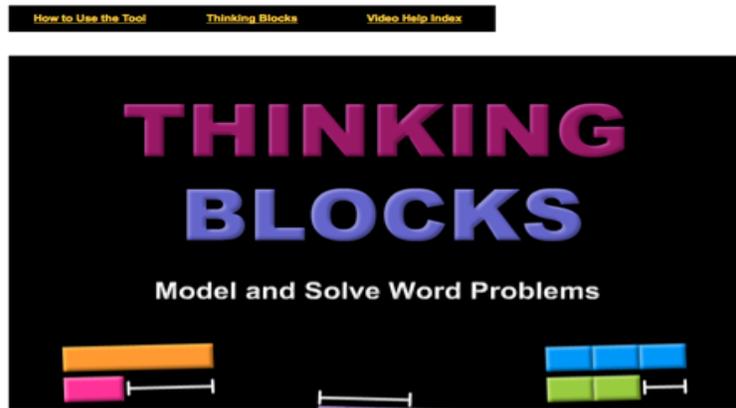# User Guide:
Thinking Blocks Model Tool

- The website for the Thinking Blocks Modeling Tool is:

http://www.mathplayground.com/ThinkingBlocks/thinking_blocks_modeling%20_tool.html
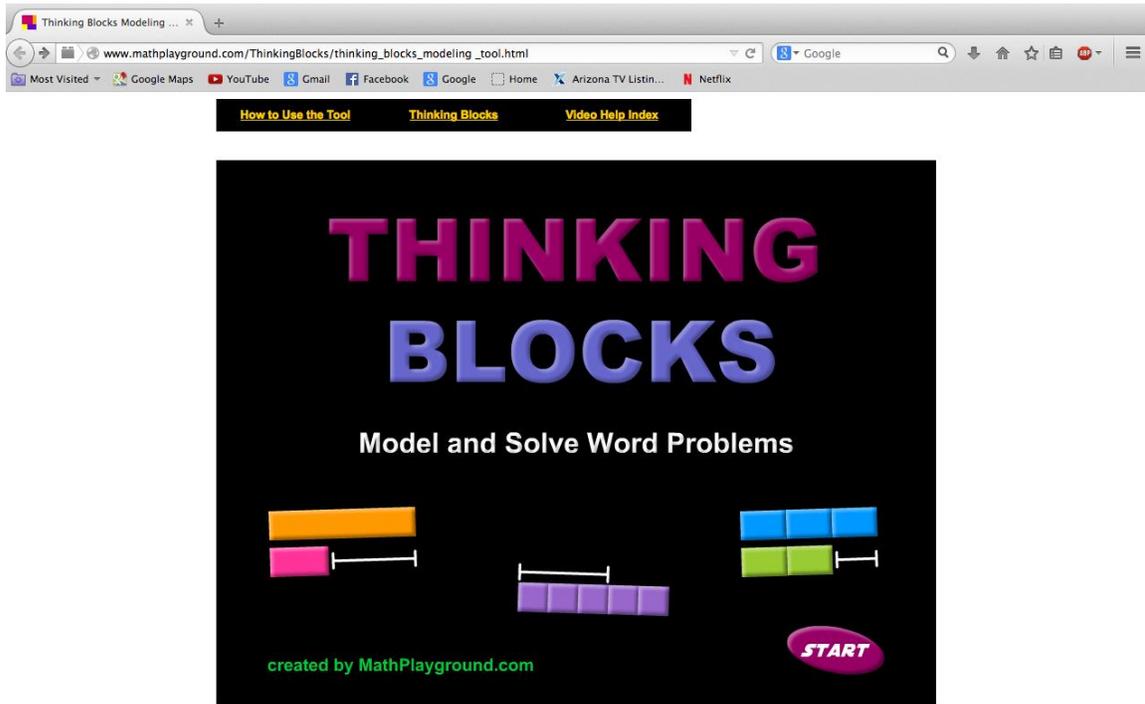
- The Homepage is going to look like this.

