



**Space**to**Ground**

1

00:00:03,040 --> 00:00:05,290

"HOUSTON, STATION ON SPACE TO GROUND."

2

00:00:05,290 --> 00:00:07,390

WELCOME TO SPACE TO GROUND, I AM SANDRA JONES.

3

00:00:07,390 --> 00:00:10,640

THIS WEEK A CARGO CRAFT DEPARTED THE SPACE  
STATION,

4

00:00:10,640 --> 00:00:12,340

NASA AND SPACEX TARGET OCTOBER

5

00:00:12,340 --> 00:00:14,140

FOR THE NEXT CREWED DRAGON LAUNCH,

6

00:00:14,140 --> 00:00:15,639

AND STUDENTS HEADING BACK TO CLASS

7

00:00:15,639 --> 00:00:19,700

CAN CELEBRATE STATION SCIENCE WITH A NEW WEBSITE.

8

00:00:19,700 --> 00:00:21,610

ON TUESDAY, THE JAPANESE AEROSPACE

9

00:00:21,610 --> 00:00:24,700

EXPLORATION AGENCY'S HTV-9 CARGO VEHICLE

10

00:00:24,700 --> 00:00:27,260

DEPARTED FROM THE INTERNATIONAL SPACE STATION.

11

00:00:27,260 --> 00:00:29,680

NASA ASTRONAUT AND EXPEDITION 63 COMMANDER

12

00:00:29,680 --> 00:00:33,840

CHRIS CASSIDY USED THE CANADARM2 TO RELEASE  
HTV-9,

13  
00:00:33,840 --> 00:00:35,720  
ENDING ITS THREE-MONTH STAY IN SPACE

14  
00:00:35,730 --> 00:00:37,760  
AFTER DELIVERING FOUR TONS OF SUPPLIES

15  
00:00:37,760 --> 00:00:40,080  
AND EXPERIMENTS TO THE ORBITING LABORATORY,

16  
00:00:40,080 --> 00:00:42,050  
INCLUDING LITHIUM-ION BATTERIES USED

17  
00:00:42,050 --> 00:00:45,560  
TO RECENTLY UPGRADE THE STATION'S POWER  
SYSTEMS.

18  
00:00:45,560 --> 00:00:48,120  
OCTOBER IS SHAPING UP TO BE A BUSY TRAVEL  
MONTH

19  
00:00:48,120 --> 00:00:50,860  
ON THE INTERNATIONAL SPACE STATION.

20  
00:00:50,860 --> 00:00:53,010  
ON WEDNESDAY, OCTOBER 14,

21  
00:00:53,010 --> 00:00:55,370  
SOYUZ MS-17 IS SCHEDULED TO BLAST OFF

22  
00:00:55,370 --> 00:00:58,210  
FROM BAIKONUR WITH NASA ASTRONAUT KATE RUBINS

23  
00:00:58,210 --> 00:00:59,620  
AND HER RUSSIAN CREWMATES TO BEGIN

24  
00:00:59,620 --> 00:01:02,329  
THEIR SIX-MONTH STAY ON STATION.

25

00:01:02,329 --> 00:01:03,660

ONE WEEK LATER, CHRIS CASSIDY,

26

00:01:03,660 --> 00:01:06,390

IVAN VAGNER, AND ANATOLY IVANISHIN WILL END

27

00:01:06,390 --> 00:01:09,430

THEIR 195 DAY STAY IN SPACE AND LAND

28

00:01:09,430 --> 00:01:11,280

ON THE STEPPE OF KAZAKHSTAN.

29

00:01:11,280 --> 00:01:12,500

FOLLOWING THAT LANDING,

30

00:01:12,500 --> 00:01:15,920

AND NOW SCHEDULED FOR NO EARLIER THAN OCTOBER

23,

31

00:01:15,920 --> 00:01:17,830

NASA ASTRONAUTS, MICHAEL HOPKINS,

32

00:01:17,830 --> 00:01:19,860

VICTOR GLOVER, AND SHANNON WALKER,

33

00:01:19,860 --> 00:01:21,990

AND JAXA ASTRONAUT SOICHI NOGUCHI

34

00:01:21,990 --> 00:01:23,640

WILL LAUNCH FROM FLORIDA ON THE FIRST

35

00:01:23,640 --> 00:01:25,100

OF A REGULAR ROTATION OF MISSIONS

36

00:01:25,100 --> 00:01:26,860

TO THE SPACE STATION ABOARD

37

00:01:26,860 --> 00:01:30,659  
THE SPACEX CREW DRAGON SPACECRAFT.

