Eli the Engineer

ROZZY LEARNING COMPANY

STEM Career Adventures Activity Books

Eli the Engineer

Created in the United States of America

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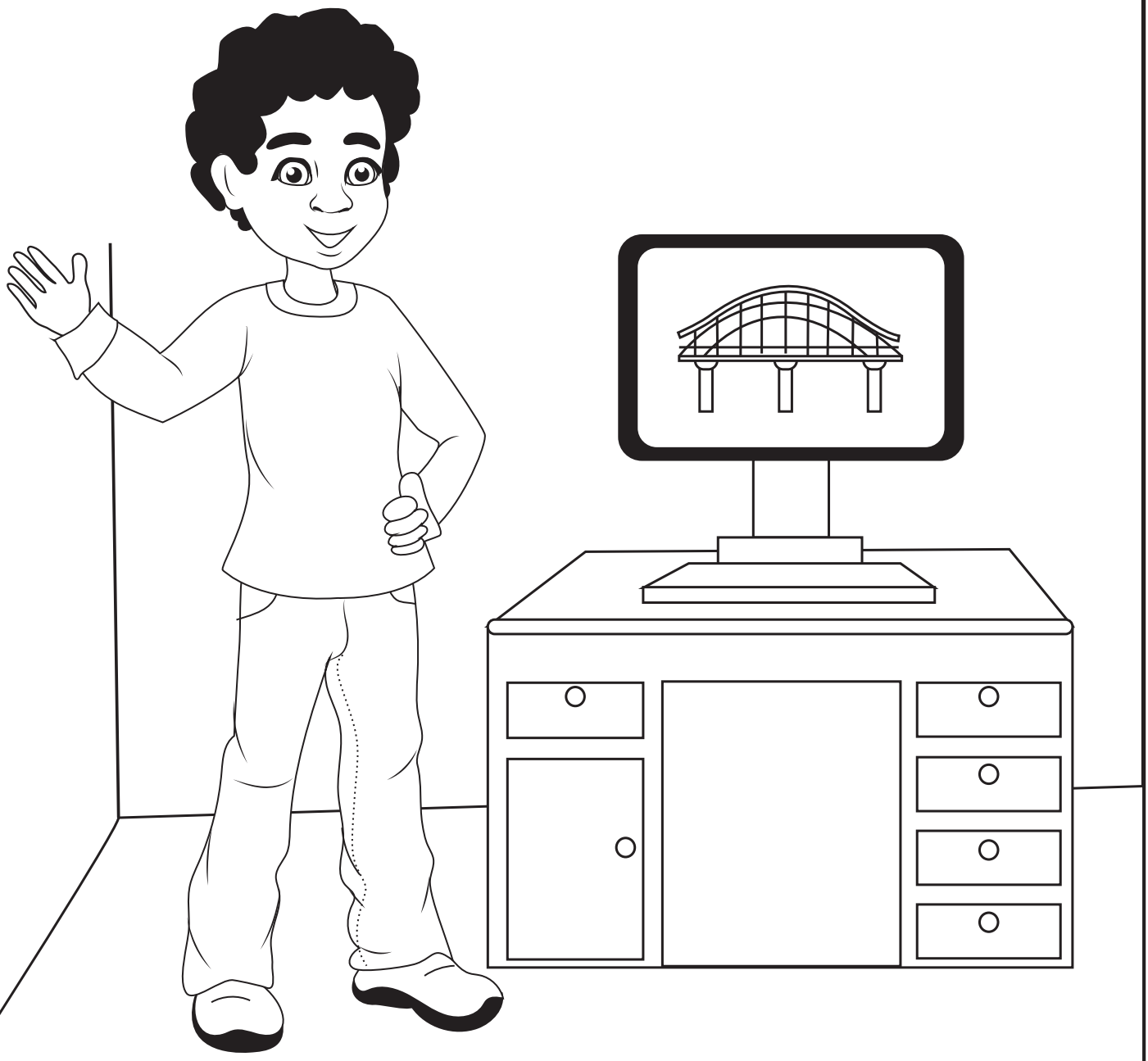
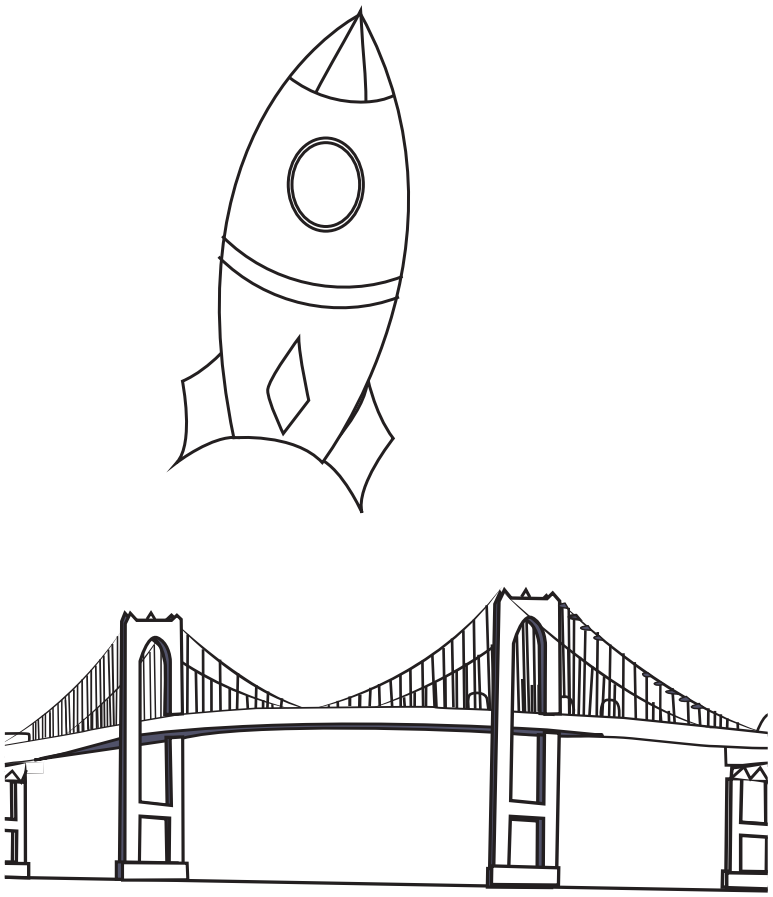
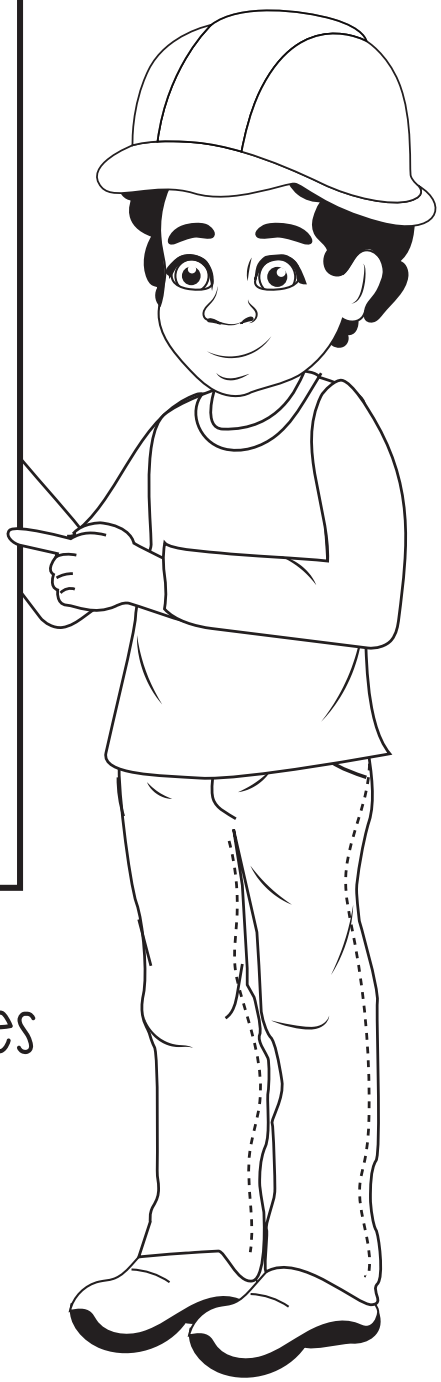
Hi! I am Eli, and I am an engineer.



