

## WHAT ARE WE INVESTIGATING?

Can you simulate how craters formed on the Moon using moon dough?

## MATERIALS:

- Bowl
- Spoon
- ½ cup Conditioner
- 1 cup Corn Starch
- Food Coloring (optional)
- Bouncy Balls/Small Rocks (anything to dip into your moon dough)
- Strive Academy's Engineering Design Process Handout (found at [www.striveacademy.org](http://www.striveacademy.org))
- Pencil or Pen

## EXTENSION:

- \* Why do so many asteroids hit the Moon and form craters but not many hit the Earth and form craters? What helps protect the Earth from this?
- \* Add some math - measure the size of the dents in your moon dough.
- \* Find a map of the Moon. Take a look at some of the craters. Some have been filled in and some have not. What filled in some of these craters?

## DIRECTIONS:

1. Gather all of your materials. Our materials are just suggestions - feel free to add other things too!
2. On your handout (found at [www.striveacademy.org](http://www.striveacademy.org)), fill in the title of your experiment (Moon Dough).
3. On your handout, fill in your hypothesis. You want to answer the question: How do craters form on the moon?
4. On your handout, sketch a design of your experimental setup. You will be dropping small objects onto your moon dough. Feel free to use color and label the materials that you will be using!
5. In your bowl, mix together 1 cup of corn starch and  $\frac{1}{2}$  cup of conditioner using a spoon. If you want to color your moon dough, add in a few drops of food coloring before you start mixing. If your mixture is too sticky, you can add a little more corn starch.
6. Once your mixture is the right consistency, knead it with your hands. If you used food coloring, be sure not to put your dough directly on to the table - use a paper plate (it may stain).
7. Place the dough on a plate in a ball. Carefully drop the bouncy ball/small rock onto the dough.
8. Under "Data Collection/Observation", draw a picture of what your moon dough looks like after you drop the ball/rock on it. Feel free to use color!
9. Under "Results", write "1 Drop" and describe what the moon dough looks like.
10. Leave the dent in your moon dough. Now drop the ball/rock again. Under "Results" write "2 Drops" and describe what the moon dough looks like.
11. Repeat Step 10 for as many drops as you would like.
12. Answer the "Analysis" questions on your handout:
  - What formed on your moon dough when a ball or rock was dropped on it?
  - What do we call the dents on the moon?
  - What hits the moon to cause these dents?

**\*\* Try the extension activities on the first page for more fun! \*\***