FALL Math Provocations

BCAMT Northwest Conference 2015

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A few disclaimers!

- I am not a Reggio trained educator so when I am speaking about provocations, I am not representing these ideas as Reggio based.

- What I share with you today is an amalgamation of others' ideas - educators such as Janice Novakowski and Sandra Ball - as well as from books I have read.

Learning Intentions

- I understand what a Math provocation is.
- I understand some different approaches I could use to structure provocations in my Math class.
- I have some ideas I might try in the next couple of weeks!

What is a provocation?

- Something that provokes interest, thought, discussion, questions, creativity, and discoveries
- Has multiple pathways
- Allows all children an entry point
- Open-ended

How might we structure provocations?

Introduction

Begin with students' interests and curiosities

Think like a child...

What are your students interested in?

Provoke their interest!!!
Books
Photos
Artifacts
Questions

Discuss what your students notice and wonder about...

Exploration

Whole class or centre-based approach

Students are working

Independently
Pairs
Small Groups

Children are actively engaged in "DOING" Math

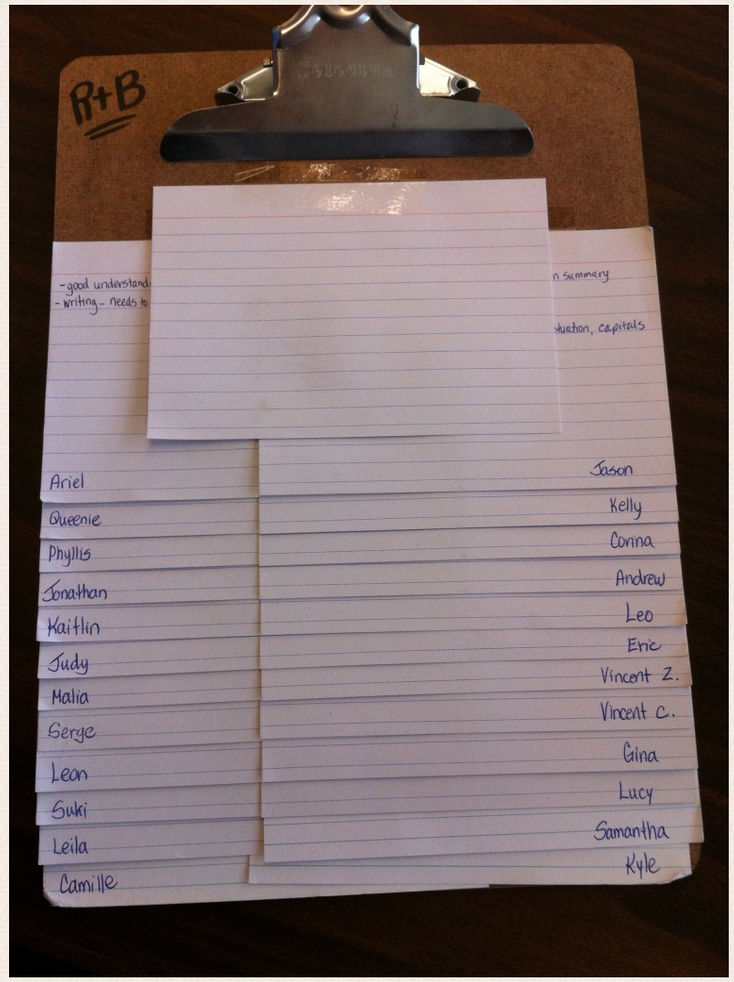
Manipulatives are available for the students

The teacher is circulating.
He or she is: listening
observing
conferencing
asking questions

FORMATIVE ASSESSMENT

Math Work Station: pencils, pens, erasers, rulers, Ikea measuring tapes, blank ten frames (egg cartons), hundreds chart with and without numbers, number lines with and without numbers, calculators, clipboards, paper, markers, scissors, glue, clip boards, etc..

Our role is to document the students thinking and understanding.



Some questions you might ask...

- What's your plan?
- What strategies are you using?
- Can you explain your thinking to me?
- What do you think you'll do next?
- I can't wait to see how you'll figure this out.
- What did you learn about yourself as a Mathematician today?
- I am not sure everyone knows this? Would you be willing to share this?

Sharing

The teachers facilitate the discussion but the emphasis is on providing time for the Students to share.

Questions
Challenges
Strategies
Representations
Successes

Constructivist Learning occurs - students learn from one and other and see there is no one right way to solve a problem.

As the teacher listens, this becomes another opportunity for assessment.

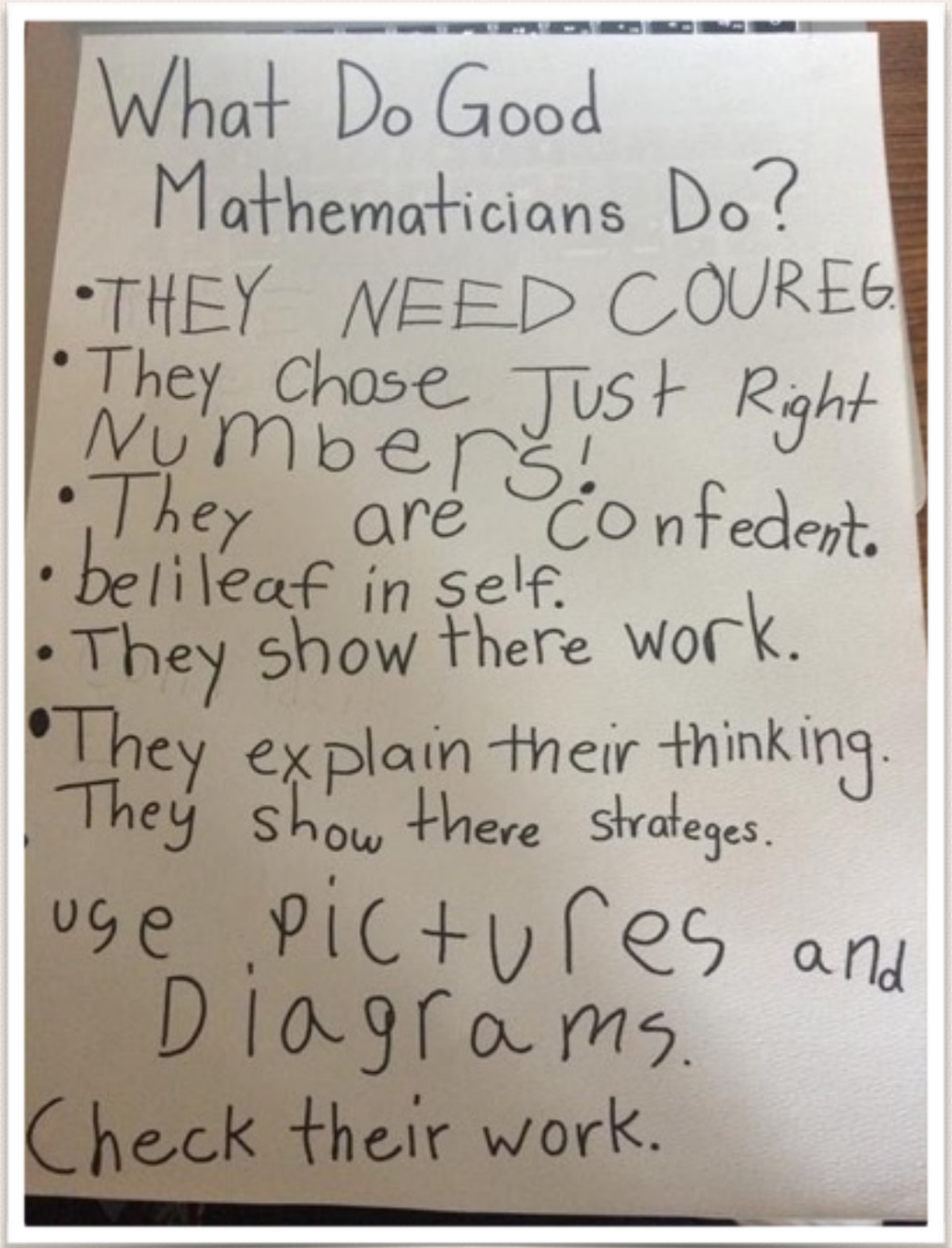
Teachers assist students in naming their strategies using correct Mathematical language.

They also assist them in reflecting on how they worked as Mathematicians... see anchor chart.

