1
00:00:05,430 --> 00:00:03,669
outstanding uh any of the young people

2
00:00:07,349 --> 00:00:05,440
have another question

3
00:00:09,350 --> 00:00:07,359
this young man right here hold on one

4
00:00:12,070 --> 00:00:09,360
second

5
00:00:14,910 --> 00:00:12,080
have you found any life forms or any

6
00:00:18,230 --> 00:00:14,920
plants out in

7
00:00:20,230 --> 00:00:18,240
space a good question any uh

8
00:00:25,589 --> 00:00:20,240
any life forms out there

9
00:00:30,550 --> 00:00:28,230
we did an experiment on this mission uh

10
00:00:33,110 --> 00:00:30,560
to take a swab or a sample of the

11
00:00:34,790 --> 00:00:33,120
surface of the eva the space walker's

12
00:00:37,750 --> 00:00:34,800
gloves both before

13
00:00:39,350 --> 00:00:37,760

and after the space walk and that's uh

14
00:00:40,950 --> 00:00:39,360
that was sort of the demonstration of

15
00:00:44,950 --> 00:00:40,960
the type of technology that we'll be

16
00:00:46,790 --> 00:00:44,960
able to use on the moon and mars for the

17
00:00:49,029 --> 00:00:46,800
same purpose to try and see if we can

18
00:00:51,670 --> 00:00:49,039
determine what sort of bacteria or

19
00:00:53,990 --> 00:00:51,680
microorganisms are living in the various

20
00:00:55,430 --> 00:00:54,000
environments we're going to encounter we

21
00:00:57,670 --> 00:00:55,440
unfortunately haven't really found

22
00:01:00,709 --> 00:00:57,680
anything here i think we'll have much

23
00:01:02,389 --> 00:01:00,719
more uh success at finding new types of

24
00:01:04,229 --> 00:01:02,399
life and different structures when we go

25
00:01:06,149 --> 00:01:04,239
to places like moon and mars and moons

26
00:01:09,429 --> 00:01:06,159
of titan and these other types of

27
00:01:15,670 --> 00:01:12,149
excellent question all right uh we've

28
00:01:20,070 --> 00:01:17,670
what things did you have to study to be

29
00:01:21,350 --> 00:01:20,080
an astronaut

30
00:01:23,109 --> 00:01:21,360
all right that's a good question you

31
00:01:24,710 --> 00:01:23,119
guys are all extraordinarily trained

32
00:01:27,270 --> 00:01:24,720
what uh

33
00:01:29,429 --> 00:01:27,280
if we've got some budding astronauts uh

34
00:01:31,190 --> 00:01:29,439
over here what uh what should they be

35
00:01:36,469 --> 00:01:31,200
doing i'm assuming they better uh hit

36
00:01:40,469 --> 00:01:38,789
that's uh you got it just right the uh

37
00:01:43,190 --> 00:01:40,479
one of the beautiful things about

38
00:01:45,109 --> 00:01:43,200

getting to work here is you can study uh

39
00:01:47,350 --> 00:01:45,119
just about anything that

40
00:01:49,429 --> 00:01:47,360
that you're really interested in

41
00:01:51,350 --> 00:01:49,439
science and math being a big part of it

42
00:01:53,510 --> 00:01:51,360
but we have uh

43
00:01:55,990 --> 00:01:53,520
medical doctors

44
00:01:58,469 --> 00:01:56,000
geologists

45
00:02:01,590 --> 00:01:58,479
engineers and

46
00:02:03,830 --> 00:02:01,600
physicists in the group here with us

47
00:02:05,270 --> 00:02:03,840
so it's pretty much anything in the math

48
00:02:06,709 --> 00:02:05,280
and science field

49
00:02:08,630 --> 00:02:06,719
we've got a couple of school teachers

50
00:02:11,670 --> 00:02:08,640
here with us

51
00:02:13,270 --> 00:02:11,680
so studying education as well as

52
00:02:15,589 --> 00:02:13,280
the math and science

53
00:02:18,150 --> 00:02:15,599
