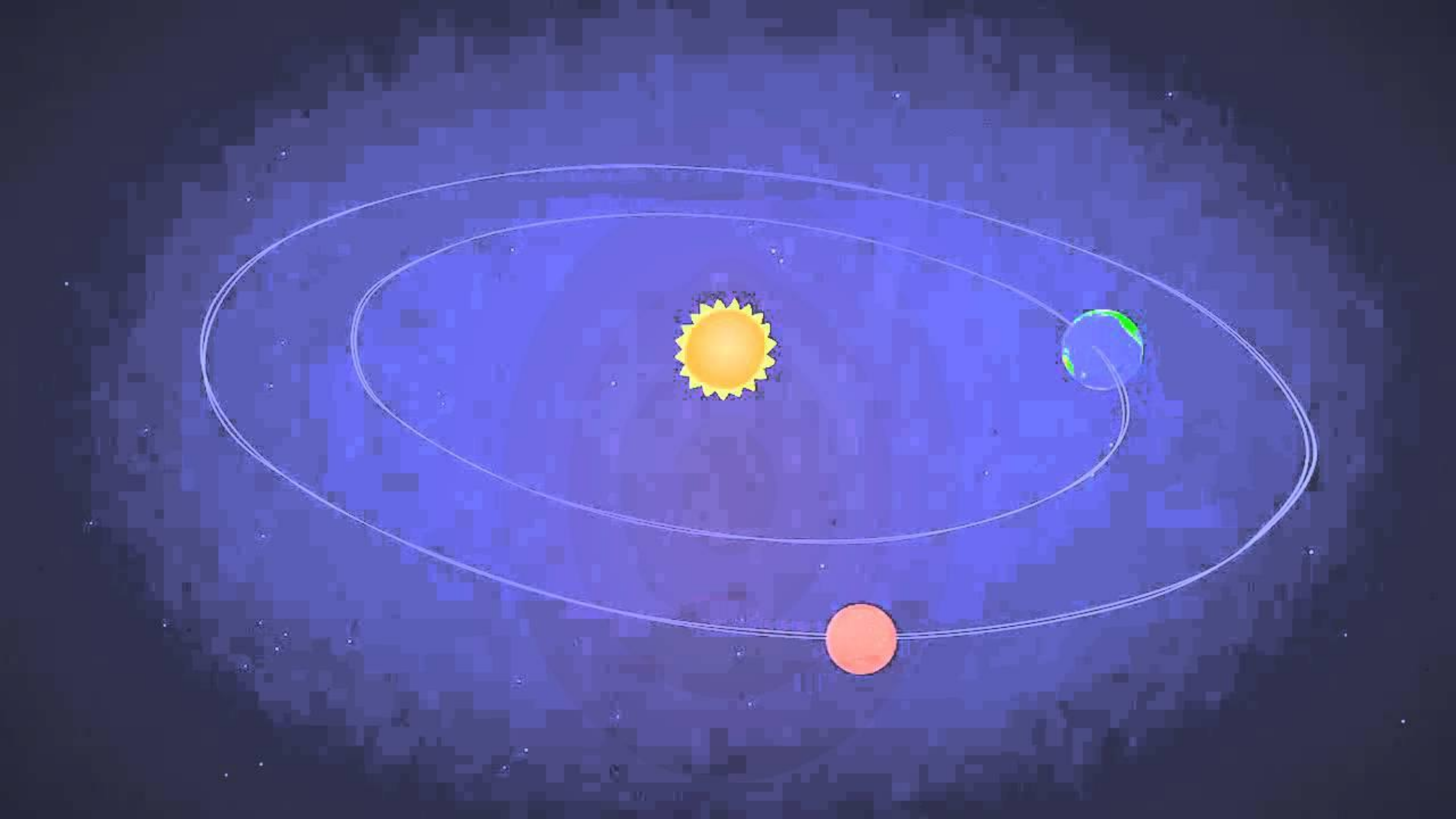

1
00:00:07,130 --> 00:00:05,780
how do you get to Mars if you want to

2
00:00:09,350 --> 00:00:07,140
send a spacecraft all the way to Mars

3
00:00:11,209 --> 00:00:09,360
first we'll need a fast rocket to escape

4
00:00:12,919 --> 00:00:11,219
the pull of Earth's gravity the heavier

5
00:00:15,650 --> 00:00:12,929
your spacecraft the more powerful your

6
00:00:17,540 --> 00:00:15,660
rocket needs to be to liftoff next make

7
00:00:18,769 --> 00:00:17,550
sure you launch at the right time Mars

8
00:00:20,990 --> 00:00:18,779
and Earth orbit the Sun at different

9
00:00:22,519 --> 00:00:21,000
speeds and distances sometimes they're

10
00:00:24,679 --> 00:00:22,529
really far apart and other times they

11
00:00:26,300 --> 00:00:24,689
come closer together about every two

12
00:00:28,130 --> 00:00:26,310
years the two planets are in perfect

13
00:00:30,290 --> 00:00:28,140

positions to get to Mars with the least

14
00:00:32,979 --> 00:00:30,300
amount of rocket fuel that's important

15
00:00:35,690 --> 00:00:32,989
the total trip is over 300 million miles

16
00:00:37,190 --> 00:00:35,700
finally make sure your aim is right you

17
00:00:38,959 --> 00:00:37,200
can't shoot for where Mars is at launch

18
00:00:41,090 --> 00:00:38,969
time you have to aim for where it will

19
00:00:43,549 --> 00:00:41,100
be when you get there it's a lot like

20
00:00:45,770 --> 00:00:43,559
how a quarterback passes a football also

21
00:00:47,150 --> 00:00:45,780
you may need a few frust to correct your

22
00:00:50,090 --> 00:00:47,160
direction along the way so you don't

23
00:00:51,439 --> 00:00:50,100
miss Mars if all goes well you'll get to

24
00:00:53,810 --> 00:00:51,449
the red planet in about seven or eight

25
00:00:55,279 --> 00:00:53,820
months then if you actually want to land