



SPACE TO GROUND

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

2
00:00:03,046 --> 00:00:05,376
WELCOME TO SPACE TO
GROUND, I'M ISIDRO REYNA.

3
00:00:05,626 --> 00:00:09,416
THIS WEEK, THE CREW WELCOMED THE
ORBITAL ATK CYGNUS CARGO SHIP

4
00:00:09,416 --> 00:00:10,126
TO THE STATION.

5
00:00:10,776 --> 00:00:13,636
DUBBED THE S.S. GENE
CERNAN AFTER THE LAST PERSON

6
00:00:13,636 --> 00:00:16,356
TO HAVE WALKED ON THE MOON,
CYGNUS LAUNCHED INTO ORBIT

7
00:00:16,406 --> 00:00:19,176
TO THE INTERNATIONAL SPACE
STATION ON AN ANTARES ROCKET

8
00:00:19,216 --> 00:00:22,286
ON NOVEMBER 12th, CARRYING
NEARLY 7,400 POUNDS

9
00:00:22,286 --> 00:00:25,236
OF CREW SUPPLIES, EQUIPMENT
AND SCIENTIFIC RESEARCH

10
00:00:25,426 --> 00:00:28,636
TO SUPPORT EXPEDITION
53 AND 54 CREWMEMBERS.

11

00:00:29,186 --> 00:00:31,166
CYGNUS WAS CAPTURED
AND BOLTED INTO PLACE

12
00:00:31,166 --> 00:00:32,926
ON THE STATION'S
EARTH-FACING PORT

13
00:00:32,926 --> 00:00:35,166
OF THE UNITY MODULE
ON NOVEMBER 14TH.

14
00:00:35,376 --> 00:00:37,866
THE SPACECRAFT WILL SPEND
NEARLY THREE WEEKS ATTACHED

15
00:00:37,906 --> 00:00:40,386
TO THE STATION BEFORE
DEPARTING IN EARLY DECEMBER.

16
00:00:41,416 --> 00:00:42,566
ONE EXPERIMENT DELIVERED

17
00:00:42,566 --> 00:00:45,786
ON CYGNUS IS THE E. COLI
ANTI-MICROBIAL SATELLITE,

18
00:00:45,916 --> 00:00:49,036
WHICH COULD HELP US DETERMINE
APPROPRIATE ANTIBIOTIC DOSAGES

19
00:00:49,236 --> 00:00:51,956
TO PROTECT ASTRONAUT HEALTH
DURING LONG-DURATION MISSIONS.

20
00:00:52,786 --> 00:00:55,496
ANTIBIOTIC RESISTANCE COULD
POSE A DANGER TO ASTRONAUTS,

21
00:00:55,496 --> 00:00:57,976

ESPECIALLY SINCE
MICROGRAVITY HAS BEEN SHOWN

22
00:00:57,976 --> 00:00:59,506
TO WEAKEN HUMAN IMMUNE RESPONSE.

23
00:00:59,876 --> 00:01:02,306
THE EXPERIMENT WILL EXPOSE
TWO STRAINS OF E. COLI

24
00:01:02,306 --> 00:01:04,406
TO THREE DIFFERENT
DOSES OF ANTIBIOTICS;

25
00:01:04,726 --> 00:01:06,336
ONE OF THESE STRAINS
IS DEFICIENT

26
00:01:06,336 --> 00:01:09,566
IN THE GENE RESPONSIBLE FOR THE
INCREASED ANTIBIOTIC RESISTANCE

27
00:01:09,646 --> 00:01:10,636
IN MICROGRAVITY.

28
00:01:11,456 --> 00:01:14,156
THIS WEEK'S TWITTER QUESTION
COMES FROM TERESA BOYD.

29
00:01:14,376 --> 00:01:17,736
SHE WANTS TO KNOW WHO ASTRONAUTS
CONTACT IF THEY HAVE A QUESTION

30
00:01:17,736 --> 00:01:19,556
ABOUT AN EXPERIMENT
WHILE ON THE STATION.

31
00:01:19,956 --> 00:01:23,676
GREAT QUESTION, ASTRONAUTS CAN
CALL DOWN TO EARTH AND CONNECT

32

00:01:23,676 --> 00:01:26,226
WITH NASA'S PAYLOAD
OPERATIONS INTEGRATION CENTER

33

00:01:26,406 --> 00:01:27,596
IN HUNTSVILLE, ALABAMA.

34

00:01:28,306 --> 00:01:30,606
THE PAYLOAD OPERATIONS
INTEGRATION CENTER IS THE

35

00:01:30,606 --> 00:01:32,996
HEARTBEAT FOR STATION
RESEARCH OPERATIONS.

36

00:01:33,326 --> 00:01:36,606
AS NASA'S PRIMARY SPACE
STATION SCIENCE COMMAND POST,

37

00:01:36,786 --> 00:01:39,516
THE PAYLOAD OPERATIONS TEAM
COORDINATES ALL AMERICAN,

38

00:01:39,686 --> 00:01:42,666
EUROPEAN, JAPANESE,
AND CANADIAN SCIENTIFIC

39

00:01:42,666 --> 00:01:44,536
AND COMMERCIAL EXPERIMENTS
ON THE STATION,

40

00:01:44,856 --> 00:01:47,776
SYNCHRONIZES PAYLOAD ACTIVITIES
OF INTERNATIONAL PARTNERS,

41

00:01:47,936 --> 00:01:50,676
AND DIRECTS COMMUNICATIONS
BETWEEN STATION CREWMEMBERS

42
00:01:50,776 --> 00:01:53,816
AND RESEARCHERS AROUND THE
WORLD WITH ONBOARD EXPERIMENTS.

43
00:01:54,396 --> 00:01:56,076
KEEP SENDING US YOUR
QUESTIONS USING THE

44
00:01:56,076 --> 00:01:57,496
HASHTAG SPACE-TO-GROUND.

45
00:01:57,896 --> 00:01:59,476
AND FOR THOSE EDUCATORS
OUT THERE,

46
00:01:59,706 --> 00:02:03,536
VISIT [NASA.GOV/STEMONSTATION](https://www.nasa.gov/stemonstation)
TO FIND WAYS

47
00:02:03,536 --> 00:02:07,036
TO GET INVOLVED DURING NASA'S
YEAR OF EDUCATION, A CELEBRATION

48
00:02:07,216 --> 00:02:09,396
OF AN ALMOST 12-MONTH
PRESENCE OF A TEACHER