



Project Exploration creates transformative learning opportunities for youth underrepresented in the sciences –particularly students of color and girls – by equipping them with the skills, practices, and mindset needed for a lifelong pursuit of learning. STEM@Home makes activities around science, technology, engineering, and math accessible and fun to do at home. This STEMbook activity, resources, and more are available at [www.projectexploration.org/stemathome](http://www.projectexploration.org/stemathome).

## In this activity, you will:

design your own pair of shoes.



## Supplies Required:

Cardstock  
Decorating materials such as, sequins,  
glitter, feathers, etc.

## Video

Follow along as [The Elves and the Shoemaker](https://tinyurl.com/y4mlqysb) is read aloud: <https://tinyurl.com/y4mlqysb>

## Overview

One day, the shoemaker has only enough leather for one pair of shoes. He cuts it, and in the middle of the night elves use it to make a pair of shoes. Each night the shoemaker leaves more and more leather on the workbench, and the elves make more and more shoes. The elves leave after the shoemaker and his wife make clothes for them. Today you will become the elf and will design a pair of shoes.



## Instructions

1. **Problem:** What do we want to solve? Look at the materials you have available. How will you design a pair of shoes? Pick an activity or a sport and you will design a pair of shoes to use for that activity or sport.
2. **Solutions:** What are some ways to solve the problem? How many different types of shoes can you think of? (sandals, athletic shoes, party shoes, boots) What kind of shoes will you make and what activity will you use them for?
3. **Model:** Build your design!  
Trace your feet on a piece of paper. Cut them out with your scissors. Use the extra paper and the items for decorating to create your special pair of shoes.
4. **Test:** Does your model work?  
Try them on.
5. **Reflect & Redesign:** Was your model successful? Does it need to be redesigned? Do they fit? Do they stay on your feet? Do you need to make any changes? Use the ruler to measure the size of your shoe.

## Additional Resources

1. You have been invited to enter your shoes in a design contest. Make a poster that includes a picture of you wearing your shoes, the size, and a description of the shoe.
2. How are shoes made? <https://tinyurl.com/y6ezqpye>

## Share It Out

**Share on social media:** Share your design on social media with family and friends!  
Use the hashtags:

#ShoeDesign  
#ProjectExploration  
#StemAtHome

For more activities like this one, go to [www.projectexploration.org/stemhome](http://www.projectexploration.org/stemhome). If you're interested in learning more about Project Exploration and our free events, programs, and activities, please find us on social media and be sure to follow!



Call or text us for help: 312-772-6634

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