Engineers build structures, robots, and computer programs to help solve problems.

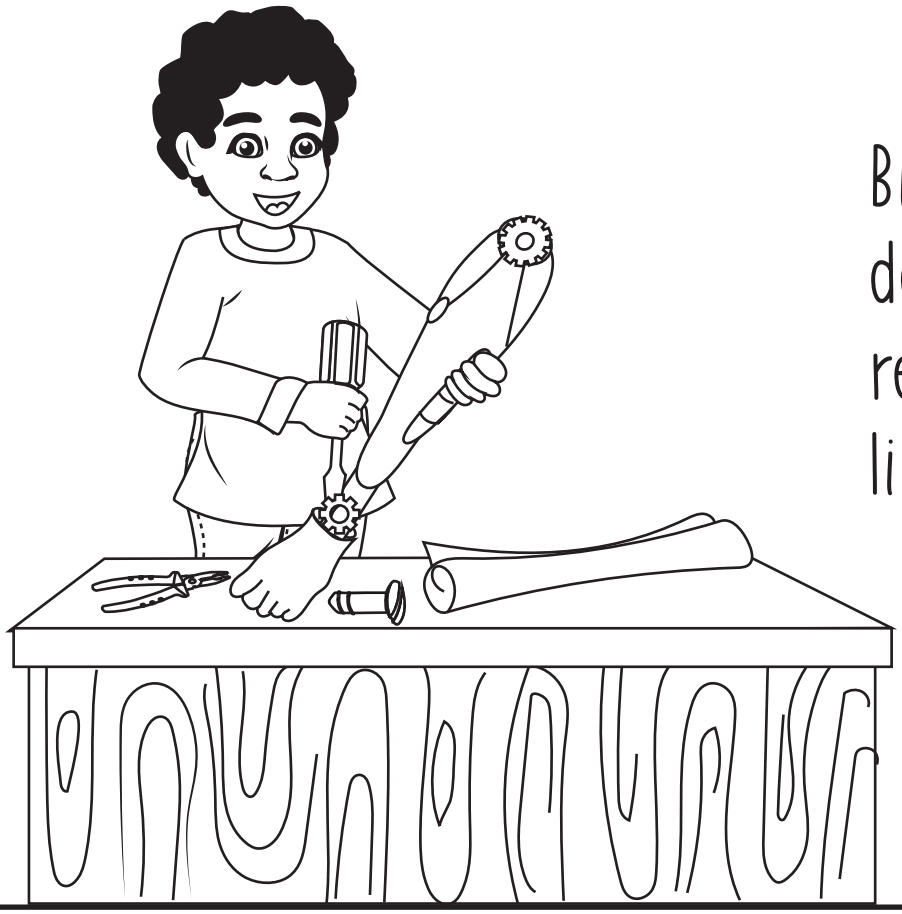
There are many different types of engineers.





Aerospace engineers design airplanes and spaceships.

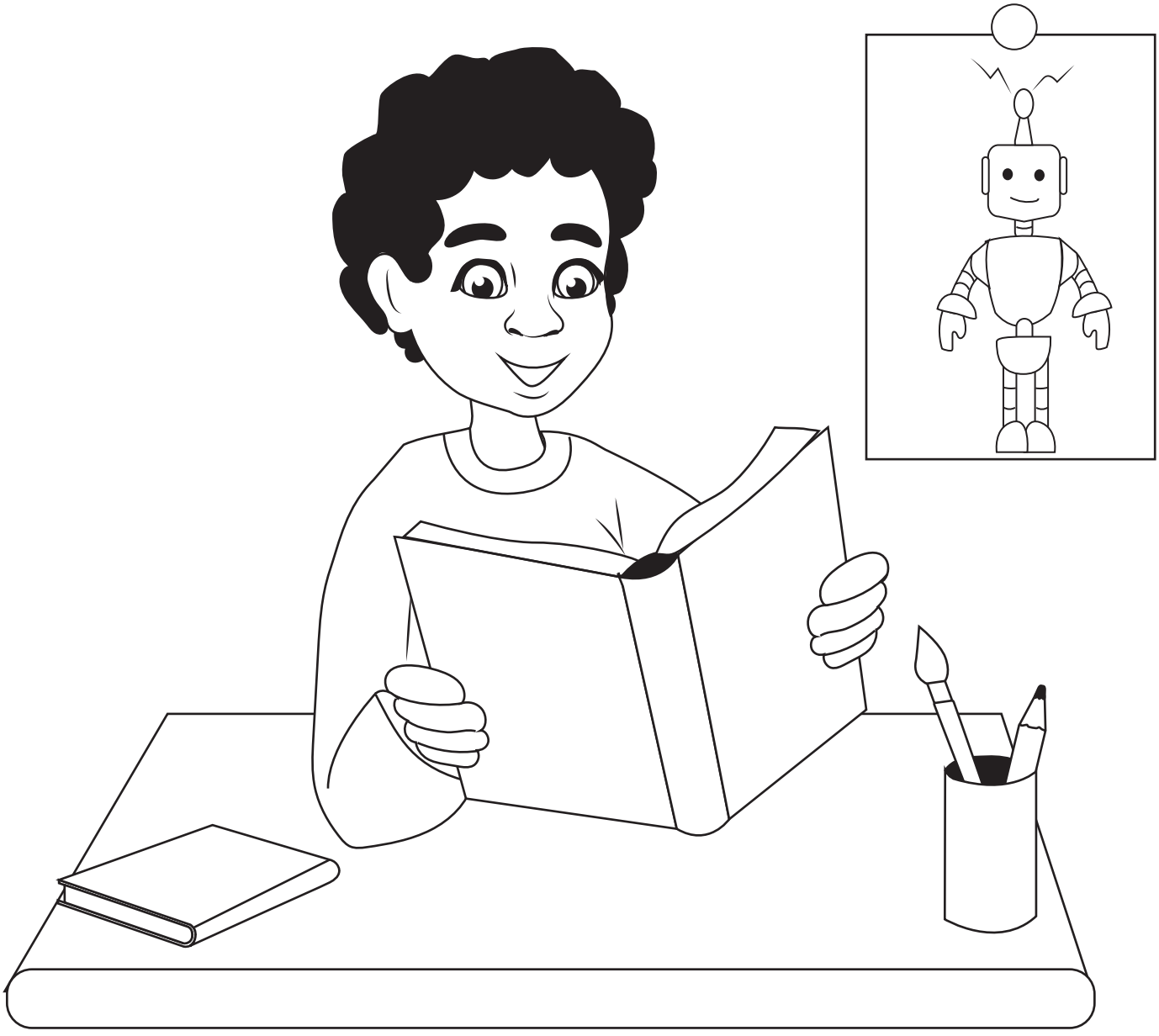
Civil engineers design structures, like bridges and tunnels.



Biomedical engineers design devices that replace body parts, like arms and legs.

Software engineers create computer games and programs.

