



# SPACE TO GROUND

1  
00:00:00,606 --> 00:00:02,536  
"HOUSTON, STATION  
ON SPACE TO GROUND."

2  
00:00:02,856 --> 00:00:05,746  
WELCOME TO SPACE TO GROUND,  
I'M KATHRYN MCLAURIN.

3  
00:00:06,106 --> 00:00:08,386  
THIS WEEK ON STATION  
ITS OUT WITH THE OLD

4  
00:00:08,386 --> 00:00:11,476  
AS THE CREW PREPARES TO RELEASE  
THE CYGNUS CARGO SPACECRAFT.

5  
00:00:12,476 --> 00:00:14,906  
THE CYGNUS SPACECRAFT,  
WHICH ARRIVED AT THE STATION

6  
00:00:14,906 --> 00:00:18,196  
ON NOVEMBER 14TH WILL BE LEAVING  
ON WEDNESDAY DECEMBER 6TH.

7  
00:00:18,946 --> 00:00:21,156  
CYGNUS DELIVERED  
RESEARCH INVESTIGATIONS

8  
00:00:21,156 --> 00:00:22,536  
TO FURTHER IMPROVE  
LIFE ON EARTH.

9  
00:00:23,176 --> 00:00:26,616  
NOW CYGNUS IS PACKED WITH MORE  
THAN 5,500 POUNDS OF TRASH

10  
00:00:26,666 --> 00:00:29,456  
THAT WILL BURN UP AS IT  
REENTERS THE EARTH'S ATMOSPHERE.

11  
00:00:30,006 --> 00:00:32,396  
FOR MORE INFORMATION AND  
TO WATCH LIVE COVERAGE

12  
00:00:32,396 --> 00:00:34,706  
OF THE CYGNUS DEPARTURE  
ON DECEMBER 6TH BEGINNING

13  
00:00:34,706 --> 00:00:37,856  
AT 7:45 EASTERN STANDARD  
TIME PLEASE

14  
00:00:37,860 --> 00:00:41,306  
VISIT [WWW.NASA.GOV/NASATV](http://WWW.NASA.GOV/NASATV).

15  
00:00:42,580 --> 00:00:44,836  
IN KEEPING WITH THIS YEARS  
THEME, HIGHLIGHTING EDUCATION

16  
00:00:44,836 --> 00:00:47,746  
ON STATION, THE CREW SPENT  
TIME PREPARING THE STATION

17  
00:00:47,796 --> 00:00:49,996  
FOR A HIGH SCHOOL  
ROBOTICS COMPETITION.

18  
00:00:50,406 --> 00:00:53,926  
JOE ACABA AND ALEXANDER MISURKIN  
SET UP THE SPHERES WORK AREA

19  
00:00:53,926 --> 00:00:56,956  
TO RUN A TEST FOR THE SPHERES  
ZERO ROBOTICS COMPETITION

20  
00:00:56,956 --> 00:00:59,896  
THAT IS SCHEDULED TO BE  
PERFORMED IN JANUARY 2018.

21

00:01:00,556 --> 00:01:02,986  
SPHERES ZERO ROBOTICS  
COMPETITION ESTABLISHES AN

22

00:01:02,986 --> 00:01:04,706  
OPPORTUNITY FOR HIGH  
SCHOOL STUDENTS

23

00:01:04,706 --> 00:01:06,420  
TO DESIGN RESEARCH FOR THE ISS.

24

00:01:06,960 --> 00:01:09,660  
AS PART OF A COMPETITION,  
STUDENTS WRITE ALGORITHMS

25

00:01:09,666 --> 00:01:12,416  
FOR THE SPHERES SATELLITES  
TO ACCOMPLISH TASKS RELEVANT

26

00:01:12,416 --> 00:01:13,556  
TO FUTURE SPACE MISSIONS.

27

00:01:14,006 --> 00:01:16,356  
THE ALGORITHMS ARE  
TESTED BY THE SPHERES TEAM

28

00:01:16,356 --> 00:01:19,036  
AND THE BEST DESIGNS ARE  
SELECTED FOR THE COMPETITION

29

00:01:19,136 --> 00:01:21,816  
TO OPERATE THE SPHERES  
SATELLITES ON BOARD THE ISS.

30

00:01:22,796 --> 00:01:25,596  
THIS WEEKS QUESTION COMES  
FROM ARMY CADET IRIS YU

31

00:01:25,596 --> 00:01:27,366  
AT THE US MILITARY ACADEMY.

32

00:01:27,896 --> 00:01:29,906

"How did you adapt  
to live in space,

33

00:01:29,986 --> 00:01:32,766

and vice-versa how did you  
adapt back to life on Earth?

34

00:01:32,966 --> 00:01:35,846

Is there great difficulty  
in doing one or the other?"

35

00:01:36,636 --> 00:01:40,056

"I think they both have their  
challenges and what's neat

36

00:01:40,056 --> 00:01:44,426

about coming out, coming up here  
is noticing how quickly the body

37

00:01:44,426 --> 00:01:45,906

adapts to being in space.

38

00:01:46,276 --> 00:01:50,346

Usually my first 24 hours, I'm  
on the edge of getting sick,

39

00:01:50,346 --> 00:01:52,956

not quite getting sick,  
so not feeling 100%,

40

00:01:53,076 --> 00:01:56,556

but once that goes away and  
the fluid shifting goes back

41

00:01:56,736 --> 00:01:58,726

to a more kind of neutral state,

42

00:01:59,056 --> 00:02:01,116

its almost like we were  
born to be in space.

43

00:02:01,226 --> 00:02:03,486

And then going home,  
when you land,

44

00:02:03,946 --> 00:02:06,546

you wonder how did humans  
live on this planet because,

45

00:02:06,996 --> 00:02:09,316

you know that gravity I don't  
know you learn about gravity

46

00:02:09,316 --> 00:02:11,756

and physics, but it's  
strong after you've been

47

00:02:11,756 --> 00:02:12,956

up here for a few months."

48

00:02:13,426 --> 00:02:14,896

FOR THE EDUCATORS OUT THERE,

49

00:02:14,896 --> 00:02:16,876

VISIT THE NASA SPACE  
PLACE WEBSITE

50

00:02:16,876 --> 00:02:19,416

WHERE NASA USES THE  
WONDERS OF SPACE EXPLORATION

51

00:02:19,416 --> 00:02:22,726

TO ENGAGE YOUNG STUDENTS IN  
STEM LEARNING USING FUN APPS,

52

00:02:23,146 --> 00:02:25,156

GAMES, CRAFTS AND VIDEOS.

53

00:02:25,776 --> 00:02:29,296

THE NASA SPACE PLACE WEBSITE IS  
AVAILABLE IN ENGLISH AND SPANISH

54

00:02:29,296 --> 00:02:31,806

AND HAS A SPECIAL SECTION  
JUST FOR EDUCATORS.