



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 planting machine out of recycled materials!



Supplies Required:

- Toilet paper tube
- 10 small seeds
- Pencil
- Masking tape
- Scissors
- 2 large smoothie straws
- Cardboard pieces

Video

How to build a planting machine: <https://tinyurl.com/y2bms2fw>

Overview

Farms are very important to the food we eat! Planting trees and plants is one way to help the earth and build your farm! Often, when farmers plant large fields of plants, they use a mechanism to help space seeds evenly. See if you can engineer your own mechanical planting machine!



Instructions

1. Find an empty toilet paper tube or make a tube out of stiff paper.
2. Decide where you want to place holes on your tube to hold seeds. Cut holes in your tube just big enough for your straw.
3. Punch holes into the tube and insert a piece of a straw. Make sure that seeds (beads) are small enough that they can't get stuck.
4. Next, make wheels for your machine. Cut circles from cardboard or see what you have that could be used as a wheel.
5. Secure the wheels to your tube. Make sure your machine is even and does not wobble when you roll it.
6. Put a piece of masking tape sticky side up on a table. This tape is your testing zone.
7. Roll your machine over the tape and track your results. Did your seeds drop in the location you thought they would? For far did it roll? Make some changes and see if you can improve your results.

What are benefits of the planting machine? Why do you think so many inventions have happened on the farm? What would farms be like if they didn't have a machine and had to plant the seeds by hand?

Additional Resources

1. Learn how a corn planter works: <https://tinyurl.com/y4zlr6x4>
2. Watch the video about the mechanization of farm equipment: <https://tinyurl.com/y2vowtxq>

Share It Out

Share on social media: Record a video or take a picture of your activity and post the results online using the hashtags:

#SproutHouse
#ProjectExploration
#StemAtHome

Tag a friend and challenge them to do it, too!

For more activities like this one, go to 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