

Whose book is this?



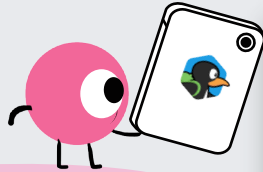
ST MATH ACTIVITY PAGES

4th Grade

Welcome to the ST Math Activity Pages!

This activity page is like a playground of your favorite ST Math games in book form.

Scan the QR codes to play the ST Math puzzles related to each page.



I like the challenging problems in this book because I like the feeling when I figure it out.

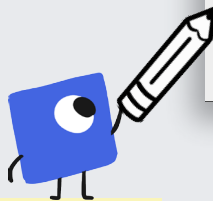
I like problems that are:

- tricky
- easy
- complex
- short
- open-ended
-

because...

The problems remind me of the games in ST Math.

There are many ways to show your thinking.



ADDITION ON THE NUMBER LINE

What's Inside?

On my first hop I jumped

I can write my jumps as an equation:
 + =

Now I want to jump $2+0.2+0.02$ Show me how!

I already jumped

Who jumped farther?
 or
 How do you know?

I want to jump $1+0.3+0.05$ from here.

Whoa! How did I get here?

One equation could be
 + + =

Another way could be:

Match 2 4

Write $2 \times 3 = 6$

Model 2 groups

Draw

Fill in

Plot



This is **your** math journey, so make this book **yours** - fill it with your ideas, make mistakes, and challenge yourself!

What if I don't know what to do?

Try writing down what you think and then see how your ideas work out.

What if I don't get it correct right away?

Mistakes are okay because you can always come back to it. And mistakes help us learn!



The ST Math Activity Pages may look new to you and your child, and that's great! Every problem is a learning opportunity. Use the Activity Pages to talk and wonder about math with your child.

<i>If...</i>	<i>Then...</i>
You're not sure what to do	Talk through the ideas each of you have and what makes most sense to each of you, then try it out! Problem solving is collaborative.
Your child is stuck	<p>Ask questions to see how they're thinking.</p> <p>Move on to a different problem that interests them.</p> <p>Return to a problem they understand to make connections.</p> <p>Take a break.</p>
ST Math is new to you	Have your child explain how the game works to you.

Remember:

It's not about getting an answer, but how your child is thinking about a problem. If you can't get to an answer, how much progress can you make towards it?

Getting the right answer is less important than how you handle and approach being stuck.

Math Themes of 4th Grade

- Multiplicative reasoning and comparisons
- Units of measurement
- Fractions and decimals
- Multi-step problem solving
- Lines and angles

Questions you can ask your child

- What is the ST Math game about?
- What do you already know about this problem? Or things you know related to this problem?
- What else do you see on this page that could be a clue?
- What was your strategy on a previous, simpler problem?
- Based on the question, what is a reasonable answer?
- Try out a solution and re-read the problem. Does it make sense?

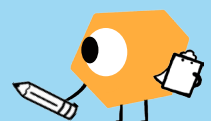


Bring math into your lives

As a family, you can continue to explore and discover math in the world around you.

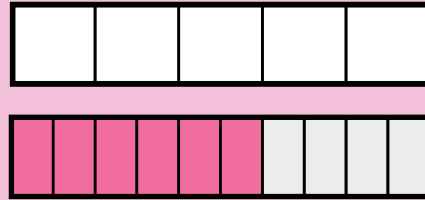
Play games, read stories, and create projects at mindresearch.org/mathminds

