

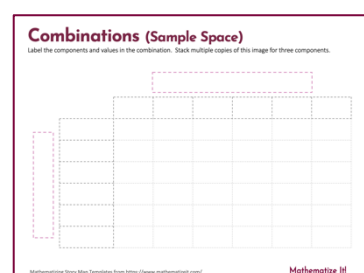
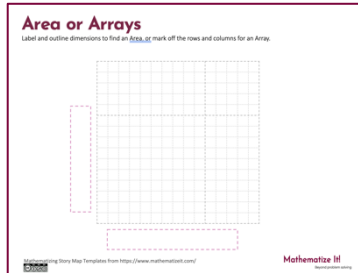
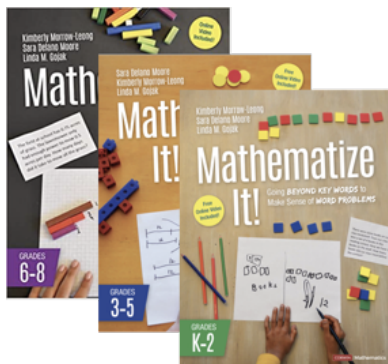
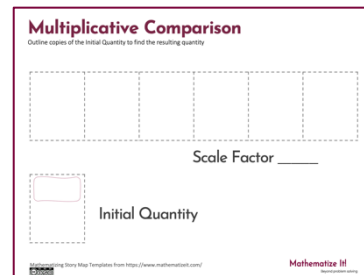
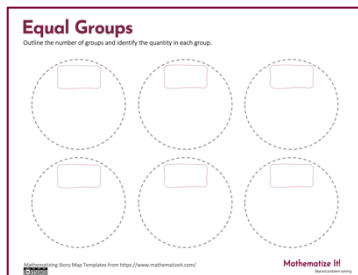
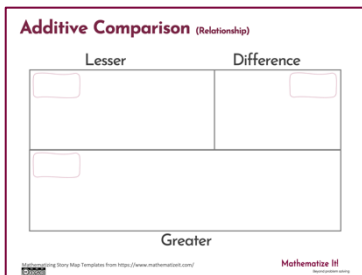
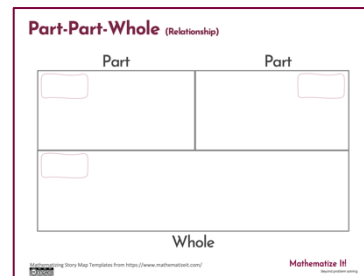
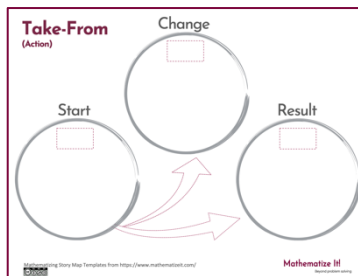
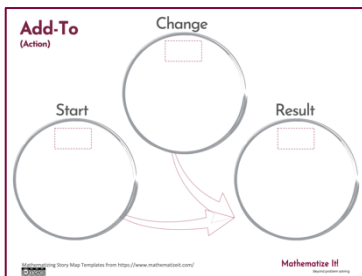
#1 Maya in the Garden



Add-To Result Unknown

Making sense of word problems with mathematical comprehension & operation sense.

Mathematizing Story Maps



Mathematize It!

Beyond problem solving



Mathematizing Story Map Templates from <https://www.mathematizeit.com/>
Sara Delano Moore and Kimberly Morrow-Leong

Add-To

(Action)