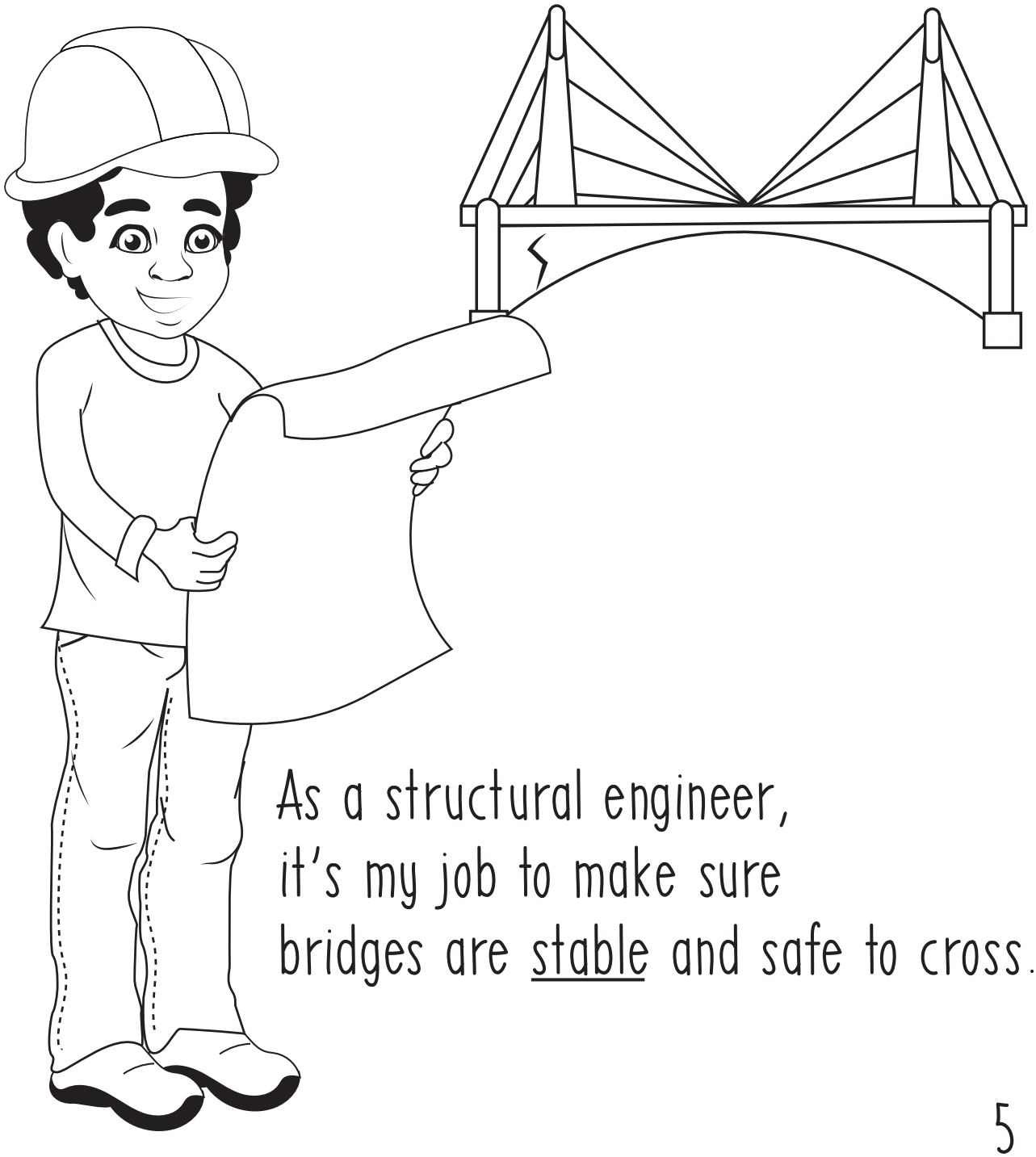
Right now, I am in school learning about all the different types of engineers I can be.



Do you want to go on some engineering adventures with me?

Adventure 1: Structural Engineers

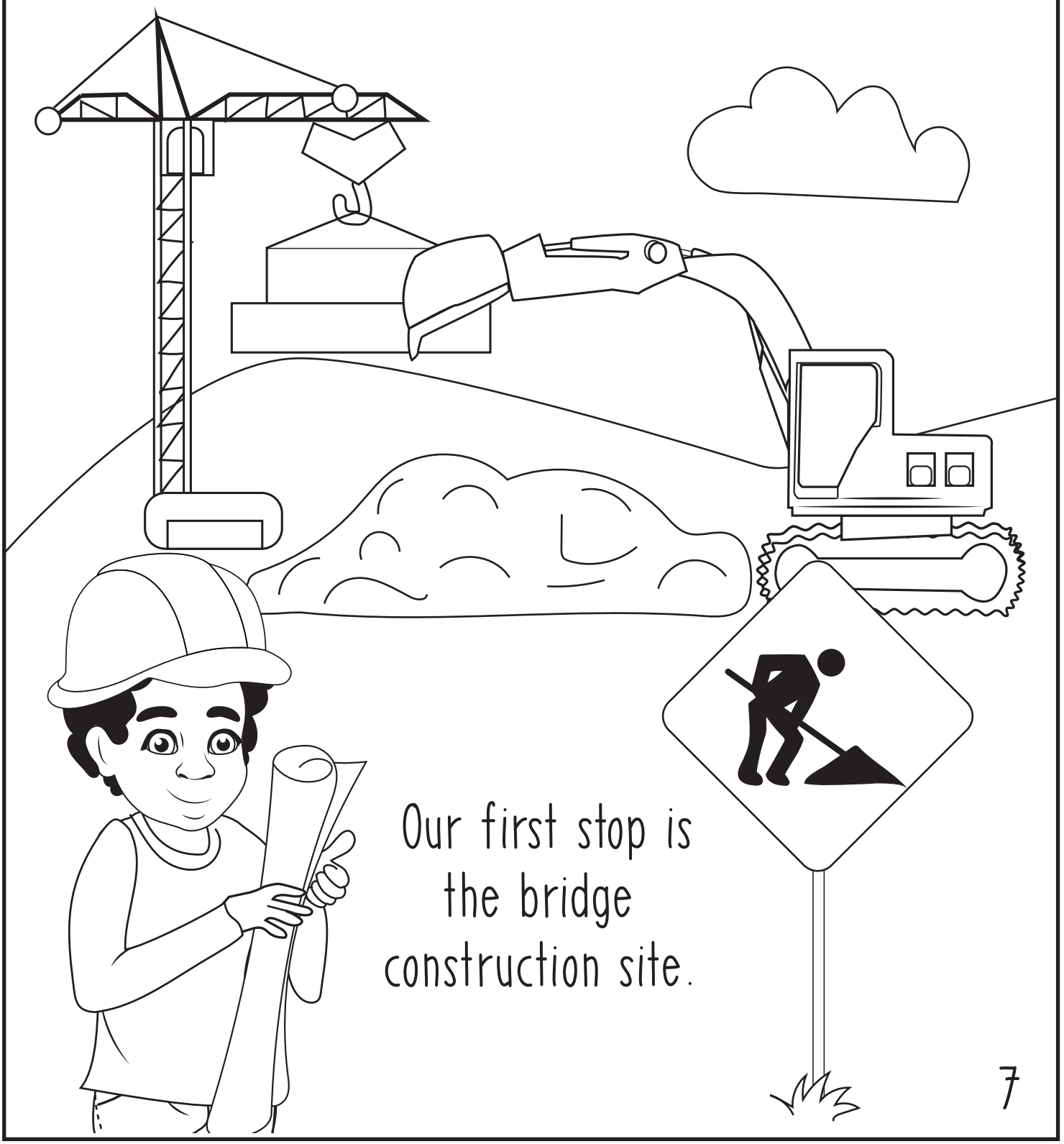
Today, I am working with structural engineers
who are building a new bridge.



As a structural engineer,
it's my job to make sure
bridges are stable and safe to cross.