How to Use the Tool   Thinking Blocks   Video Help Index

THINKING
BLOCKS

Model and Solve Word Problems

- Before clicking Start, it might be better to click on the How to Use the Tool link. This is a tutorial that will walk you through how to operate the different basic tool options.

THINKING
BLOCKS

Model and Solve Word Problems

created by MathPlayground.com
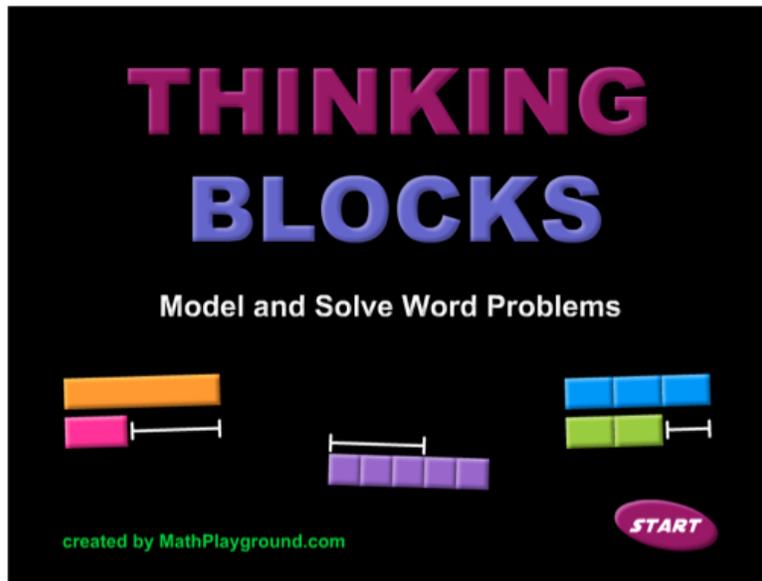
START

- After viewing the tutorial or when you are ready to begin, click the Start button.
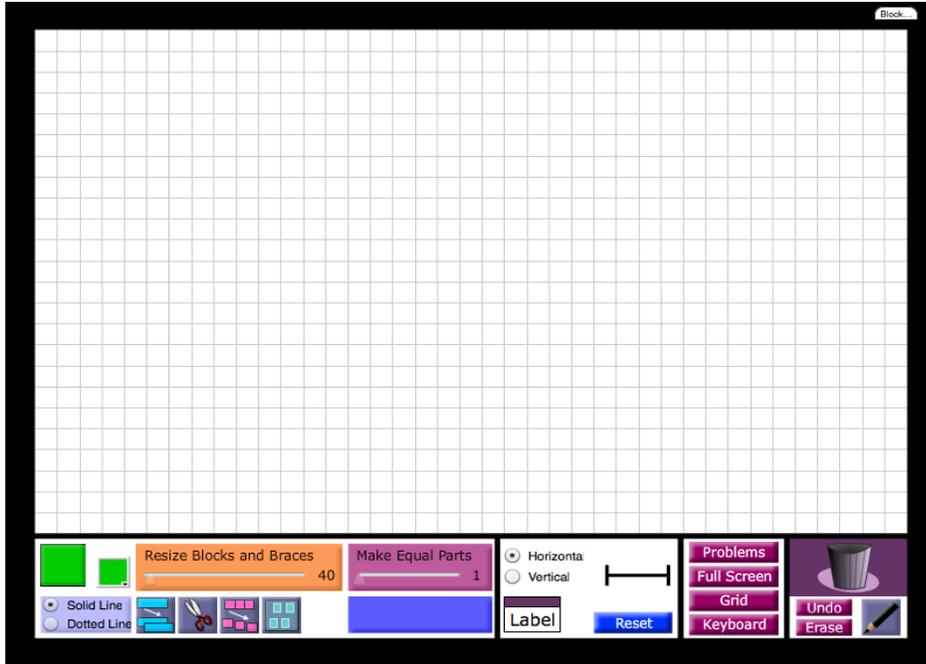
- Once the Start button is hit, this is what comes up on the screen. There is the grid, which is the workspace for answering the problems with a model and at the bottom is the tool bar with all the different tools that are available to you.

