



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:

build a house for the pigs that is strong enough to withstand the wolf!



## Supplies Required:

- 10 straws
- 10 popsicle sticks
- 10 toothpicks
- 1 piece of styrofoam
- 3 sheets of cardboard
- 4 paper cups
- Tape
- Glue
- Scissors
- "Wolf's breath" (fan or hairdryer), optional

## Video

Listen to [The Three Little Pigs](https://tinyurl.com/y5qy5zsl) being read aloud: <https://tinyurl.com/y5qy5zsl>

## Overview

Each of the three little pigs chooses a different material - straw, sticks and bricks - to make a house. Despite the use of different materials the wolf keeps blowing down their houses. They have called on the students at Project Exploration to help them create a new, stronger house. Use your engineering skills to build a new house with the materials you have been given. Then, test your design. Is it a house that can protect the pigs from the wolf?



## Instructions

1. Use the steps of the engineering design process to help build a strong house.
2. Problem: What do we want to solve? Look at the materials you have available. How will you build a strong house that the wolf can't blow down?
3. Solutions: What are some ways to solve the problem? What shape will it be? How tall will it be? How strong will it be?
4. Model: Build your design!  
Construct your house. Does it have a roof? Windows? Doors? Is it sturdy enough to stand on its own? Can the wolf find a way to sneak in?
5. Test: Does your model work?  
Using the hair dryer or fan, test your house to see if still stands once the air blows on it.
6. Reflect & Redesign: Was your model successful? Does it need to be redesigned? If it does not stand strong, what can you do to reinforce it and make it stronger?

## Additional Resources

1. Look at this amazing popsicle stick house: <https://tinyurl.com/y3zb7x7q>
2. What does an architect do? <https://tinyurl.com/yc4mo3cj>

## Share It Out

**Share on social media:** Take a photo of your house and share it with your friends and family. Explain what makes it strong and sturdy! Share on social media using the hashtags:

#PigHouse  
#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

[www.projectexploration.org](http://www.projectexploration.org)