

# DESTINY IN SPACE

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### How might robots help in space exploration?

Challenges such as extreme temperatures make it almost impossible for humans to visit some planets. Robots, for example, might be used as scouts on planets where we cannot go to gather information ourselves.

#### Get on Board!

Design a robot that you think could work in space. Include a labeled diagram or model to show how it will work.

#### In *Destiny in Space*

You will see some of the robots that are being tested to explore alien landscapes.



### What tools help us explore the universe?

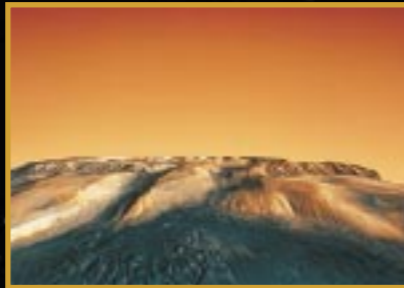
The Hubble Space Telescope is one of several tools that allow us to explore the farthest reaches of the universe. Its powerful lens reveals details never before seen by humans.

#### Get on Board!

Find out about some of the other tools such as satellites and probes that are used in space exploration.

#### In *Destiny in Space*

You will see many amazing views, including the birth of a solar system, through the lens of the Hubble telescope.



### Will we visit other planets?

Space explorers believe that Mars is one planet that could be made favorable to human existence. Long ago there may have been water on Mars and perhaps it nourished life. If this is possible, there may be life elsewhere in the universe.

#### Get on Board!

Read about a planet other than Earth and report to the class about how humans might adapt to its environment.

#### In *Destiny in Space*

You will see what scientists think might be possible to make Mars a suitable place for us to live.



### What can we learn from space experiments?

Thousands of people work on space projects without ever leaving Earth. During one experiment, scientists studied a satellite that had been in orbit for six years to find out what happened when various materials were exposed to the wear and tear of space.

#### Get on Board!

Experiment to find out how the Earth's natural elements affect different materials such as colored paper, plastic, and metal. Observe and record any changes you see to these materials over a number of days. What conclusions can you make?

#### In *Destiny in Space*

You will find out what the satellite's panels revealed.



### How do you work in a space shuttle?

As the astronauts carry out their tasks, they must cope with an environment that is very different from that on Earth. For one thing, there is almost no gravity.

#### Get on Board!

Think about what it would be like for everything around you to be floating. Write or tell about your ideas.

#### In *Destiny in Space*

You will find out about many other challenges that the astronauts face on their missions in space.



### How can we live in space?

We know that a trip to faraway places such as Jupiter will take many years. Scientists perform experiments in laboratories on Earth and on the space shuttles to learn more about how people can survive on long journeys.

#### Get on Board!

Make up an exercise routine for fitness and muscle tone. Consider how you would do this workout in the confined and almost weightless environment of a spaceship.

#### In *Destiny in Space*

You will see some of the experiments scientists are conducting.

