



# Space to Ground

1

00:00:03,149 --> 00:00:05,600

WELCOME TO SPACE TO GROUND, I'M LEAH CHESHIER.

2

00:00:05,600 --> 00:00:10,470

COMING UP SOON, THE CYGNUS SPACECRAFT WILL  
ASCEND TO ITS NEW PLACE IN SPACE AFTER RIDING

3

00:00:10,470 --> 00:00:11,740

AN ANTARES ROCKET.

4

00:00:13,100 --> 00:00:15,560

NORTHROP GRUMMAN'S CYGNUS RESUPPLY SPACECRAFT IS SCHEDULE

5

00:00:15,560 --> 00:00:18,020

TO LAUNCH FRIDAY AFTERNOON, FEBRUARY 14

6

00:00:18,020 --> 00:00:21,700

FROM THE MID-ATLANTIC REGIONAL SPACEPORT IN  
WALLOPS ISLAND, VIRGINIA,

7

00:00:21,700 --> 00:00:24,060

BOUND FOR THE INTERNATIONAL SPACE STATION.

8

00:00:24,070 --> 00:00:28,880

THIS CYGNUS, LAUNCHING DURING BLACK HISTORY  
MONTH, IS NAMED THE "SS ROBERT H. LAWRENCE"

9

00:00:28,880 --> 00:00:32,579

IN HONOR OF THE FIRST AFRICAN AMERICAN TO  
BE SELECTED AS AN ASTRONAUT.

10

00:00:32,579 --> 00:00:38,500

THE COMPANY'S 13TH RESUPPLY MISSION WILL  
DELIVER OVER 7,500 POUNDS OF CREW SUPPLIES,

11

00:00:38,500 --> 00:00:42,290

RESEARCH INVESTIGATIONS, SPACEWALK EQUIPMENT  
AND MORE.

12

00:00:42,290 --> 00:00:44,800

CYGNUS WILL ARRIVE AT THE STATION ON FEBRUARY 16,

13

00:00:44,800 --> 00:00:48,370

WHERE NASA ASTRONAUT JESSICA MEIR WILL MONITOR ITS APPROACH AND RENDEZVOUS

14

00:00:48,370 --> 00:00:52,960

BEFORE IT IS CAPTURED BY THE CANADARM2, CONTROLLED BY ANDREW MORGAN.

15

00:00:53,740 --> 00:00:56,240

AS WE PLAN TO VENTURE FURTHER INTO SPACE,

16

00:00:56,240 --> 00:01:01,580

WE KNOW THAT INCREASED EXPOSURE TO RADIATION  
IN SPACE CAN POSE HEALTH HAZARDS FOR ASTRONAUTS.

17

00:01:01,580 --> 00:01:05,200

RESEARCH ON THE SPACE STATION MIGHT HELP US  
PREPARE FOR THOSE LONGER JOURNEYS.

18

00:01:06,340 --> 00:01:09,900

ASTRONAUT LONG-TERM HEALTH CAN BE AFFECTED  
AS RADIATION MAY CAUSE

19

00:01:09,900 --> 00:01:12,300

DOUBLE-STRAND BREAKS IN THEIR DNA.

20

00:01:12,300 --> 00:01:15,080

CELLS REPAIR THESE BREAKS, BUT NOT ALWAYS  
PERFECTLY,

21

00:01:15,080 --> 00:01:18,940

AND THE ERRORS MAY RESULT IN DETRIMENTAL EFFECTS, LIKE CANCER.

22

00:01:18,940 --> 00:01:23,760

THE GENES IN SPACE-6 EXPERIMENT DETERMINES  
THE OPTIMAL DNA REPAIR MECHANISMS THAT CELLS

23

00:01:23,760 --> 00:01:25,890  
USE IN A SPACEFLIGHT ENVIRONMENT.

24  
00:01:25,890 --> 00:01:31,880  
FOR THE FIRST TIME, THE ENTIRE DNA DAMAGE,  
MUTATION AND REPAIR PROCESS IS BEING EVALUATED

25  
00:01:31,880 --> 00:01:34,500  
IN SPACE AT THE MOLECULAR LEVEL.

26  
00:01:34,500 --> 00:01:37,820  
NOT ONLY WILL THIS RESEARCH HELP US PREPARE  
FOR LONG DURATION MISSIONS

27  
00:01:37,820 --> 00:01:39,340  
TO THE MOON AND MARS,

28  
00:01:39,340 --> 00:01:44,480  
IT ALSO MAY HELP DEVELOP PROCEDURES TO PROTECT PEOPLE IN REMOTE AND HARSH LOCATIONS

29  
00:01:45,060 --> 00:01:48,780  
THIS WEEK, WE'RE HIGHLIGHTING JUST A FEW  
OF THE THOUSANDS OF MESSAGES WE RECEIVED

30  
00:01:48,780 --> 00:01:50,980  
WITH THE HASHTAG #CONGRATSCHRISTINA

31  
00:01:50,980 --> 00:01:55,720  
AFTER NASA ASTRONAUT CHRISTINA KOCH COMPLETED A 328 DAY MISSION

32  
00:01:55,720 --> 00:02:00,740  
TO THE INTERNATIONAL SPACE STATION, THE LONGEST SINGLE DURATION MISSION FOR A WOMAN

33  
00:02:00,740 --> 00:02:06,180  
EZEKIEL SENT HIS CONGRATULATIONS, BUT ADMITTED  
HE WOULD MISS SEEING CHRISTINA'S SPACE HAIR.

34  
00:02:06,180 --> 00:02:10,560  
EVAN RECALLED WATCHING THE FIRST ALL WOMAN

SPACEWALK DURING WHICH CHRISTINA AND JESSICA

35

00:02:10,560 --> 00:02:13,409

MEIR VENTURED OUTSIDE THE STATION IN OCTOBER.

36

00:02:13,409 --> 00:02:17,940

JJHOFAN SAID THEY LET THEIR 11 YEAR OLD STAY  
UP TOO LATE TO WATCH THE LANDING,

37

00:02:17,940 --> 00:02:20,340

BUT WE THINK IT WAS WORTH IT.

38

00:02:20,340 --> 00:02:24,500

PRIOR TO BECOMING AN ASTRONAUT, CHRISTINA  
CONDUCTED REMOTE SCIENTIFIC FIELD WORK AT

39

00:02:24,500 --> 00:02:26,209

PALMER STATION IN ANTARCTICA,

40

00:02:26,209 --> 00:02:29,240

WHO SENT THEIR CONGRATS MESSAGE WHILE WATCHING HER LANDING.

41

00:02:29,640 --> 00:02:32,440

"BON VOYAGE, CHRISTINA!"