Find more resources for math at home at stmath.com

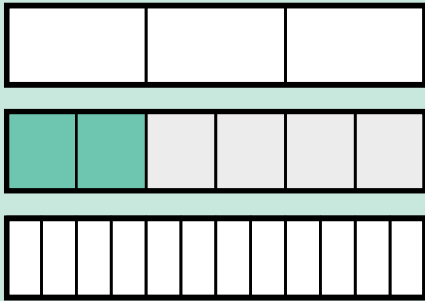




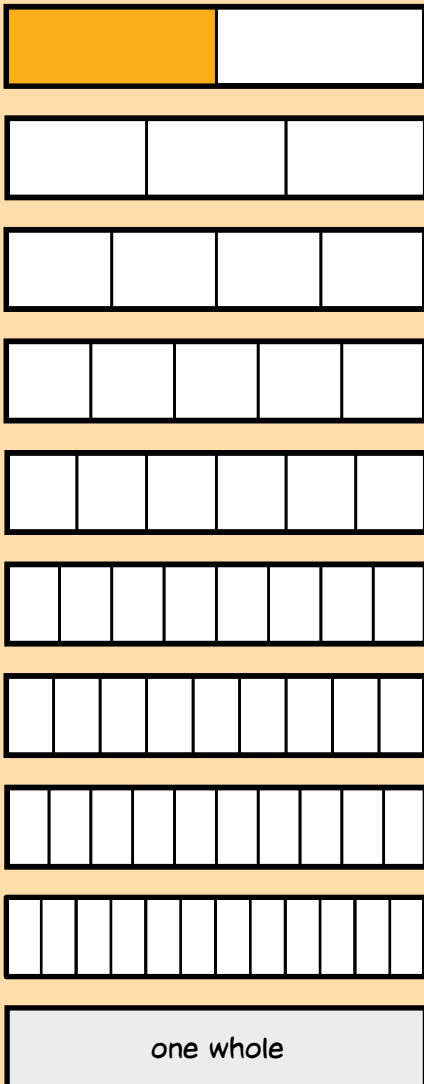
FRACTION BRICKS



$$\left\{ \begin{array}{c} \square \\ \square \end{array} \right\} = \left\{ \begin{array}{c} \square \\ \square \end{array} \right\}$$



$$\left\{ \begin{array}{c} \square \\ \square \end{array} \right\} = \frac{2}{6} = \left\{ \begin{array}{c} \square \\ \square \end{array} \right\}$$



$$\frac{1}{2} = \left\{ \begin{array}{c} \square \\ \square \end{array} \right\} = \left\{ \begin{array}{c} \square \\ \square \end{array} \right\} = \left\{ \begin{array}{c} \square \\ \square \end{array} \right\} = \left\{ \begin{array}{c} \square \\ \square \end{array} \right\} = \left\{ \begin{array}{c} \square \\ \square \end{array} \right\}$$

I can't make equivalent fractions out of all of these bars because...

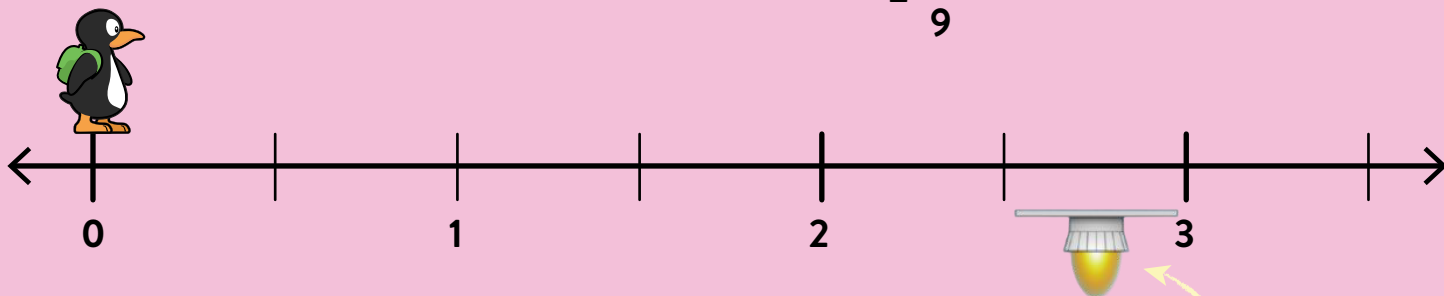


$$\frac{3}{4} = \left\{ \begin{array}{c} \square \\ \square \end{array} \right\}$$



ESTIMATE FRACTIONS ON A NUMBER LINE

$$2\frac{8}{9}$$



Will JiJi land on the platform?
How do you know?



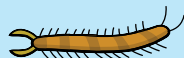
Where are the critters located on the number line?