but there really is room up here for uh

54
00:02:20,470 --> 00:02:18,160
for everybody the important part though

55
00:02:22,390 --> 00:02:20,480
is to work really hard and

56
00:02:26,150 --> 00:02:22,400
do well in school it it'll make a

57
00:02:31,589 --> 00:02:28,229
and what about uh what about

58
00:02:33,509 --> 00:02:31,599
fitness requirements these days uh

59
00:02:35,509 --> 00:02:33,519
you know some of us remember watching

60
00:02:37,190 --> 00:02:35,519
the right stuff where

61
00:02:39,990 --> 00:02:37,200
oh

62
00:02:41,830 --> 00:02:40,000
that's pretty impressive

63
00:02:48,470 --> 00:02:41,840

uh

64
00:02:53,750 --> 00:02:49,430
go ahead

65
00:02:55,589 --> 00:02:53,760
president the fitness requirements are

66
00:02:56,869 --> 00:02:55,599
still uh still there

67
00:02:58,630 --> 00:02:56,879
matter of fact uh the international

68
00:03:01,270 --> 00:02:58,640
space station just recently incorporated

69
00:03:03,110 --> 00:03:01,280
a new uh fitness machine it's like it's

70
00:03:05,430 --> 00:03:03,120
a very very fancy

71
00:03:07,190 --> 00:03:05,440
uh workout machine you see in a gym but

72
00:03:09,030 --> 00:03:07,200
it's called the a red and we can do a

73
00:03:10,790 --> 00:03:09,040
lot of good exercise on it the leg

74
00:03:13,110 --> 00:03:10,800
actually some strength training for your

75
00:03:14,790 --> 00:03:13,120
legs as well as your upper body so

76
00:03:17,190 --> 00:03:14,800
particularly for the long duration folks

77
00:03:19,110 --> 00:03:17,200
it's very important to maintain

78
00:03:20,630 --> 00:03:19,120
your muscles in good tone and help you

79
00:03:23,430 --> 00:03:20,640
read that when you get back on planet

80
00:03:28,550 --> 00:03:25,270
excellent okay there's a young lady back

81
00:03:38,550 --> 00:03:31,270
um when you say you exercise what do you

82
00:03:42,470 --> 00:03:40,149
well we have a couple of different

83
00:03:45,110 --> 00:03:42,480
exercise machines up here on the space

84
00:03:46,710 --> 00:03:45,120
shuttle we brought up it looks like a

85
00:03:49,110 --> 00:03:46,720
like a bicycle that you would find in a

86
00:03:51,509 --> 00:03:49,120
gymnasium so we can use that and they

87
00:03:53,509 --> 00:03:51,519
have one here on the space station

88
00:03:56,710 --> 00:03:53,519

and the other machine you can do all

89
00:03:58,789 --> 00:03:56,720
kinds of stuff you can do squats

90
00:04:00,869 --> 00:03:58,799
you can do curls so we have a lot we can

91
00:04:08,229 --> 00:04:00,879
do we also have a treadmill so you can

92
00:04:13,990 --> 00:04:10,949
any this okay we've got another question

93
00:04:16,150 --> 00:04:14,000
from a young man hold on

94
00:04:18,150 --> 00:04:16,160
you know how many stars they are in the

95
00:04:23,270 --> 00:04:18,160
space

96
00:04:31,590 --> 00:04:23,280
i'll be interested in hearing the answer

97
00:04:34,390 --> 00:04:32,629
well

98
00:04:36,469 --> 00:04:34,400
uh aboard the international space

99
00:04:38,310 --> 00:04:36,479
station we can look down and see our

100
00:04:40,710 --> 00:04:38,320
beautiful planet earth and we can also

101
00:04:42,950 --> 00:04:40,720
look up and see the rest of the cosmos

102
00:04:44,950 --> 00:04:42,960
and we can see that there are so many

103
00:04:47,030 --> 00:04:44,960
stars out there that it's very hard to

104
00:04:49,670 --> 00:04:47,040