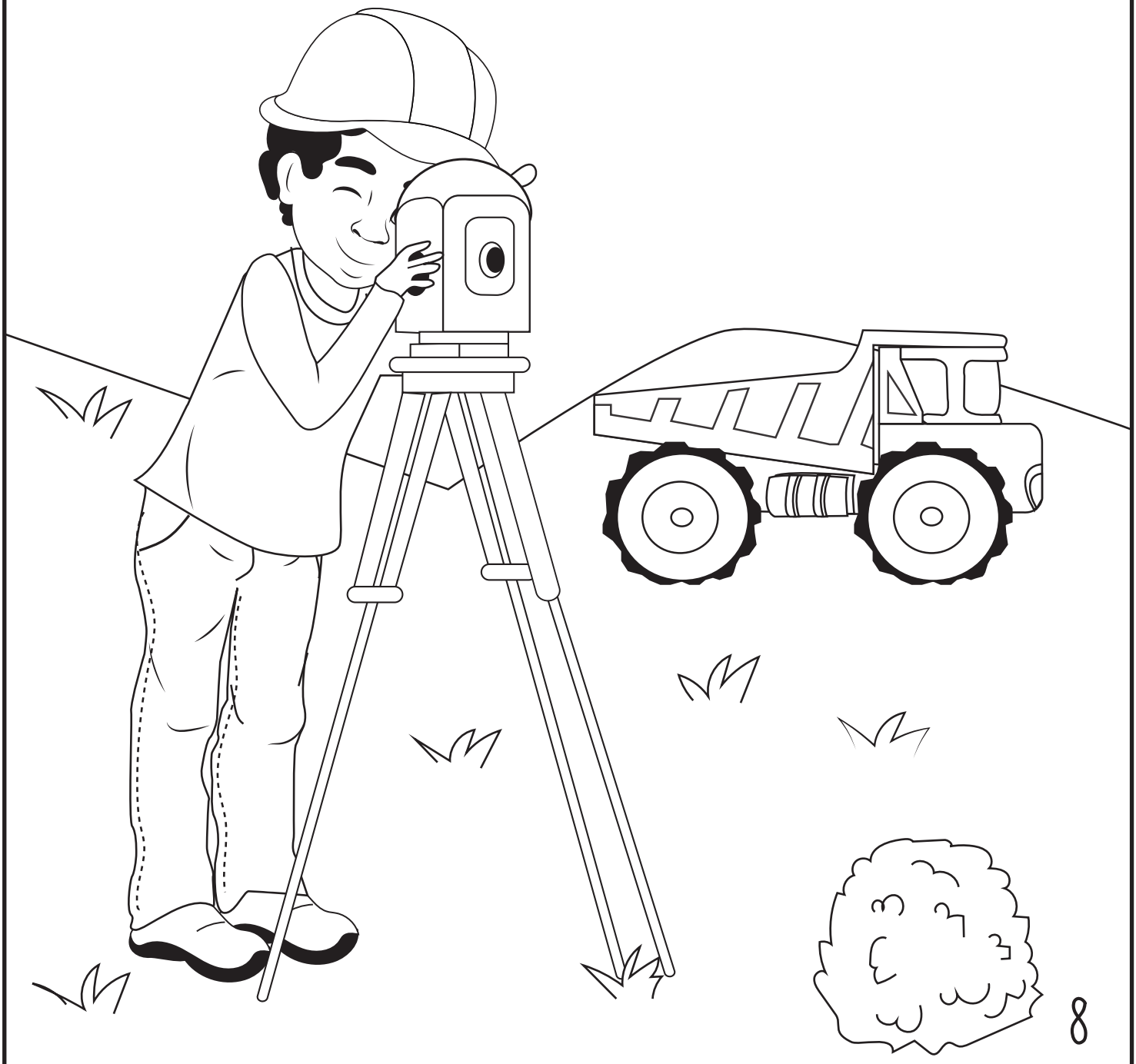
The bridge I am designing today is not for people. It's for animals! The bridge will allow animals to safely cross over a busy highway without getting injured.

It's going to be a busy day working as a structural engineer!
Are you ready to get to work with me?



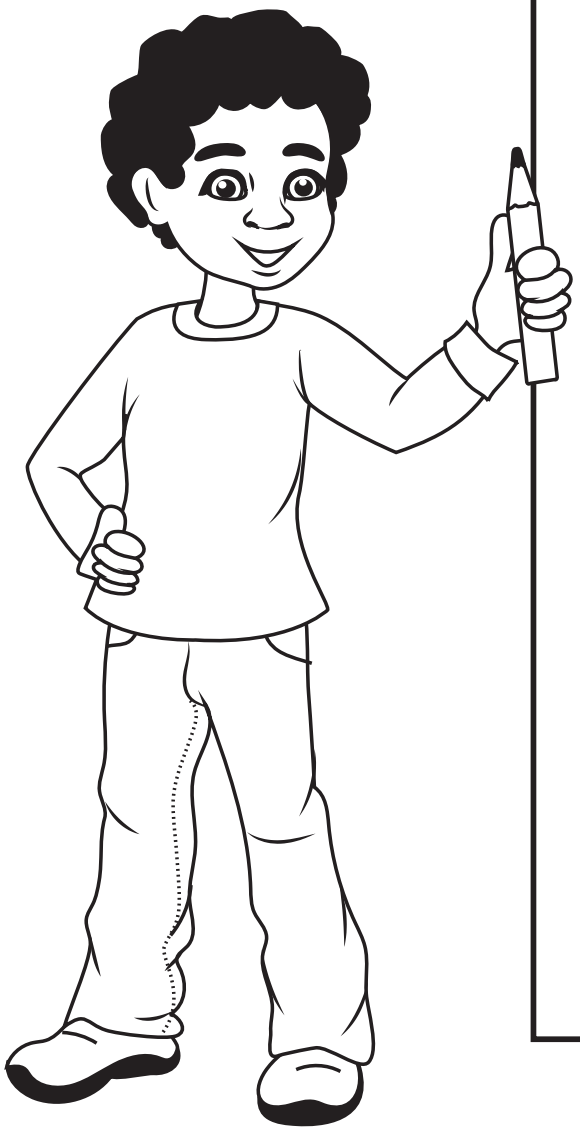
Our first stop is the bridge construction site.

At the construction site, it's my job to survey the land where the bridge will be built and make sure the ground is strong enough to hold up a bridge.

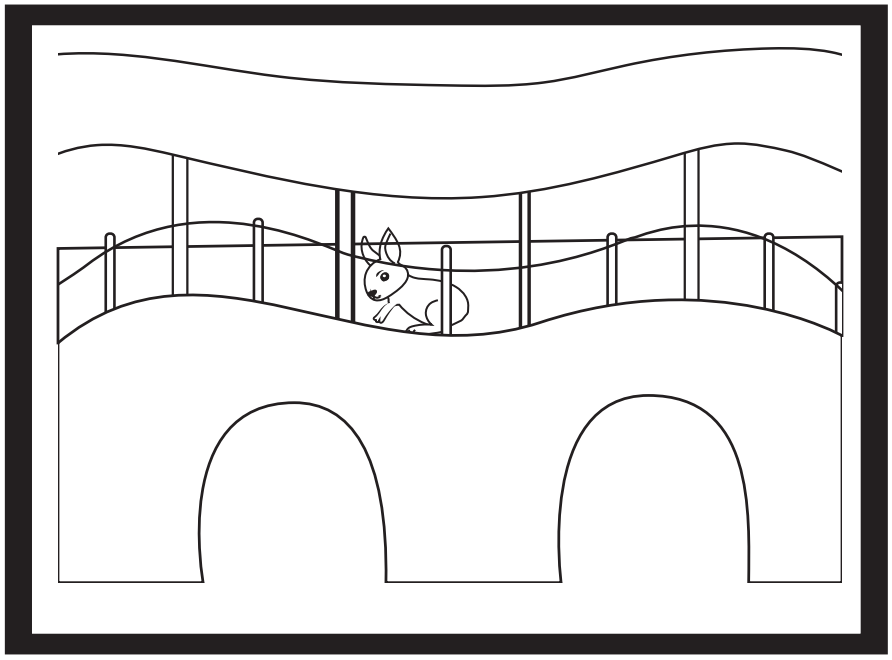


Next, I draw how I want the bridge to look. Can you give me some ideas for how the bridge should look?

Draw your ideas.

