

# Landing Site

We know quite a bit about the Moon. Data from previous spacecraft missions, lunar soil samples, and information returned by the Apollo astronauts have helped scientists and engineers alike to build a detailed understanding of the Moon's history and environment — and have led to more questions about how our Moon formed and evolved, what resources exist, and where we can find them. Based upon what scientists and engineers have learned, can you help NASA determine potential sites for future outposts on the Moon?



Apollo 11 Moon Landing, 1969

## MATERIALS

- Paper \*\*\*
- Moon photos
- Ruler
- Pencil

\*\*\* Materials found at home

## WE CHALLENGE YOU TO

Identify two locations where lunar outposts could be built

## AND LEARN ABOUT

- Lunar landforms
- Mission planning
- Reading geographical features



## FURTHER EXPLORATION

Buzz Aldrin - How We Landed on the Moon | <https://youtu.be/9HvG6ZlpLrI>

Apollo 11 Landing on the Moon | <https://youtu.be/nOcDftgR5UQ>

Map of the Moon from NASA LROC | <https://quickmap.lroc.asu.edu/>

## EXPLORE

- 1) Identify Moon landforms with NASA photographs
  - a. Think about what you see when you look at the Moon (light and dark areas). The light areas are the lunar highlands and the darker plains are called the lunar maria (which is Latin for "sea").
  - b. Can you identify any impact craters, volcanoes, rilles, or wrinkle ridges?
  - c. Can you determine the size of some of the features you have identified?



## DESIGN

- 2) Identify potential landing sites
  - a. Is it a safe landing site with terrain that can easily be traveled?
  - b. Is there a source of water or water ice?
  - c. Is there an energy source?
  - d. Does it provide protection from high levels of radiation?
  - e. Does it provide protection from extreme temperatures?
  - f. Is there a means of communicating with Earth (clear line of sight)?



## DISCUSS

- A. What are the main considerations for a site for future human habitats?
- B. NASA plans to put humans back on the moon by 2024, which site do you think they will choose?
- C. Were some landforms easier to identify than others?
- D. Did shadows help make some landforms easier to see?
- E. Imagine you were asked to choose a landing site for a lunar vehicle. Which landform would you choose to land on or near? Why?

