



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:

make a model of the solar system out of papier-mâché.



Supplies Required:

Newspaper	Plastic bag
Flour	Bowl
Salt	Spoon
Water	Paint
Glue (optional)	String
Balloons (optional)	Hanger

Video

Take a tour through the solar system: <https://tinyurl.com/ycav9bxu>

Overview

The planetary system we call home is located in an outer spiral arm of the Milky Way galaxy. Our solar system consists of our star, the Sun, and everything bound to it by gravity – the planets Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune, dwarf planets such as Pluto, dozens of moons and millions of asteroids, comets and meteoroids. Beyond our own solar system, there are more planets than stars in night sky. So far, we have discovered thousands of planetary systems orbiting other stars in the Milky Way, with more planets being found all the time. Most of the hundreds of billions of stars in our galaxy are thought to have planets of their own, and the Milky Way is but one of perhaps 100 billion galaxies in the universe. While our planet is in some ways a mere speck in the vast cosmos, we have a lot of company out there. It seems that we live in a universe packed with planets – a web of countless stars accompanied by families of objects, perhaps some with life of their own.



Instructions

1. Have an adult to assist you. Place a towel on the table, this project can get messy!
2. Tear strips of newspaper and set aside
3. If you don't have a balloon, take some paper and make balls according to the size of the planets and take a plastic bag to cover paper balls
4. In a large bowl, mix 1 cup of flour with 2 cups of warm water
5. Mix well, add 1/2 tbsp of salt
6. If you have glue use 1/4 c of glue (Elmer's white liquid glue)
7. Dip one strip at a time into the paste, draining excess paste with your finger gently
8. Place strip on your balloon or ball
9. Repeat steps 7 & 8, criss crossing each piece
10. Once your structure is completely covered, you can add another layer (optional)
11. Let your structure dry completely (24hrs)
12. Paint your planets (thin layer) and let dry
13. Once dry, pop the balloon with a toothpick or safety pen
14. Assemble your planets in order, and glue a piece of string on the top of your planet(s)
15. Take the loose end of the string and wrap around the base part of the hanger, tie a knot to secure
16. You've made it to outer space!

Additional Resources

1. Read more about the search for extraterrestrial life: <https://tinyurl.com/ybcxfrws>
2. More directions: <https://tinyurl.com/y72lgqlw>
3. Learn more about how space shuttles work: <https://tinyurl.com/y8ftkby9>

Share It Out

Share with others how much you know about our solar system, as well as your art skills! You can make a mini video and post on your favorite social media with a hashtags:

#PapierMachePlanets
#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 214. Learn more at www.projectexploration.org/explore-store

Join PE's character contest!

Design a STEM character who will lead kids through activities and be featured on our website and in our STEMbooks. Cash prizes will be awarded to the top 3 finalists. Learn more at <https://tinyurl.com/PEcharacter>.



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



www.projectexploration.org