A B C D E F G H I J K L M N O-R S-T U V
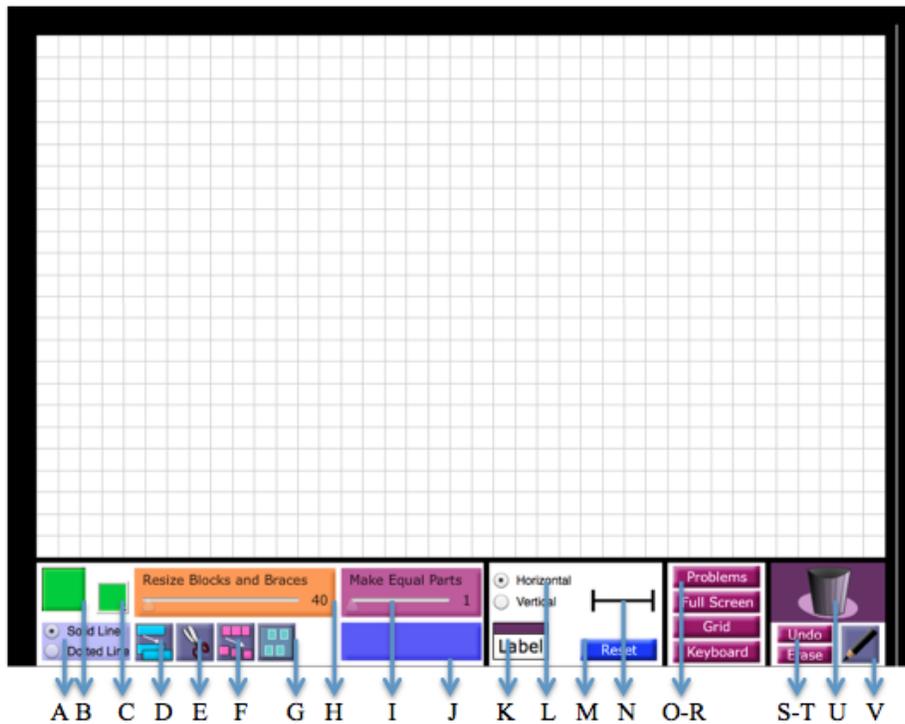
- Ultimately, there are 22 different tools you are able to use for creating a model to solve a problem.

Tools Quick Reference Page

A. Change lines to solid or dotted
B. Click to drag block onto graph area
C. Click to change block color
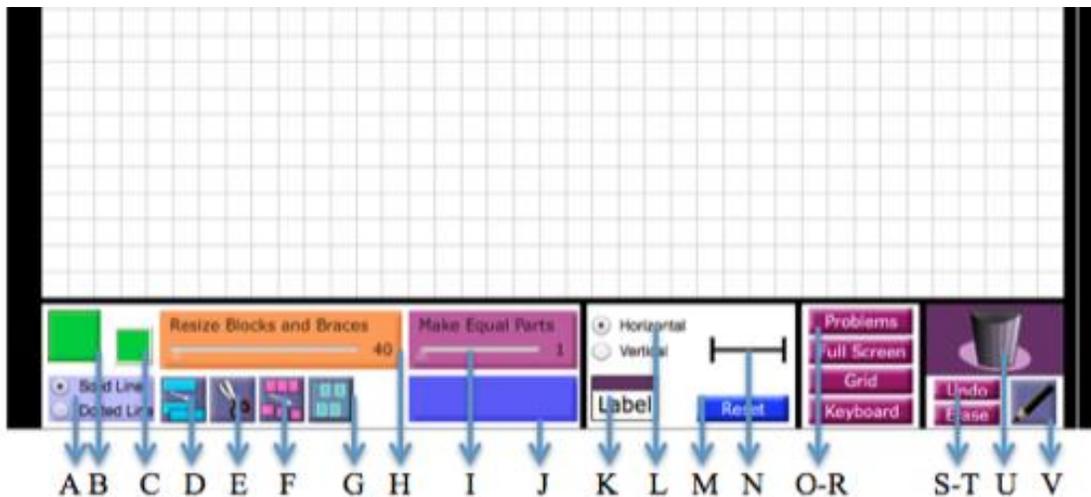D. Duplicate blocks
E. Cutting Tool
F. Break-Apart Tool
G. Select two or more blocks
H. Gauge for resizing blocks and braces
I. Gauge for making blocks into equal parts
J. Informational Tool Guide
K. Labeler
L. Positioning of brace: Horizontal/Vertical
M. Reset Screen
N. Add brace to mark areas/measurements
O. View Math Problem
P. Enter Full Screen
Q. Switch from grid background to blank background
R. Use onscreen keyboard
S. Undo last pencil mark
T. Erase all pencil marks
U. Trash Bin
V. Pencil Drawing/Writing Tool

