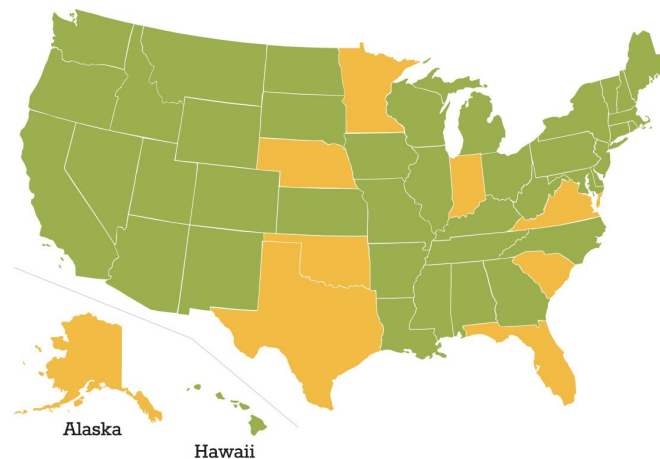


# **Common Core Math Ideas for the Kitchen and Garden Classroom**

# Common Core Math Standards

## Strands

- Counting and Cardinality
- Operations and Algebraic Thinking
- Numbers and Operations - Base Ten
- Numbers and Operations - Fractions
- Measurement and Data
- Geometry



# Common Core Math Standards

## Standards for Student Mathematical Practice

**1** Make sense of problems and persevere in solving them.



Keep on going!

**2** Reason abstractly and quantitatively.


Write a story for the mathematical equation

$$\frac{1}{2} \times 4$$

DeJuan exercises  $\frac{1}{2}$  hour a day for 4 days. How many total hours does he exercise?

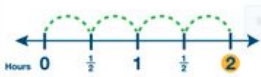
Think what makes sense.

**3** Construct viable arguments and critique the reasoning of others.



Talk and explain.

**4** Model with mathematics.



Hours 0  $\frac{1}{2}$  1  $\frac{1}{2}$  2

$$\frac{1}{2} \times 4 = 2 \quad \text{or} \quad 4 \times \frac{1}{2} = 2$$

Show your thinking.

**5** Use appropriate tools strategically.

$$3 \times 2 = 6$$


Use the right tools.

**6** Attend to precision.

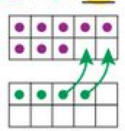
symbol; equals (the same as)

$$120 \text{ minutes} = 2 \text{ hours}$$

units of measure


Check your work.

**7** Look for and make use of structure.

$$8 + 4 = 12$$


See the pattern or connection.

**8** Look for and express regularity in repeated reasoning.




See the pattern or connection.

# Counting and Cardinality

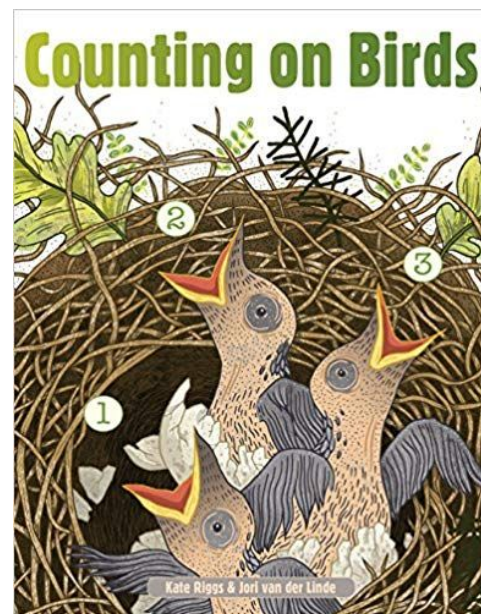
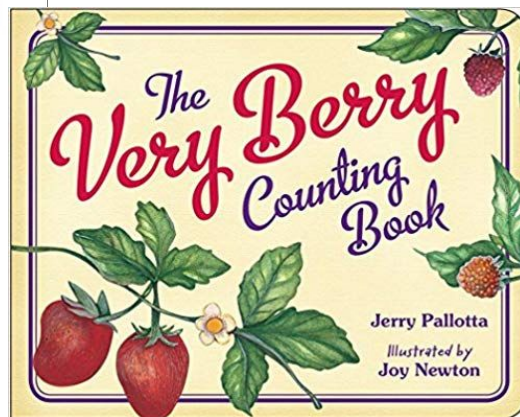
Counting and comparing numbers

**EDIBLE**  
**numbers**

Count.  
Learn.  
Eat.



