



Cool Career

Mechanical Engineer

Aprille Ericsson

NASA Goddard Space Flight Center

Help from Far Away

How do satellites that orbit hundreds of kilometers above Earth help us? Ask Aprille Ericsson, who puts some of those satellites into orbit. She has worked on spacecraft that study tropical rainfall, the origins of the Universe, and the effects of solar flares on our planet. “The hardware that I build produces scientific data that allow us to understand the Universe and our environment better and help us in our daily lives and communities,” she says.

Puzzling and Questioning

Aprille grew up in the projects in Brooklyn. There her mom and grandfather, both engineers, prodded her to use her mind—and her hands. “Picking apart and looking at things around you, asking questions, and then trying to put the puzzles together were all important skills that I learned as a kid,” she says. “I’ve been able to apply them all in my career.”

Big to Small

At Howard University, Aprille studied how big structures, such as space stations, flex and vibrate in orbit. It’s like architecture, but for stuff that moves. Then she wrote software programs to control the orbits of smaller satellites. Now she manages the design of the instruments, such as X-ray cameras, that go on these cosmic cruisers.

A mechanical engineer designs, builds, and tests machines and structures. Aprille manages the teams of scientists and engineers who build instruments for satellites. **Other mechanical engineers**

- > build rovers that explore planets.
- > make cars safer in crashes.
- > test models of bridges and skyscrapers.
- > use computer-aided design (CAD) software.



Aprille reviews the construction and testing of a NASA satellite.

After you read about Aprille Ericsson, do these activities.

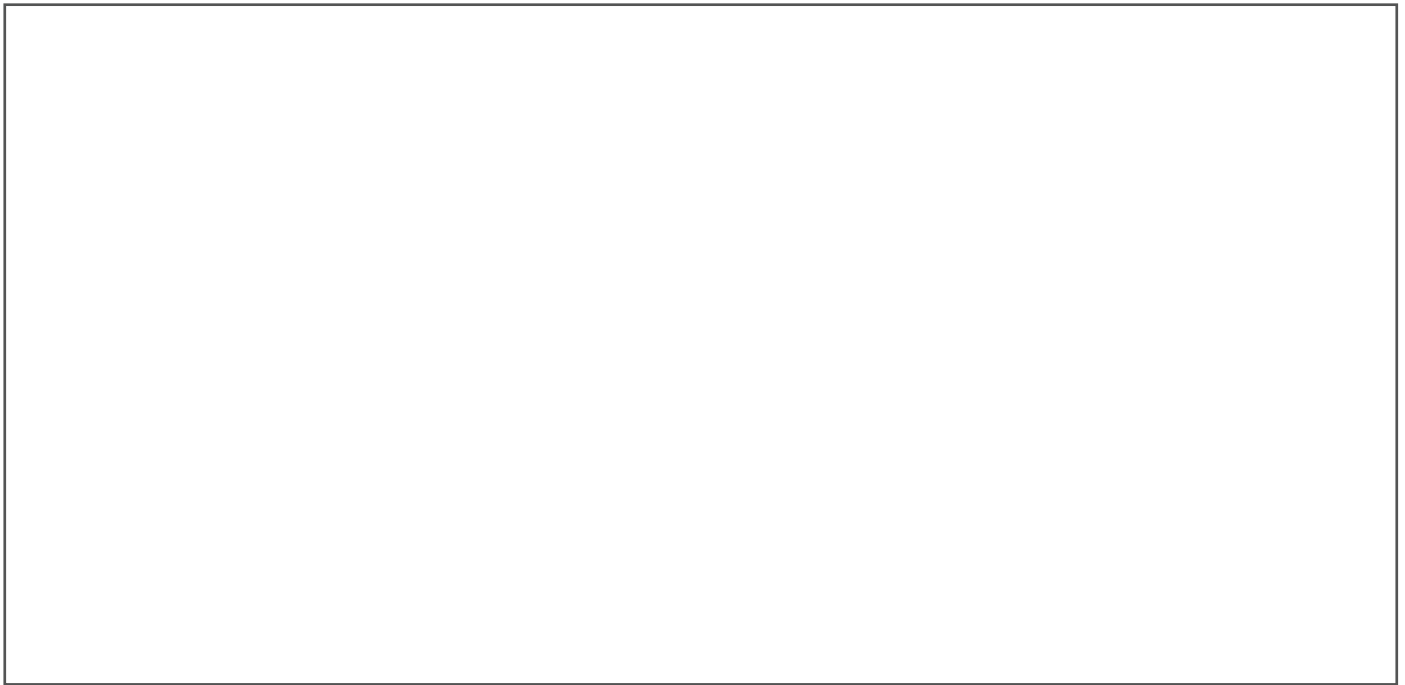
Egg-citing Activity

With a team, design and construct a “spacecraft” to protect a delicate “instrument,” an egg, from a fall. Each team gets one raw egg. Here are some ideas for materials to use for your spacecraft.

- > Fabric
- > Paper or plastic bags
- > Balloons
- > Straws
- > Craft sticks
- > Paper
- > String
- > Masking tape
- > Paper clips

Brainstorm ideas for a spacecraft design. Sketch your design, and then get to work! Build your spacecraft and secure your egg inside it. Ask your teacher to test-drop each spacecraft from the same height. As a class, discuss the results. Which spacecraft protected the egg best? Why?

Sketch your design here



Career Clues

What important skills did Aprille Ericsson learn as a child that have helped her in her career as a mechanical engineer?

Describe a skill that you have and explain how it might someday help you in a career.