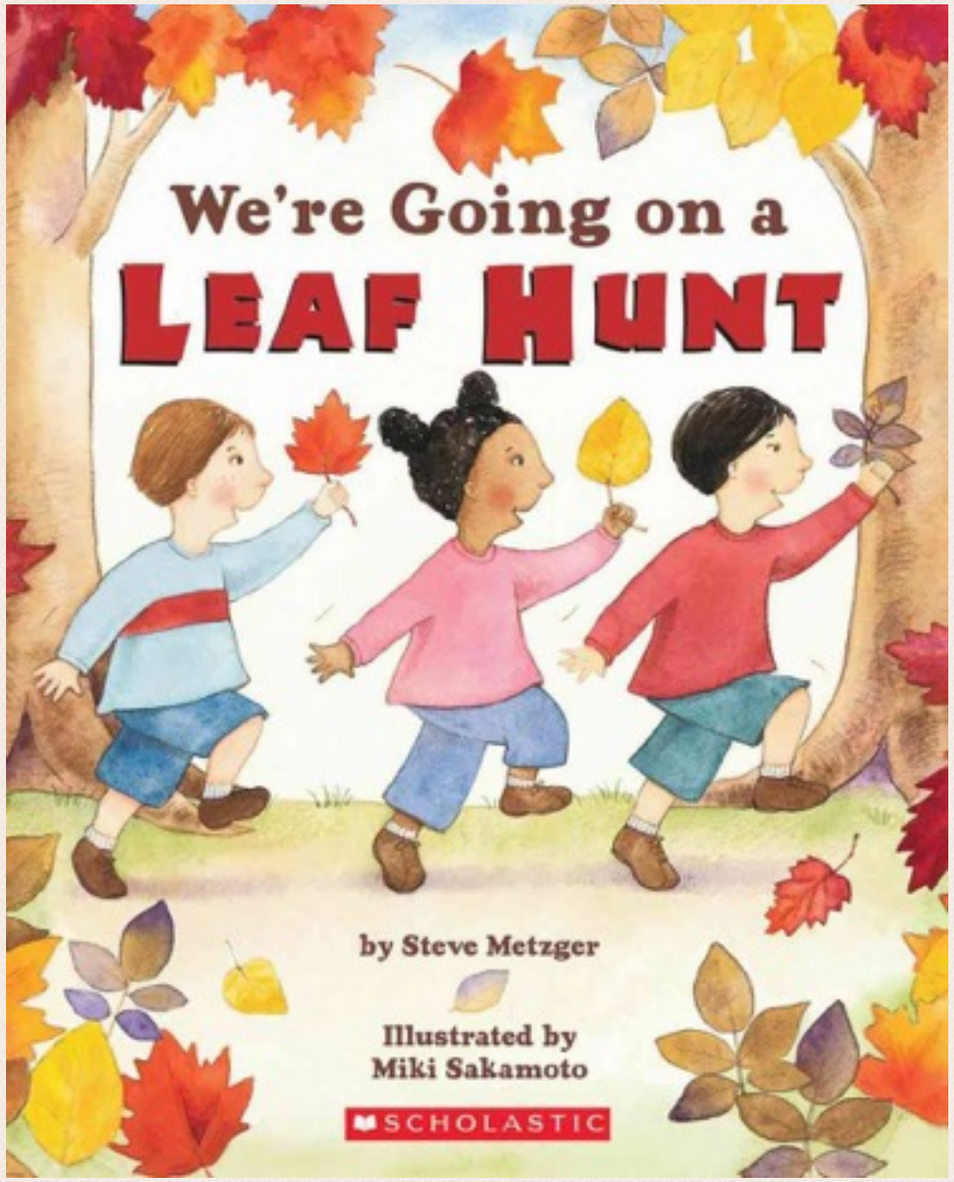
Whenever possible, teachers help children connect their Math ideas.

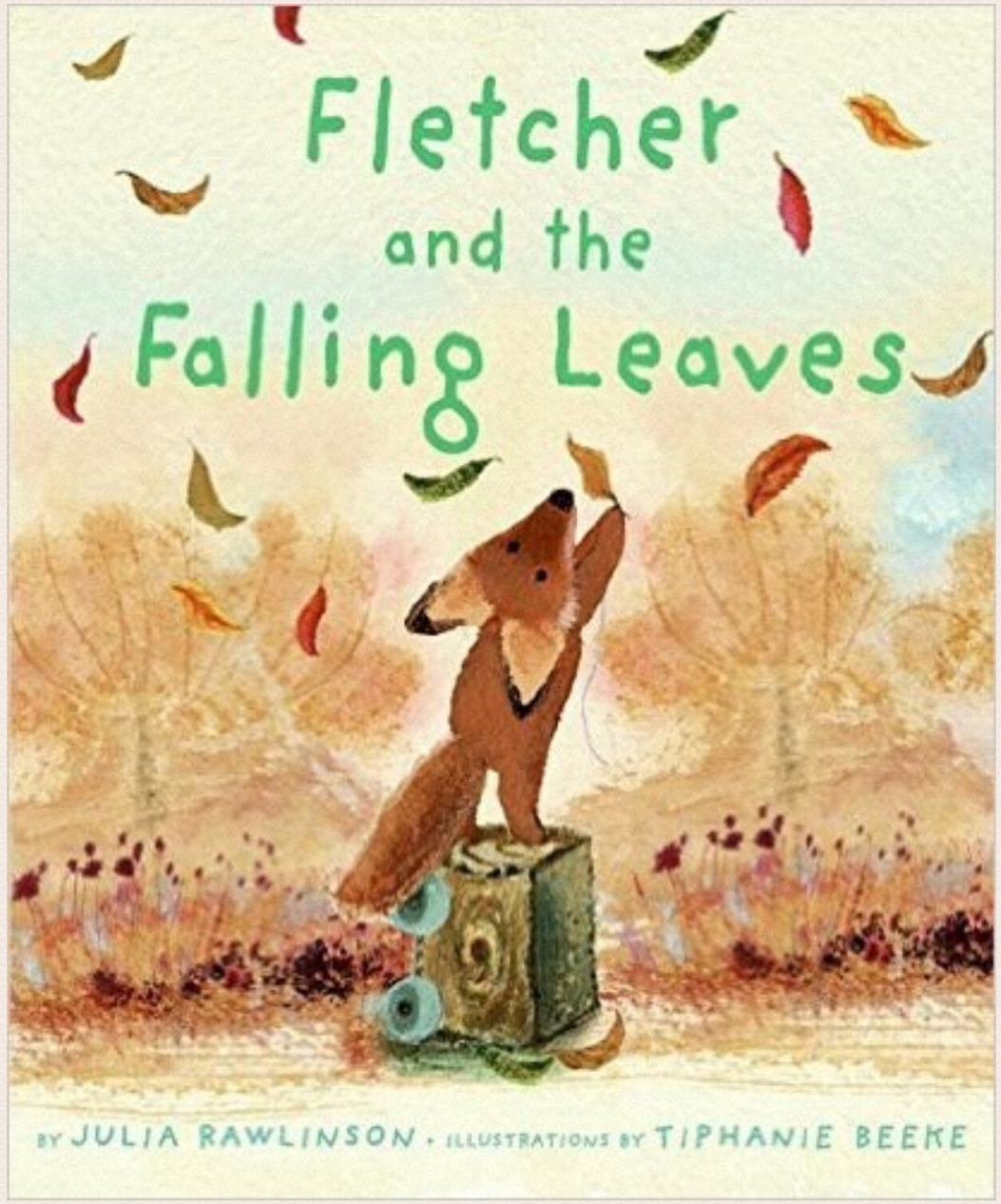
Make thinking visible

Students need to see themselves as Mathematicians.

