

What Makes Structures Strong?

Explore how folds, tubes, triangles, and supports can make structures stronger.

30-40 min

Easy

Your Challenge

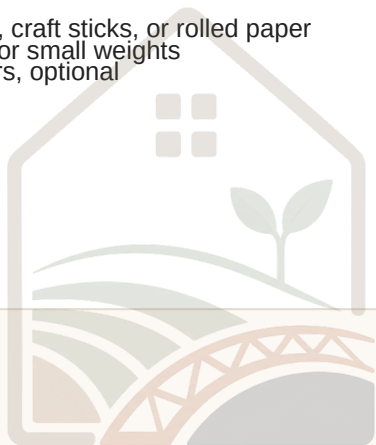
Explore different shapes and supports to find out which designs can hold the most weight.

What You'll Need

- Paper
- Tape
- Straws, craft sticks, or rolled paper
- Books or small weights
- Scissors, optional

Talk About It

- Which shape worked best?
- Which design stayed strongest?
- What surprised you?
- Why do you think that happened?
- What would you change next?



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Caregiver Tip

You do not need to give the answer. Ask a question, notice what happens, and let your child decide what to try next.

What Makes Structures Strong?

Step-by-step activity guide

30-40 min

Easy

What to Do

- 1 Choose a shape to test.
- 2 Try flat paper, folded paper, a tube, or a triangle.
- 3 Build your structure using the materials you have.
- 3 Add books or small weights.
- 4 Watch which shapes stay strong and which bend or collapse.
- 5 Compare two or more designs.
- 6 Change the shape, thickness, supports, or material placement.
- 7 Test again.
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Engineer Again

Try to make the structure stronger using fewer materials.