



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.

In this activity, you will:

Build a flying machine that Rosie can use! Practice the steps of the engineering design process.

Supplies Required:

- Graphic organizer (page in your STEMkit!)
- Pencil or tools to draw
- Piece of paper
- scissors
- 2 feet of tape
- 6 pipe cleaners
- 1 piece of construction paper
- 4 large craft sticks

Video

Listen to the story, Rosie Revere, Engineer: <https://tinyurl.com/sj99vm8>

Overview

In the story, Rosie Revere, Engineer, Rosie is trying to build a flying machine, but her first attempt doesn't turn out right. Can you help Rosie design her flying machine?

Your flying machine must have wings. As you create your flying machine, you must design it so that Rosie doesn't fall out. Use the steps of the engineering design process to help you create the best flying machine for Rosie! Put on your thinking cap and let's get to work.



Instructions

1. Use the graphic organizer to help you solve the problem.
2. **STEP 1 - Problem:** What do we want to solve? Can you help Rosie design a flying machine?
3. **STEP 2 - Solutions:** What are some ways to solve the problem?
4. **STEP 3 - Model:** Build your design! Use the materials that are given to you to help Rosie fly!
5. **STEP 4 - Test:** Does your model work? Throw or push or pull your flying machine. Does Rosie get from point A to B safely?
6. **STEP 5 - Reflect & Redesign:** Was your model successful? Does it need to be redesigned?

Additional Resources

1. How do airplanes work? <https://tinyurl.com/y5du8ax6>
2. Who is Amelia Earhart? <https://tinyurl.com/y2wkbahc>

Share It Out

Share on social media: Share the results of your design with your friends and family on social media! Explain the steps of the engineering design process in a video! Use the hashtags:

#EngineeringDesign
#ProjectExploration
#StemAtHome

Share via PE's website: Students who complete STEM@home activities and share what they learned with the PE team via our website will earn points which can be traded in for cash prizes at the Explore Store. Your project number is 107. Learn more at www.projectexploration.org/explore-store



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