=



=

$\frac{3}{3}$



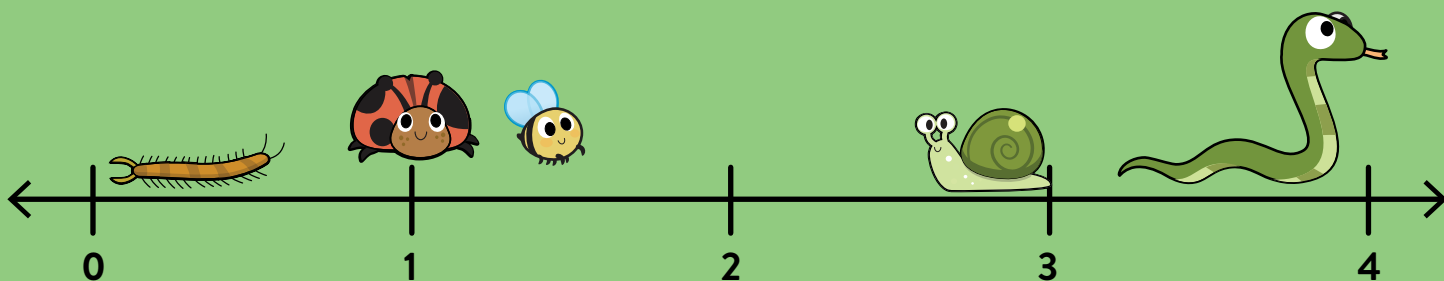
=

or



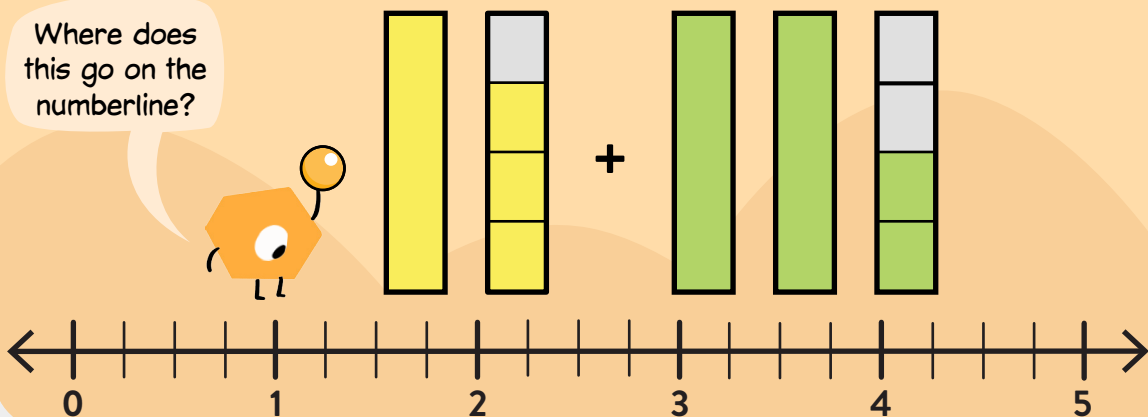
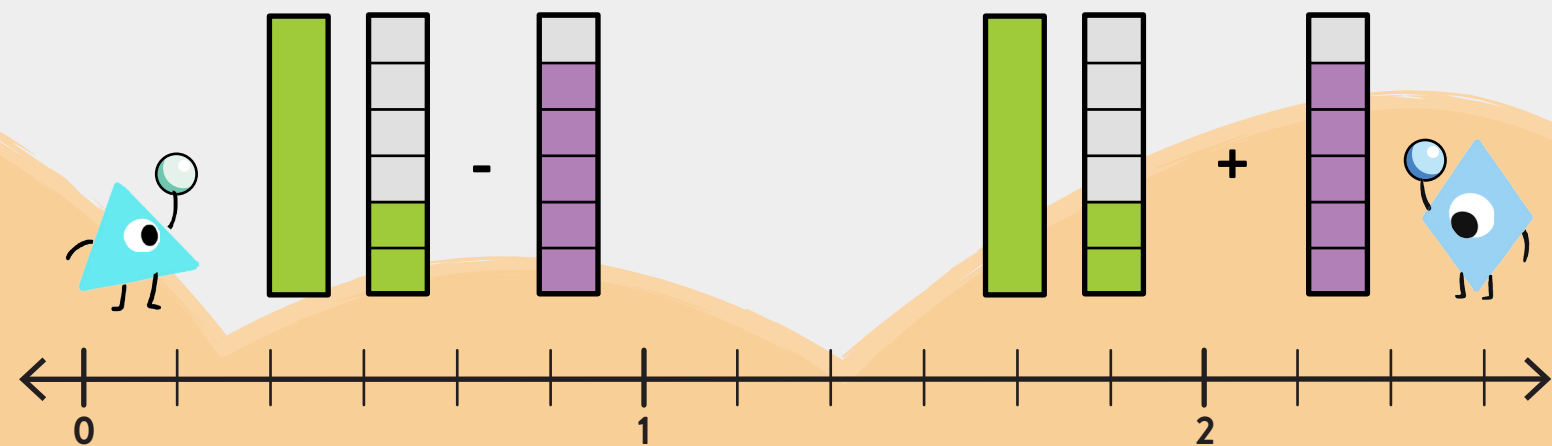
=

$$\frac{23}{6} = \text{[]}$$



SCALE FRACTION

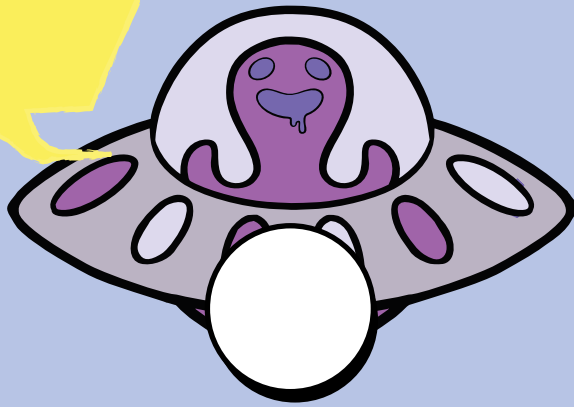
Where does this go on the numberline?