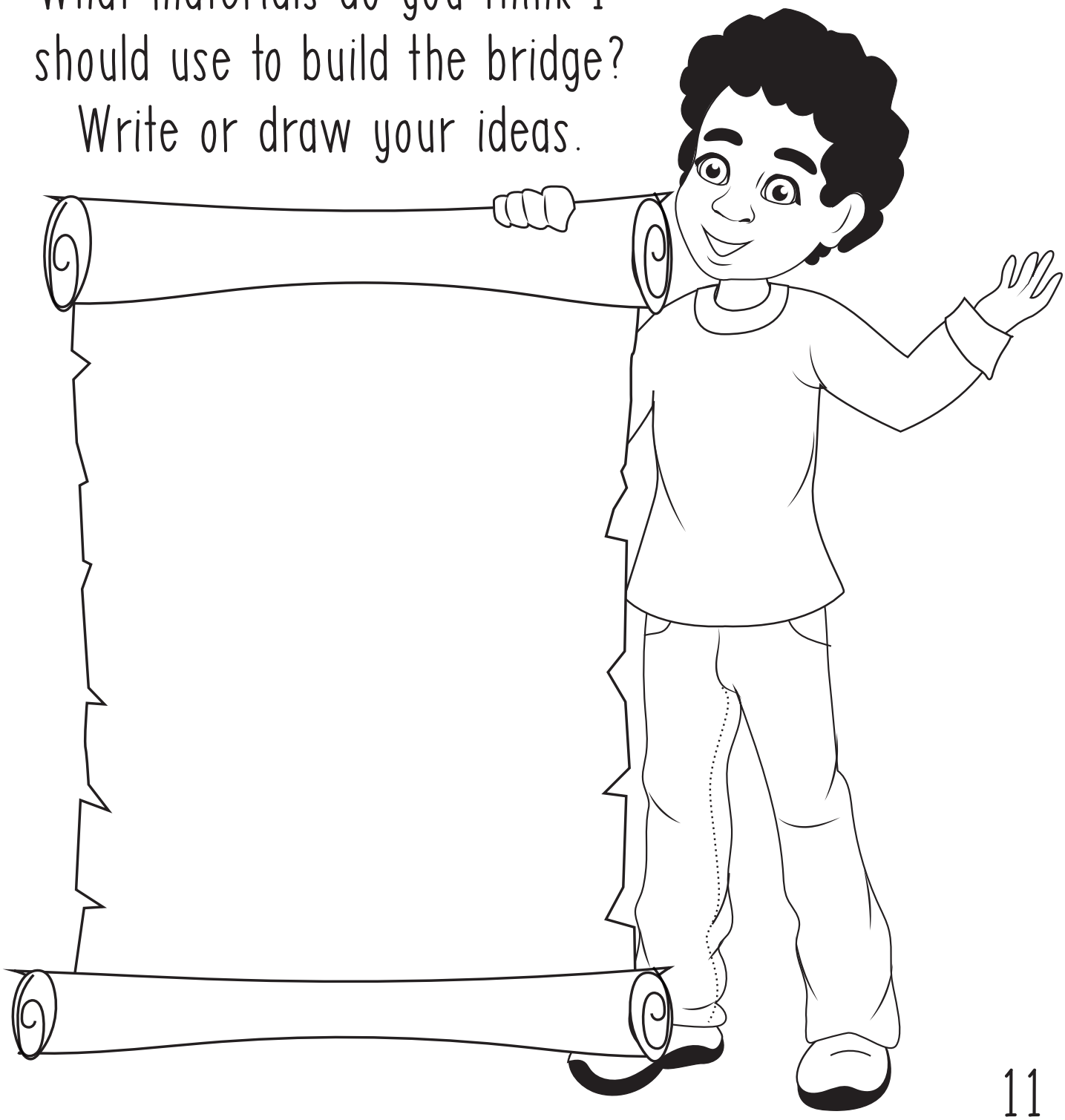


Thanks for helping me!
My bridge design has a cover so animals will stay cool in the heat and has water bowls along the way.



After I design the bridge, it is time to make a list of the materials I need to build it.

What materials do you think I should use to build the bridge? Write or draw your ideas.



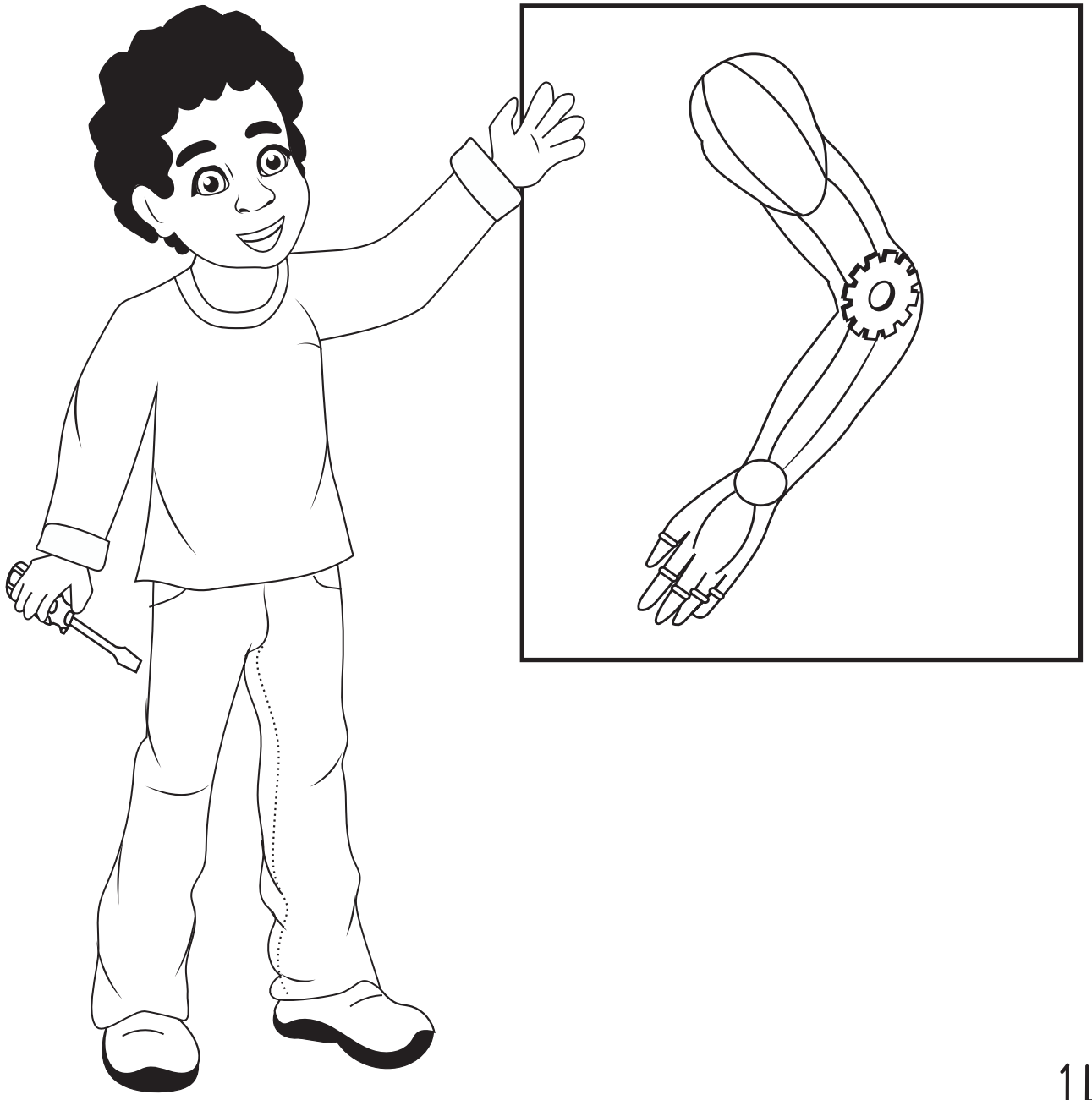
I need concrete and wires to construct the bridge. I also need lumber and a long canvas cover to go over the bridge.

