The MATH LEARNING CENTER

There's an App for That!

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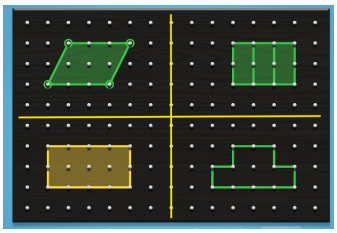
Which one doesn't belong?



Free math apps from MLC

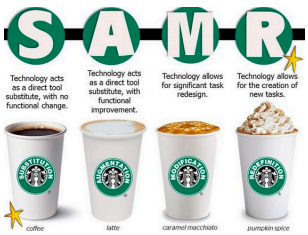
www.mathlearningcenter.org/apps

- Fractions
- Money Pieces
- Number Pieces
- Geoboard
- Number Frames
- Number Rack
- Vocabulary Cards
- Number Line
- Pattern Shapes

Developing & Representing Thinking

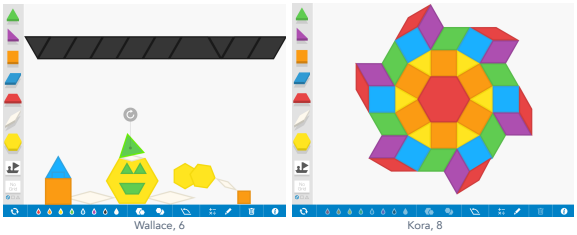
- Explore 6 free apps
- Model mathematics
- Share solution strategies
- Reflect on our teaching practices

Consider SAMR



Modeling Mathematics Pattern Shapes

Exploring Pattern Shapes



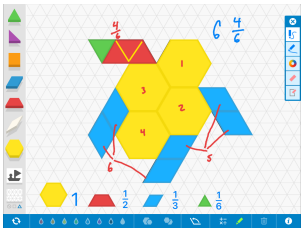
Wallace, 6

Kora, 8

Fractions and area

Use Pattern Shapes to explore parts of a whole, equivalent fractions and area

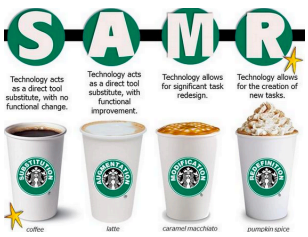
- 1 whole
- ?
- ?
- ?



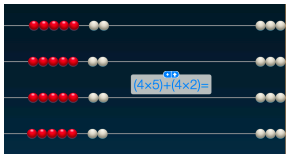
Geometry & Measurement

1. Measure polygon angles using other pattern blocks and then check with a protractor
2. Add angles in polygon shapes to make acute, right, and obtuse angles

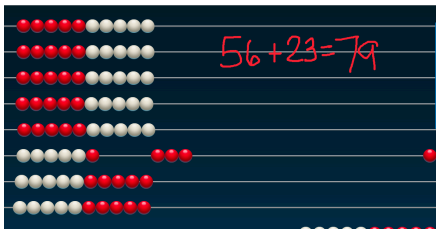
Consider SAMR



The Number Rack

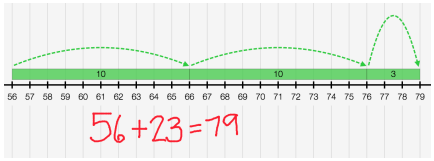


Models & visual representations



What app would you choose and why?

56 + 23



and now your turn: 46 + 38

Another problem

Violet bought a 3-by-5 sheet of stamps. The stamps cost 32 cents each. How much did Violet pay for the entire sheet of stamps?

Here's how Christopher solved the problem:

3 + 5 = 8

8 × 32 = _____

8 × 30 = 240

8 × 2 = 16

8 × 32 = 256

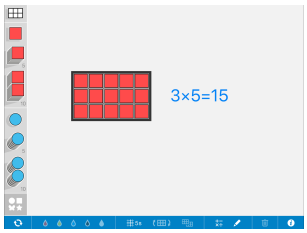
Violet paid 256 cents for the stamps.

Do you agree with Christopher?

Number Frames

Use Number Frames to show that a 3-by-5 sheet of stamps requires multiplication not addition.

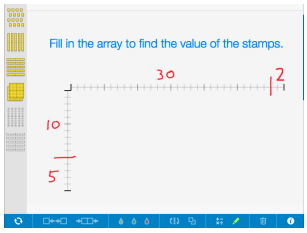
1. Open Number Frames and create 3 x 5 array
2. Add 3 groups of 5 red "stamps"
3. Use the equation editor to insert 3 x 5 = 15.



Number Pieces

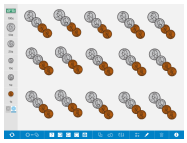
Use the Number Pieces app to show how to calculate how much Violet spent using partial products.

bit.ly/numberpiecesapp

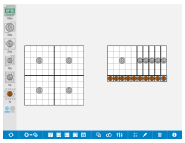


Money Pieces

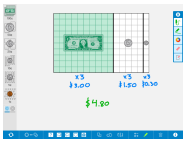
Represent the 3 x 5 array using coins in place of each stamp.



Place 32¢ in each section of a 3x5 array. The total amount of money will be 3 times the money in 1 row.



Change the money in one row to show value in number pieces. Rearrange to find value.



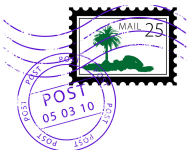
Check math by exchanging coins. Multiply each section by 3 and add to find total

Your turn

Choose a math app to share your strategy for another two-step problem.

Leon bought a 3-by-6 sheet of stamps. The stamps cost 25 cents each. How much did Leon pay for the entire sheet of stamps?

Write an equation to go along with your strategy.



The problem

Pablo found part of a carton of eggs in the refrigerator. He used $\frac{1}{3}$ of a dozen for baking a cake and $\frac{1}{4}$ of a dozen to make brownies.

Then he had 2 eggs left over. How many eggs were in the carton when Pablo started?

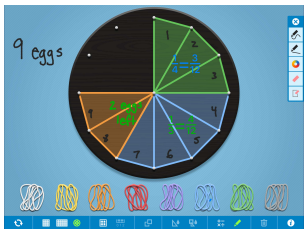
Post your thinking on Padlet

- Padlet.com/TODJ/eggs

Geoboard

Use the Geoboard app to explore the problem with clock fractions.

1. Create and shade 1/3 and 1/4 of the "clock".
2. Find equivalent fractions with 12 in the denominator.
3. Show the two remaining eggs left in the carton and add 2 + 4 + 3 to find that Pablo started with 9 eggs.



Guiding Principles

- Teaching approach is inquiry based
- Based on problem solving, sustained thinking and reflection
- Moving from the concrete, to the representational, then abstract
- NO LOG IN ☺