# TEACHER NOTES

In this STEM activity, students will build a birdfeeder with specific constraints.

- Perch for bird to use while eating
- The container must support the bird's weight
- Must be able to refill the birdfeeder
- The seeds do not spill out of the bird feeder

Each group is responsible for bringing in available materials to create their bird feeder. Students should be allowed to observe real bird feeders as well as pictures of bird feeders before beginning their plan. After students decide on which materials they need, they may begin planning their birdfeeder. Students should draw a picture of their design on the STEM Challenge recording sheet. As students begin to build their designs, I like to help with any cutting and hot gluing necessary for their design. I also try to provide wood glue that students can use safely.

After students complete their birdfeeders, fill them with birdfeed and hang them outdoors for students to observe. Some students may immediately see changes that need to be made to their birdfeeders, and students will also likely see additional needed changes within the next day or two. Allow students to observe their birdfeeder over the next three days and record their observations. After seeing the birdfeeders in use, students should then begin to plan on the best way to improve their birdfeeder. Students should them made those changes to their birdfeeders.

# SUGGESTED MATERIALS

There is no mandatory or required material for this activity. The list below simply provides a few suggestions for students and teachers.

- cardboard boxes
- plastic water bottles
- craft sticks
- string
- straw
- cardboard tubes (Pringles can, paper towel rolls, etc.)
- Paint and paintbrushes
- birdseed

# Birdfeeder STEM challenge

## The Challenge

Use materials available in your classroom or house to create a bird feeder that will:

- Provide a perch for bird to use while eating.
- Support the bird's weight.
- Easily refilled.
- Avoid spilling the birdseed.

## Brainstorm

What should you consider as you build your birdfeeder? What materials will work best?

## My Plan

Draw and/or describe your plan for your birdfeeder.

## Question

| | |
|---|---|
| How will you add birdseed to the birdfeeder? | How will you provide a perch for the birds? |
| How will you keep the seed from spilling out of the birdfeeder? | How will you keep the seed from getting wet? |

## Test

| Day 1 Observations | Day 2 Observations | Day 3 Observations |
| --- | --- | --- |
| | | |

## Revise/Improve

Did your plan work? What changes can you make to improve your design?

## Test

| Day 1 Observations | Day 2 Observations | Day 3 Observations |
| --- | --- | --- |
| | | |

## Reflect

Did your improvements work? What are your next steps?