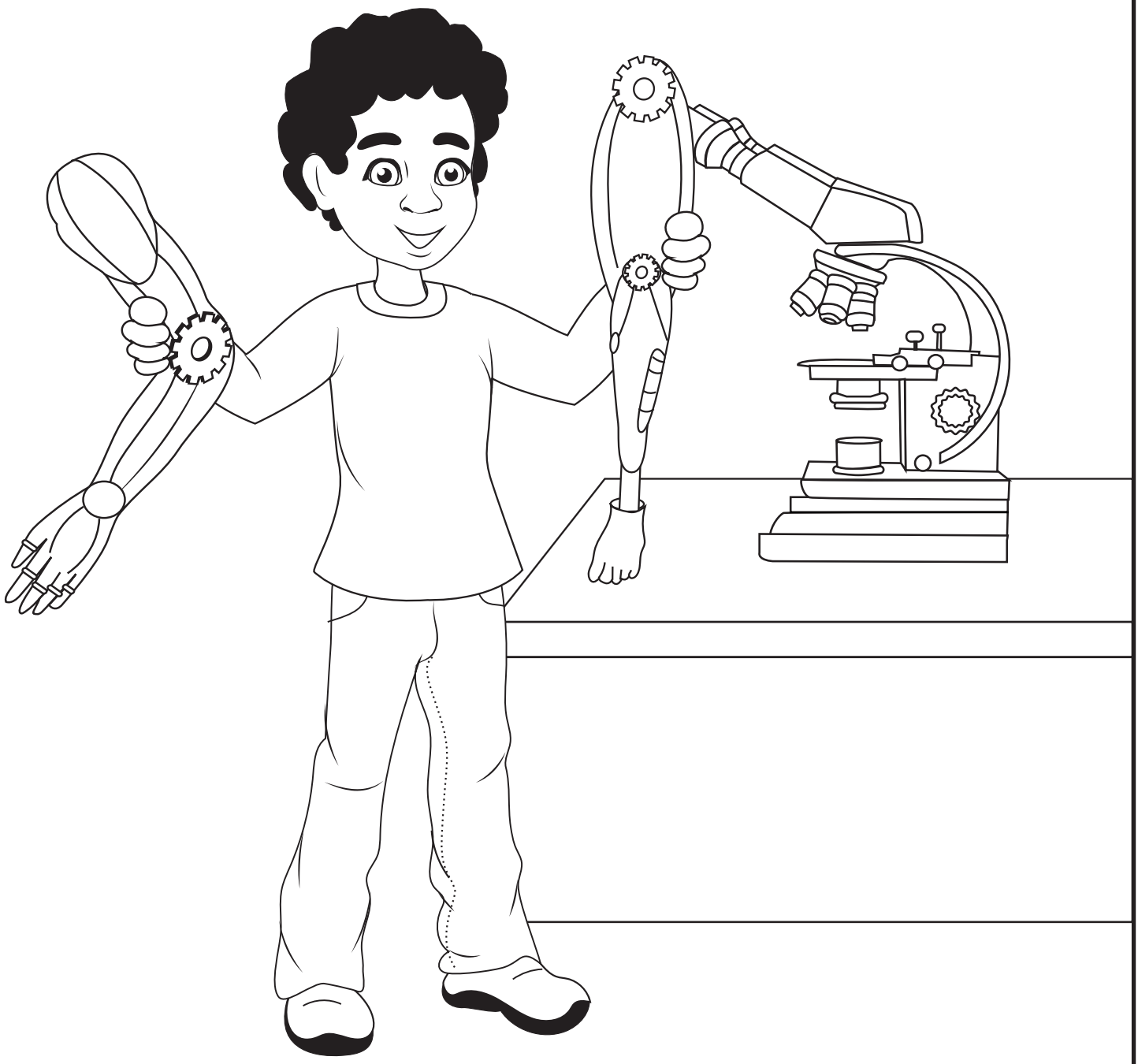
Thanks for helping design the animal bridge!

Animals can now safely travel across the highway!

Adventure 2: Biomedical Engineer

Thanks for being a structural engineer with me!
Are you ready for another engineering adventure?





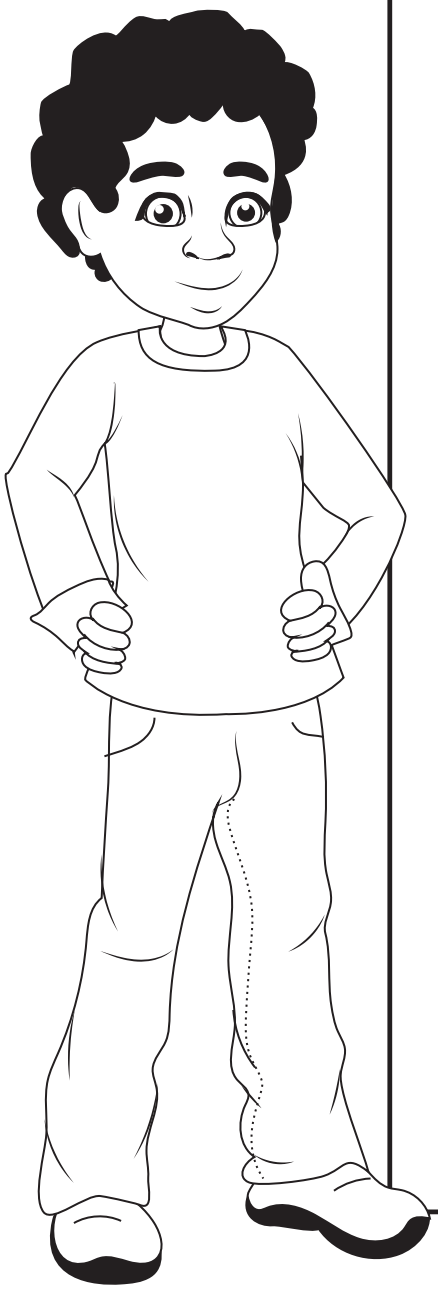
Biomedical engineers design devices that can replace people's limbs they have lost or did not have at birth.

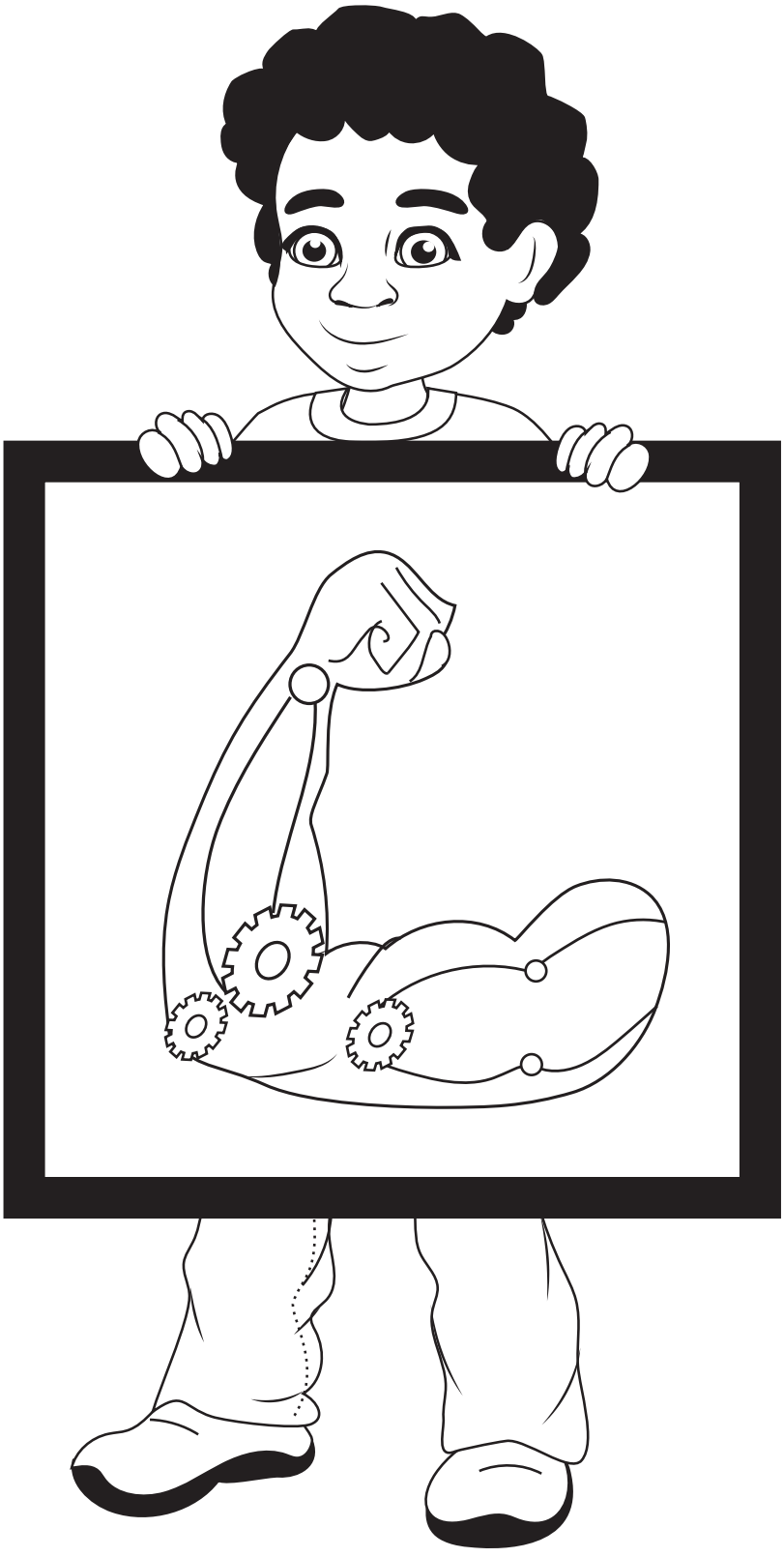
Prosthetic limbs work just like human limbs. They can catch balls and give people the ability to run.

