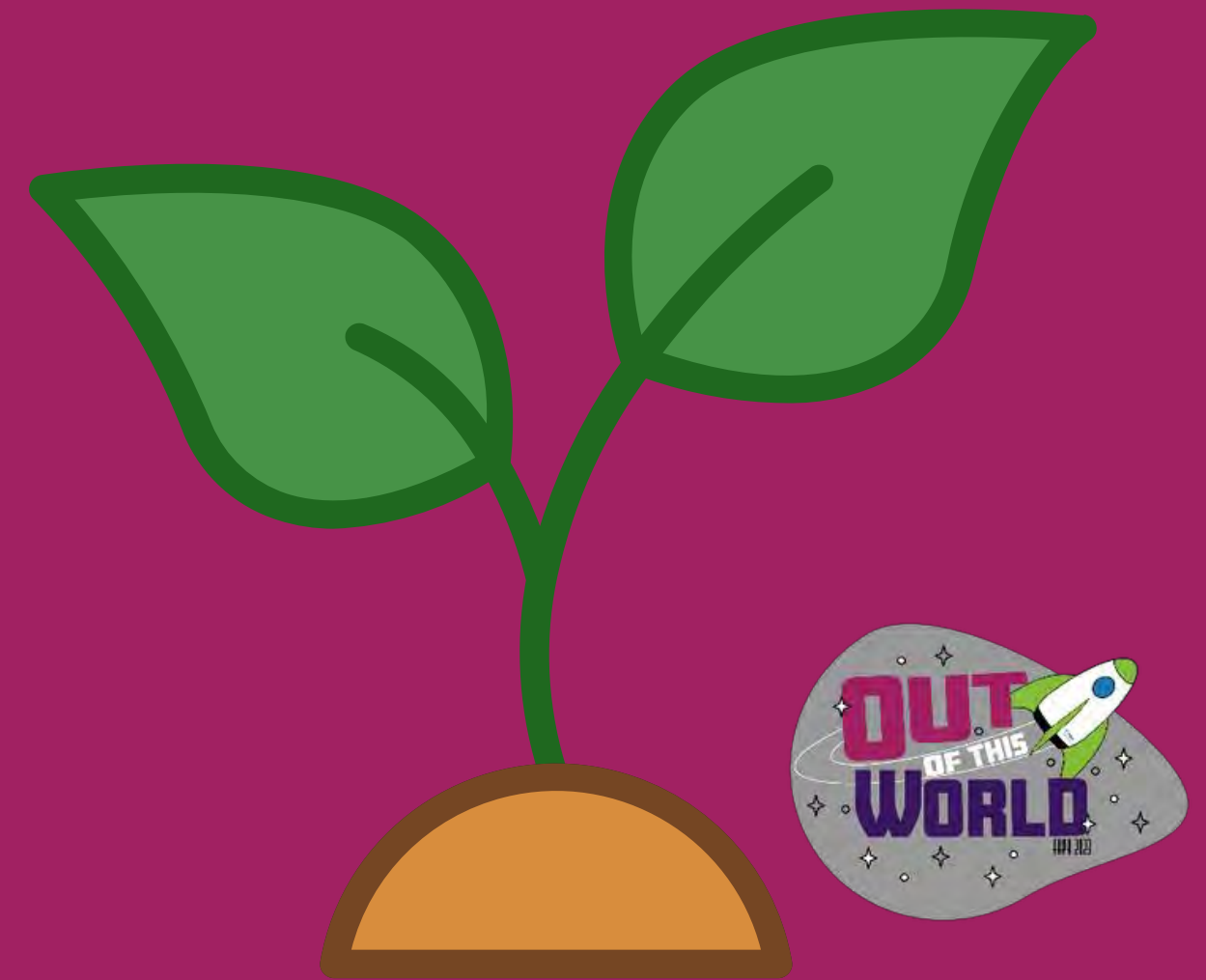