38  
00:01:30,659 --> 00:01:32,930  
WE ARE CELEBRATING 20 YEARS OF CONTINUOUS

39  
00:01:32,930 --> 00:01:35,570  
HUMAN OCCUPANCY ABOARD THE INTERNATIONAL SPACE STATION

40  
00:01:35,570 --> 00:01:37,430  
THIS YEAR AND HAVE RECENTLY LAUNCHED

41  
00:01:37,430 --> 00:01:39,610  
A NEW WEBSITE FULL OF THEM-BASED RESOURCES

42  
00:01:39,610 --> 00:01:41,900  
FOR STUDENTS AND EDUCATORS.

43  
00:01:41,900 --> 00:01:43,570  
THIS MONTH'S THEME IS BACK TO SCHOOL

44  
00:01:43,570 --> 00:01:45,750  
AND FEATURES OPPORTUNITIES AND RESOURCES

45  
00:01:45,750 --> 00:01:47,450  
FOR CELEBRATING STATION SCIENCE

46  
00:01:47,450 --> 00:01:49,850  
AS THE START OF A NEW SCHOOL YEAR BEGINS.

47  
00:01:49,850 --> 00:01:51,560  
YOU CAN PARTICIPATE FROM ANYWHERE.

48  
00:01:51,560 --> 00:01:58,409  
VISIT OUR WEBSITE AT [NASA.GOV/STEM/ISS20](https://www.nasa.gov/stem/iss20) AND  
CHECK IT OUT!

49  
00:01:58,409 --> 00:02:00,840

THIS WEEK'S QUESTION COMES FROM 9 YEAR OLD  
THOMAS

50

00:02:00,840 --> 00:02:05,780

WHO WANTS TO KNOW IF THE INTERNATIONAL SPACE  
STATION IS FALLING OR ORBITING?

51

00:02:05,780 --> 00:02:07,979

WELL THOMAS, THE INTERNATIONAL SPACE STATION

52

00:02:07,980 --> 00:02:09,820

IS ACTUALLY DOING BOTH!

53

00:02:09,820 --> 00:02:11,540

EARTH'S GRAVITY IS CONSTANTLY PULLING

54

00:02:11,540 --> 00:02:13,459

OBJECTS DOWNWARD TOWARD THE SURFACE,

55

00:02:13,460 --> 00:02:15,000

INCLUDING THE SPACE STATION.

56

00:02:15,000 --> 00:02:17,620

AS A RESULT, THE SPACE STATION IS CONSTANTLY  
FALLING

57

00:02:17,639 --> 00:02:19,130

TOWARD EARTH'S SURFACE.

58

00:02:19,130 --> 00:02:22,160

HOWEVER, IT ALSO IS MOVING AT A VERY FAST  
SPEED,

59

00:02:22,160 --> 00:02:25,120

ABOUT 17,500 MILES PER HOUR.

60

00:02:25,120 --> 00:02:27,250

THE SPACE STATION MOVES AT A SPEED THAT MATCHES

61  
00:02:27,250 --> 00:02:28,739  
THE WAY EARTH'S SURFACE CURVES.

62  
00:02:28,739 --> 00:02:29,879  
BECAUSE OF THIS,

63  
00:02:29,879 --> 00:02:31,980  
THE SPACECRAFT KEEPS FALLING TOWARD THE GROUND

64  
00:02:31,980 --> 00:02:33,049  
BUT NEVER HITS IT.

65  
00:02:33,049 --> 00:02:34,150  
AS A RESULT,

66  
00:02:34,150 --> 00:02:35,980  
IT FALLS IN ORBIT AROUND THE PLANET.

67  
00:02:35,980 --> 00:02:40,000  
THE MOON STAYS IN ORBIT AROUND EARTH FOR THIS  
SAME REASON!