#### STEAM EXPLORERS: BOOK GUIDE



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Great creations often result from many trials and lessons learned along the way. This story shows a girl's challenges and perseverance as she attempts to make the most magnificent thing.

Ages: 3 to 7 years

ATOS Level: 2.9

Lexile: AD380L

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# **The Most Magnificent Thing**

What happens when making the most magnificent thing ends up being more difficult than you thought?

**What is STEAM?** Learning through Science, Technology, Engineering, the Arts, and Mathematics. Through STEAM, children problem solve, innovate, create, and collaborate.

**STEAM Topics in this Book:** engineering, construction, perseverance, growth mindset, tinkering

Activities To Do Together: Use *The Most Magnificent Thing* to help your child understand that their ability to create, problem solve, and understand new information is supported by their effort, attitude, and approach to learning. They may not know something yet, but they will if they keep trying!

Before you read the book with your child:

- Ask your child what they can do now that they couldn't do when they were younger. Ask them how they learned these new things.
- Find out together what mathematicians and scientists do. Talk about how they test ideas, make mistakes, learn from their mistakes, and work until they come up with a solution. Ask your child what problem they would like to solve or what invention they'd like to make.

While reading the book with your child:

- Predict what the girl and her assistant are making. What common parts appear on many of their inventions?
- Notice together what the girl does when she gets mad. Ask your child what changes when the girl takes a walk.

When you have finished reading the story:

- Talk about the purpose of the magnificent machine. What did it allow the girl and her assistant to do? Ask your child if there is something they'd like to build. If so, talk about what it is, what it will do, and how they will build it.
- Ask your child to talk about a time they felt angry when something didn't turn out the way they expected. Taking a walk helped the girl feel differently. Encourage your child to draw a picture that shows what they could do to feel differently when they are frustrated or angry.

Early Math Project

#### **Conversations During Daily Routine with Toddlers:**

- Tinkering Time Encourage your child to use objects imaginatively. For example, pillows could become a house for a stuffed animal or a stack of cans could become a tower.
- 2. Bed Time Talk about the things you did during the day. What made you feel happy?
- 3. Discovery Time Look at simple tools together. For example, look at a can opener together and notice how it works and what the parts of the can opener do.
- 4. Playground Time Explore different parts of playground equipment. You might count stairs, count how many times you go down the slide, or count the steps on a ladder.

#### **Questions for STEAM Thinking:**

- 1. What did the girl do that made you think she could succeed in building the most magnificent thing?
- 2. When things went wrong, what did the girl do?
- 3. Can you think of a time when something you were doing didn't work out the way you wanted? What did you do?
- 4. How do you think mistakes can be helpful?

#### **Early Math Project Resources:**

Visit <u>The Most Magificent Thing Activities</u> (www.earlymathca.org/the-most-magnificent-thing)

#### Vocabulary

#### STEAM words found

**in the story:** big, examine, heavier, long, measures, pair, ratio, round, shapes, sort, small, square, tinkers

#### **Related STEAM**

**words:** engineer, grit, growth mindset, measurement, persistence, weight

# Words to build reading

### comprehension:

adjusts, admire, alerts, antennae, assistant, distractions, fastens, finest, magnificent, pounces, pummels, relax, supplies, tweaks

#### Related Books: Rosie

*Revere, Engineer* by Andrea Beaty; *If I Build a Car* by Chris Van Dusen

Click this link to the <u>World Catalog</u> or enter bit.ly/4a7qx6Y in your browser, to find *The Most Magnificent Thing* in the public library.





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Age Level	Related Foundations and Standards: Infant Toddler Foundations Preschool Learning Foundation, Mathematics Preschool Learning Foundations, Science California Common Core State Standards Mathematics Next Generation Science Standards (NGSS)
Infant/Toddler	<b>Problem Solving</b> the developing ability to engage in purposeful effort to reach a goal or figure out how something works.
Preschool/TK	<ul> <li>Math: Mathematical Reasoning 1.0 Children use mathematical thinking to solve problems that arise in their everyday environment.</li> <li>Science: Physical Sciences 2.1 Demonstrate awareness that objects and materials can change; explore and describe changes in objects and materials</li> </ul>
Kindergarten	<ul> <li>Math: Standard for Mathematical Practice: Make sense of problems and persevere in solving them.</li> <li>NGSS Science and Engineering Practices: Asking questions and defining problems; Planning and carrying out investigations</li> <li>NGSS Engineering Design: K-2-ETS1-1, K-2-ETS1-3</li> </ul>
Grade 1	<ul> <li>Math: Standard for Mathematical Practice: Make sense of problems and persevere in solving them.</li> <li>NGSS Science and Engineering Practices: Asking questions and defining problems; Planning and carrying out investigations</li> <li>NGSS Engineering Design: K-2-ETS1-1, K-2-ETS1-3</li> </ul>
Grade 2	<ul> <li>Math: Standard for Mathematical Practice - Make sense of problems and persevere in solving them.</li> <li>NGSS Performance Expectations: Physical Science 2-PS1-2; 2-PS1-3</li> <li>NGSS Science and Engineering Practices: Asking questions and defining problems; Planning and carrying out investigations</li> <li>NGSS Engineering Design: K-2-ETS1-1; K-2-ETS1-3</li> </ul>
Grade 3	<ul> <li>Math: Standard for Mathematical Practice: Make sense of problems and persevere in solving them.</li> <li>NGSS Science and Engineering Practices: Asking questions and defining problems; Planning and carrying out investigations</li> <li>NGSS Engineering Design: 3-5-ETS1-3</li> </ul>

