

ADVENTURES IN MAKERSPACE

A BUILDING MISSION



WRITTEN BY
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AND
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ILLUSTRATED BY
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1 Ask an adult to download the app.



Capstone 4D
Education

2 Scan any page with the star. 

3 Enjoy your cool stuff!

———— OR ————

Use this password at capstone4D.com

build.79485

MEET THE SPECIALIST

ABILITIES:

speed reader, tech titan, foreign language master, traveler through literature and history



MS. GILLIAN
TEACHER - LIBRARIAN



MEET THE STUDENTS



CYRUS
THE SCIENCE GENIUS



MATT
THE MATH MASTER



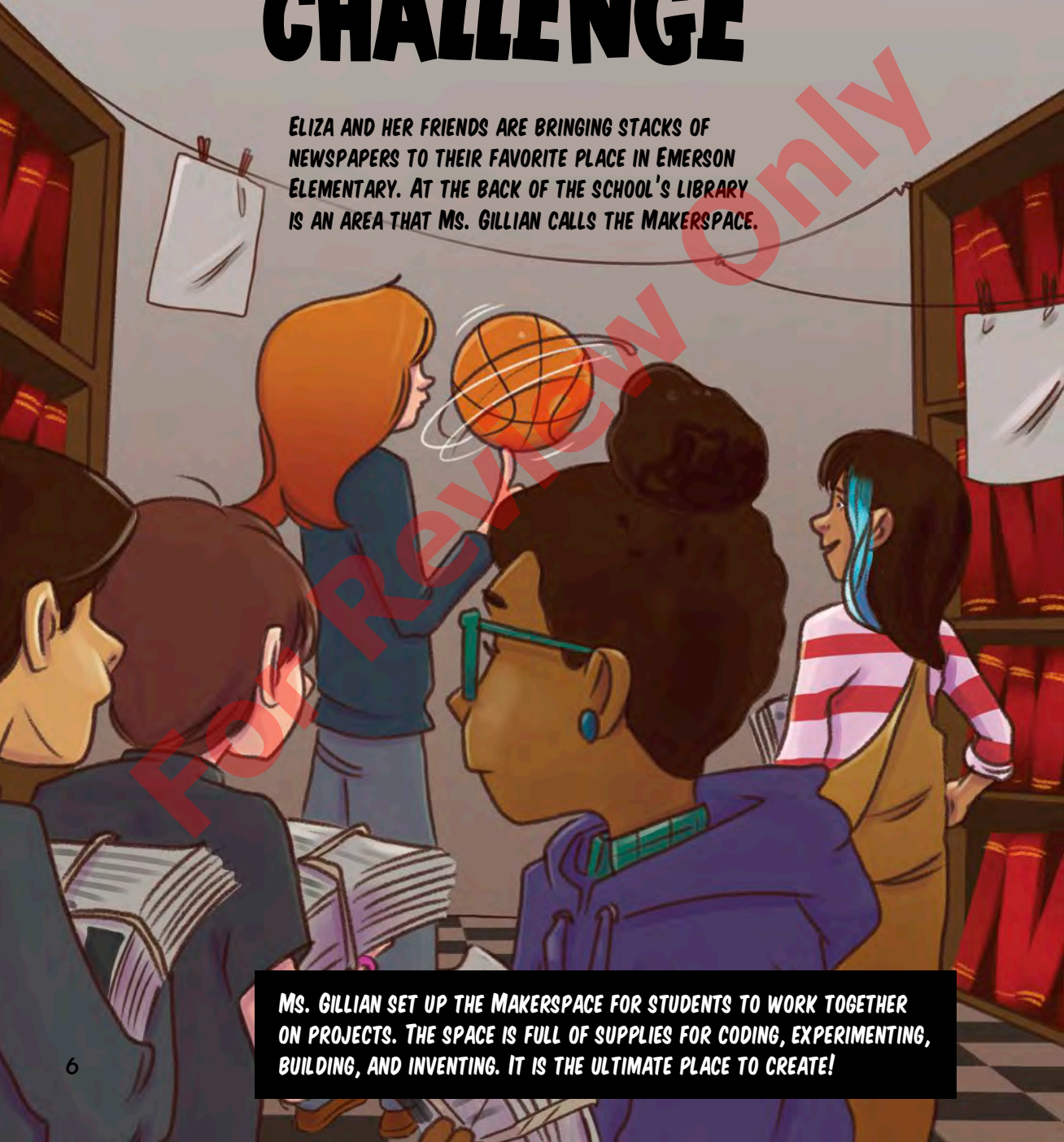
ELIZA
THE ENGINEERING EXPERT



CODIE
THE CODING WHIZ

NEWSPAPER CHALLENGE

ELIZA AND HER FRIENDS ARE BRINGING STACKS OF NEWSPAPERS TO THEIR FAVORITE PLACE IN EMERSON ELEMENTARY. AT THE BACK OF THE SCHOOL'S LIBRARY IS AN AREA THAT MS. GILLIAN CALLS THE MAKERSPACE.



