

OPTION 1



1
00:00:00,000 --> 00:00:03,000
(music)

2
00:00:03,000 --> 00:00:05,000
How do you land on Mars?

3
00:00:05,000 --> 00:00:07,000
Very carefully!

4
00:00:07,000 --> 00:00:10,000
Your spacecraft hurtles toward the planet at thousands of miles per hour,

5
00:00:10,000 --> 00:00:12,000
so you'll have to hit the brakes in a hurry!

6
00:00:12,000 --> 00:00:14,000
First, your capsule needs a heat shield.

7
00:00:14,000 --> 00:00:18,000
It protects the spacecraft inside from the heat and friction of entry into the atmosphere.

8
00:00:18,000 --> 00:00:22,000
Friction slows you down over 90%, but not enough to land safely.

9
00:00:22,000 --> 00:00:24,000
Use a parachute to slow down even more.

10
00:00:24,000 --> 00:00:28,000
Still falling at over 100 miles per hour, you need the right system to land safely!

11
00:00:28,000 --> 00:00:30,000
Here are some options:

12
00:00:30,000 --> 00:00:34,000
With a small- to mid-size rover, use a cushion of airbags along with retro rockets.

13
00:00:34,000 --> 00:00:37,000

Impact at 30 miles an hour and bounce to a stop.

14

00:00:38,000 --> 00:00:43,000

With a large lander, use retro rockets and landing legs to touch down, going about six miles an hour.

15

00:00:44,000 --> 00:00:48,000

Or, with a large, heavy rover, use a big jetpack to slow down to under two miles an hour.

16

00:00:48,000 --> 00:00:52,000

Then, gently lower it on cables to land on its wheels.