



1
00:00:05,160 --> 00:00:07,360

Welcome to Jupiter,

2
00:00:07,360 --> 00:00:10,320

the largest planet in our solar system --

3
00:00:10,320 --> 00:00:13,900

300 times more massive than Earth.

4
00:00:13,900 --> 00:00:16,440

If it doesn't look impressive from this distance,

5
00:00:16,440 --> 00:00:18,720

well..Just wait.

6
00:00:20,040 --> 00:00:23,280

We're cruising with NASA's Juno spacecraft.

7
00:00:23,300 --> 00:00:25,120

Look around.

8
00:00:25,120 --> 00:00:29,340

You can find Jupiter, Juno and the sun.

9
00:00:36,260 --> 00:00:41,660

Now we're flying with Juno during one of its more than 30 orbits of Jupiter.

10
00:00:43,540 --> 00:00:47,160

Juno's main mission is to learn more about how Jupiter formed

11
00:00:47,580 --> 00:00:50,240

and how the planet works from the outside in.

12
00:00:51,280 --> 00:00:54,340

All we can see now are the tops of the clouds,

13
00:00:55,200 --> 00:00:58,440

but Juno's sensitive instruments can look deeper--

14

00:00:58,440 --> 00:01:01,500

beneath the clouds and churning storms.

15

00:01:02,460 --> 00:01:06,900

Speaking of storms, don't miss the Great Red Spot--

16

00:01:06,900 --> 00:01:11,940

a swirling, crimson-colored vortex twice as wide as Earth.

17

00:01:12,960 --> 00:01:18,760

Juno's orbit takes it over the poles and just 3,000 miles above Jupiter's clouds--

18

00:01:19,220 --> 00:01:22,740

closer than any other spacecraft has come before.

19

00:01:27,080 --> 00:01:34,560

These close encounters allow Juno to map Jupiter's gravity, magnetic field and water.

20

00:01:39,120 --> 00:01:44,920

Turn to see two views of Juno: in regular and X-ray vision.

21

00:01:45,540 --> 00:01:50,600

The three panels are solar arrays, each about 30 feet long.

22

00:01:50,600 --> 00:01:55,260

Juno would just fit inside a professional basketball court.

23

00:01:56,460 --> 00:01:59,100

Jupiter is so far from the sun,

24

00:01:59,100 --> 00:02:04,680

that sunlight here is 25 times weaker than at Earth.

25

00:02:05,220 --> 00:02:08,440

See the saucer-shaped antenna on top?

26
00:02:08,440 --> 00:02:12,180
That's the main way we communicate with Juno.

27
00:02:12,540 --> 00:02:15,220
Below the antenna is "the vault"--

28
00:02:15,220 --> 00:02:19,580
a titanium box to protect Juno's sensitive electronics.

29
00:02:24,080 --> 00:02:27,640
Now you're inside the X-ray view of Juno.

30
00:02:28,260 --> 00:02:31,260
Look for the round blue and green tanks,

31
00:02:31,340 --> 00:02:35,520
they hold rocket fuel to help Juno adjust course when needed.

32
00:02:38,240 --> 00:02:43,080
Look up and see the honeycomb structure of the main antenna.

33
00:02:46,360 --> 00:02:49,620
Below the antenna are multicolored boxes,

34
00:02:49,620 --> 00:02:51,940
which are electronics in the vault.

35
00:02:53,920 --> 00:02:58,160
Looking down, you'll see the bell of the main rocket engine.

36
00:03:01,320 --> 00:03:09,280
And while there are no astronauts on board, Juno carries three Lego mini-figures made out of aluminum:

37
00:03:09,280 --> 00:03:11,380
the Roman god, Jupiter,

38
00:03:11,380 --> 00:03:13,340

the goddess Juno,

39

00:03:13,340 --> 00:03:15,820

and the famous astronomer Galileo