

Caregiver Guide

Unit 1: Structures & Bridges

A quick guide to supporting engineering thinking at home.

ASK

IMAGINE

CREATE

TEST

IMPROVE

You do not need to be an engineer.

Your role is to ask a few questions, encourage ideas, stay curious, and celebrate effort and exploration.

What to do

- Let your child explain their ideas.
- Use simple household materials.
- Focus on testing and learning, not perfection.
- Let your child change the design and try again.
- Do what works for your family - you do not need to finish every step.

Questions to try

What do you notice?

Help your child observe before offering an answer.

What do you think might happen?

Invite a prediction before testing.

Why do you think that worked?

Encourage explanation and reflection.

What would you change next?

Turn setbacks into redesign opportunities.

When something does not work

That is part of engineering. Ask what happened, choose one thing to change, and test again.

Unit 1 at a Glance

The big idea: structures need strength, balance, and support to safely hold weight and withstand forces.

Stability

How structures stay balanced and standing.

Strength

How structures hold weight without bending or breaking.

Weight Distribution

How weight is spread across a structure.

Shapes & Supports

How folds, triangles, columns, and supports can add strength.

Testing & Redesign

How engineers learn by testing, changing, and trying again.

How the lessons work

- Start Here - spark curiosity.
- Let's Build - imagine and create.
- Try It Out - test and observe.
- Take It Further - optional extension.
- Talk About It - reflect together.
- Connect It - notice engineering in everyday life.

Engineer
@ Home

DESIGNED FOR FAMILIES

Keep it simple.

What matters most is exploring, building, thinking together, and trying again.

Ask • Imagine • Create • Test • Improve