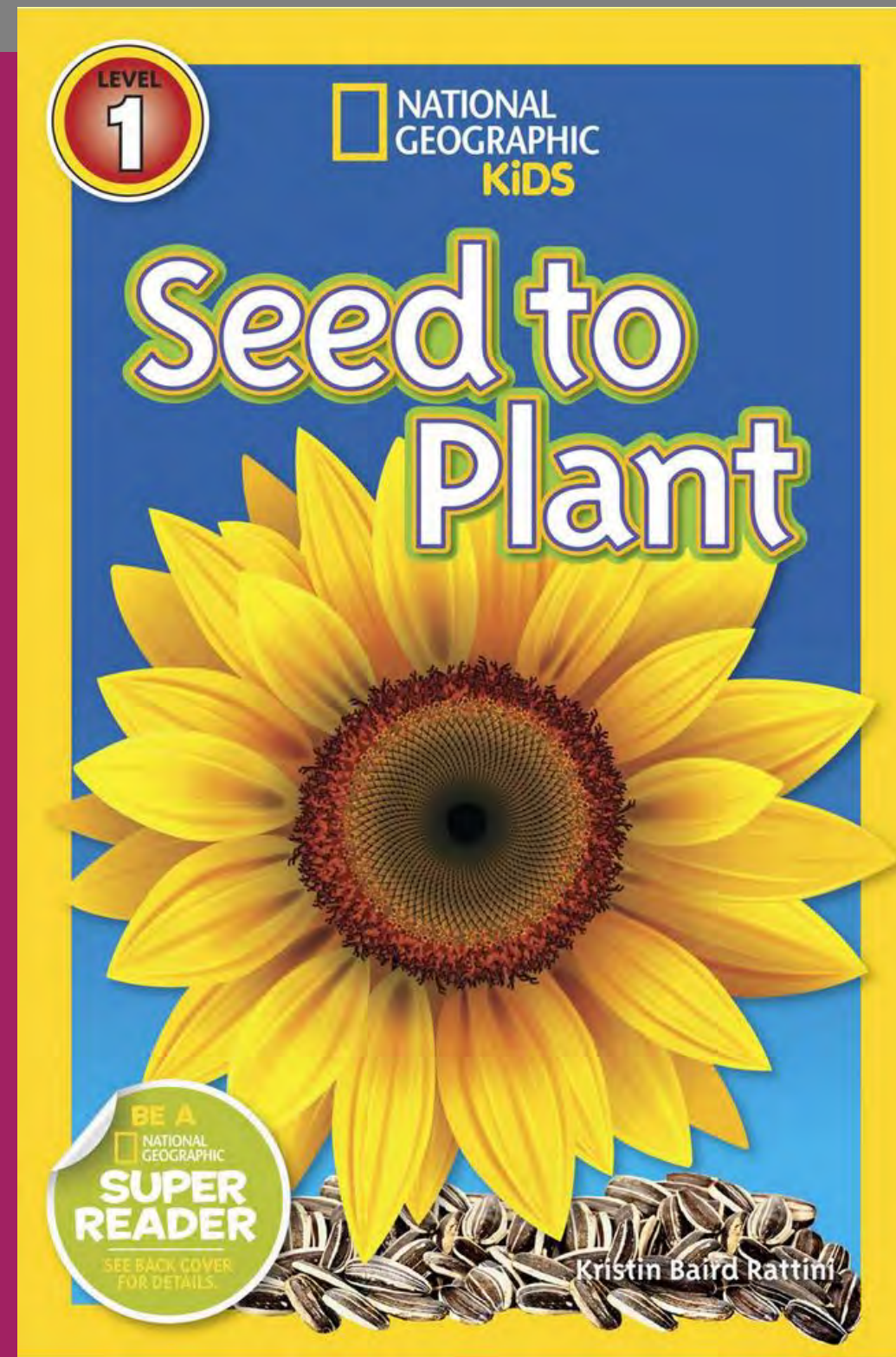


