SPACE TO GROUND

1
00:00:00,606 --> 00:00:02,546
"HOUSTON, STATION
ON SPACE TO GROUND."

2
00:00:02,866 --> 00:00:05,746
WELCOME TO SPACE TO GROUND,
I'M KATHRYN MCLAURIN.

3
00:00:05,996 --> 00:00:09,006
THE ISS CREW SPENT THE WEEK
ENABLING LONG TERM MISSIONS

4
00:00:09,006 --> 00:00:10,246
AND LONG DISTANCE LEARNING.

5
00:00:10,856 --> 00:00:14,406
EXPEDITION 53 FLIGHT ENGINEER
PAOLO NESPOLI COMPLETED AN

6
00:00:14,406 --> 00:00:17,516
11-DAY EXPERIMENT TO MEASURE
ASTRONAUTS ENERGY REQUIREMENTS

7
00:00:17,516 --> 00:00:18,696
FOR LONG-TERM SPACE FLIGHT.

8
00:00:19,276 --> 00:00:22,226
FOR 11 DAYS, PAOLO LOGGED
EVERYTHING HE ATE AND DRANK.

9
00:00:22,686 --> 00:00:25,286
DOCTORS WILL USE THAT DATA
TO MEASURE METABOLIC RATES,

10
00:00:25,536 --> 00:00:29,586
URINE CONTENT AND BONE DENSITY
TO DETERMINE ENERGY NEEDS.

11
00:00:29,586 --> 00:00:32,456

ASTRONAUTS OFTEN LOSE BODY MASS
DURING LONG-DURATION MISSIONS

12
00:00:32,456 --> 00:00:34,006
AND WE'RE STILL FIGURING
OUT WHY.

13
00:00:34,416 --> 00:00:35,826
WHILE INCREASED EXERCISES

14
00:00:35,826 --> 00:00:38,846
IN MICROGRAVITY CAN HELP
COMBAT THIS LOSS, KNOWING MORE

15
00:00:38,846 --> 00:00:42,006
ABOUT ASTRONAUT METABOLISM CAN
PROVIDE VALUABLE INFORMATION

16
00:00:42,006 --> 00:00:44,466
TO KEEP THE CREWS PROPERLY
NOURISHED ON LONG MISSIONS.

17
00:00:45,216 --> 00:00:46,946
THE CREW ALSO PREPARED
AN EXPERIMENT

18
00:00:46,946 --> 00:00:50,046
TO GIVE STUDENTS THEIR
VERY OWN EYE IN THE SKY.

19
00:00:50,046 --> 00:00:52,186
ASTRONAUTS SET UP THE
SALLY RIDE EARTH KAM

20
00:00:52,186 --> 00:00:54,376
FOR AN UPCOMING WEEK-LONG
IMAGING SESSION.

21
00:00:54,816 --> 00:00:57,696
SALLY RIDE EARTH KAM ALLOWS

THOUSANDS OF SCHOOL STUDENTS

22
00:00:57,726 --> 00:01:01,216
TO PHOTOGRAPH AND EXAMINE EARTH
FROM AN ASTRONAUT'S PERSPECTIVE.

23
00:01:01,326 --> 00:01:03,716
WITH THE CAMERA MOUNTED, THE
STUDENTS WILL USE THE INTERNET

24
00:01:03,716 --> 00:01:05,156
TO CONTROL IT FROM
THE CLASSROOM.

25
00:01:05,466 --> 00:01:08,306
THEY'LL PHOTOGRAPH THE EARTH'S
COASTLINES, MOUNTAIN RANGES

26
00:01:08,376 --> 00:01:11,416
AND OTHER GEOGRAPHIC SITES
WHICH GET POSTED ON THE INTERNET

27
00:01:11,476 --> 00:01:13,346
FOR THE PUBLIC AND
PARTICIPATING CLASSROOMS

28
00:01:13,346 --> 00:01:14,376
AROUND THE WORLD TO VIEW.

29
00:01:15,226 --> 00:01:16,916
THIS WEEKS QUESTION
COMES FROM A STUDENT

30
00:01:16,916 --> 00:01:18,896
AT SANTA MONICA HIGH
SCHOOL IN CALIFORNIA.

31
00:01:19,586 --> 00:01:22,156
THESE STUDENTS TOOK PART
IN A LIVE ISS DOWNLINK

32
00:01:22,156 --> 00:01:24,426
WITH EXPEDITION 53
COMMANDER RANDY BRESNIK

33
00:01:24,426 --> 00:01:26,886
AND FLIGHT ENGINEER JOE
ACABA, A FORMER TEACHER,

34
00:01:27,056 --> 00:01:29,376
AS A PART OF A YEAR OF
EDUCATION ON STATION.

35
00:01:29,776 --> 00:01:32,586
"Hello, my name is Anan
Waktole, I'm in 10th grade

36
00:01:32,586 --> 00:01:34,096
and my question for you is;

37
00:01:34,246 --> 00:01:36,566
How long would a fidget
spinner spin in space?"

38
00:01:36,656 --> 00:01:41,606
"The spinner...it's pretty
gyroscopically stable,

39
00:01:41,606 --> 00:01:43,096
so it will spin for a long time,

40
00:01:43,096 --> 00:01:44,506
and so the only thing
that's acting

41
00:01:44,506 --> 00:01:47,876
on that right now is just the
friction from the center portion

42

00:01:48,136 --> 00:01:49,786
on the actual part
of that spinning.

43
00:01:50,076 --> 00:01:53,426
And so it'ill spin for
a pretty darn long time,

44
00:01:53,646 --> 00:01:55,246
technically it's
just spin forever

45
00:01:55,246 --> 00:01:56,986
if there wasn't any friction
on that center part."

46
00:01:57,596 --> 00:02:00,346
AND YOU CAN NOW CONNECT WITH
A YEAR OF EDUCATION ON STATION

47
00:02:00,346 --> 00:02:01,976
IN A WHOLE NEW WAY
BY FOLLOWING US

48
00:02:01,976 --> 00:02:03,556
ON PINTEREST AT THIS LINK BELOW.