



Space**to**Ground

1
00:00:07,110 --> 00:00:05,030
houston station on space to ground

2
00:00:09,910 --> 00:00:07,120
welcome to space to ground i'm kayla

3
00:00:12,070 --> 00:00:09,920
lafrance four astronauts launched to the

4
00:00:14,390 --> 00:00:12,080
international space station this week

5
00:00:18,710 --> 00:00:14,400
while two cosmonauts ventured outside

6
00:00:23,750 --> 00:00:20,520
falcon the freedom range

7
00:00:29,349 --> 00:00:26,470
nasa's spacex crew 4 commander chell

8
00:00:31,990 --> 00:00:29,359
lindgren along with astronauts bob hines

9
00:00:34,389 --> 00:00:32,000
jessica watkins and samantha christopher

10
00:00:37,030 --> 00:00:34,399
reddy lifted off early wednesday morning

11
00:00:39,270 --> 00:00:37,040
from the kennedy space center in florida

12
00:00:41,510 --> 00:00:39,280
the launch of the crew dragon freedom

13
00:00:44,869 --> 00:00:41,520

occurred just two days after the

14

00:00:46,869 --> 00:00:44,879

undocking of axiom mission 1 the first

15

00:00:48,709 --> 00:00:46,879

all-private astronaut mission to the

16

00:00:51,110 --> 00:00:48,719

orbiting outpost

17

00:00:53,750 --> 00:00:51,120

when crew 4 arrived at the station they

18

00:00:55,750 --> 00:00:53,760

were greeted by the crew 3 astronauts

19

00:00:57,510 --> 00:00:55,760

and their russian colleagues

20

00:00:59,990 --> 00:00:57,520

this is the first space flight for

21

00:01:02,630 --> 00:01:00,000

astronauts watkins and heinz and the

22

00:01:04,070 --> 00:01:02,640

second trip to space for lindgren and

23

00:01:06,469 --> 00:01:04,080

christopher reddy

24

00:01:08,310 --> 00:01:06,479

the crew 4 astronauts will work on all

25

00:01:10,310 --> 00:01:08,320

kinds of science experiments during

26

00:01:12,630 --> 00:01:10,320

their stay on the station

27

00:01:15,030 --> 00:01:12,640

many focus on ways to improve life here

28

00:01:17,910 --> 00:01:15,040

on earth while others help us learn how

29

00:01:19,910 --> 00:01:17,920

to keep people healthy in space on long

30

00:01:22,550 --> 00:01:19,920

duration missions

31

00:01:24,870 --> 00:01:22,560

the iss national lab sponsored

32

00:01:27,670 --> 00:01:24,880

protein-based artificial retina

33

00:01:30,789 --> 00:01:27,680

manufacturing investigation launched

34

00:01:33,270 --> 00:01:30,799

alongside crew 4 and dragon freedom

35

00:01:35,590 --> 00:01:33,280

scientists are testing the manufacture

36

00:01:37,910 --> 00:01:35,600

of artificial retina films in

37

00:01:40,710 --> 00:01:37,920

microgravity where the quality and

38

00:01:43,590 --> 00:01:40,720

stability of the films could be improved

39

00:01:45,830 --> 00:01:43,600

by a lack of sedimentation the aim of

40

00:01:48,310 --> 00:01:45,840

this research is to one day restore

41

00:01:51,350 --> 00:01:48,320

meaningful vision to patients affected

42

00:01:53,749 --> 00:01:51,360

by retinal degenerative diseases they'll

43

00:01:56,870 --> 00:01:53,759

also continue the x-root experiment

44

00:01:59,590 --> 00:01:56,880

which uses liquid-based hydroponics and

45

00:02:01,350 --> 00:01:59,600

air-based aeroponic techniques to grow

46

00:02:03,429 --> 00:02:01,360

plants without soil

47

00:02:05,590 --> 00:02:03,439

you can keep up with all the exciting

48

00:02:08,869 --> 00:02:05,600

science crew 4 will conduct during their

49

00:02:10,949 --> 00:02:08,879

time on orbit by following at iss

50

00:02:13,190 --> 00:02:10,959

underscore research

51
00:02:15,830 --> 00:02:13,200
work continued outside of the station

52
00:02:18,790 --> 00:02:15,840
with the second spacewalk in two weeks

53
00:02:21,750 --> 00:02:18,800
by a pair of russian cosmonauts

54
00:02:24,390 --> 00:02:21,760
the primary task for oleg artemyev and

55
00:02:27,750 --> 00:02:24,400
denise motve was the continuation of

56
00:02:29,990 --> 00:02:27,760
work on the european robotic arm the duo

57
00:02:31,990 --> 00:02:30,000
jettison thermal blankets used to

58
00:02:34,390 --> 00:02:32,000
protect the arm during its launch with

59
00:02:37,270 --> 00:02:34,400
the nioga multi-purpose laboratory

60
00:02:39,350 --> 00:02:37,280
module to the station they also flexed

61
00:02:41,589 --> 00:02:39,360
the arm's joints released launch

62
00:02:43,589 --> 00:02:41,599
restraints and monitored the arm's

63
00:02:45,190 --> 00:02:43,599

grapple ability

64

00:02:47,030 --> 00:02:45,200

that's face to ground for this week

65

00:03:01,030 --> 00:02:47,040

thanks for watching we'll see you next