



Space**to**Ground

1
00:00:03,020 --> 00:00:05,320
"HOUSTON, STATION ON SPACE TO GROUND."

2
00:00:05,320 --> 00:00:07,580
WELCOME TO SPACE TO GROUND, I'M ISIDRO REYNA.

3
00:00:07,580 --> 00:00:09,270
THIS WEEK, THE SCIENCE CONTINUES

4
00:00:09,270 --> 00:00:12,200
ABOARD THE INTERNATIONAL SPACE STATION.

5
00:00:12,200 --> 00:00:13,690
THE EXPEDITION 63 CREW

6
00:00:13,690 --> 00:00:16,020
TENDED TO A VARIETY OF SCIENCE HARDWARE,

7
00:00:16,020 --> 00:00:17,840
SERVICING THE GEAR AND UPDATING SOFTWARE

8
00:00:17,840 --> 00:00:19,940
THAT OPERATES THE ADVANCED RESEARCH DEVICES.

9
00:00:19,940 --> 00:00:21,790
A TRIO OF SCIENCE FACILITIES

10
00:00:21,790 --> 00:00:24,440
SUPPORTING PHYSICS AND BIOLOGY INVESTIGATIONS

11
00:00:24,440 --> 00:00:26,380
RECEIVED HANDS-ON ATTENTION.

12
00:00:26,380 --> 00:00:27,380
COMMANDER CHRIS CASSIDY

13
00:00:27,380 --> 00:00:28,810

CONNECTED A LAPTOP COMPUTER

14
00:00:28,810 --> 00:00:31,350
TO THE ELECTROSTATIC LEVITATION FURNACE

15
00:00:31,350 --> 00:00:32,890
AND UPDATED THE SOFTWARE THAT RUNS

16
00:00:32,890 --> 00:00:35,550
THE EXTREME TEMPERATURE RESEARCH DEVICE.

17
00:00:35,550 --> 00:00:37,130
THE VETERAN NASA ASTRONAUT ALSO

18
00:00:37,130 --> 00:00:39,410
SET UP THE CONFOCAL SPACE MICROSCOPE,

19
00:00:39,410 --> 00:00:41,470
WHICH OBSERVES CELLULAR AND TISSUE FUNCTIONS

20
00:00:41,470 --> 00:00:44,700
USING FLUORESCENCE AND SPATIAL FILTERING TECHNIQUES.

21
00:00:44,700 --> 00:00:46,170
CASSIDY ALSO REPLACED FILTERS

22
00:00:46,170 --> 00:00:48,130
INSIDE THE LIFE SCIENCE GLOVEBOX

23
00:00:48,130 --> 00:00:49,430
WHICH ENABLES TWO CREW MEMBERS

24
00:00:49,430 --> 00:00:51,350
TO CONDUCT BIOLOGY AND TECHNOLOGY

25
00:00:51,350 --> 00:00:53,579
RESEARCH AT THE SAME TIME.

26
00:00:53,579 --> 00:00:54,960
WE'RE LESS THAN TWO WEEKS AWAY

27
00:00:54,960 --> 00:00:56,660
FROM LAUNCHING THE NEXT NORTHROP GRUMMAN

28
00:00:56,660 --> 00:01:00,740
CYGNUS SPACECRAFT TO THE STATION.

29
00:01:00,740 --> 00:01:01,829
THE SPACECRAFT IS NAMED

30
00:01:01,829 --> 00:01:03,899
THE S.S. KALPANA CHAWLA IN HONOR

31
00:01:03,899 --> 00:01:05,610
OF THE FIRST WOMAN OF INDIAN DESCENT

32
00:01:05,610 --> 00:01:06,900
TO GO TO SPACE.

