

## Science Adventure 6: Put It Together: Mitigating Hazards for Your Mission

*How can we mitigate hazards on a particular NASA mission?*

### Mitigate Hazards for Your Mission

#### Congratulations!

Your team has been selected for one of the following missions.

1. Choose a mission.
2. Use the cards to identify hazards, mitigations, and chance factors that NASA needs to plan for.
3. Ask questions, make a list, brainstorm ideas, and be ready to explain which hazards and mitigations are most important for your mission.
4. Decide how to share your ideas.



## NASA Career Spotlight



### Phyllis Friello

My job at NASA is to work with my space medicine team to develop and provide what we need to keep our astronaut crews on moon and Mars missions healthy and safe.



## Mission 1

We want to land a robotic spacecraft on an asteroid, get samples, and bring them back to Earth. How can we keep the spacecraft safe?

### *Tips*

Look for the Asteroid and Robot icons.



Ask your educator to see the Educator Background section on Hazards faced by Robots.



*Artist's illustration of the current OSIRIS-REx Spacecraft*

<https://www.jpl.nasa.gov/news/news.php?feature=7299>



## NASA Career Spotlights



*Photo Credit: David Tuman*

### Aaron Yazzie

My job at NASA is to design robotic mechanisms and tools that allow us to gather rock samples from Mars and beyond.

Humans have never been to Mars, so it's important to learn as much as we can about the planet before we go there.



## Mission 2

We're launching a rocket! What Earth hazards could there be in Florida and how should we mitigate them? What other chance factors could affect the launch?

### *Tips*

Look for Earth icons.



The launch site is in Florida, so earthquakes and volcanoes are not around, but water and weather hazards are.



*Dec 5, 2019 SpaceX Falcon 9 rocket launch*

<https://www.nasa.gov/launchschedule>



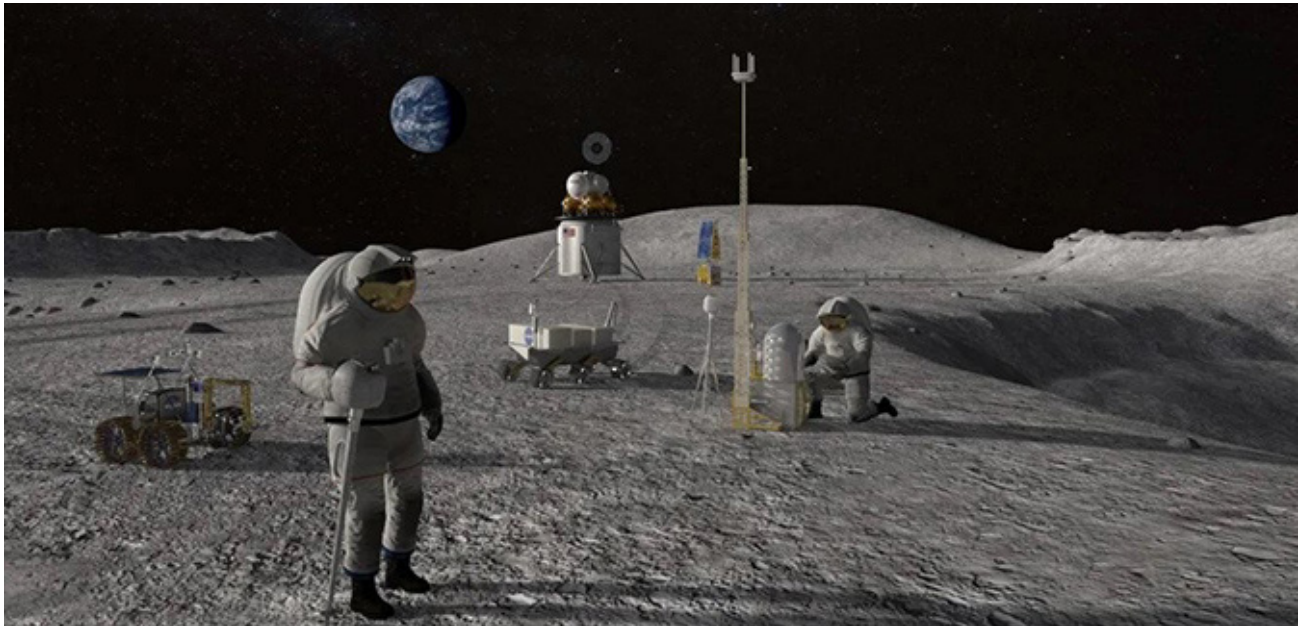


## Mission 3

We're going back to the Moon! Technology has improved since people were on the Moon in the 1970s. Once we get there we need to identify and mitigate hazards with better tools and suits.

### *Tip*

Look for the Moon icons.



*Artist's illustration of astronauts on the moon in 2024*

<https://www.nasa.gov/featuresending-american-astronauts-to-moon-in-2024-nasa-accepts-challenge>



## NASA Career Spotlights



**Carl Dunn**

My job at NASA is to support the development of a lunar rover which will help astronauts explore the surface of the Moon.



## Mission 4

Humans have never been to Mars, so we are sending someone there for the first time! What hazards and chance factors could be there? How should we mitigate them?

### *Tip*

Look for the Mars icons.



*Artist's illustration of astronauts and habitats on Mars*

<https://www.nasa.gov/feature/jpl/nasas-mars-2020-will-blaze-a-trail-for-humans>





## Plan Your Mission

Hazards	Mitigations	Chance Factors