Before I build the prosthetic arm, I need to sketch out a design.

Can you help me draw a design for the arm?

Draw your ideas below.

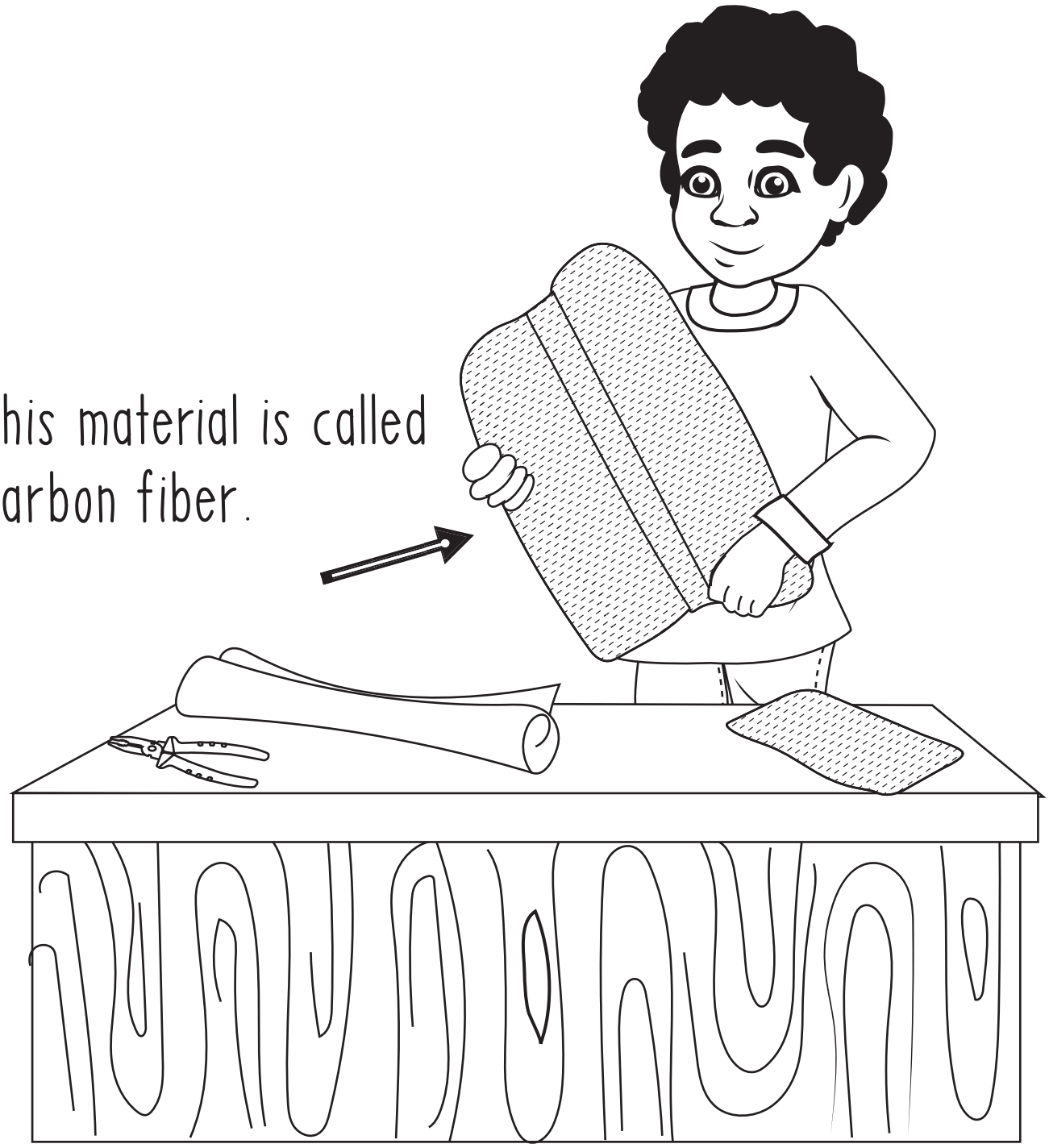




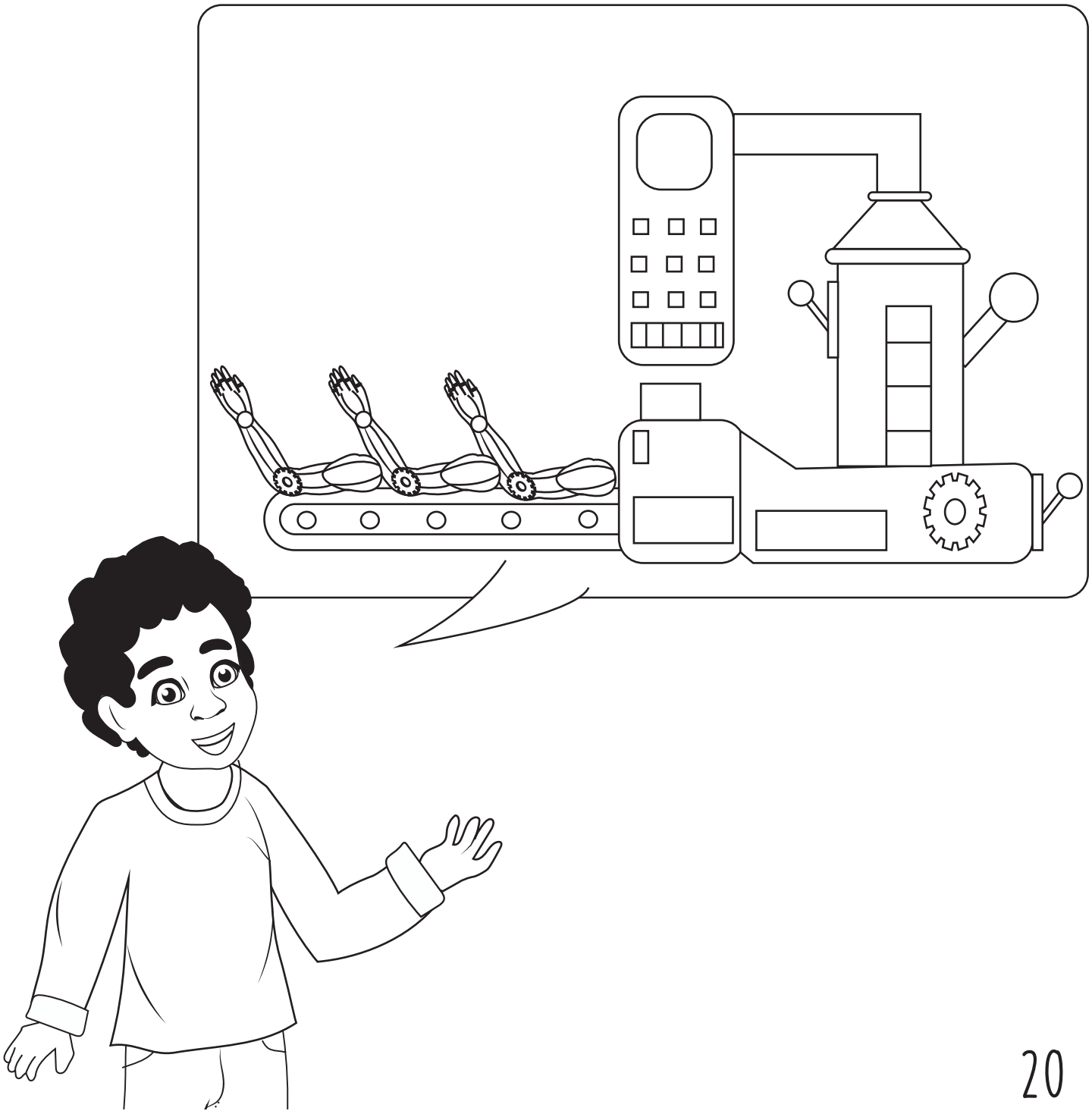
Thanks for helping me come up with a design.
I made my design look like a superhero arm!