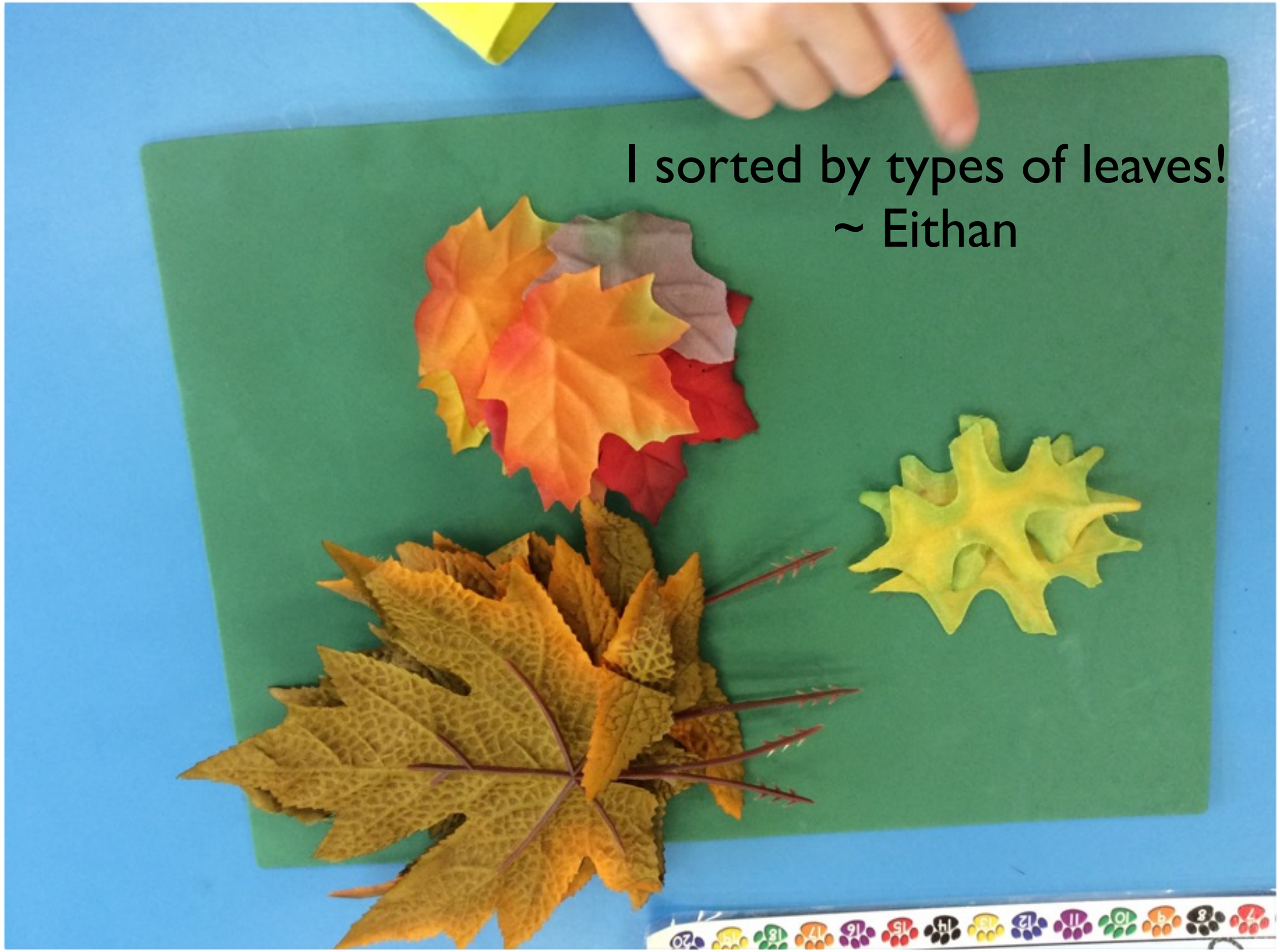


Going on a Leaf Hunt!





How might we sort our items?

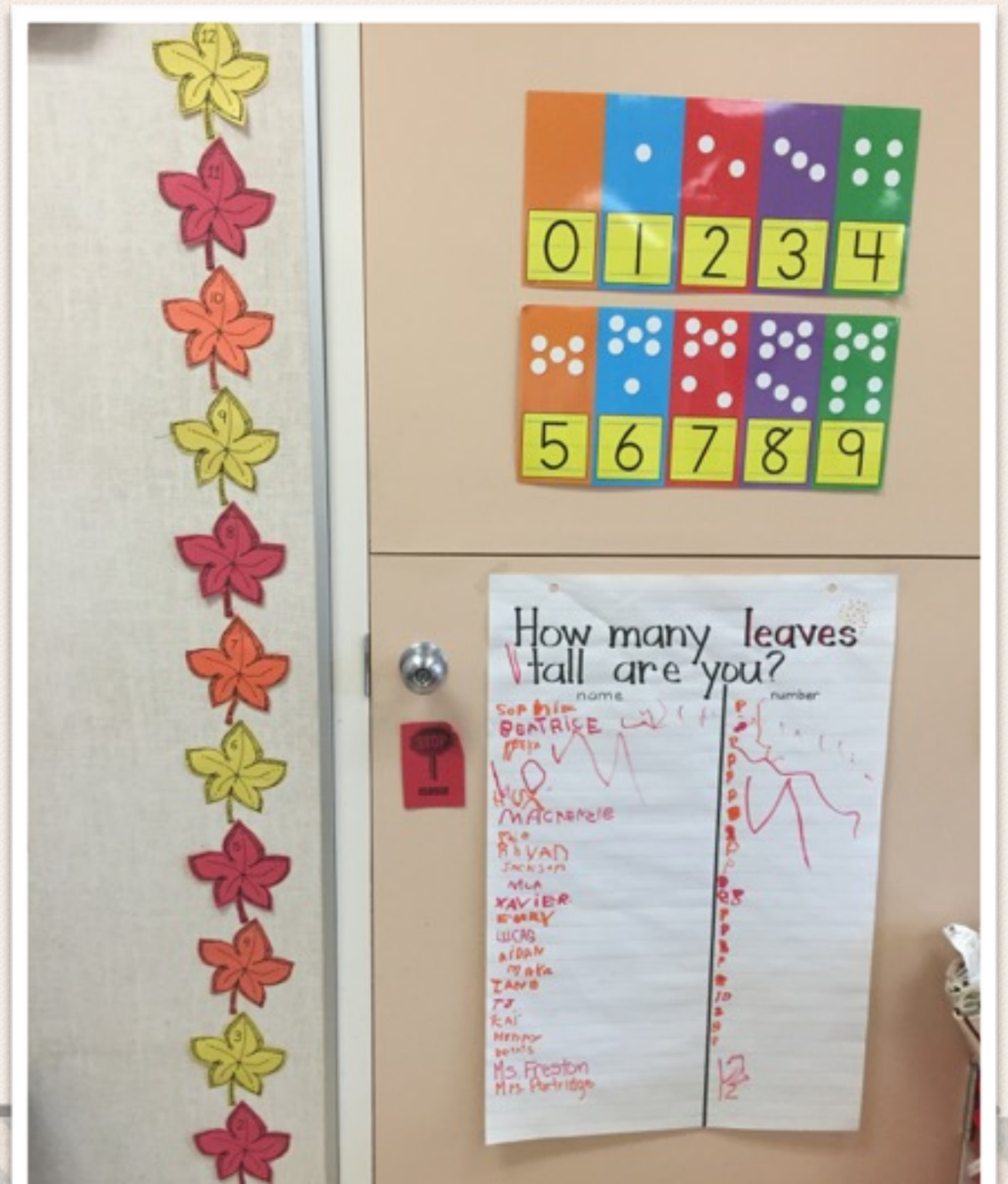

I sorted by types of leaves!
~ Eithan

I sorted by types of leaves and their colours.
~ Lara


Cora
I sorted by size. Small, medium, and big.
~ Cora

I sorted by colour.
~ Rosaline

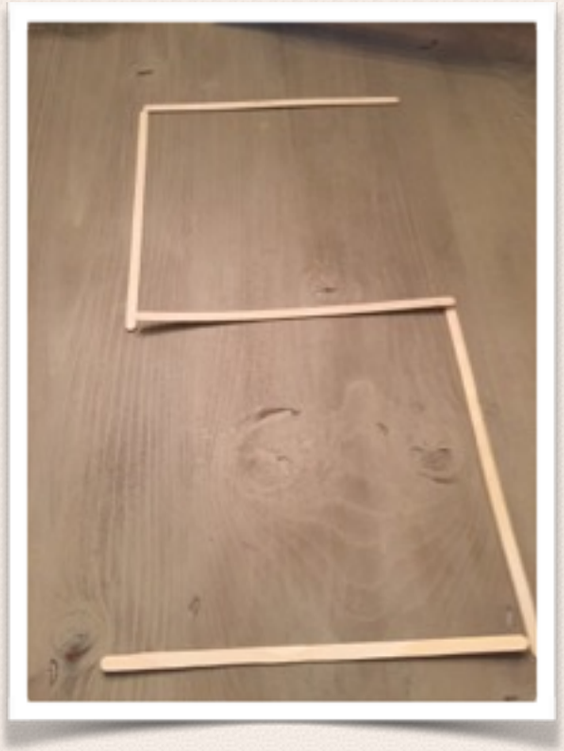
How do you compare to the items?