Tool Reference Page – More Detailed

Resize Blocks and Braces	Make Equal Parts	○ Horizontal
		○ Vertical

Solid Line
Dotted Line

Make Equal Parts — 40

Label   Reset

Problems
Full Screen
Grid
Keyboard

Undo
Erase

A B   C D E   F   G H   I   J   K   L   M   N   O-R   S-T U V
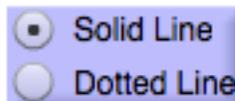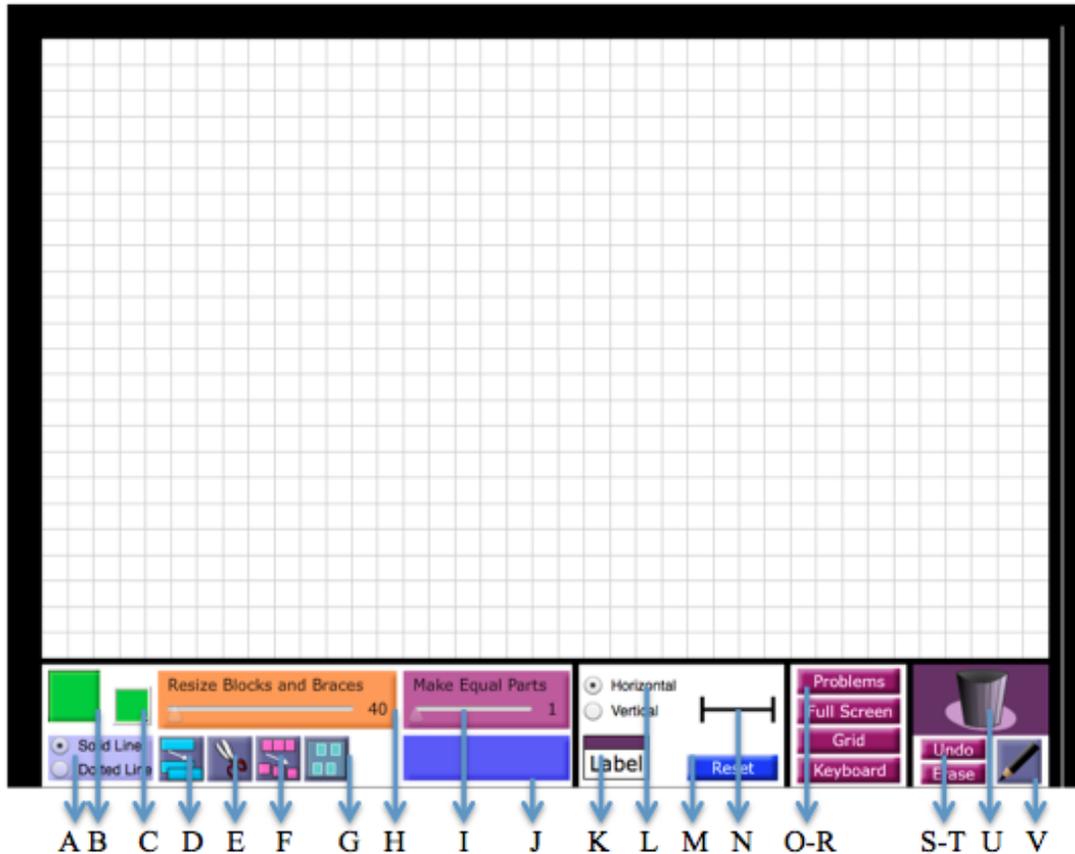
A. – This icon allows you to change the outline of the blocks to either solid lines or dotted lines. You click on which one you want before clicking and dragging a block into the work area.
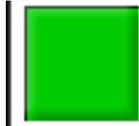
B. – This is the block icon. You can click it and drag a block onto the work area. This is used to add as many blocks as needed to solve the problem.