count them all and we can see that our

105
00:04:51,830 --> 00:04:49,680
earth is a very small very small planet

106
00:04:54,070 --> 00:04:51,840
in such a big universe and it's just

107
00:04:56,230 --> 00:04:54,080
really amazing because it gives us a a

108
00:04:58,390 --> 00:04:56,240
deep perspective of that we have to

109
00:05:00,230 --> 00:04:58,400
really take good care of our own planet

110
00:05:01,909 --> 00:05:00,240
and that our own planet is just a is a

111
00:05:04,550 --> 00:05:01,919
small place and we have the whole rest

112
00:05:06,550 --> 00:05:04,560
of the universe to work together in an

113
00:05:08,070 --> 00:05:06,560

international sense and go go explore

114
00:05:09,430 --> 00:05:08,080
this whole universe that's in front of

115
00:05:10,469 --> 00:05:09,440
us and all the discoveries that we'll

116
00:05:12,390 --> 00:05:10,479
make together

117
00:05:14,710 --> 00:05:12,400
so maybe we'll someday be able to count

118
00:05:17,110 --> 00:05:14,720
how many stars that we have because we

119
00:05:19,189 --> 00:05:17,120
starting to go to the go to the stars as

120
00:05:20,790 --> 00:05:19,199
human beings together and uh that's

121
00:05:22,629 --> 00:05:20,800
what's really exciting about serving

122
00:05:24,790 --> 00:05:22,639
aboard the international space station

123
00:05:26,230 --> 00:05:24,800
and flying up and down on space shuttles

124
00:05:28,550 --> 00:05:26,240
is that we're part of that great

125
00:05:31,029 --> 00:05:28,560
adventure and we need you kids to study

126
00:05:33,189 --> 00:05:31,039
hard because we we can't do it all by

127
00:05:35,990 --> 00:05:33,199
ourselves we really need you guys to to

128
00:05:38,790 --> 00:05:36,000
work hard and uh and do whatever you're

129
00:05:40,870 --> 00:05:38,800
supposed to do and do it well like tony

130
00:05:44,710 --> 00:05:40,880
said because there's a whole whole

131
00:05:50,150 --> 00:05:47,830
i i had a quick question the does

132
00:06:05,430 --> 00:05:50,160
weightlessness have an impact in terms

133
00:06:09,590 --> 00:06:07,670
sir we just arrived here uh just a few

134
00:06:11,830 --> 00:06:09,600
days ago and uh it's taking a while to

135
00:06:13,430 --> 00:06:11,840
get used to uh for me personally uh

136
00:06:14,950 --> 00:06:13,440
missing a pillow uh you're used to

137
00:06:16,469 --> 00:06:14,960
laying down on a mattress and having a

138
00:06:18,790 --> 00:06:16,479

place to rest your head

139
00:06:23,270 --> 00:06:18,800
and uh so it's it's taken uh taking a

140
00:06:27,430 --> 00:06:25,990
well the uh i know

141
00:06:29,510 --> 00:06:27,440
the kids got a chance to ask some

142
00:06:31,110 --> 00:06:29,520
questions i want to make sure that uh if

143
00:06:32,230 --> 00:06:31,120
there are any members of congress who've

144
00:06:33,990 --> 00:06:32,240
got

145
00:06:36,870 --> 00:06:34,000
some questions that they're interested

146
00:06:38,870 --> 00:06:36,880
in that they've got a chance too

147
00:06:43,909 --> 00:06:38,880
okay hold on this is uh k bailey

148
00:06:50,070 --> 00:06:46,790
i understand that you are doing uh

149
00:06:53,029 --> 00:06:50,080
experiments on salmonella and watching

150
00:06:55,189 --> 00:06:53,039
those organisms and how they react and

151
00:06:57,990 --> 00:06:55,199
grow and we've had some salmonella

152
00:06:59,830 --> 00:06:58,000
