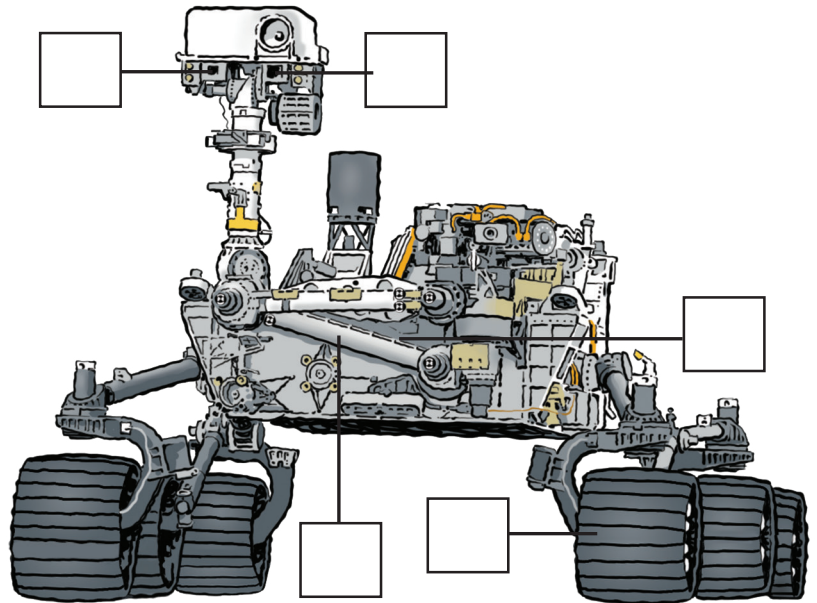


Engineered for Exploration

Part 1: Meet Perseverance! Match its “body parts” to the descriptions below. Write the correct number in each box.

- 1. Arm:** The arm can grab rocks on Mars. It can even hold tools and take pictures!
- 2. Body:** The rover body carries and protects the computer and other electronics.
- 3. Mastcam-Z:** These are the main cameras that take color pictures and videos of Mars.
- 4. Wheels:** The light but strong wheels can drive over bumpy land.

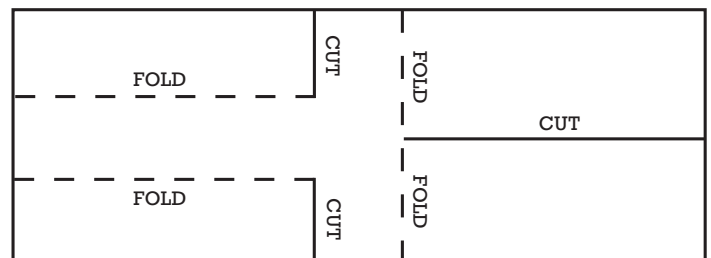
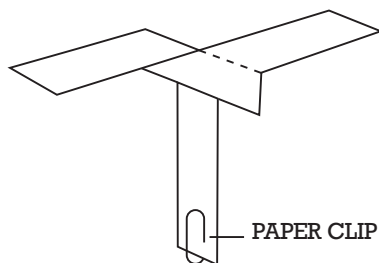


Part 2: You can't see it in the picture, but Perseverance has a small helicopter underneath. The helicopter is named *Ingenuity* and NASA engineers plan to fly it on Mars. They hope to learn how to build bigger flying robots to explore more of Mars in the future.

You can make and test your own tiny helicopter.

- 1.** Cut out the model below. Cut on the solid lines and fold on the dotted lines.
- 2.** Fold the two “blades” of the helicopter in opposite directions.
- 3.** Now, experiment! Add weight with one or more paper clips. Make the body longer or shorter. Experiment with the blades. “Launch” your helicopter from a height just over your head each time you change and improve your design.

- 4. Persevere!**
Which design flew the best?
Write and draw your results on a separate sheet of paper.



Families: Meet the high school student who named the Ingenuity helicopter and learn more about its part in the Perseverance mission. Visit <https://www.jpl.nasa.gov/news/qa-with-the-student-who-named-ingenuity-nasas-mars-helicopter/>.