C. – The smaller block icon allows you to change the color of a block you are working with.

D. – The duplicate icon allows you to make a copy of a block that you have already made. Simply click on a block that you want to copy and then hit the copy icon.

E. – The scissors icon allows you to cut a block you are working with. You can choose which block you wish to cut and then click this icon and drag it over to the block to cut it into equal or unequal parts.

F. – The break-apart icon will cut your block into separate pieces if you have already outlined it into different parts.

G. – This icon allows you to select two or more block to be able to move more at a time to another position if necessary.

Resize Blocks and Braces
40

H. – The resize icon allows you to resize any of the blocks that are in the workspace. You can use the scale to make the block get bigger or smaller.

Make Equal Parts
1

I. – The equal parts icon allows you to make one block into a number of equal parts. By increasing the scale you can make one block into 2 or more equal parts, depending on the size of the block.

J. – This icon is informational. If you hold your mouse over any icon, this blue box will have a little information on it to remind you what the icon can do.
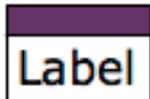
Label K. – This is the Label icon. If you need to label anything for your problem you can insert this icon and also change the title to something that fits your problem.

Horizontal
Vertical
L. – This icon allows you to change whether the brace you are inserting is vertical or horizontal. Simply click the choice you want and then it will change the position of the brace for you so you can insert it.

Reset M. – The reset icon allows you to clear everything from the board. Simply click the reset icon and you will be able to start over.

N. – The brace icon allows you to insert a brace onto the work area. You can use a brace to visualize a measurement of the blocks or anything else you'd like.

Problems O. – The problems icon allows you to show or hide the word problems.

Full Screen P. – The full screen icon allows you to enter and exit full screen mode.

Grid Q. – The grid icon gives you the option of removing the grid on the work area by clicking it. Or simply click it again to replace the grid.

Keyboard R. – The keyboard icon allows you to show or hide the onscreen keyboard.

Undo S. – The undo icon allows you to remove the last pen stroke you completed when you have the pen active.

Erase T. – The erase icon gives you the ability to remove all the pen marks you have made while using the pen.

U. – This trash icon allows you to drag blocks and other items over it to erase them.

V. – The pen icon lets you use it to draw/write on the screen.

Doing a Word Problem

- The first thing you will need to do is click on the Problems icon in order for the questions to pop up on the grid.

Click the **green** button to open and close the word problem navigator.
Select a category then click the New Word Problem button.