Next, it's time to build a prototype of the prosthetic arm. A prototype is a model of the design. I use a material that is very light and bendable to create the arm.

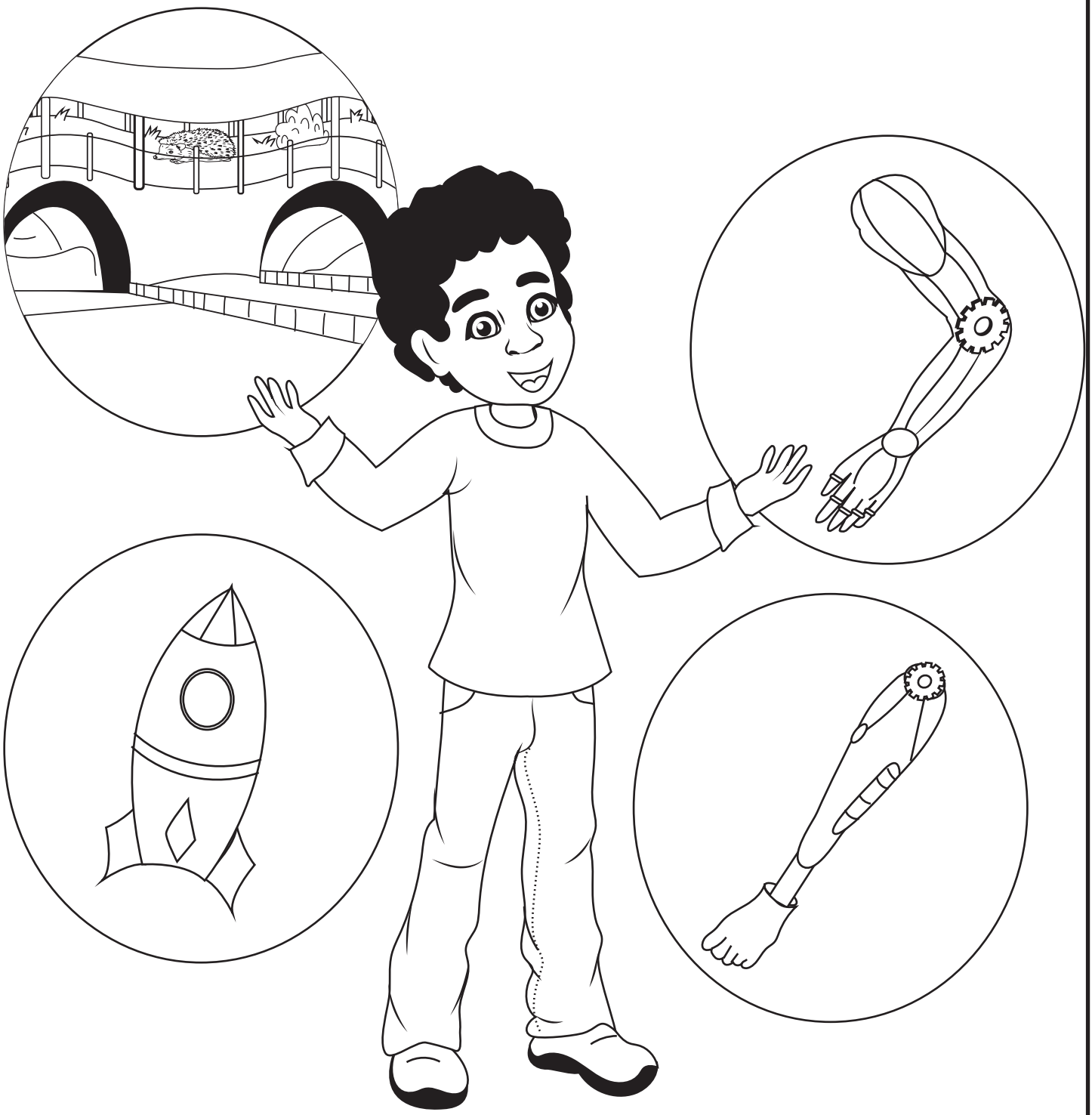
This material is called carbon fiber.



Now that we have a prototype prosthetic arm, we can make thousands of them and give them to people who need arms!

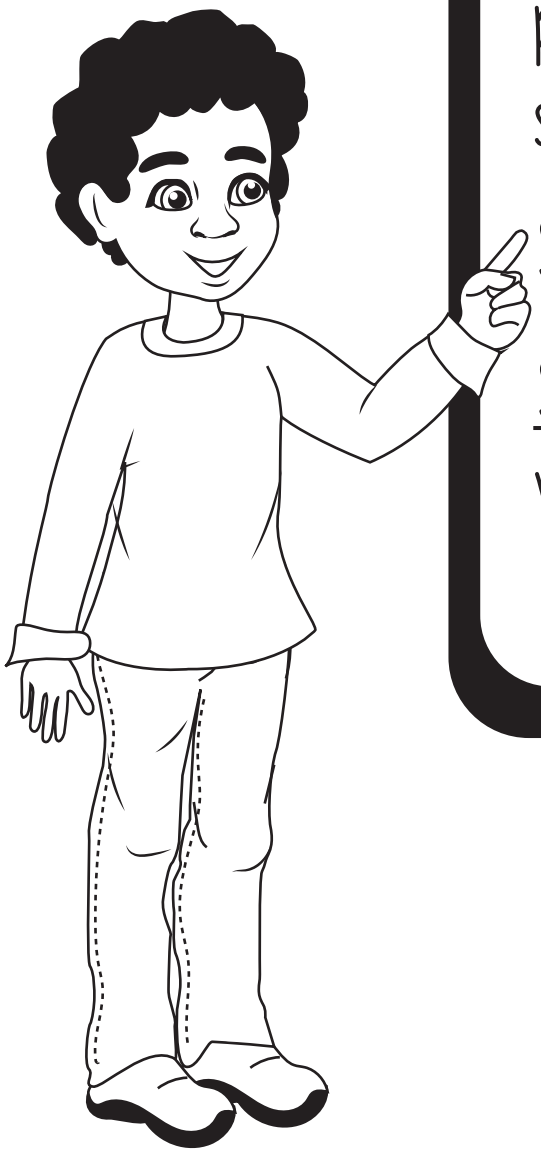


I love being an engineer because I get to work on awesome projects and help people.



Thanks for helping me with my projects!

Check out these words you may have learned while reading Eli the Engineer!

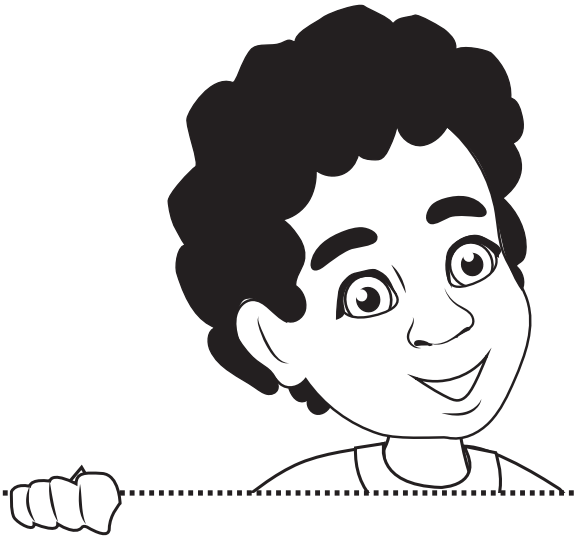


Engineer: A scientist that solves problems and creates new structures, programs or devices.

Structure: A building

Stable: Does not move or wobble

Injured: Hurt



Survey: Look at
Construct: Build
Lumber: Wood from trees
Limbs: Arms and legs
Prosthetic: Not a real body part
Prototype: A model or example