SPACE TO GROUND

1
00:00:05,269 --> 00:00:03,510
houston station on space to ground

2
00:00:06,869 --> 00:00:05,279
energized

3
00:00:08,870 --> 00:00:06,879
welcome to space to ground i'm gary

4
00:00:10,390 --> 00:00:08,880
jordan it takes a lot of energy every

5
00:00:11,910 --> 00:00:10,400
day to be an astronaut performing

6
00:00:13,749 --> 00:00:11,920
complex science experiments and

7
00:00:15,270 --> 00:00:13,759
maintenance tasks working out two and a

8
00:00:17,189 --> 00:00:15,280
half hours all while on a packed

9
00:00:19,029 --> 00:00:17,199
timeline one study is making sure

10
00:00:20,310 --> 00:00:19,039
astronauts have the energy needed to do

11
00:00:22,390 --> 00:00:20,320
it all

12
00:00:24,070 --> 00:00:22,400
tokyo onishi completed the 11 day

13
00:00:26,230 --> 00:00:24,080

experiment called energy this past

14
00:00:28,150 --> 00:00:26,240
sunday throughout that time onishi was

15
00:00:29,830 --> 00:00:28,160
logging his food intake each day while

16
00:00:32,549 --> 00:00:29,840
occasionally collecting biological

17
00:00:34,150 --> 00:00:32,559
samples and measuring oxygen uptake

18
00:00:35,670 --> 00:00:34,160
the energy study makes sure that through

19
00:00:37,430 --> 00:00:35,680
long stays in space and rigorous

20
00:00:39,270 --> 00:00:37,440
exercise astronauts will have the right

21
00:00:41,190 --> 00:00:39,280
amounts of the right types of food for

22
00:00:42,630 --> 00:00:41,200
even longer space flights like on the

23
00:00:44,229 --> 00:00:42,640
journey to mars

24
00:00:45,910 --> 00:00:44,239
astronauts near the end of their turn

25
00:00:47,830 --> 00:00:45,920
conducting the fluid shifts experiment

26
00:00:49,510 --> 00:00:47,840
with a round of testing called dilution

27
00:00:51,510 --> 00:00:49,520
measures

28
00:00:53,270 --> 00:00:51,520
kate rubins and takuya onishi began a

29
00:00:54,869 --> 00:00:53,280
series of tests for the fluid shifts

30
00:00:57,270 --> 00:00:54,879
experiment scheduled during the home

31
00:00:59,029 --> 00:00:57,280
stretch of the astronaut stay on the iss

32
00:01:00,549 --> 00:00:59,039
before returning to earth

33
00:01:03,110 --> 00:01:00,559
dilution measures include collecting

34
00:01:05,590 --> 00:01:03,120
biological samples ultrasound scans eye

35
00:01:07,429 --> 00:01:05,600
exams and more over several days

36
00:01:09,109 --> 00:01:07,439
the ongoing fluid shifts experiment

37
00:01:11,350 --> 00:01:09,119
investigates potential causes of

38
00:01:13,350 --> 00:01:11,360

pressure in the head and vision changes

39
00:01:15,510 --> 00:01:13,360
during long space flights

40
00:01:17,830 --> 00:01:15,520
this week's question comes from jq who's

41
00:01:20,149 --> 00:01:17,840
asking if there is a plan to add modules

42
00:01:21,670 --> 00:01:20,159
to the iss and achieve a full circle

43
00:01:23,270 --> 00:01:21,680
there used to be plans like this before

44
00:01:25,270 --> 00:01:23,280
the station was built and we've since

45
00:01:27,670 --> 00:01:25,280
moved on from those concepts but that

46
00:01:29,749 --> 00:01:27,680
doesn't mean we're done adding modules

47
00:01:32,149 --> 00:01:29,759
many of nasa's early designs for a space

48
00:01:33,590 --> 00:01:32,159
station were full circles one concept

49
00:01:35,510 --> 00:01:33,600
from here at the johnson space center

50
00:01:37,990 --> 00:01:35,520
called the race track featured parallel

51
00:01:39,830 --> 00:01:38,000
modules connected at the ends over time

52
00:01:41,190 --> 00:01:39,840
designs and plans changed into what is

53
00:01:43,030 --> 00:01:41,200
now the linear layout of the

54
00:01:44,950 --> 00:01:43,040
international space station and new

55
00:01:46,550 --> 00:01:44,960
elements are still being affixed

56
00:01:48,550 --> 00:01:46,560
this year beam was added to test

57
00:01:50,230 --> 00:01:48,560
expandable module technology and the

58
00:01:51,749 --> 00:01:50,240
international docking adapter was

59
00:01:54,310 --> 00:01:51,759
installed for future commercial crew

60
00:01:55,990 --> 00:01:54,320
vehicles to dock to nasa recently

61
00:01:57,590 --> 00:01:56,000
announced the opportunity for private

62
00:01:59,429 --> 00:01:57,600
companies to add their own modules to

63
00:02:01,030 --> 00:01:59,439

the iss in an effort to expand the

64
00:02:02,550 --> 00:02:01,040
commercial space business

65
00:02:04,789 --> 00:02:02,560
keep sending us your questions using the