Click the **blue** button to type or paste in your own word problem.
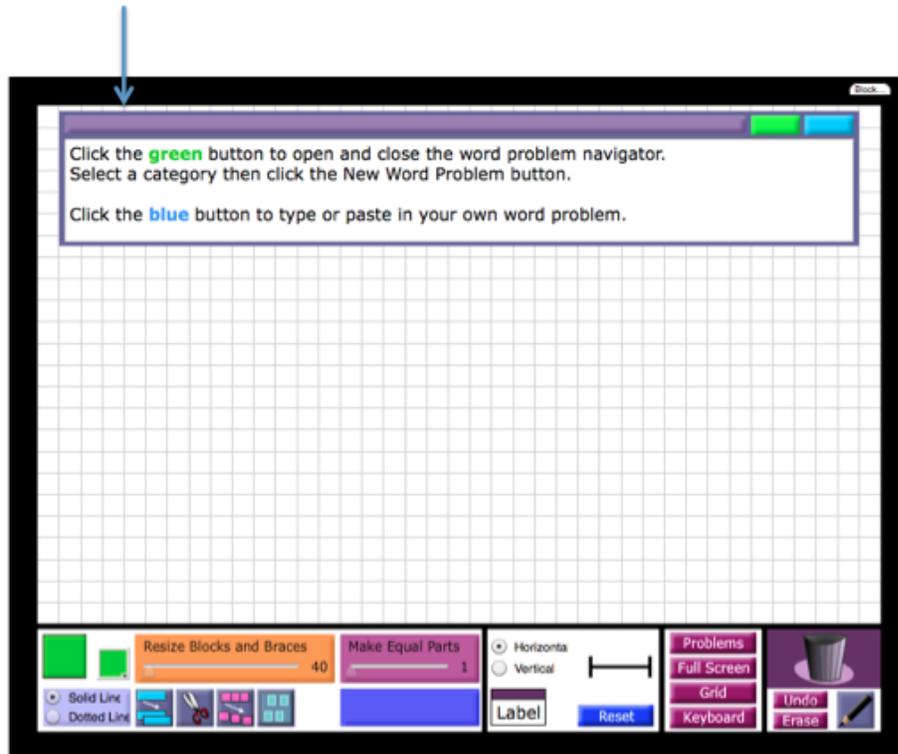
- Notice that a box appears at the top of the work area with directions.

Click the **green** button to open and close the word problem navigator.
Select a category then click the New Word Problem button.

Click the **blue** button to type or paste in your own word problem.
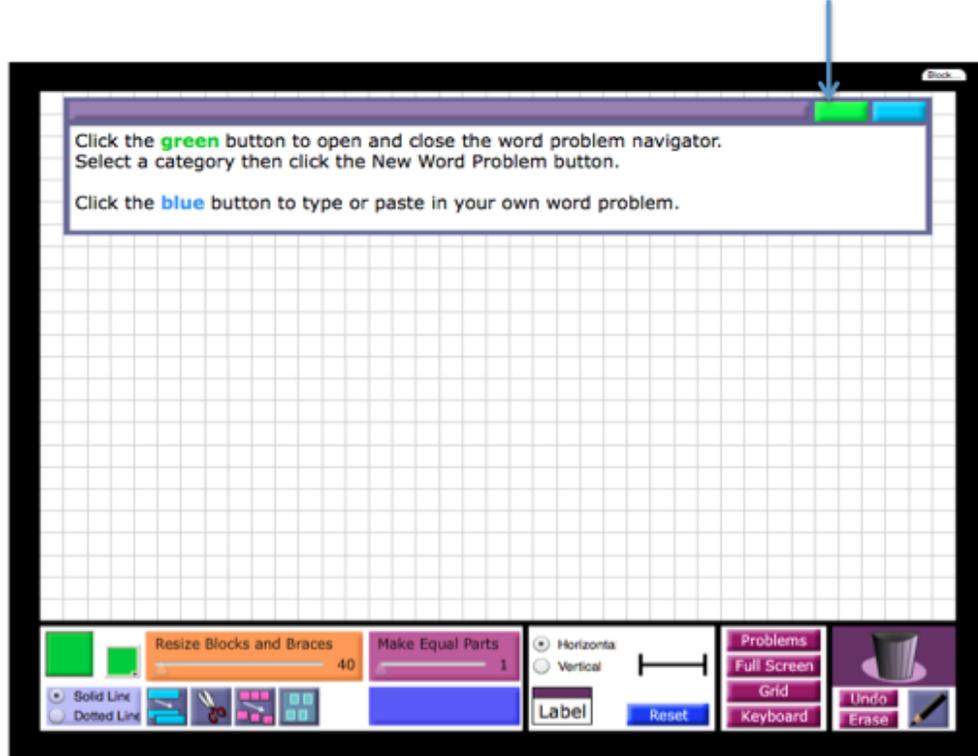
- The next step is to click on the green box to get a question you can build a model to answer.