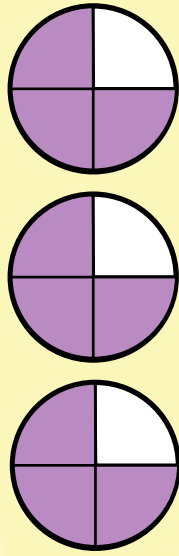
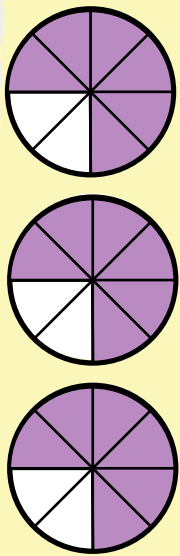
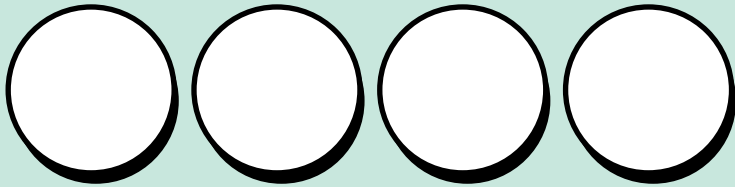
ALIEN BRIDGE

Let's take $\frac{2}{3}$



$$4 \times$$

If we do that four times,
altogether we'll have



How are these sets of models the same?
How are they different?

$$\square \times \frac{1}{2} = \text{circle with 2 shaded quadrants}$$

$$\begin{matrix} \square \\ \square \end{matrix} = 6 \times \frac{1}{3}$$

That's the same as wholes.

$$5 = \square \times \frac{1}{2}$$

$$8 \times \frac{1}{6} = \begin{matrix} \square \\ \square \end{matrix}$$

$$\square \times \frac{2}{3} = \frac{6}{3}$$



FRACTION & DECIMAL GRID

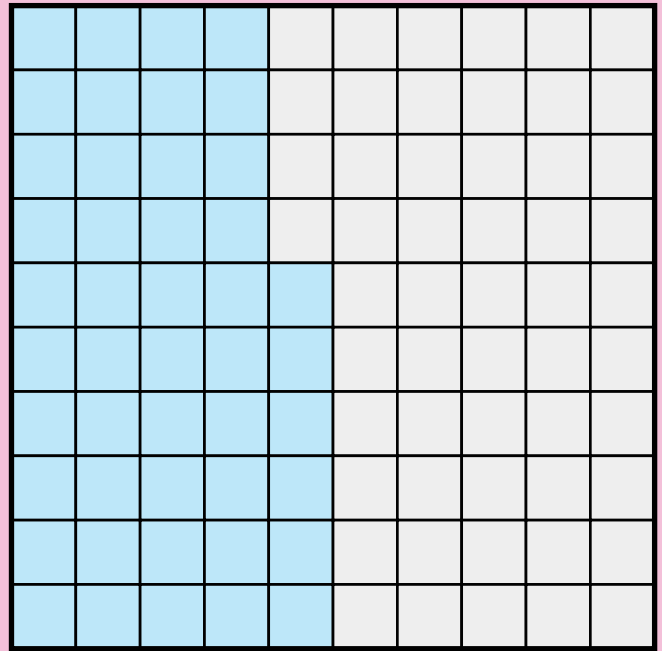
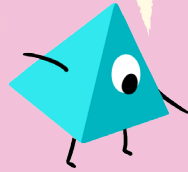
$$\frac{6}{10} + 0.04 = \square$$

$$0.06 + \frac{4}{10} = \square$$

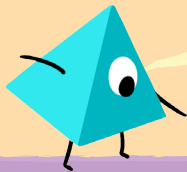
$$\frac{4}{10} + 0.6 = \square$$

$$0.06 + \frac{4}{100} = \square$$

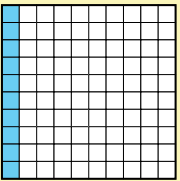
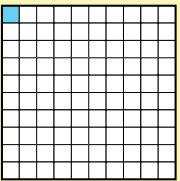
Circle the equation that is modeled by this grid.



This table will be helpful to keep track of tenths and hundredths.



The empty part of this grid can be expressed as:

Model	Words	Decimal	Fraction
	One-Tenth		$\frac{\square}{\square}$
			$\frac{1}{100}$

This is equal to

$$\frac{\square}{100}$$