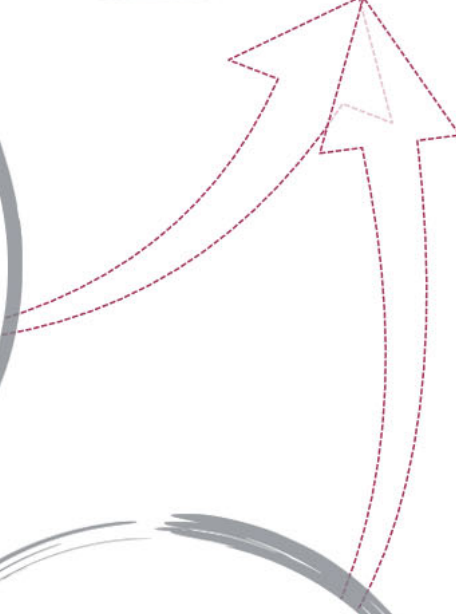
Change



Start



Result



Teacher Notes

Mathematizing Story Maps

Maya in the Garden



Problem Type

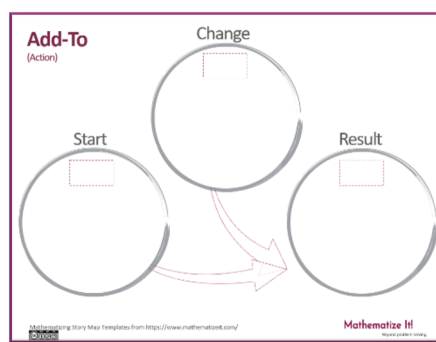
This story supports developing mathematical ideas around Add To job of addition. The Add-To problem situations describe a story where a starting value is changed by a quantity coming into the situation, leading to a resulting or ending value. In this situation, something will happen, and students will act it out on the Mathematizing Story Map.

Missing Element

In this story, the result is unknown; students are figuring out the end of the story. Students are typically very comfortable with the Add-To, Result unknown problem situation as they find the total after combining the starting and change quantities.

The Mathematizing Story Map

The Mathematical Story Map provided supports the narrative storyline of Add To situations by providing space to show the starting value, the change coming into the situation, and the resulting value at the end.



As you dig into the story, you and your students might also find opportunities to explore Part-Part-Whole situations where the total is unknown.

Addition & Subtraction Problem Situations

Action Situations	Add To	Result Unknown	Change Unknown	Start Unknown
	Take From	Result Unknown	Change Unknown	Start Unknown
Relationship Situations	Part-Part Whole	Total Unknown	One Part Unknown	Both Parts Unknown
	Additive Comparison	Difference Unknown	Greater Quantity Unknown	Lesser Quantity Unknown



Day 1

Read the story at least once with your class. Talk about the story and support your students as they make sense of the events in the story as you would for any narrative.

Then encourage students to find the mathematics in the story with questions like these:

- *What quantities are in the story? How are they changing?*
- *What can you build or draw to show the storyline of a starting value, a change, and an ending value?*
- *How can the story map help record your thinking?*

If students start calculating numbers right away, particularly if they are “number plucking” or randomly doing calculations, refocus their attention on the action in the story.

Encourage students to use manipulatives as they work on the Mathematizing Story Map to show the action that is in the story.

Label the quantities and their units. Before ending for the day, give students the opportunity to record their thinking on paper.

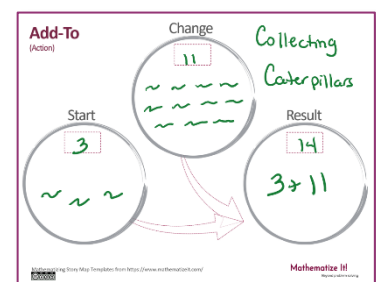
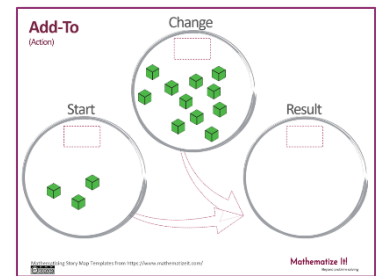
Encourage students to use manipulatives and visuals to show their thinking about the math in the story. Students should translate their work from manipulatives and sketches to the mathematical story map.

You may wish to use the [Three Reads Strategy](#) (p.15) to support student understanding of the text itself.

To focus on the story, create a **numberless word problem**. Remove the numbers from the story as the class discusses it.

Day 2

Reread the story and use the Mathematizing Story Map to retell it and act it out. Ask your students to translate their actions on the Mathematizing Story Map into an equation. Each student should be able to connect the elements of the story map to the narrative. Discuss the **quantities** in the story and what strategies students might use to find an answer to the question they have asked. Ask students to consider other mathematical stories (or variations on the current story) they can see in this narrative.



Day 3

Use the mathematizing story map to support solving the word problems provided. Take time for reading comprehension (does the story make sense?) before mathematical comprehension (what is happening in the story?) These questions can help students develop mathematical comprehension.