ACTIVITY (BRIEF DESCRIPTION)	INSTRUCTION & RESOURCES TO BE USED	MATERIALS
INTRODUCTION	Start <u>lesson</u> by singing Head, Shoulders, Knees and Toes. Just as we have the major parts of our body, plants also have parts.	
WHAT DO YOU KNOW?	Do you know the parts of the plant? Who can name one? Create a list on the board of what students think parts of the plants are. If time allows, discuss what they think the purpose of each of the parts is.	White Board Marker
READ BOOK	Read the book <i>Seed to Plant</i> by Kristin Baird <u>Rattini</u> . Discuss the parts of the plant and what they are used for.	Book: Seed to Plant

REVIEW THE CHART CREATED BEFORE THE BOOK	Review the chart created previously and make any changes necessary.	White Board Marker
LABEL PLANT PARTS	Have students label the parts of the plant on the worksheet provided to <u>them</u> .	Parts of the plant worksheet
TISSUE PAPER FLOWERS	Create tissue paper flowers with students.	Tissue Paper (pre-cut) Scissors Pipe Cleaner Info Sheet
ADDITIONAL MATH ACTIVITY	Addition and Subtraction math worksheet	Math Worksheet



# Flowers: Educational Book

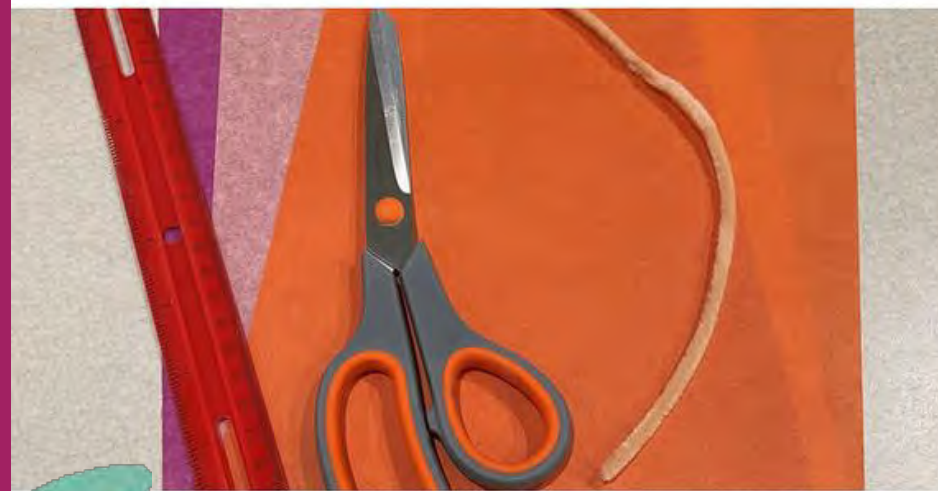




# Flowers: Craft



## TISSUE PAPER FLOWER



Supplies: (3) 12x6 inch sheets of tissue paper, pipe cleaner, scissors, ruler



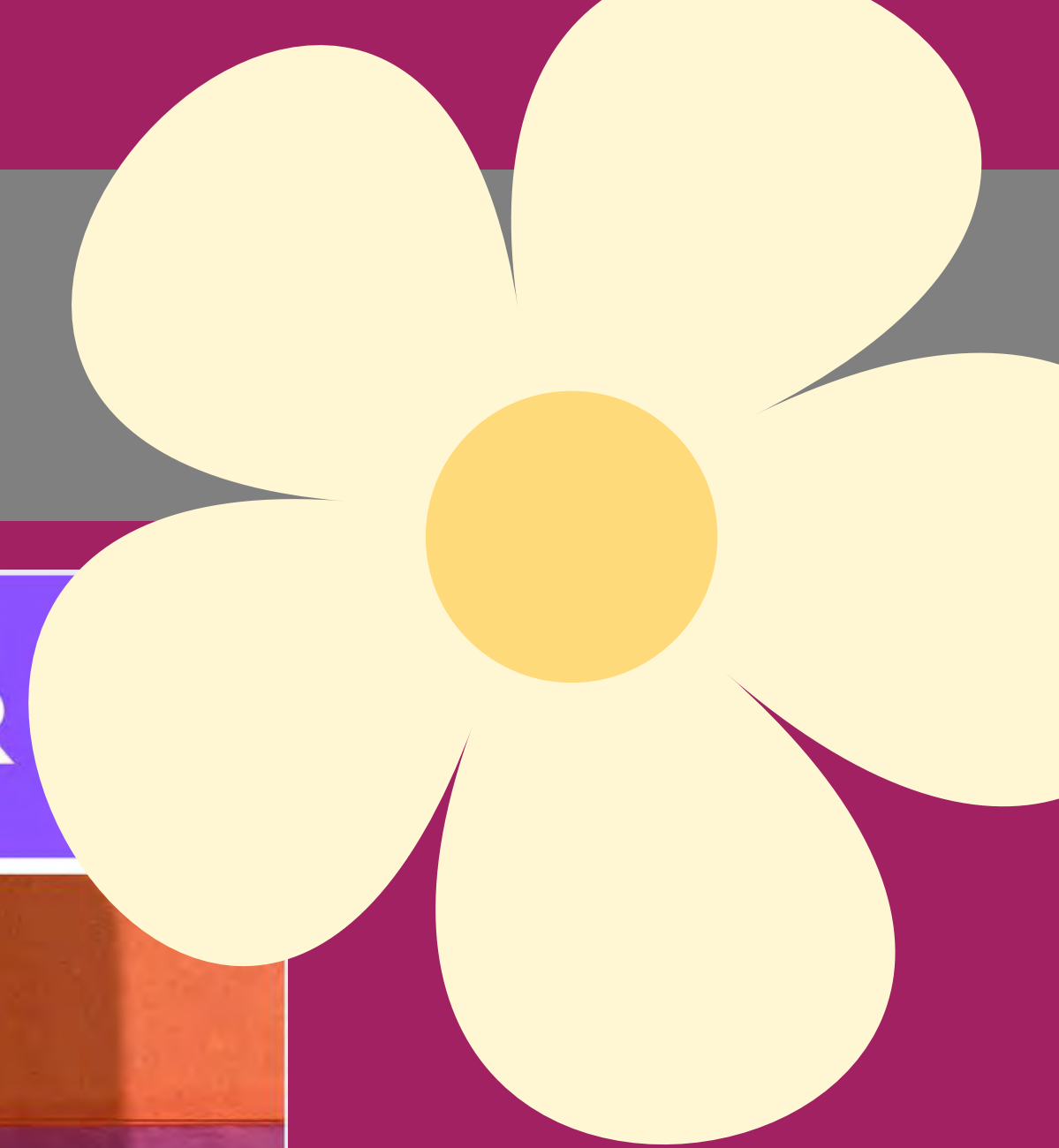
Step 1: Lay 3 sheets of tissue paper on top of one another. Measure 1 inch and begin to accorian fold all 3 pieces of paper together.



Step 2: Once you have folded the paper, use your scissors to cut the ends of the tissue paper into rounded edges.



Step 3: Fold your tissue paper in half and place the pipe cleaner at the fold. Loop the pipe cleaner around the center fold and twist it the onto itself to keep it secure.





