

# Amaze Your Brain *at Home!*

## ACTIVITY

BEST FOR  
Grades  
3+

## DIY PASTA ROVER

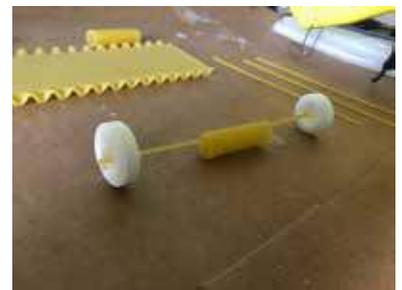
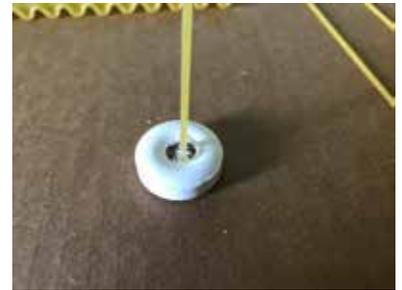
Design and build pasta rovers on a limited budget using raw pasta and candy you might already have at home along with some glue. Engineers always start with a budget. A budget is the total amount of money you can spend on your project. Use the attached sheet at the bottom to figure out how much you will be spending. Your fictitious budget is \$100,000,000.

### MATERIALS

- Different types of pasta: lasagna, spaghetti, rigatoni, rotini, penne, etc.
- Circular candies or crackers
- Budget activity sheet
- Glue (adult supervision highly recommended when using hot glue)

### INSTRUCTIONS

1. Think about the design and about the number of parts it will have. How will it look? How many wheels? How tall? What do you have available? It might help to draw it first!
2. Pinch the middle of the spaghetti with both hands and snap it in half carefully. Place a little bit of glue on one piece of candy and adhere it to the spaghetti piece.
3. Push the spaghetti through the rigatoni or penne pasta. Glue another candy on the other end of the spaghetti. You now have one axle for the rover! Repeat as many times as needed. The rigatoni pasta should be able to rotate freely.



**CONTINUED ON NEXT PAGE**

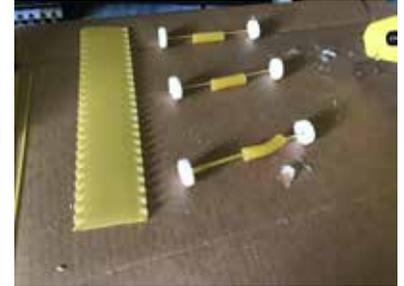
# Amaze Your Brain *at Home!*

## ACTIVITY

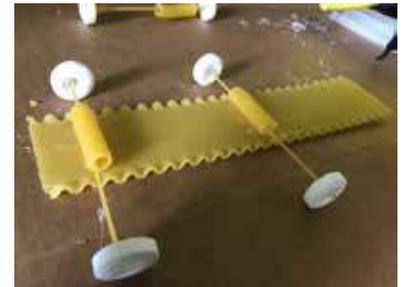
BEST FOR  
Grades  
3+

### DIY PASTA ROVER (CONT.)

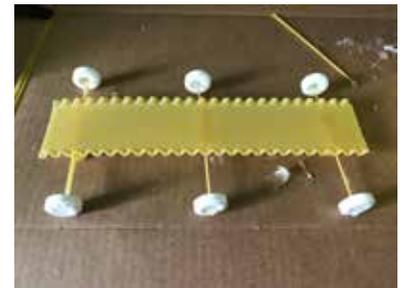
4. Create some more axles while the first one dries. Prepare the frame of the rover with lasagna pasta. We recommend using one entire lasagna piece.



5. Glue the rigatoni pasta (not the spaghetti) to the frame of the rover. Do this for all the axles you have and make sure to have enough space between each axle so the rover is balanced.

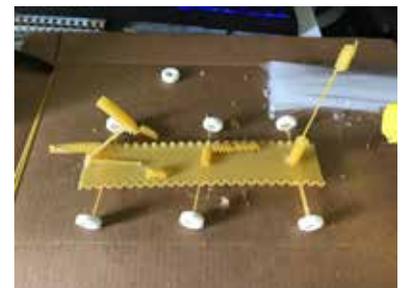


6. Once all the glue dries, you will have finished a basic rover! Drying might take a while, depending on the glue utilized.



7. Add additional parts you think your rover might need by creatively using the pasta pieces you have. Rovers need cameras, satellites, spectrometers, sensors, and other devices to facilitate their mission of studying other planets. NASA has a lot of information about what each part of their rover does.

TRY THIS!



8. Test out your rover by simulating different terrain. Can your rover roll over tile, carpet, grass, or rocks? If it breaks, try to build a newer, better rover.

**CONTINUED ON NEXT PAGE**