- *What quantities are in the story? How are they changing?*
- *What can you build or draw to show the storyline of a starting value, a change, and an ending value?*
- *How can the story map help record your thinking?*

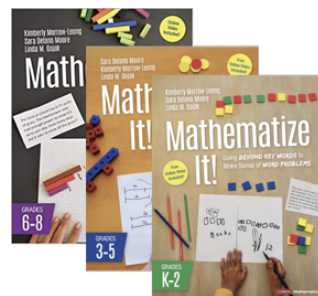
Encourage your students to use manipulatives and visuals to show their thinking about the math happening in each problem. Students should translate their work from manipulatives and sketches to the mathematical story map.

Days 4-5

Choose one or more of these options to continue developing student thinking.

- Continue working on the problems provided, focusing on the story map as a tool to develop mathematical comprehension and operation sense.
- Lead a discussion among students focusing on how the story map fits the narrative and problems provided. Use these questions to focus thinking on the job addition is doing in these situations:
 - *What is the action in each problem? What quantity is coming into the situation as a change?*
 - *How does the story map show the change in the situation?*
 - *Where is each part of the story (beginning, change, and end) shown on the map?*
 - *What number sentence(s) can you write to show what is happening in the story map?*
- Ask students to develop new narratives or problems, either from scratch or as extensions of the current storyline, which can also be told using the same mathematical story map. Encourage students to explain the underlying connections which make the mathematics similar even if the story contexts are not the same.

To read more about problem situations and the four operations, check out the [*Mathematize It!*](#) book series.



Mathematizing Story Maps by Sara Delano Moore & Kimberly Morrow-Leong
Find more at mathematizeit.com



Mathematize It!

Beyond problem solving

Maya in the Garden Practice Problems

Use objects, pictures, numbers, and words to describe what is happening in each problem. Use a mathematizing story map to record your thinking. Sketch your thinking on this page. Write your number sentence and answer.

Maya helped her grandfather pull weeds from around the young plants in the garden. She pulled 5 weeds and put them in the pile before stopping to drink her juice and then pulled 7 more and put them in the pile. How many weeds did Maya put in the pile?

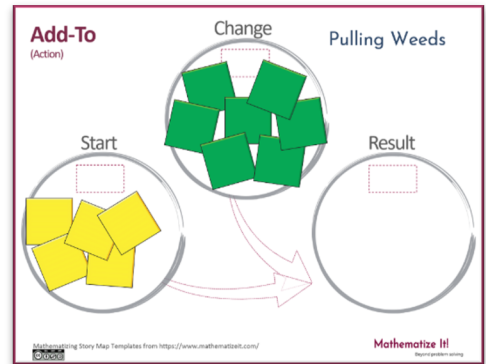
It was time to plant the peppers. Maya and Abuelo planted 5 plants in each row for two rows. Then they planted the last three plants in a third row. How many pepper plants did they put in the ground?

In the summer, Maya helped pick tomatoes from the plants. She picked six big ripe tomatoes before stopping to help her brother put on his bicycle helmet. Then she picked 9 more tomatoes. How many tomatoes did Maya pick?

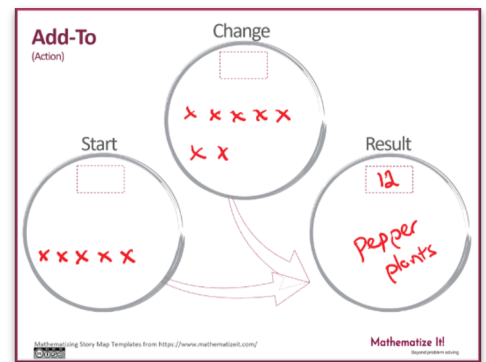
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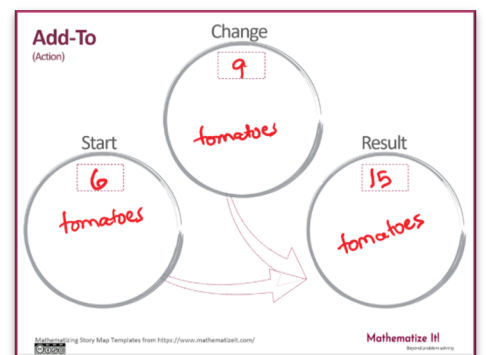
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Add To Situations, Result Unknown

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