# Flowers: Craft



## TISSUE PAPER FLOWER



**Step 4:** Gently pull open the layers on each side of the flower.



**Finished Product**



**UF IFAS Extension Charlotte County**  
Kristie Popa - 4-H Extension Agent  
(941)833-3836  
kpopa@ufl.edu

Foundation of the Gator Nation - An Equal Opportunity Institution





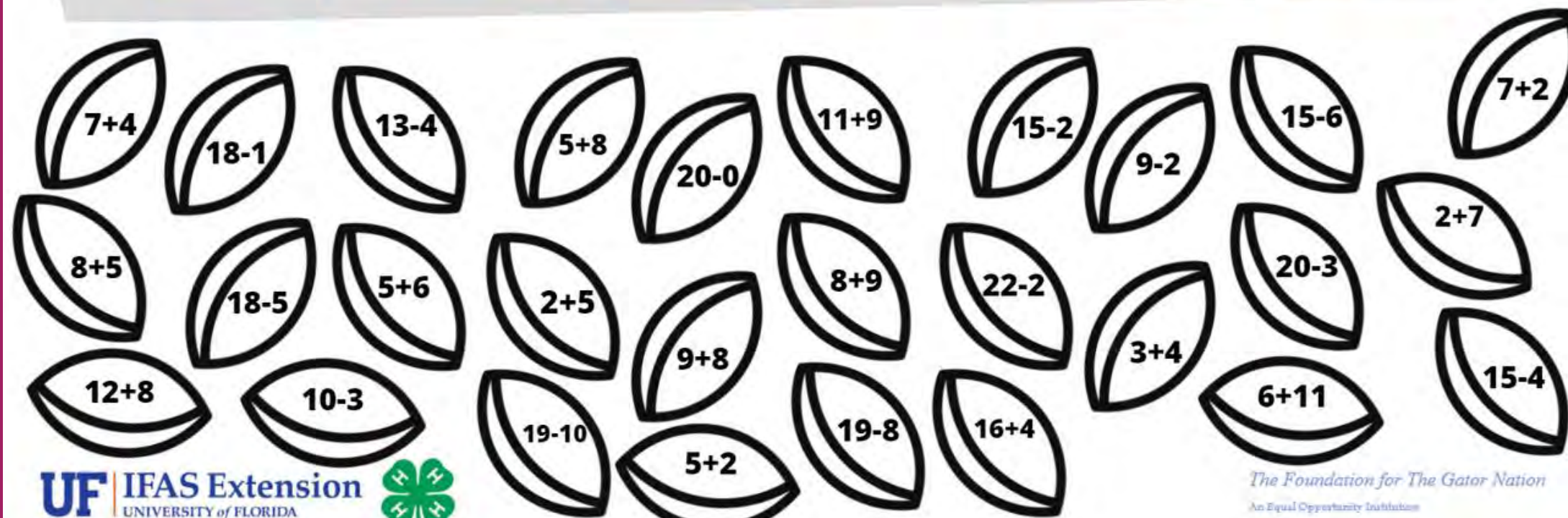
# Flowers: Educational Worksheet



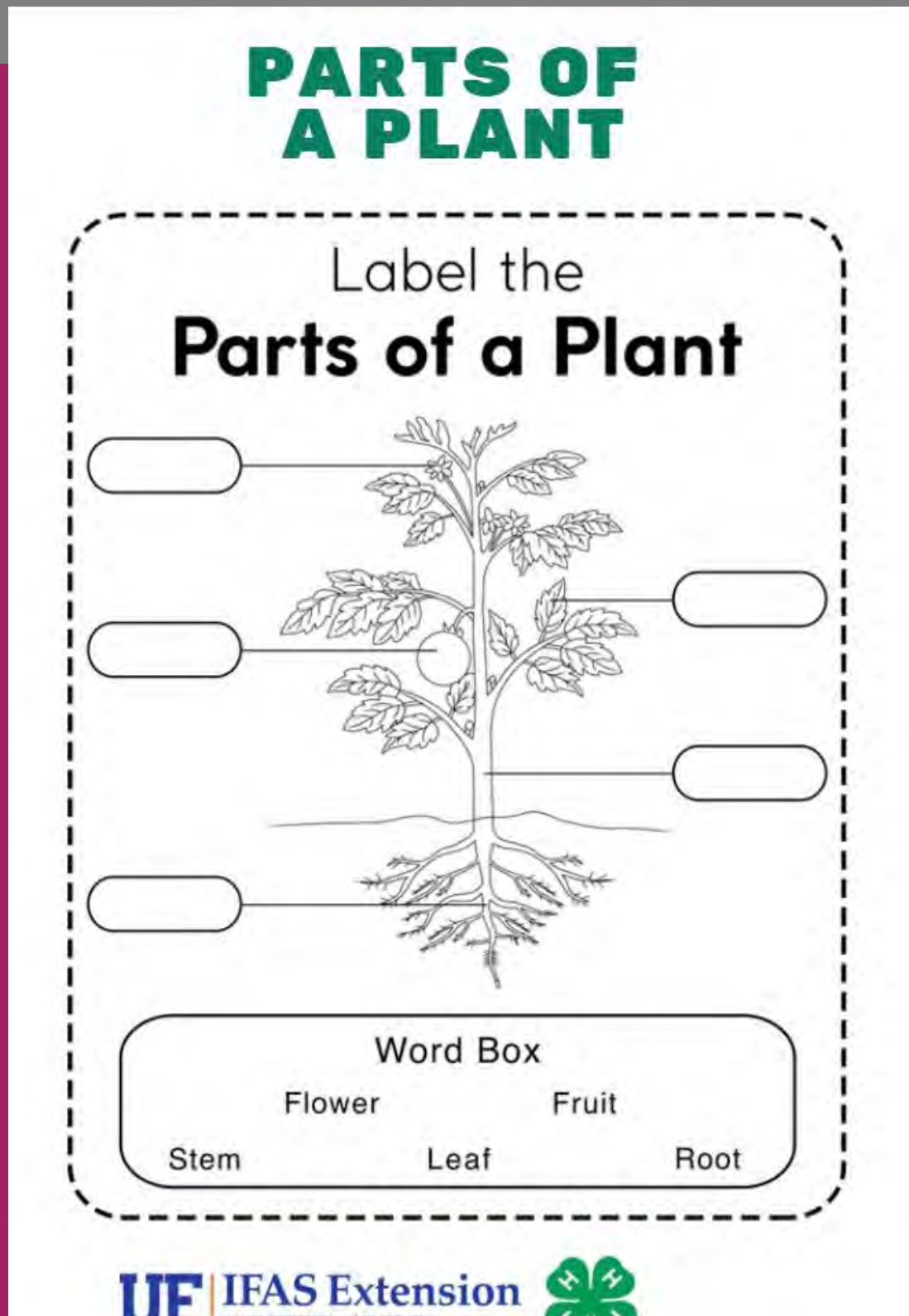
## SEED SORT

Name \_\_\_\_\_

Use addition or subtraction to complete the equations on the seeds. Color the seed to match the packet with the correct answer.



# Flowers: Educational Worksheet





# Lets Learn About.....



Please fill out this quick survey.





# Access Request for TEAMS Site

**UF IFAS Extension**  
UNIVERSITY of FLORIDA  
*The Foundation for The Gator Nation*  
An Equal Opportunity Institution

**STEAM to Go! Crafty Clover Kits**  
Request form to access TEAMS site.

Name \*

Short answer text

Institution \*

Short answer text

Email \*

Short answer text

Do you plan on using STEAM to Go! Crafty Clover Kit for your program within a year?

Short answer



# CHECK IN QR CODE

You will receive a QR code to place in your slide deck before you come to the Conference. This code should be placed within the last five slides of your deck; or last 15-20 minutes of your presentation.

Participants will scan the QR code with their phones to check in to the class.

QR codes will be used to track attendance at your session.







# Thank You!

Kristie Popa

kpopa@ufl.edu

Tycee Prevatt

tyceerprevatt@ufl.edu

**FRPA**  
**FLORIDA RECREATION  
& PARK ASSOCIATION**

For more information about the  
Florida Recreation and  
Park Association  
visit [frpa.org](http://frpa.org)