
Space to Ground
SpaceX

1
00:00:05,650 --> 00:00:02,790
foreign

2
00:00:08,810 --> 00:00:05,660
[Music]

3
00:00:11,390 --> 00:00:08,820
I'm Dan Hewitt hard to believe but we're

4
00:00:13,669 --> 00:00:11,400
already at our fifth rotation flight on

5
00:00:16,070 --> 00:00:13,679
crew Dragon delivering four new crew

6
00:00:19,070 --> 00:00:16,080
members to the space station

7
00:00:21,529 --> 00:00:19,080
NASA's SpaceX crew 5 Mission lifted off

8
00:00:24,429 --> 00:00:21,539
on Wednesday with NASA astronauts Nicole

9
00:00:26,870 --> 00:00:24,439
Mann and Josh cassida jaxa astronaut

10
00:00:30,050 --> 00:00:26,880
koichiwakata and Rose Cosmos Cosmonaut

11
00:00:32,210 --> 00:00:30,060
anakikina on board carried to space on a

12
00:00:34,729 --> 00:00:32,220
Falcon 9 rocket they had a Flawless ride

13
00:00:37,490 --> 00:00:34,739

uphill before settling in for the long

14
00:00:39,650 --> 00:00:37,500
flight to station we even got a look at

15
00:00:40,610 --> 00:00:39,660
a special stowaway making the trip up

16
00:00:43,430 --> 00:00:40,620
with them

17
00:00:45,290 --> 00:00:43,440
a couple years after we come up with his

18
00:00:47,690 --> 00:00:45,300
groundbreaking theory of special

19
00:00:49,670 --> 00:00:47,700
relativity Albert Einstein in his mind

20
00:00:52,190 --> 00:00:49,680
still had a couple loose ends to tie up

21
00:00:54,650 --> 00:00:52,200
while he was sitting in the patent

22
00:00:57,529 --> 00:00:54,660
office he had his happiest thought of

23
00:01:00,650 --> 00:00:57,539
his entire life I thought was person in

24
00:01:02,389 --> 00:01:00,660
free fall and feel their own weight that

25
00:01:04,969 --> 00:01:02,399
thought along with some others that he

26
00:01:07,070 --> 00:01:04,979
built upon led to general relativity and

27
00:01:09,170 --> 00:01:07,080
our understanding of gravitation and

28
00:01:11,929 --> 00:01:09,180
curvature of space time

29
00:01:13,969 --> 00:01:11,939
for experiencing Einstein's happiest

30
00:01:15,410 --> 00:01:13,979
thought continuously like the

31
00:01:18,469 --> 00:01:15,420
International Space Station has been

32
00:01:20,810 --> 00:01:18,479
doing for over 20 years and it was a

33
00:01:23,810 --> 00:01:20,820
long ride but after a safe arrival the

34
00:01:26,450 --> 00:01:23,820
station is positively packed

35
00:01:28,550 --> 00:01:26,460
crew Dragon endurance executed its

36
00:01:31,130 --> 00:01:28,560
automated Rendezvous and docking linking

37
00:01:33,410 --> 00:01:31,140
up to the forward-facing port on node 2.

38
00:01:35,090 --> 00:01:33,420

with crew 4 and dragon Freedom still

39
00:01:37,490 --> 00:01:35,100
docked we were treated to yet another

40
00:01:39,590 --> 00:01:37,500
instance of Double Dragon

41
00:01:42,230 --> 00:01:39,600
once on board the crew is welcomed by

42
00:01:44,630 --> 00:01:42,240
fellow Expedition 68 astronauts and

43
00:01:48,649 --> 00:01:44,640
cosmonauts marking the start of more

44
00:01:50,929 --> 00:01:48,659
than 150 days in space for Nicole Josh

45
00:01:53,090 --> 00:01:50,939
and Anna this is space flight number one

46
00:01:55,910 --> 00:01:53,100
but for koichi this is space flight

47
00:01:58,190 --> 00:01:55,920
number five adding another long duration

48
00:02:00,590 --> 00:01:58,200
stay to the resume of one of the most

49
00:02:03,109 --> 00:02:00,600
experienced space flyers in the game

50
00:02:05,330 --> 00:02:03,119
today we'll spend five to seven days

51
00:02:07,670 --> 00:02:05,340
with 11 people living on board the

52
00:02:10,070 --> 00:02:07,680
station before it's time for crew 4 to

53
00:02:12,290 --> 00:02:10,080
undock and return four astronauts home

54
00:02:13,250 --> 00:02:12,300
with the Splashdown off the coast of

55
00:02:15,710 --> 00:02:13,260
Florida

56
00:02:17,630 --> 00:02:15,720
meanwhile the station has instruments

57
00:02:19,610 --> 00:02:17,640
trained on planet Earth with one

58
00:02:22,369 --> 00:02:19,620
offering a deeper look at the global

59
00:02:24,470 --> 00:02:22,379
impact of a volcanic eruption

60
00:02:26,930 --> 00:02:24,480
the sage 3 which stands for

61
00:02:29,330 --> 00:02:26,940
stratospheric aerosol and gas experiment

62
00:02:31,910 --> 00:02:29,340
observed dramatically increased layers

63
00:02:34,250 --> 00:02:31,920

of stratospheric aerosol particles and

64
00:02:37,550 --> 00:02:34,260
water vapor following the eruption of

65
00:02:39,770 --> 00:02:37,560
The hungatanga Hunger haapai volcano and

66
00:02:41,630 --> 00:02:39,780
for several months after it continued to

67
00:02:44,150 --> 00:02:41,640
see these increased levels around the

68
00:02:46,190 --> 00:02:44,160
volcano and the entire Globe getting

69
00:02:48,229 --> 00:02:46,200
this data becomes critical to those of

70
00:02:50,509 --> 00:02:48,239
us on Earth because it informs us how

71
00:02:52,630 --> 00:02:50,519
these natural disasters can impact the

72
00:02:55,369 --> 00:02:52,640
earth's climate on a global scale

73
00:02:57,530 --> 00:02:55,379
aerosols a lot of people understand they

74
00:02:59,690 --> 00:02:57,540
can scatter light coming in from the Sun

75
00:03:02,150 --> 00:02:59,700
so why are we looking at water vapor

76
00:03:04,369 --> 00:03:02,160
well not only can increase water vapor

77
00:03:07,369 --> 00:03:04,379
lead to the destruction of stratospheric

78
00:03:09,770 --> 00:03:07,379
ozone centrally Earth's sunscreen it

79
00:03:11,809 --> 00:03:09,780
also warms the atmosphere the water

80
00:03:14,330 --> 00:03:11,819
vapor ratings from the Tonga eruptions

81
00:03:16,970 --> 00:03:14,340
seen by the sage III experiment are

82
00:03:19,190 --> 00:03:16,980
three to four times those ever recorded

83
00:03:21,649 --> 00:03:19,200
bias age instrument dating all the way

84
00:03:23,570 --> 00:03:21,659
back to 1985.

85
00:03:25,850 --> 00:03:23,580
that space to ground for this week

86
00:03:28,190 --> 00:03:25,860
thanks for watching be sure to follow

87
00:03:30,229 --> 00:03:28,200
all of the newest station residents on

88
00:03:32,530 --> 00:03:30,239

social media to keep track of their time

89
00:03:35,089 --> 00:03:32,540
and space head over to nasa.gov

90
00:03:36,949 --> 00:03:35,099
astronauts to learn more we'll see you

91
00:03:39,000 --> 00:03:36,959
next week and I'll see you around the

92
00:03:46,130 --> 00:03:39,010
holidays