Jennifer Vogel Bass



# Operations and Algebraic Thinking

Addition, subtraction, multiplication, division

How many of this vegetable do we have?

How can we share this vegetable?



8 radishes divided by 4 students



1 carrot divided by 4 students

# Numbers and Operations: Base Ten and Fractions

Place value (decimals) and fractions



Name: \_\_\_\_\_

"I think the spinach plant will grow the tallest in a soil that is made up of

\_\_\_\_ / 10 clay

\_\_\_\_ / 10 sand

\_\_\_\_ / 10 compost

because \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

Ms. Berry's Class  
 Kohlrabi  
 Identify?  $\frac{0}{21}$   
 Tried it Before?  $\frac{0}{21}$   
 Tried it Today?  $\frac{21}{21}$   
 Liked it?  $\frac{3}{21}$   
 Didn't Care for it?  $\frac{3}{21}$



Flavor (Acid)	<ul style="list-style-type: none"> <li>• Balsamic vinegar</li> <li>• White wine vinegar</li> <li>• Red wine vinegar</li> <li>• Apple cider vinegar</li> <li>• Lemon juice, lime juice</li> </ul>
Oil (Base)	<ul style="list-style-type: none"> <li>• Olive oil</li> <li>• Canola oil</li> <li>• Vegetable oil</li> </ul>
Oil (Base)	



# Measurement: Classify and Sort

Sort objects based on attributes (color, size, shape, etc)





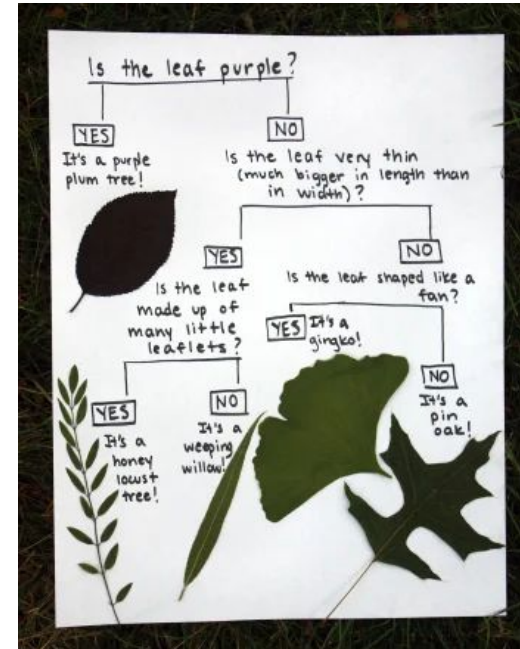


# Measurement: Classify and Sort

Create overlapping categories (Venn Diagram)



Create Dichotomous Key



# Measurement: Classify and Sort

Creative ways to collect and create patterns



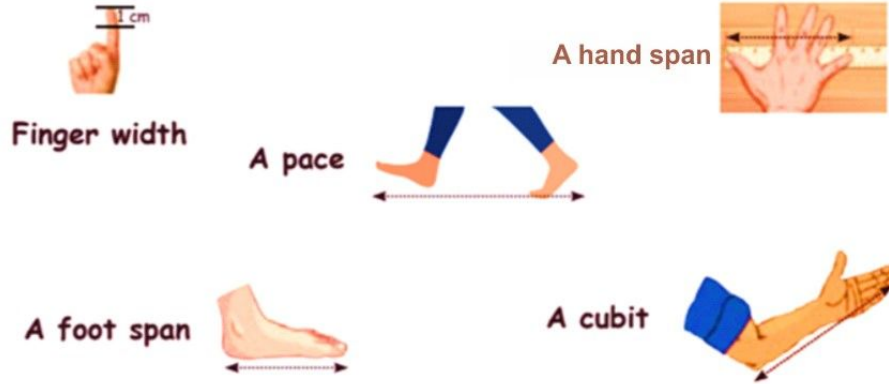


# Measurement: Time and Money



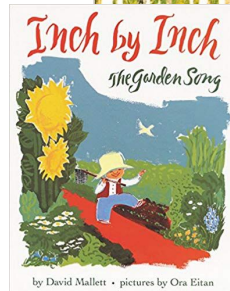
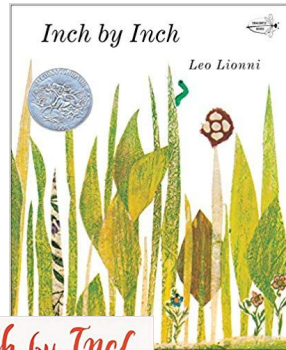
# Measurement: Measuring Length