33
00:01:06,900 --> 00:01:08,560
IN NOVEMBER 1996,

34
00:01:08,560 --> 00:01:09,520
KALPANA WAS ASSIGNED

35
00:01:09,520 --> 00:01:10,480
AS MISSION SPECIALIST AND

36
00:01:10,480 --> 00:01:11,939
PRIME ROBOTIC ARM OPERATOR

37
00:01:11,939 --> 00:01:13,780
ON STS-87.

38
00:01:13,780 --> 00:01:16,749

KALPANA FLEW ON STS-87 IN 1997

39

00:01:16,749 --> 00:01:19,429
AND STS-107 IN 2003,

40

00:01:19,429 --> 00:01:21,869
LOGGING A TOTAL 30 DAYS, 14 HOURS

41

00:01:21,869 --> 00:01:24,240
AND 54 MINUTES IN SPACE.

42

00:01:24,240 --> 00:01:26,649
THE STS-107 MISSION ENDED TRAGICALLY

43

00:01:26,649 --> 00:01:28,969
ON FEBRUARY. 1, 2003,

44

00:01:28,969 --> 00:01:29,999
WHEN SPACE SHUTTLE COLUMBIA

45

00:01:29,999 --> 00:01:32,770
AND HER CREW PERISHED DURING REENTRY.

46

00:01:32,770 --> 00:01:34,500
THE S.S. KALPANA CHAWLA,

47

00:01:34,500 --> 00:01:36,149
NAMED FOR THE LATE ASTRONAUT,

48

00:01:36,149 --> 00:01:37,450
WILL LAUNCH FROM NASA'S WOLLOPS

49

00:01:37,450 --> 00:01:38,789
FLIGHT FACILITY IN VIRGINIA

50

00:01:38,789 --> 00:01:41,100
IN THE EVENING OF TUESDAY, SEPTEMBER 29.

51
00:01:42,840 --> 00:01:44,160
FOR ALMOST 20 YEARS,

52
00:01:44,160 --> 00:01:45,500
ASTRONAUTS HAVE LIVED AND WORKED

53
00:01:45,509 --> 00:01:47,599
ONBOARD THE INTERNATIONAL SPACE STATION,

54
00:01:47,599 --> 00:01:50,119
TESTING TECHNOLOGIES, PERFORMING SCIENCE,

55
00:01:50,119 --> 00:01:51,840
AND DEVELOPING THE SKILLS NEEDED TO EXPLORE

56
00:01:51,840 --> 00:01:53,759
FARTHER FROM EARTH, AS NASA PREPARES TO

57
00:01:53,759 --> 00:01:55,000
SEND THE FIRST WOMAN

58
00:01:55,000 --> 00:01:58,880
AND THE NEXT MAN ON THE SURFACE OF THE MOON
BY 2024.

59
00:01:58,880 --> 00:02:00,430
EACH MONTH DURING THE 2020

60
00:02:00,430 --> 00:02:01,979
THROUGH 2021 SCHOOL YEAR,

61
00:02:01,979 --> 00:02:03,939
NASA'S OFFICE OF STEM ENGAGEMENT

62
00:02:03,939 --> 00:02:05,389
IS PROVIDING EDUCATORS WITH

63

00:02:05,389 --> 00:02:07,049
READILY AVAILABLE LESSON PLANS,

64

00:02:07,049 --> 00:02:08,630
ACTIVITIES, AND INFORMATION

65

00:02:08,630 --> 00:02:10,580
ON SPACE STATION SCIENCE EXPERIMENTS,

66

00:02:10,580 --> 00:02:12,050
AND OTHER RESOURCES TO EXCITE

67

00:02:12,050 --> 00:02:14,360
THE ARTEMIS GENERATION OF EXPLORERS.

68

00:02:14,360 --> 00:02:16,200
ALL OF THIS INFORMATION IS ACCESSIBLE AT

69

00:02:16,200 --> 00:02:20,320
NASA.GOV/STEM/ISS20.

70

00:02:20,980 --> 00:02:22,300
KEEP SENDING IN YOUR QUESTIONS