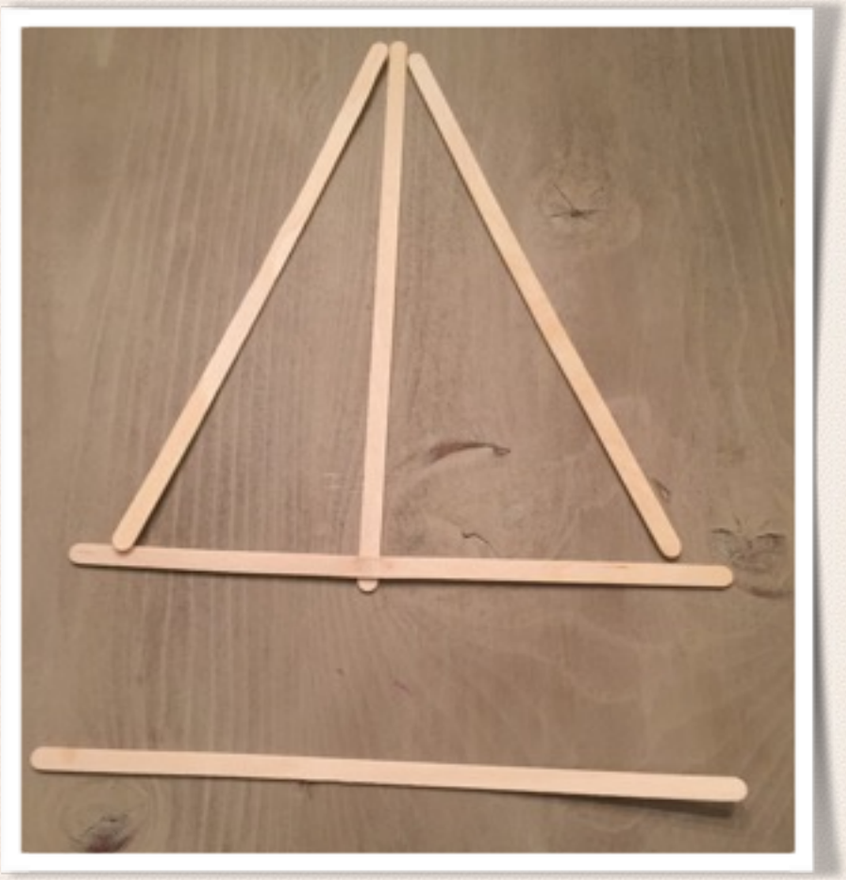
Which items are heavier or lighter?

What can you make with 5 sticks?

2 + 3 = 5

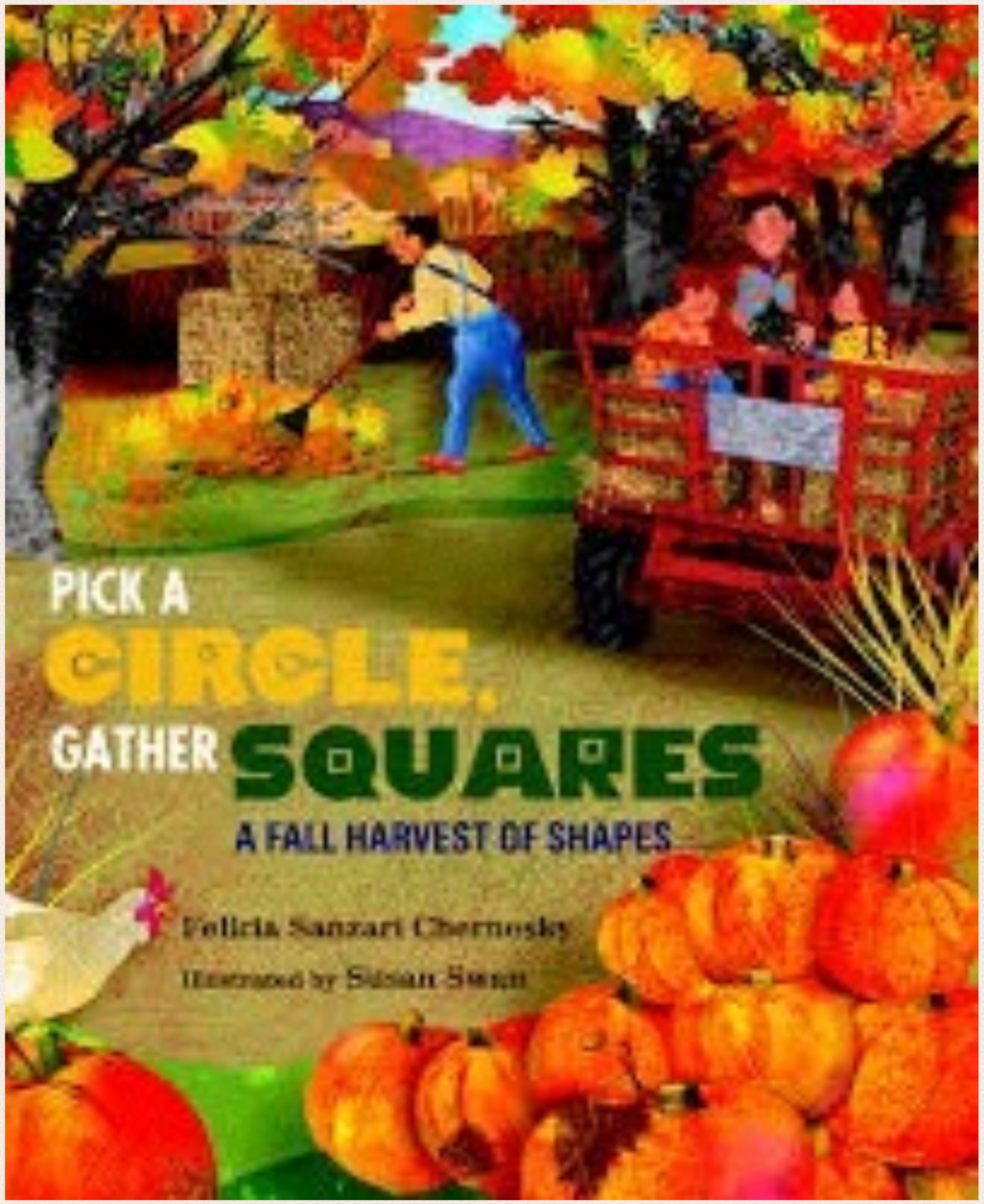


5 + 0 = 5



4 + 1 = 5

Pick a Circle, Gather Squares: A Fall Harvest of Shapes

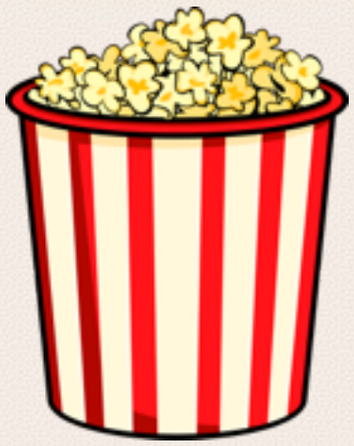


What shapes do you see?

EVERNOTE
Skitch

What shapes can you create? Cork and pipe

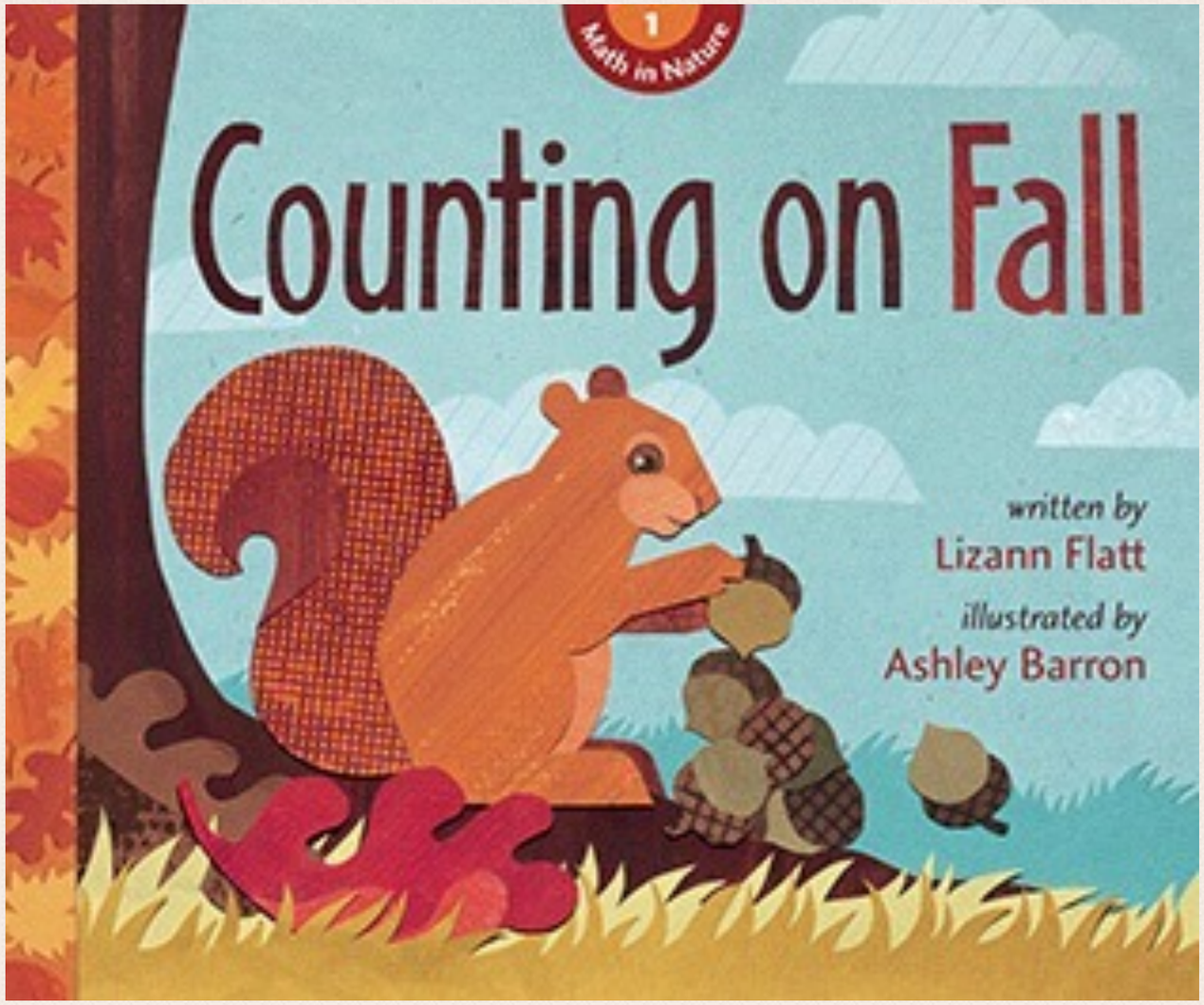
What pictures/designs can you make with the shapes?