Non-standard units of measurement



# Measurement: Measuring Length

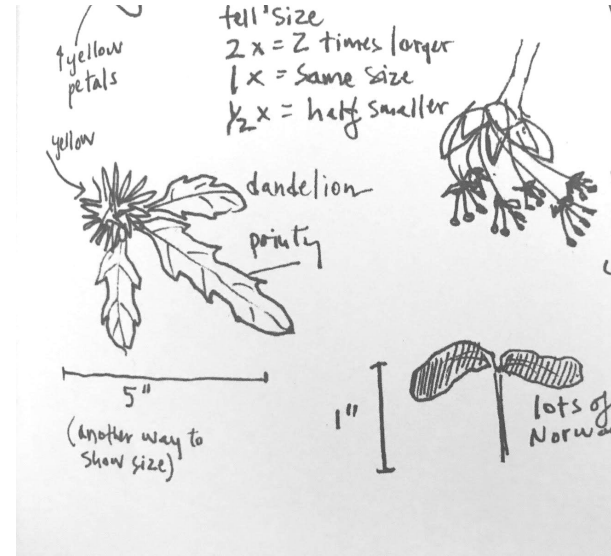
Standard units of measurement





# Measurement: Measuring Length

Estimating and recording measurements



# Measurement: Perimeter, Area, Length



# Data

Types of Graphs:

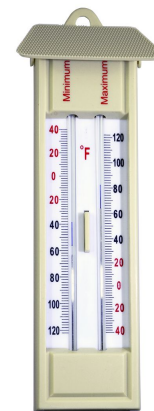
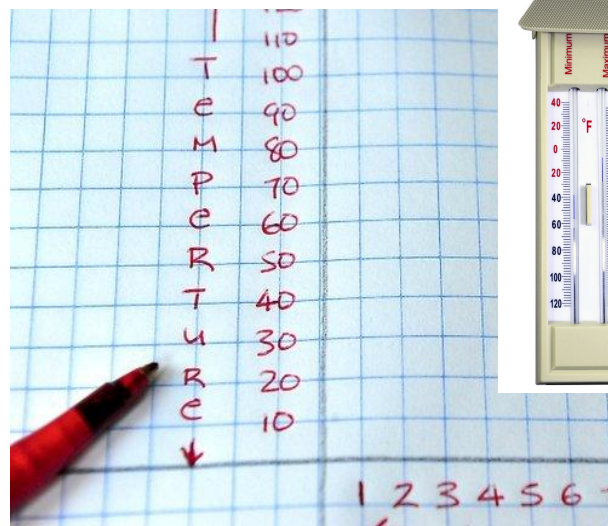
picture graphs



bar graphs



line graphs





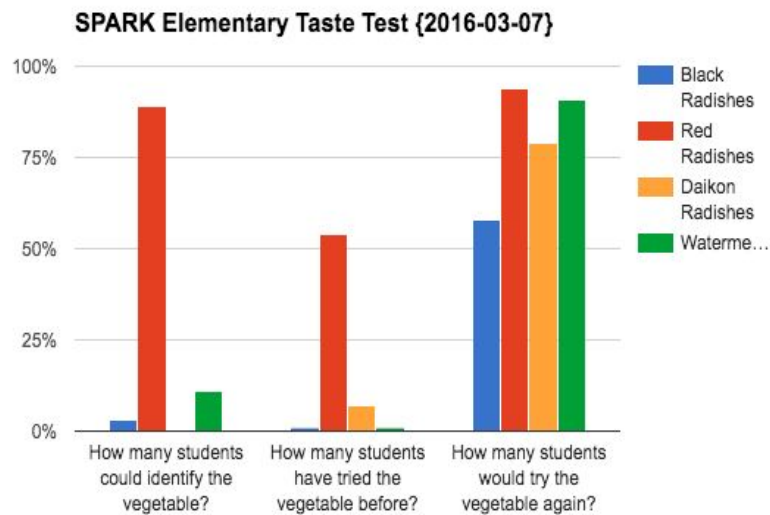
# Data

Bar Graph Extensions:

sticky note bar graph

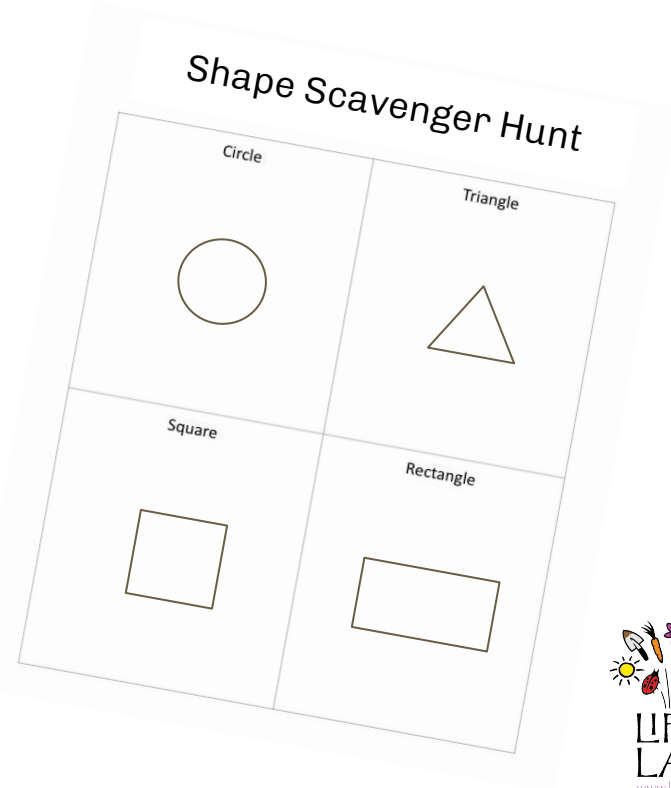
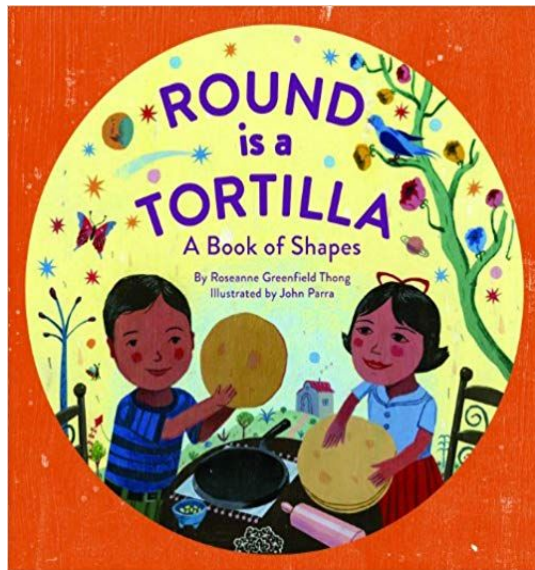
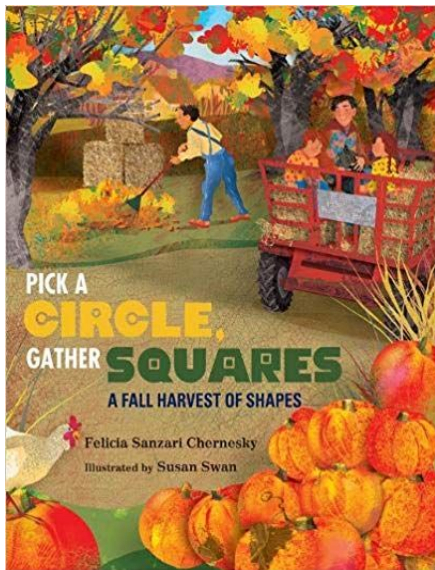


double bar graph



# Geometry: Identifying Shapes

2 and 3 dimensional shapes





# Geometry: Visualization

2 and 3 dimensional shapes

What shapes do you see in the vegetable?

What shape would you see if you sliced the vegetable?



# Geometry: Symmetry

Asymmetrical



Symmetrical



# Geometry: Symmetry

## Reflectional Symmetry



## Rotational Symmetry



The paper folding method gives you either 2, 4, or 8 replications, while okra flowers actually have 5 petals and only the "Star of David" variety of okra has 8 points.