Science Activity 2

Safe and Interesting Landing Sites

For each Mars site, review the topography data in the Data Packet. Describe the topography of each location using terms such as *flat*, *smooth*, *hilly*, *rocky*, or *cratered*.

Gale Crater

- Topography:

- Where is the safest landing area located?

- What makes this area interesting?

Iani Chaos

- Topography:

- Where is the safest landing area located?

- What makes this area interesting?

Jezero Crater

- Topography:

- Where is the safest landing area located?

- What makes this area interesting?

Nili Fossae

- Topography:

- Where is the safest landing area located?

- What makes this area interesting?

Analyze Data

Rank the sites in order of how interesting and safe it would be to land a rover there based on the topography that you found. Rankings are safest, safe, less safe, not safe.

Safest: _____

Safe: _____

Less Safe: _____

Not Safe: _____

Which site do you think is the safest and most interesting? Why do you think so?

Did You Know?

Artemis III is a human mission to the Moon and has many factors that will be included in landing site selection. They will be considering where areas are permanently shadowed, areas that are geologically interesting, and places that will be safe for humans to land.

An instrument in orbit around Mars, called The Mars Orbiter Laser Altimeter (MOLA) has been used to determine the height of surface features on Mars by bouncing laser pulses off the surface and recording how quickly they return. There is also a Lunar Orbiter Laser Altimeter (LOLA) mission that measures the topography of the Moon in the same way. Topographic information (the location of hills, valleys, and craters) helps determine whether a site is safe for landing.

More to Explore

Find out more about these missions on the PLANETS website.

https://planets-stem.org/**betars-youth-resources-page/**