Popcorn Ghost!

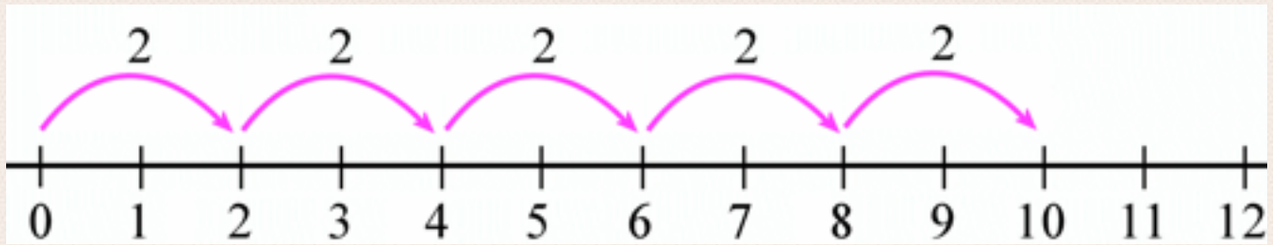
- Record students' estimations
- Brainstorm strategies to assist with counting.
- Each student takes a handful of popcorn on a tissue and counts their popcorn.
- They then exchange their popcorn for base-10 blocks and glue on their popcorn to either their own ghost, their table ghost or the class ghost.
- Then together as a class, students reflect and count all the base-10 blocks and record the total.

Counting on Fall



Note: There is a teacher's guide available online.

How many ways can you count the raccoons?



What growing patterns can you make?

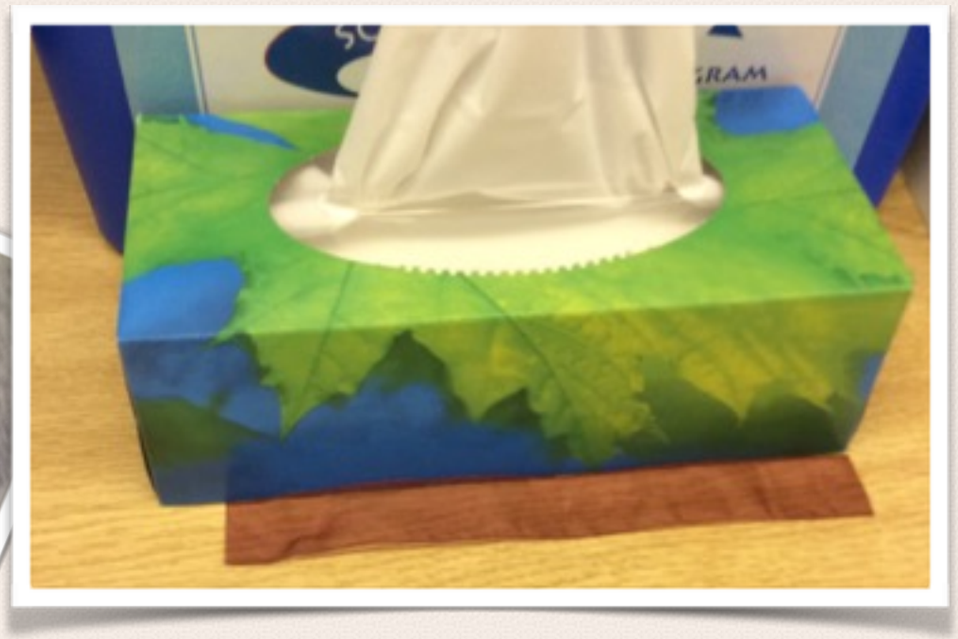
How many ways can you make 10?


I can make 10 in many different ways.
3 + 7 = 10
7 + 3 = 10
10 + 0 = 10
1 + 9 = 10
9 + 1 = 10
5 + 5 = 10

Using Stuffed Animals

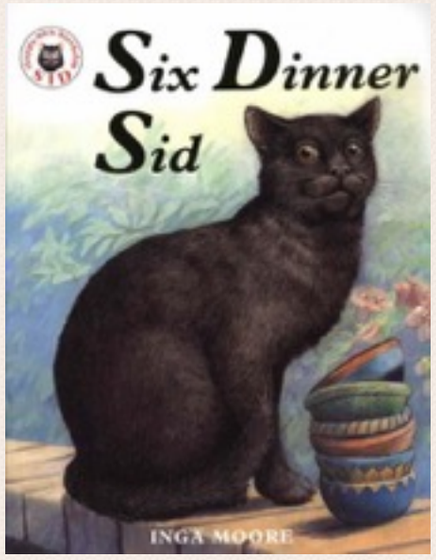
or interesting items!

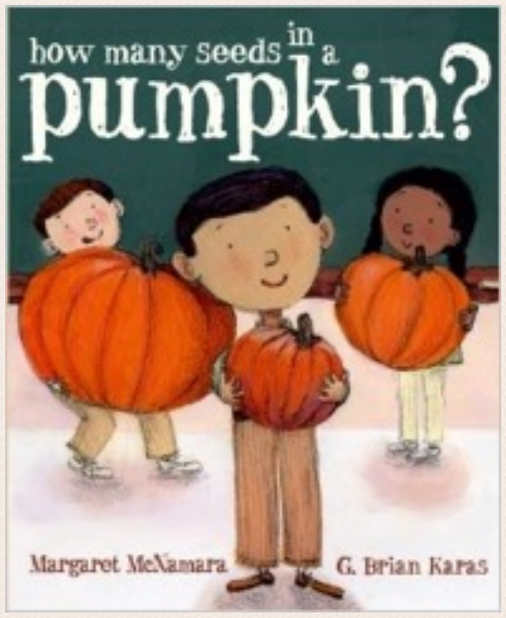
What can you find that is longer or shorter than the squirrel's tail?



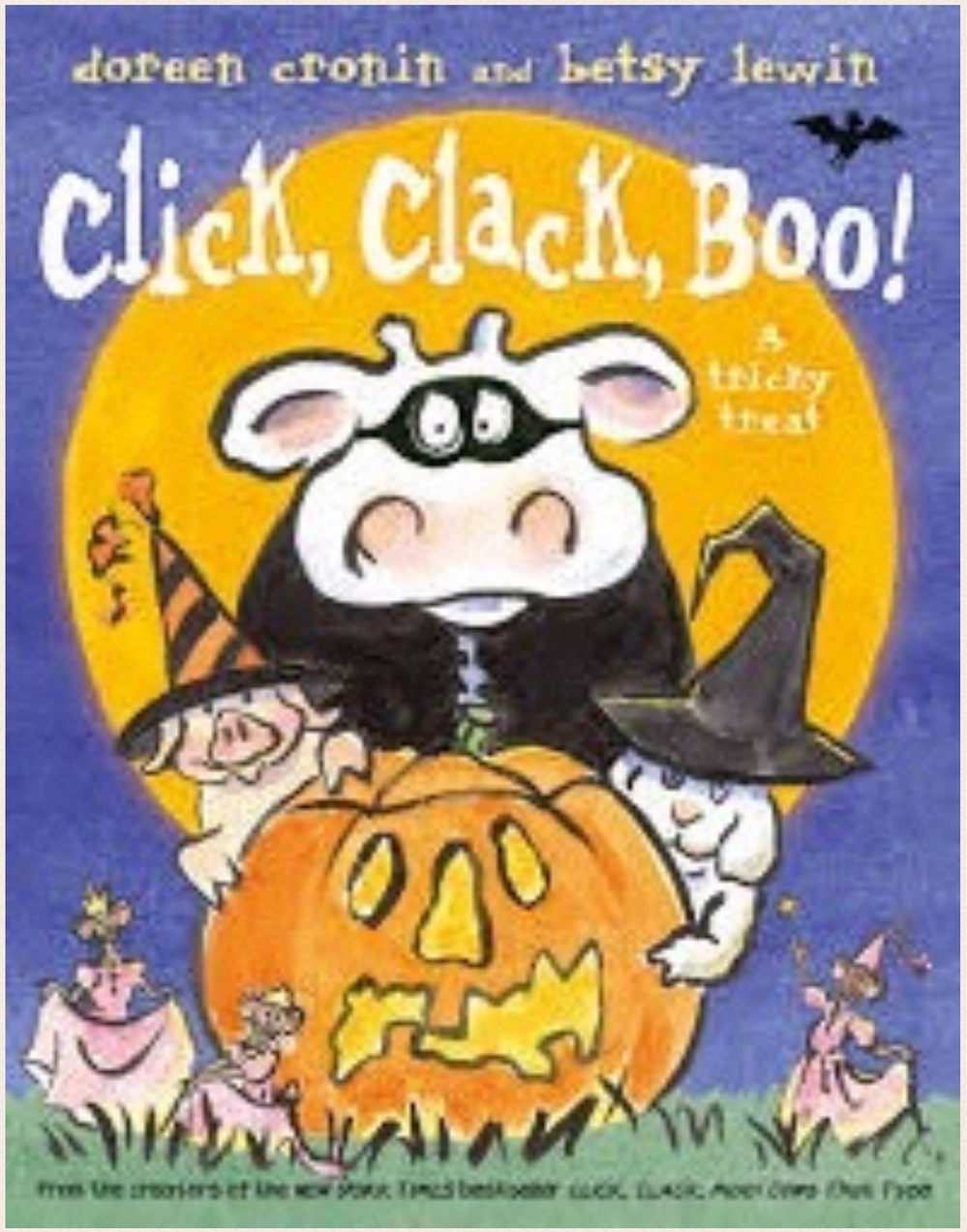
How many different ways can you measure the squirrel?