Tyler is riding his bicycle 24 miles from Vertex Valley to Sum Central. He has completed 1/6 of his trip. How many miles must Tyler ride before he reaches his destination?

Your answer: ___ miles   Check ___   View Model

Add/Subtract	Multiply/Divide	What Type of Word Problem Would You Like to Model?	New Word Problem
Fractions	Decimals and %	Fraction of a Set A	Fraction of a Set B	Fraction of a Set C
Ratios	Algebra	Add/Subtract A	Add/Subtract B	Multiply/Divide	Random Problem

- This is what the screen looks like when given a question. Notice that there are some new icons as well.

Tyler is riding his bicycle 24 miles from Vertex Valley to Sum Central. He has completed 1/6 of his trip. How many miles must Tyler ride before he reaches his destination?

| Your answer: | | miles | Check | | | View Model |

Add/Subtract	Multiply/Divide	What Type of Word Problem Would You Like to Model?			New Word Problem
Fractions	Decimals and %	Fraction of a Set A	Fraction of a Set B	Fraction of a Set C	
Ratios	Algebra	Add/Subtract A	Add/Subtract B	Multiply/Divide	Random Problem

These are the different problem topics   These are the different problem subjects   New Problem   View a model for the question

Get a random question

- These are the definitions of the new icons you see when you click on a word problem.

Jada had some songs on her mp3 player. On Thursday, she downloaded 24 songs. Now Jada has 33 songs. How many songs did Jada have at first?

| Your answer: | | songs | Check | | | View Model |

Add/Subtract	Multiply/Divide	What Type of Word Problem Would You Like to Model?			New Word Problem
Fractions	Decimals and %	Part-Whole A	Part-Whole B	2 Steps	
Ratios	Algebra	Compare A	Compare B	Compare C	Random Problem

Choose the Fractions topic icon

- First, you will have to choose a problem topic, such as Fractions

A money jar contains 121 coins. 10/11 of the coins are quarters and the rest are nickels. How many nickels are there?

| Your answer: | | nickels | Check | | | View Model |

Add/Subtract	Multiply/Divide	What Type of Word Problem Would You Like to Model?			New Word Problem
Fractions	Decimals and %	Fraction of a Set A	Fraction of a Set B	Fraction of a Set C	
Ratios	Algebra	Add/Subtract A	Add/Subtract B	Multiply/Divide	Random Problem

Choose Multiply/Divide

- Next, choose a subject, such as Multiply/Divide

Mrs. Pillsbury uses 1/3 cup of brown sugar to make 3 giant cookies. How much brown sugar would Mrs. Pillsbury need to make 1 giant cookie?

Your answer: [   ] cup   Check [   ]   View Model

Add/Subtract	Multiply/Divide	What Type of Word Problem Would You Like to Model?		New Word Problem
Fractions	Decimals and %	Fraction of a Set A	Fraction of a Set B	Fraction of a Set C	
Ratios	Algebra	Add/Subtract A	Add/Subtract B	Multiply/Divide	Random Problem

Solid Line / Dotted Line — Resize Blocks and Braces 40 — Make Equal Parts 1 — Horizontal / Vertical — Label / Reset — Problems / Full Screen / Grid / Keyboard — Undo / Erase

- A new question will then appear that goes with the topic and subject chosen. Now it is time to make a model to answer the question.

Mrs. Pillsbury uses 1/3 cup of brown sugar to make 3 giant cookies. How much brown sugar would Mrs. Pillsbury need to make 1 giant cookie?

Your answer: [   ] cup   Check [   ]   View Model

Add/Subtract	Multiply/Divide	What Type of Word Problem Would You Like to Model?		New Word Problem
Fractions	Decimals and %	Fraction of a Set A	Fraction of a Set B	Fraction of a Set C	
Ratios	Algebra	Add/Subtract A	Add/Subtract B	Multiply/Divide	Random Problem

Solid Line / Dotted Line — Resize Blocks and Braces 40 — Make Equal Parts 1 — Horizontal / Vertical — Label / Reset — Problems / Full Screen / Grid / Keyboard — Undo / Erase

- First we need to drag 2 blocks onto the work area. 1 block will be made into 3 solid/shaded parts for the 1/3 cup and the other block into 6 dotted line boxes which will show how big 1 full cup is.

