



# Space**to**Ground

1  
00:00:06,970 --> 00:00:02,790  
foreign

2  
00:00:09,770 --> 00:00:06,980  
[Music]

3  
00:00:11,270 --> 00:00:09,780  
a soyuz spacecraft was on the fast track

4  
00:00:13,129 --> 00:00:11,280  
this week when it launched to the

5  
00:00:16,129 --> 00:00:13,139  
International Space Station

6  
00:00:18,529 --> 00:00:16,139  
and liftoff a sunset start to the

7  
00:00:20,689 --> 00:00:18,539  
mission of Rubio procopia event patellen

8  
00:00:23,029 --> 00:00:20,699  
to the International Space Station

9  
00:00:25,250 --> 00:00:23,039  
on Wednesday September 21st NASA

10  
00:00:27,410 --> 00:00:25,260  
astronaut Frank Rubio and Ross Cosmos

11  
00:00:29,990 --> 00:00:27,420  
Cosmonaut Sergey prokopiev and Dimitri

12  
00:00:31,970 --> 00:00:30,000  
patellen launched aboard the soyuz ms-22

13  
00:00:34,490 --> 00:00:31,980

spacecraft from the baikonur cosmodrome

14

00:00:36,170 --> 00:00:34,500

in Kazakhstan two orbits later the

15

00:00:38,690 --> 00:00:36,180

spacecraft docked to the station where

16

00:00:41,090 --> 00:00:38,700

they joined Expedition 67 Commander Oleg

17

00:00:43,610 --> 00:00:41,100

artemiev cosmonauts Denise modve and

18

00:00:45,950 --> 00:00:43,620

Sergey korsakov of Ross Cosmos as well

19

00:00:47,930 --> 00:00:45,960

as NASA astronauts Bob Heinz Chell

20

00:00:49,970 --> 00:00:47,940

Lindgren and Jessica Watkins and

21

00:00:51,410 --> 00:00:49,980

European Space Agency astronaut Samantha

22

00:00:53,810 --> 00:00:51,420

Christopher ready aboard the orbital

23

00:00:55,610 --> 00:00:53,820

Outpost the trio will spend six months

24

00:00:58,250 --> 00:00:55,620

aboard the space station conducting

25

00:01:01,490 --> 00:00:58,260

science and research investigations

26

00:01:03,470 --> 00:01:01,500

so do we have turtles in Space the

27

00:01:05,870 --> 00:01:03,480

answer may surprise you

28

00:01:08,030 --> 00:01:05,880

the arrival of Frank Rubio marks the

29

00:01:09,890 --> 00:01:08,040

fifth astronaut from NASA's 22nd class

30

00:01:12,050 --> 00:01:09,900

of astronaut candidates which is

31

00:01:14,030 --> 00:01:12,060

nicknamed The Turtles to fly to the

32

00:01:16,130 --> 00:01:14,040

International Space Station he joins

33

00:01:18,770 --> 00:01:16,140

fellow Turtles and NASA astronauts Bob

34

00:01:21,649 --> 00:01:18,780

Hines and Jessica Watkins of crew 4 on

35

00:01:23,749 --> 00:01:21,659

station NASA astronauts Kayla Baron and

36

00:01:26,090 --> 00:01:23,759

rajachari were their first two turtles

37

00:01:28,190 --> 00:01:26,100

to go to space when they flew on NASA's

38

00:01:30,230 --> 00:01:28,200

## SpaceX crew 3 mission

39

00:01:32,210 --> 00:01:30,240

back inside the station the science

40

00:01:34,730 --> 00:01:32,220

continues to grow

41

00:01:36,710 --> 00:01:34,740

last week NASA astronaut Chell Lindgren

42

00:01:39,230 --> 00:01:36,720

harvested lettuce and wheat from the

43

00:01:41,330 --> 00:01:39,240

ex-roots investigation it's kind of a

44

00:01:43,190 --> 00:01:41,340

Next Generation experiment where we're

45

00:01:46,490 --> 00:01:43,200

trying to grow plants and right now we

46

00:01:48,649 --> 00:01:46,500

actually have lettuce carrots onions and

47

00:01:50,870 --> 00:01:48,659

radishes growing and we're not using

48

00:01:53,030 --> 00:01:50,880

soil we're using aeroponics aerosol

49

00:01:55,969 --> 00:01:53,040

delivered water or Hydroponics where the

50

00:01:58,069 --> 00:01:55,979

roots just sit in water the extrude's

51  
00:02:00,230 --> 00:01:58,079  
investigation helps to evaluate nutrient

52  
00:02:01,730 --> 00:02:00,240  
delivery and Recovery techniques in the

53  
00:02:03,830 --> 00:02:01,740  
microgravity environment of the

54  
00:02:06,410 --> 00:02:03,840  
International Space Station over the

55  
00:02:08,510 --> 00:02:06,420  
next 30 plus days the crew will observe

56  
00:02:10,729 --> 00:02:08,520  
and assist with the seed germination and

57  
00:02:12,830 --> 00:02:10,739  
growth of the plants video and still

58  
00:02:15,050 --> 00:02:12,840  
images enable evaluation of the entire

59  
00:02:17,449 --> 00:02:15,060  
plant life cycle from seed germination

60  
00:02:19,850 --> 00:02:17,459  
through maturity results could identify

61  
00:02:22,670 --> 00:02:19,860  
suitable methods to produce crops on a

62  
00:02:24,350 --> 00:02:22,680  
larger scale for future space missions

63  
00:02:27,770 --> 00:02:24,360

that's space the ground for this week

64

00:02:29,630 --> 00:02:27,780

thanks for watching but before we go we

65

00:02:32,330 --> 00:02:29,640

invite you to watch the latest edition

66

00:02:34,610 --> 00:02:32,340

of the NASA video series down to earth

67

00:02:36,470 --> 00:02:34,620

astronaut Victor Glover sits down with

68

00:02:38,750 --> 00:02:36,480

his daughter to discuss what it's like

69

00:02:40,670 --> 00:02:38,760

to be separated from your family on a

70

00:02:43,170 --> 00:02:40,680

mission to the space station

71

00:03:03,290 --> 00:02:43,180

we will see you next week