Time to play: What provocations come to your mind?

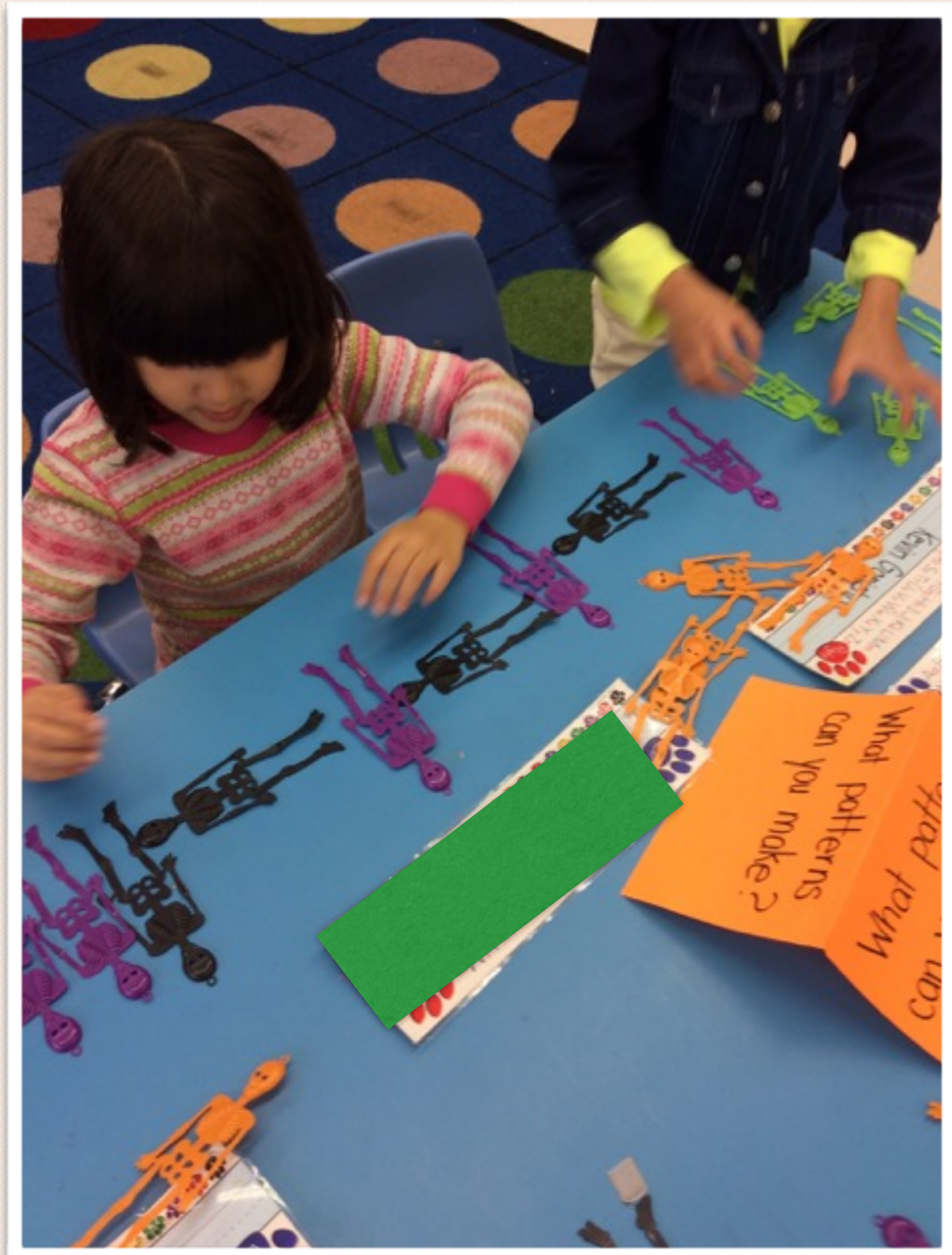




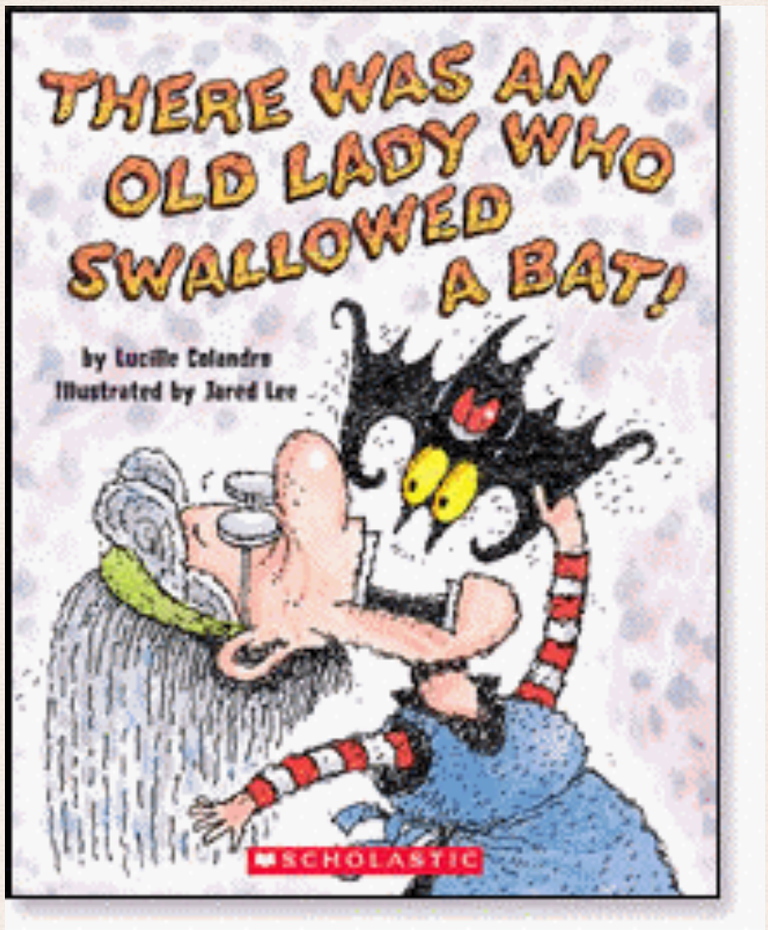
Click, Clack, Boo!