- Next we'll put in 3 different braces to help distinguish between the 3 different measurements.

- Lastly, we put in labels for each of the different measurements.

- Now that we are finished we can type in our answer, 1/9 in the **Your Answer** box that is above the Problem Topics icons. Then click the **Check** button above the Problem Subjects icons. The correct answer will appear in the box next to the **Check** button. Our answer matches the correct answer therefore we are all done!

4 Completed Problems

1) Fractions – Multiply/Divide

Mrs. Pillsbury uses 1/3 cup of brown sugar to make 3 giant cookies. How much brown sugar would Mrs. Pillsbury need to make 1 giant cookie?

Your answer: 1/9 cup | Check | 1/9 cup | View Model

Add/Subtract	Multiply/Divide	What Type of Word Problem Would You Like to Model?			New Word Problem
Fractions	Decimals and %	Fraction of a Set A	Fraction of a Set B	Fraction of a Set C	
Ratios	Algebra	Add/Subtract A	Add/Subtract B	Multiply/Divide	Random Problem

One Cup

1/3 Cup

1/9 Cup

Resize Blocks and Braces 40 | Make Equal Parts 1 | Horizontal / Vertical | Label | Reset | Problems | Full Screen | Grid | Keyboard | Undo | Erase

Solid Line / Dotted Line

2) Fractions – Multiply/Divide

Shane purchased 2/5 pound of fruit. He ate 2/3 of the fruit after lunch. How much fruit did Shane eat?

Your answer: 4/15 pound | Check | 4/15 pound | View Model

Add/Subtract	Multiply/Divide	What Type of Word Problem Would You Like to Model?			New Word Problem
Fractions	Decimals and %	Fraction of a Set A	Fraction of a Set B	Fraction of a Set C	
Ratios	Algebra	Add/Subtract A	Add/Subtract B	Multiply/Divide	Random Problem

One Pound

2/5 Pound

4/15 Pound

Resize Blocks and Braces 40 | Make Equal Parts 1 | Horizontal / Vertical | Label | Reset | Problems | Full Screen | Grid | Keyboard | Undo | Erase

Solid Line / Dotted Line

3) Fractions – Fractions of a Set C

I had $40. I spent 3/4 of my money on Saturday and 1/2 of the remainder on Friday. How much money did I have left?

Your answer: $5   Check $5   View Model

Add/Subtract | Multiply/Divide | What Type of Word Problem Would You Like to Model? | New Word Problem
Fractions | Decimals and % | Fraction of a Set A | Fraction of a Set B | Fraction of a Set C
Ratios | Algebra | Add/Subtract A | Add/Subtract B | Multiply/Divide | Random Problem

$40

Money Spent Saturday

Money Remaining

$5

Resize Blocks and Braces   40
Make Equal Parts   1
Horizontal
Vertical
Label   Reset
Solid Line
Dotted Line
Problems
Full Screen
Grid
Keyboard
Undo
Erase

4) Fractions – Fractions of a Set C

Lily bought an assortment of socks. 2/3 of the socks were purple. 1/4 of the remaining socks were yellow. There were 15 green socks. How many socks were there altogther?

Your answer: 60 socks   Check 60 socks   View Model

Add/Subtract | Multiply/Divide | What Type of Word Problem Would You Like to Model? | New Word Problem
Fractions | Decimals and % | Fraction of a Set A | Fraction of a Set B | Fraction of a Set C
Ratios | Algebra | Add/Subtract A | Add/Subtract B | Multiply/Divide | Random Problem

Total of 60 Socks

Purple Socks

Remaining Socks

15

Resize Blocks and Braces   40
Make Equal Parts   1
Horizontal
Vertical
Label   Reset
Solid Line
Dotted Line
Problems
Full Screen
Grid
Keyboard
Undo
Erase