

MARS IN A MINUTE: How Hard Is It to Land Curiosity on Mars?

On a scale from one to 10, landing on Mars is a 20! Curiosity is the biggest, most capable Mars rover yet, and needs a new type of landing to reach the ground safely. In this seven-minute trip to the surface of Mars, we have to slow down from over 13,000 miles an hour down to zero. Hundreds of things have to go just right.

Curiosity must:

- hit the atmosphere at just the right angle
- endure extreme heat from friction as it descends through the atmosphere
- open its parachute at just the right time
- use radar to know exactly how high it is
- free itself from the parachute
- perfectly fire eight rocket engines to slow final descent
- drop down, dangling on four cables
- lock its wheels in place just before landing
- and cut the cables right at the moment of touchdown.

And, even if we do everything right, Mars can always surprise us. **It's** a big challenge, but a big opportunity – to help unlock the mysteries of Mars.