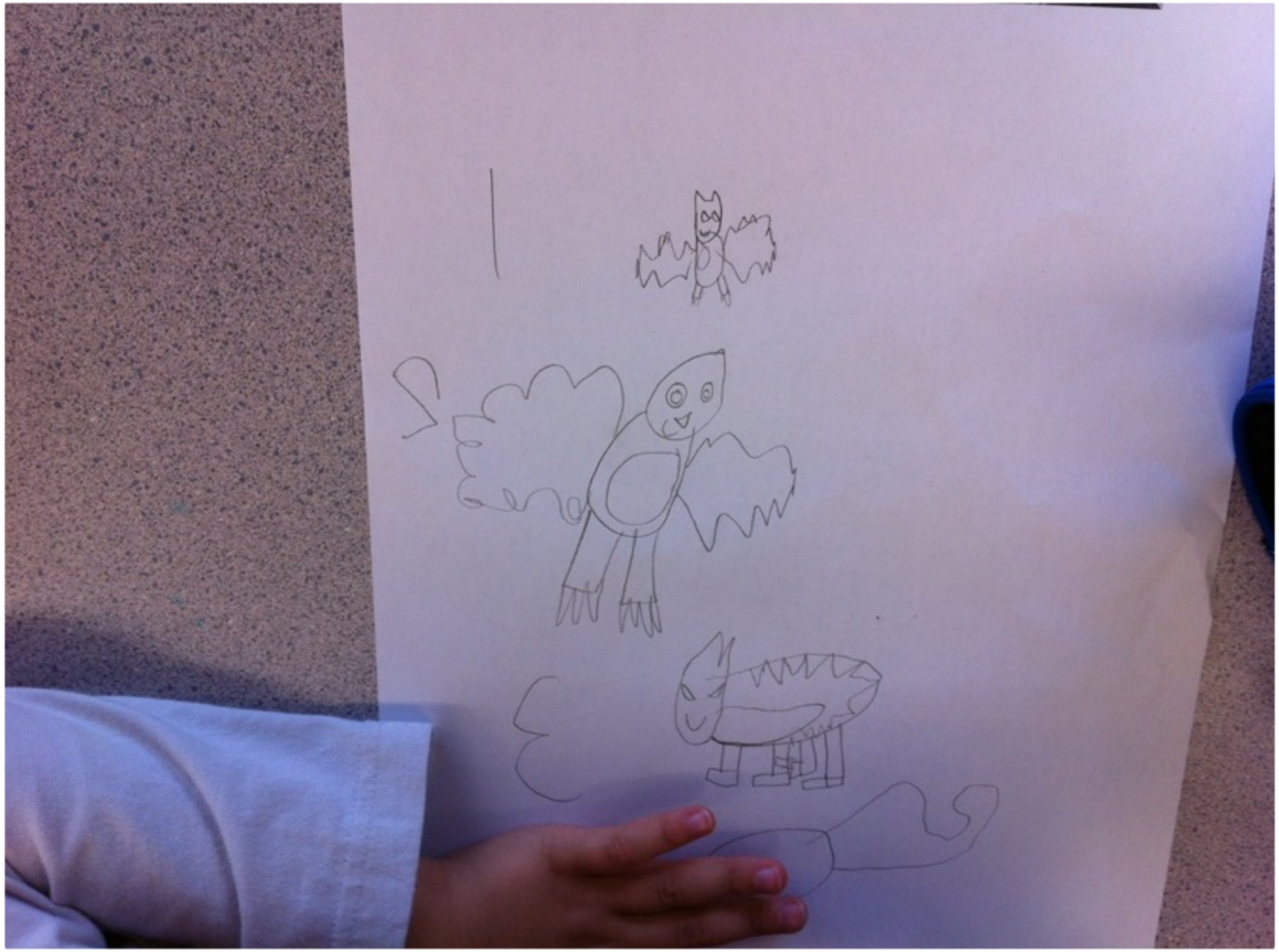
What patterns can you make?

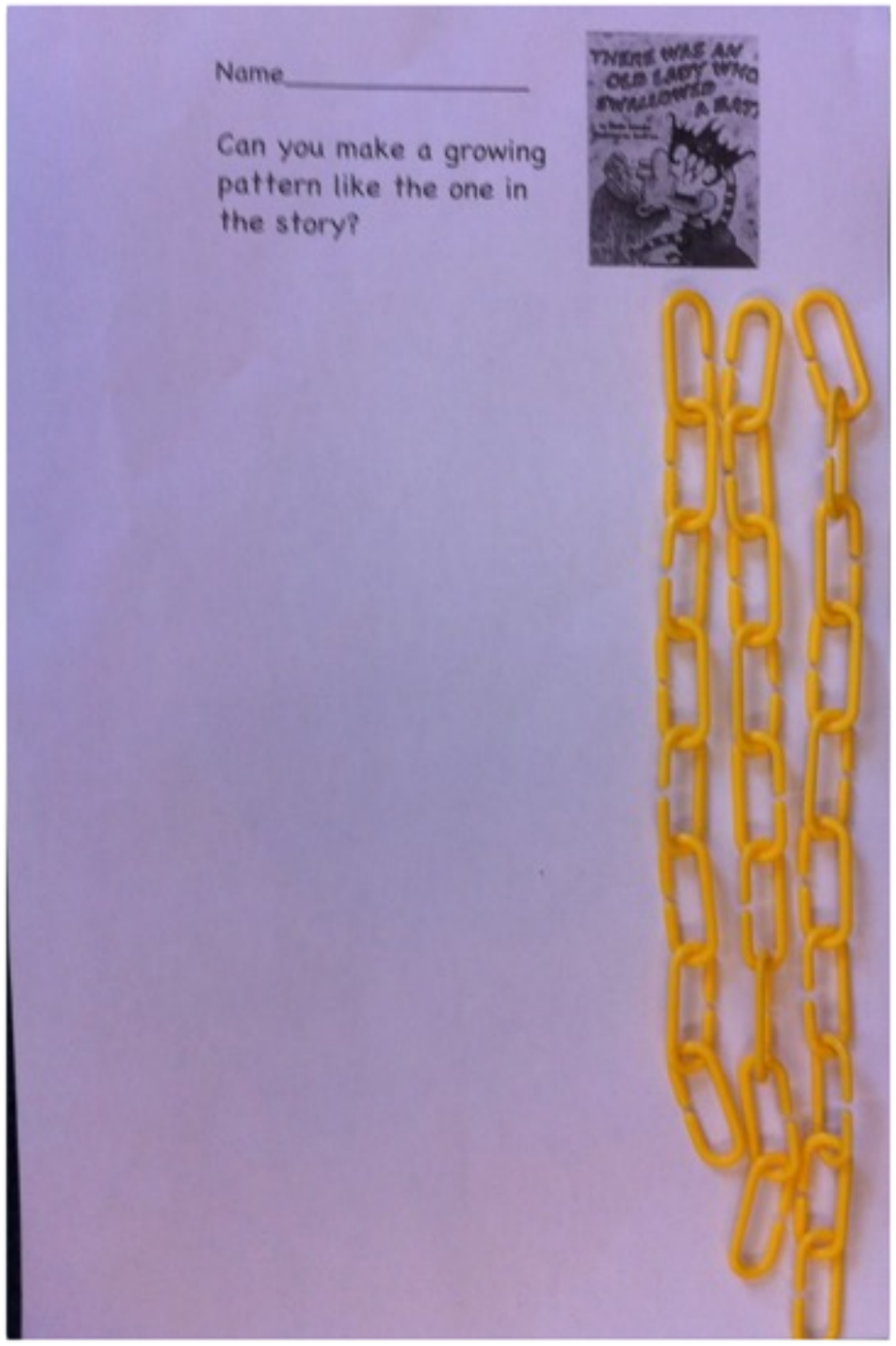

What Patterns
Can you make?

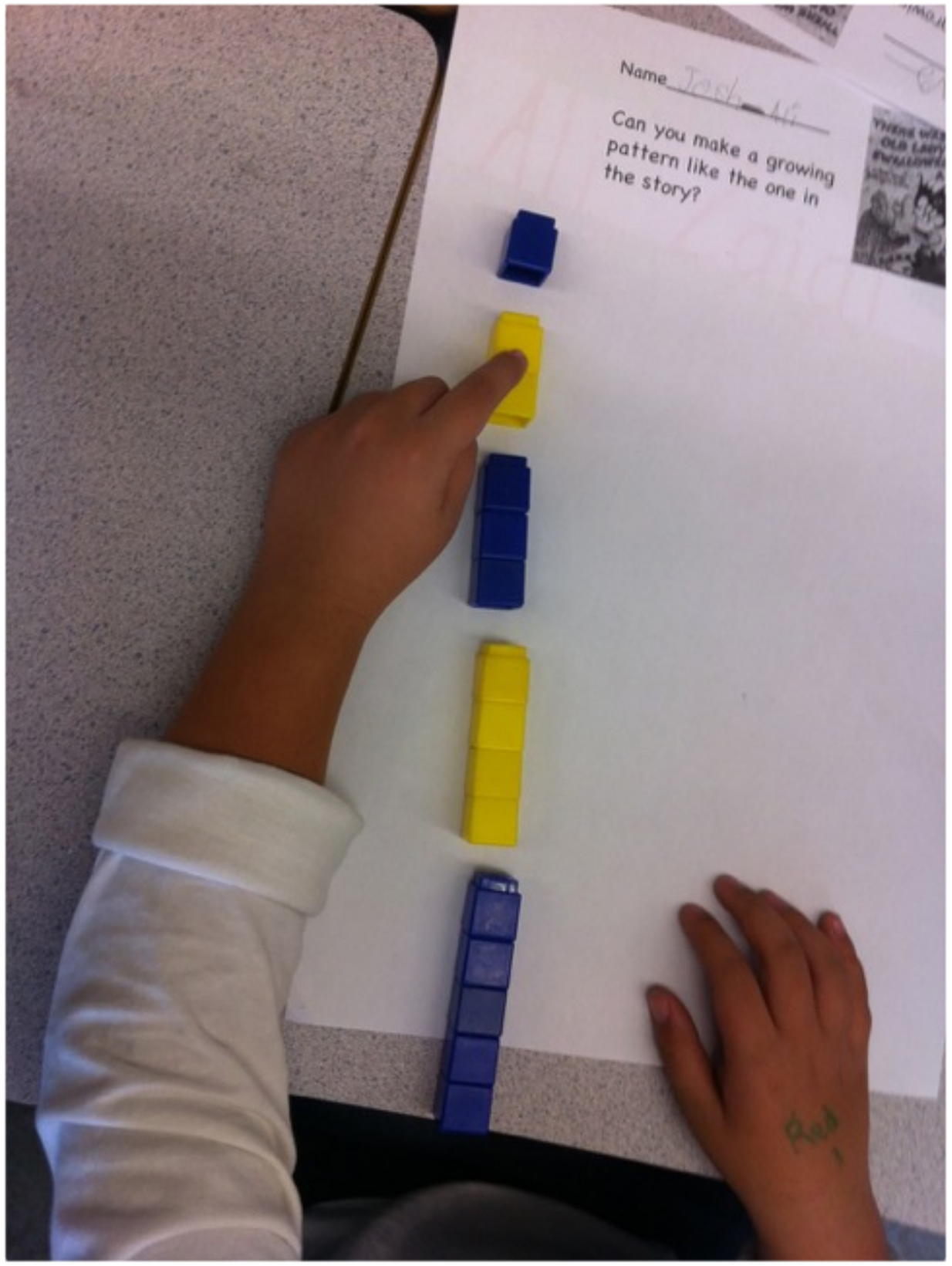
There Was An Old Lady Who Swallowed A Bat!