MS. GILLIAN SET UP THE MAKERSPACE FOR STUDENTS TO WORK TOGETHER ON PROJECTS. THE SPACE IS FULL OF SUPPLIES FOR CODING, EXPERIMENTING, BUILDING, AND INVENTING. IT IS THE ULTIMATE PLACE TO CREATE!



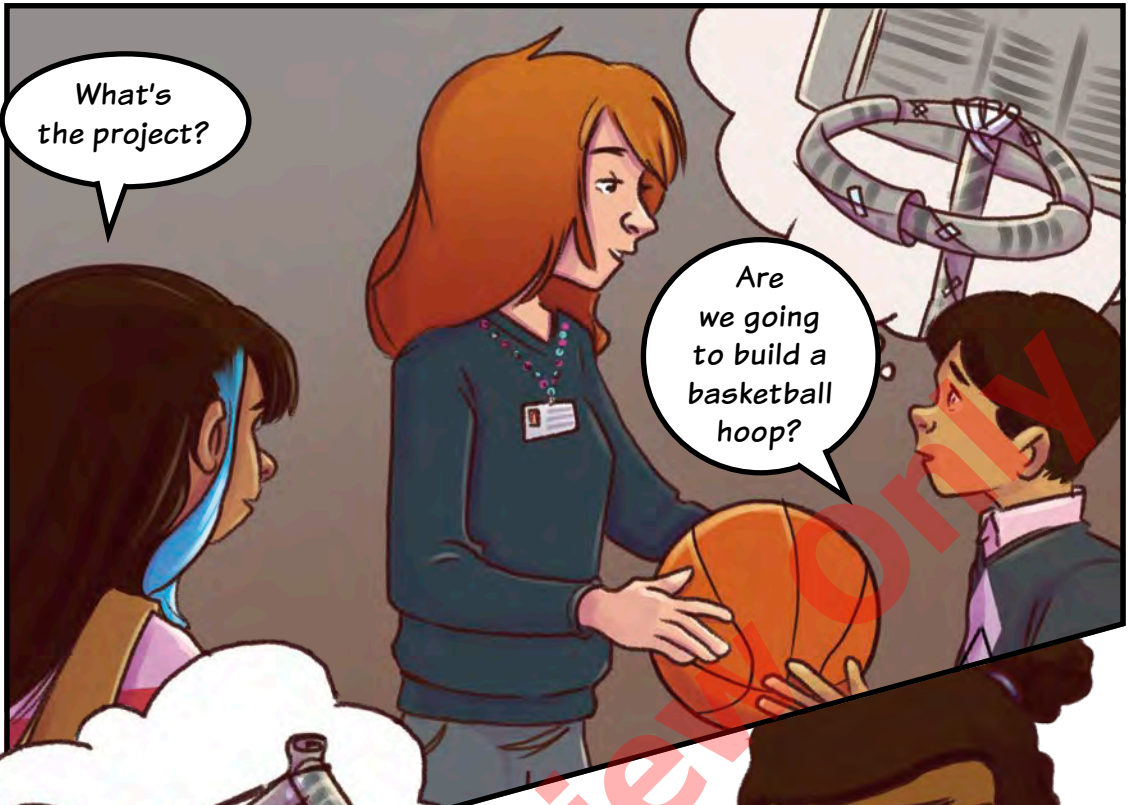
Nice skills,
Ms. G.

We brought all
the newspapers
from the office.

