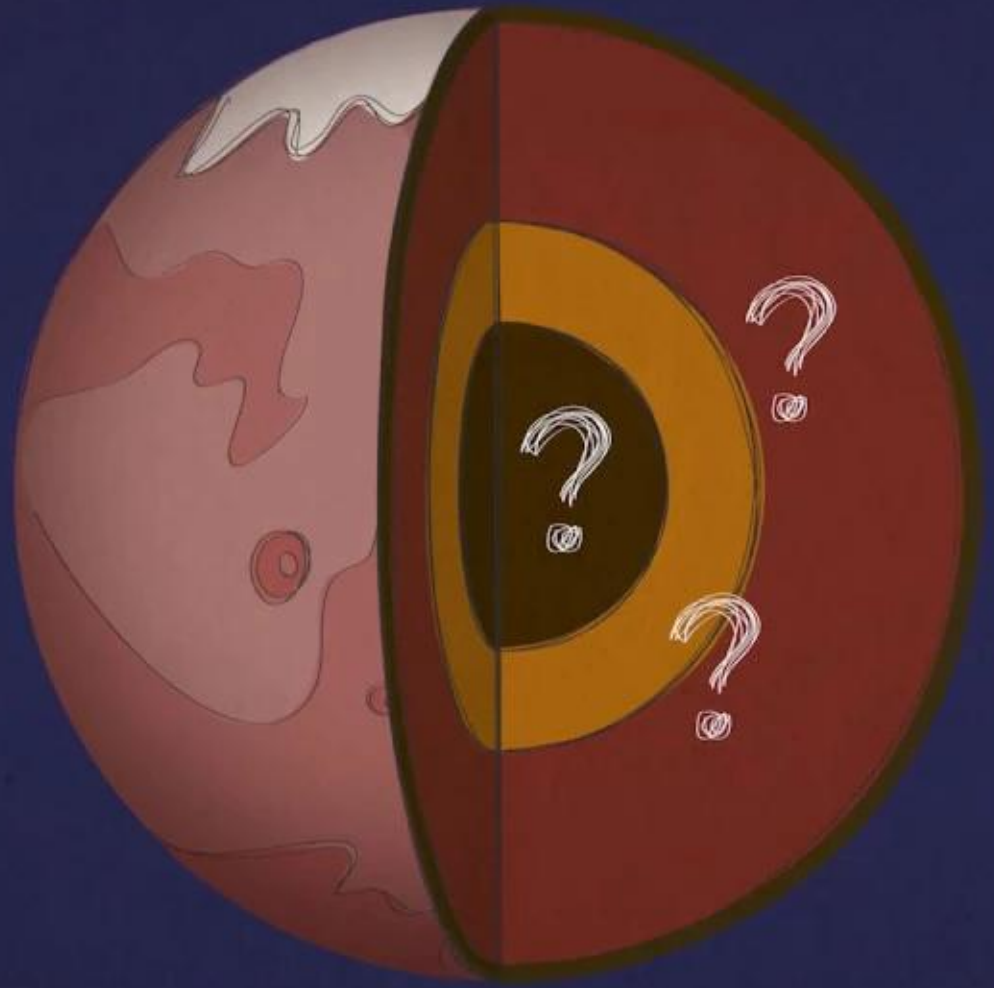

1
00:00:00,400 --> 00:00:01,401
[■]

2
00:00:01,434 --> 00:00:03,336
Mars in a Minute

3
00:00:03,369 --> 00:00:05,004
Are there earthquakes on Mars?

4
00:00:05,037 --> 00:00:07,507
Or, rather, marsquakes?

5
00:00:07,540 --> 00:00:09,675
Quakes on Earth happen
many times a day,

6
00:00:09,708 --> 00:00:11,577
largely due to continental
plates shifting

7
00:00:11,610 --> 00:00:13,846
as they float on
the mantle below.

8
00:00:13,879 --> 00:00:16,549
That's called plate tectonics.

9
00:00:16,582 --> 00:00:18,384
Mars doesn't seem to
have plate tectonics,

10
00:00:18,417 --> 00:00:21,087
but other things can make the
ground shake, too, like:

11
00:00:21,120 --> 00:00:24,390
cracking caused by
contraction from coolilng;

12
00:00:24,423 --> 00:00:28,027
magma moving and creating
pressure deep underground;

13
00:00:28,060 --> 00:00:30,696
or even meteorite impacts.

14
00:00:30,729 --> 00:00:32,865
Quakes of any kind
send seismic waves

15
00:00:32,898 --> 00:00:35,201
around and through the planet.

16
00:00:35,234 --> 00:00:36,469
Scientists can study
how those waves

17
00:00:36,502 --> 00:00:38,538
bounce off layers
deep underground,

18
00:00:38,571 --> 00:00:42,208
to help understand what a
planet's interior is like.

19
00:00:42,241 --> 00:00:45,044
NASA's InSight lander carries
a super-sensitive instrument

20
00:00:45,077 --> 00:00:46,479
to measure marsquakes

21
00:00:46,512 --> 00:00:49,348
and could detect dozens of
them during its mission.

22
00:00:49,381 --> 00:00:51,417
Each one can tell us a lot

about what's going on

23
00:00:51,450 --> 00:00:54,120
inside that mysterious
red planet

24
00:00:54,153 --> 00:00:57,356
and, maybe, about how all the
rocky planets came to be.

25
00:00:58,090 --> 00:00:58,891
NASA Jet Propulsion Laboratory