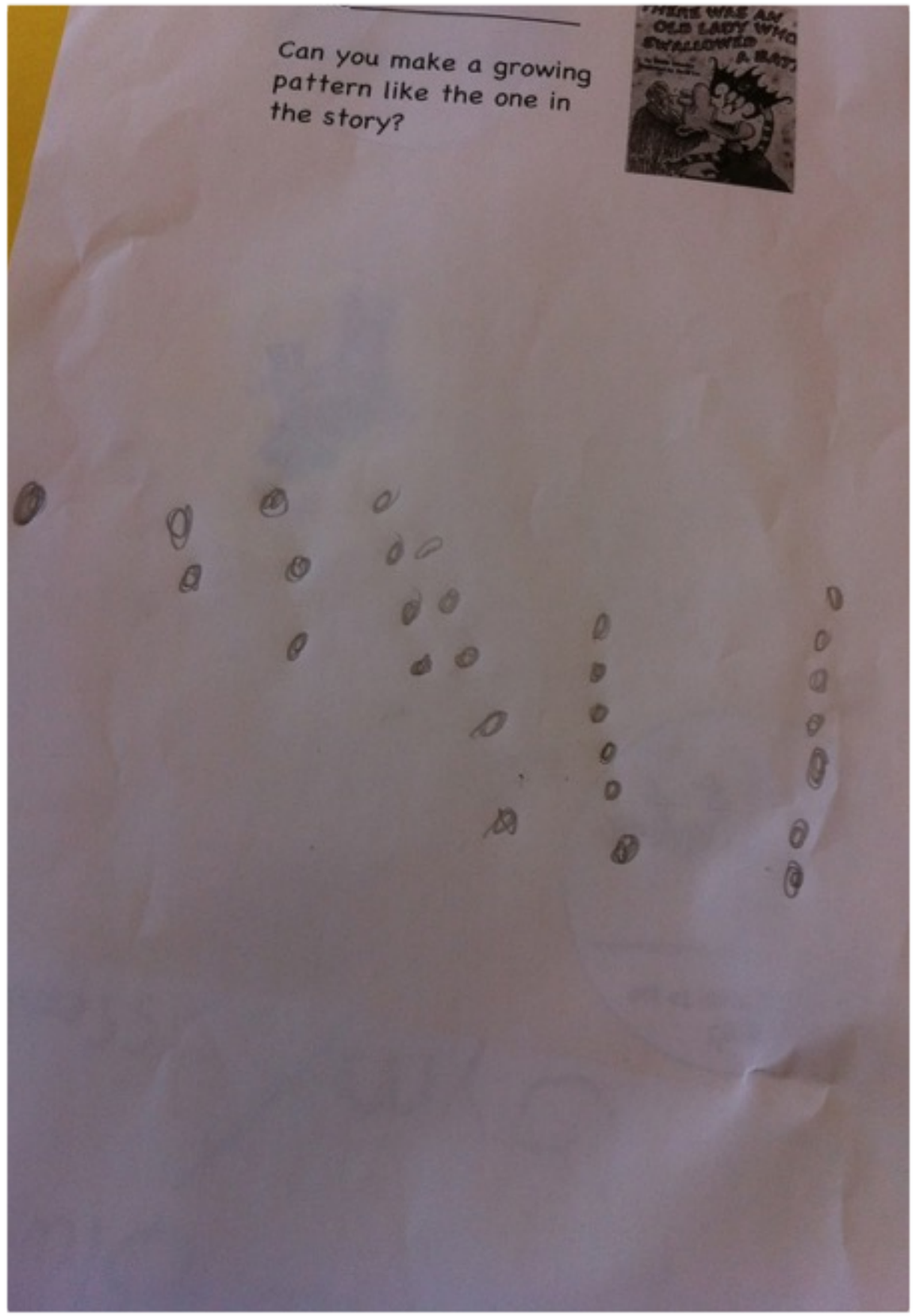


What growing patterns can you create?




Name_____
Can you make a growing pattern like the one in the story?
THERE WAS AN OLD LADY WHO SWALLOWED A BAT!


Name
Can you make a growing pattern like the one in the story?


Can you make a growing pattern like the one in the story?

How many different ways can you order the animals?

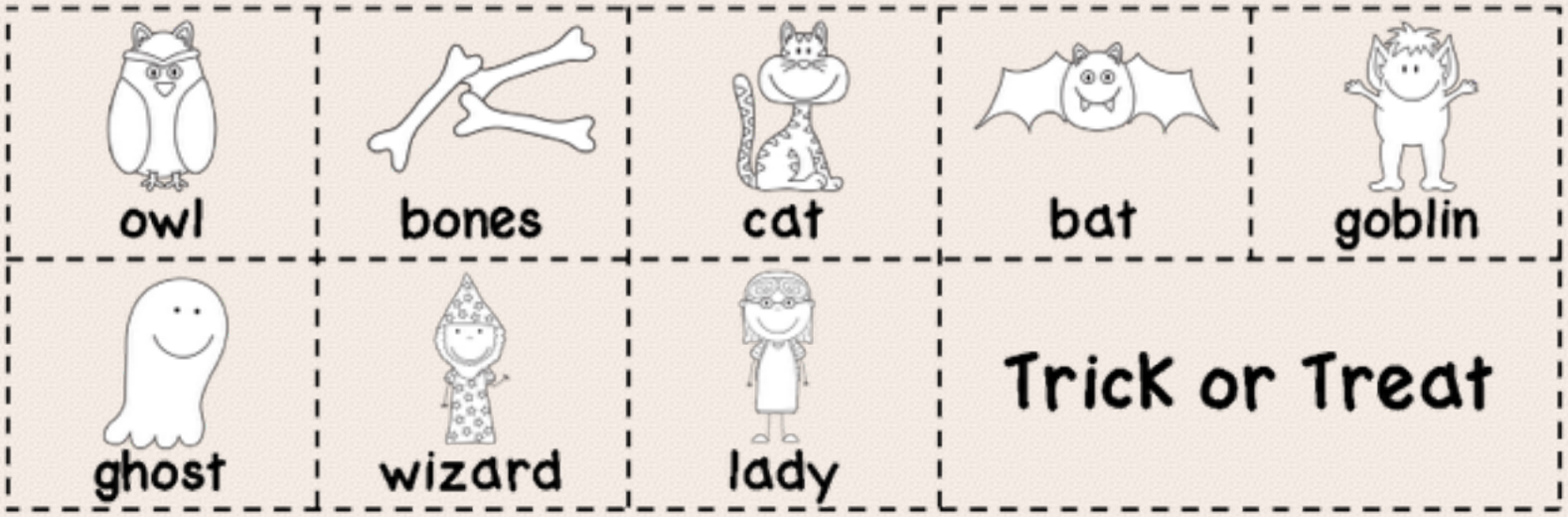
- Smallest to biggest
- Lightest to heaviest
- No legs to many legs

What Math stories can you tell?

Can you place the items in order from 1st to last?

Name_____ There Was an Old Lady Who Swallowed a Bat

1st	2nd	3rd	4th	5th
6th	7th	8th	9th	



> “I am not a teacher, but an awakener”
>
> Robert Frost

Thank you!