SMACK

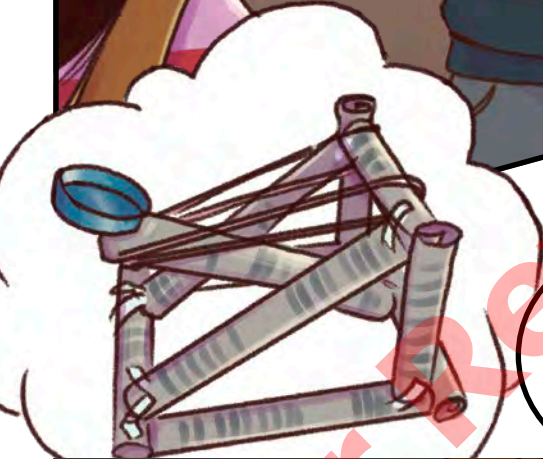
Thanks! I asked
parents to collect
them for a Makerspace
project.





What's the project?

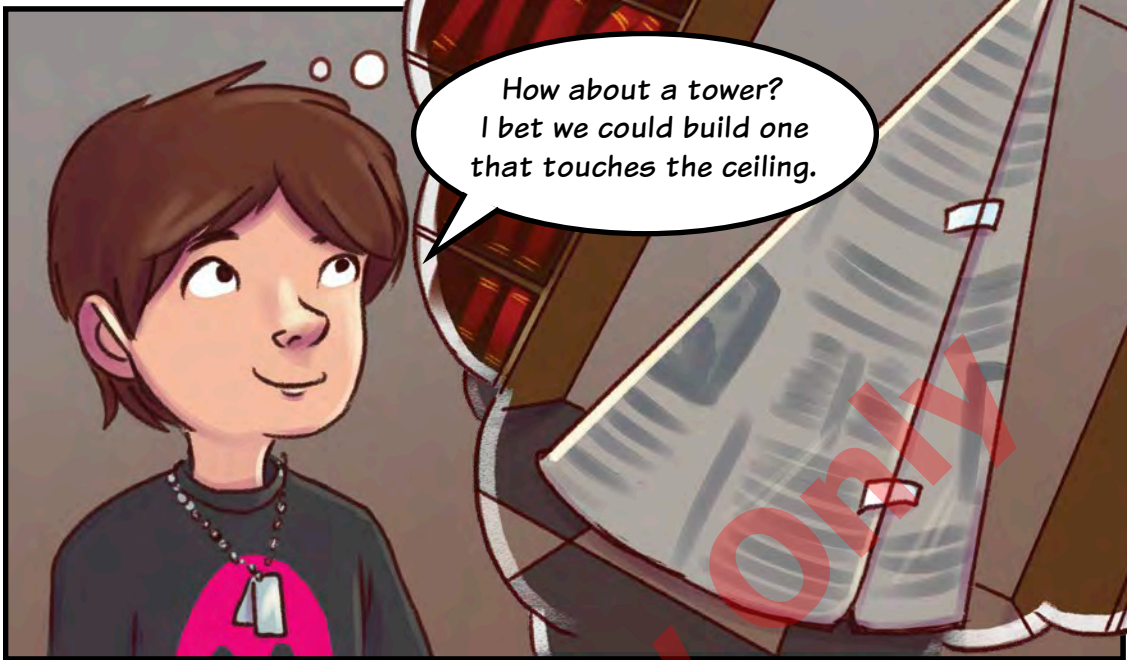
Are we going to build a basketball hoop?



