



# Explore your world

# SCIENCE

# 2

# GO

# Outer Space

## Grades 3-5

Pierce County  
Library System

## Activity

Getting into space is hard! Space explorers generally combine a rocket fuel, like petroleum and liquid oxygen, to create an explosive chemical reaction that pushes their rocket into space. There is a lot of pressure inside the tube. Scientists carefully design the rocket to direct that pressure to give the most thrust to push the rocket into space. Make a model rocket that uses a chemical reaction to build pressure in a rocket tube.

### What you need:

- Mini M&Ms tube or plastic bottle
- Heavy paper
- Tape
- Scissors
- Water
- 2 antacid tablets (like Alka-Seltzer)

### Optional for Going Further

- Baking soda
- Vinegar
- Tissue

### Local Connection

Check out the **Tacoma Astronomical Society** for events, star parties and how to use a telescope! Join the regular student meetings if you want to get more involved. Find more information at [tas-online.org](http://tas-online.org).

### Try this:

1. Cut the hinge or top off of your Mini M&Ms container or bottle. Draw a rocket on thick paper that will cover the length of the container. Feel free to decorate it. But, just like a real rocket, be aware of the weight!
2. Cut it out and tape it to your mini M&Ms container. Make sure the lid is on the bottom and it's easy to open and close.
3. Head outside to a flat surface. Bring your antacid tablets and about 2 tablespoons of water.
4. Put 2 antacid tablets into the rocket.
5. This step needs to be really fast! Quickly pour about 2 tablespoons of water (don't put too much in!), close the lid and place it on the flat surface. What happens?
6. Think that something could have worked better? Try it out!

### Field Notebook

Add something to the field notebook!



Try using baking soda and vinegar. Can you make a time-release capsule using a tissue? Does the order of ingredients matter?

**Optional:** Post a photo or video of your achievement to Facebook or Instagram and use #science2go. See what other Science to Go creators have made and achieved!

Leave feedback at [sciencetogo.pcls.us](http://sciencetogo.pcls.us)

Keep this sheet.  
Collect them all!



# Check out all the Science-to-Go backpacks for more fun!

## **PRESCHOOL** Green backpacks

- Animal Babies
- Backyard Animals
- Building
- Cars and Trucks
- Colors
- Counting
- Fall
- Food
- Gardens
- My Body
- Nighttime
- Patterns
- Rain
- Seashore
- Shadows
- Shapes
- Simple Machines
- Space
- Spring
- Summer
- Tools
- Winter

## **GRADES K-2** Blue backpacks

- Animal Homes
- Birds
- Bridges
- Bubbles
- Dinosaurs
- Ecosystems
- Floating
- Frogs
- Flight
- Insects
- Invention
- Light
- Measurement
- Migration
- Moon & Stars
- Motion
- Ocean Animals
- Plants
- Seasons
- Silly Math
- Sound

## **GRADES 3-5** Red backpacks

- Animal Survival
- Architecture
- Climate Change
- Electricity
- Engineers
- Forest
- Human Body
- Kitchen Science
- Life Cycles
- Ocean
- Outdoors
- Outer Space
- Real Life Math
- Rocks
- Skyscrapers
- Volcanoes
- Water
- Weather

Visit [sciencetogo.pcls.us](http://sciencetogo.pcls.us) to give feedback and to access more science resources.