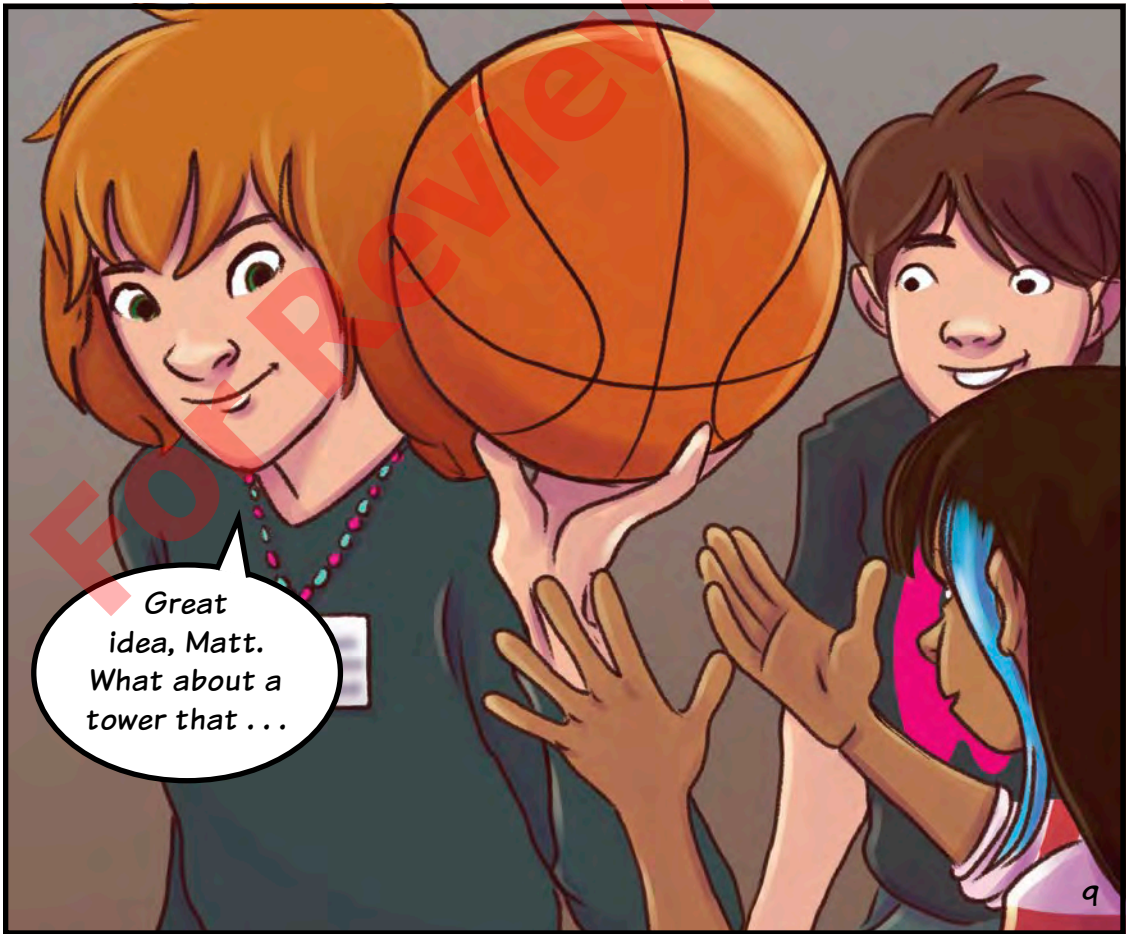
And a catapult to shoot the ball through the hoop!




Those are some very creative ideas.



How about a tower?
I bet we could build one
that touches the ceiling.



Great
idea, Matt.
What about a
tower that ...



... that
can hold up a
basketball!



Exactly
what I was
thinking,
Eliza.



With
newspaper?

How are
we going to do
that?

Can we
use any other
materials?



You
can also
use tape.

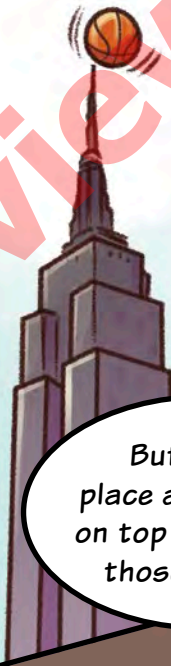
What are some tall buildings we can model our tower after?



The Eiffel Tower was once the world's tallest building.



The Empire State Building was the tallest when it was built.



But can we place a basketball on top of either of those towers?



This book is about the 1962 World's Fair in Seattle. I think there is something in here that might inspire you.



BUILD A NEWSPAPER TOWER!



WHAT YOU NEED

- Newspaper
- Masking tape
- Balls of various sizes and weights: ping-pong ball, golf ball, tennis ball, baseball, basketball



The engineering process includes six key steps:

- 1. Identify the problem:** Your problem is designing a tower that can hold up a ball.
- 2. Research:** Brainstorm ideas for how to solve your problem. On page 11, Codie and Matt imagine different tower designs. Are there any other tall towers that you can think of?
- 3. Plan:** From the towers you imagined, pick one with a design that will best solve your problem. Then draw a plan for how to build your tower, like Eliza did on page 23.
- 4. Create:** Using the design you drew for reference, build your tower.
- 5. Test:** Once your tower is built, test it out. Start with the lightest ball to see how much weight your tower can hold up. Then test out the heavier balls. If your tower wobbles or starts to collapse, move on to step six.
- 6. Improve:** Brainstorm ways to fix any problems. How can you make your tower stronger or more stable? Once you make these adjustments, go back to step 5. Continue to test and improve your design to see how much weight your tower can hold!