problems here on earth

153
00:07:03,029 --> 00:06:59,840
what do you think you will be able to

154
00:07:05,510 --> 00:07:03,039
learn from the

155
00:07:12,309 --> 00:07:05,520
environment in space that maybe you

156
00:07:15,189 --> 00:07:13,589
actually going to have a bit of a hard

157
00:07:17,830 --> 00:07:15,199
time answering that question we do

158
00:07:19,670 --> 00:07:17,840
indeed have a an experiment called the

159
00:07:22,790 --> 00:07:19,680
national laboratory program vaccine

160
00:07:25,189 --> 00:07:22,800
experiment in which salmonella

161
00:07:27,510 --> 00:07:25,199
are in which certain micro organisms are

162
00:07:29,029 --> 00:07:27,520
exposed to salmonella my job as an

163
00:07:31,029 --> 00:07:29,039

astronaut was basically to turn the

164
00:07:32,870 --> 00:07:31,039
crank and activate the experiment and

165
00:07:35,430 --> 00:07:32,880
then after about four or five days turn

166
00:07:37,350 --> 00:07:35,440
the crank again and deactivate it um i'm

167
00:07:38,790 --> 00:07:37,360
not exactly sure what the scientists are

168
00:07:40,390 --> 00:07:38,800
going to do with the data back at home

169
00:07:43,029 --> 00:07:40,400
or with the samples we are returning

170
00:07:45,350 --> 00:07:43,039
however eight big vials of samples of

171
00:07:47,749 --> 00:07:45,360
these of these cultures cultures with

172
00:07:57,029 --> 00:07:47,759
microorganisms in salmonella and let the

173
00:08:03,749 --> 00:07:59,430
bill nelson he's uh he knows a little

174
00:08:08,150 --> 00:08:07,029
hey guys i wish i were up there with you

175
00:08:10,790 --> 00:08:08,160
uh

176
00:08:14,070 --> 00:08:10,800
you are just getting to the point where

177
00:08:16,550 --> 00:08:14,080
it's really looking like a full up

178
00:08:19,189 --> 00:08:16,560
national laboratory where we can really

179
00:08:22,469 --> 00:08:19,199
do the experimentation

180
00:08:25,350 --> 00:08:22,479
when will you have it full up ready to

181
00:08:36,870 --> 00:08:25,360
go where we can then reap the results of

182
00:08:41,350 --> 00:08:38,829
nice to hear you again sir

183
00:08:43,509 --> 00:08:41,360
um the international space station has

184
00:08:45,990 --> 00:08:43,519
already been delivering uh some of the

185
00:08:49,030 --> 00:08:46,000
science we've promised what the

186
00:08:51,430 --> 00:08:49,040
where we are now is uh and expedition 18

187
00:08:53,829 --> 00:08:51,440
our crew has uh we're making the turn

188
00:08:56,070 --> 00:08:53,839

from three people to six people the next

189
00:08:58,790 --> 00:08:56,080
crew that comes after us a few months

190
00:09:00,710 --> 00:08:58,800
after uh after we get replaced we'll

191
00:09:02,150 --> 00:09:00,720
have uh we'll have six people on board

192
00:09:03,990 --> 00:09:02,160
the international space station so

193
00:09:05,670 --> 00:09:04,000
that's why we needed the solar power

194
00:09:07,590 --> 00:09:05,680
that's why we needed the second toilet

195
00:09:10,389 --> 00:09:07,600
and other things so that we have a room

196
00:09:11,829 --> 00:09:10,399
and facilities for six people and uh

197
00:09:15,350 --> 00:09:11,839
once we have six people we'll have

198
00:09:17,829 --> 00:09:15,360
enough time and energy uh solar power i

199
00:09:19,990 --> 00:09:17,839
mean to uh to run all the experiments

200
00:09:22,310 --> 00:09:20,000
that we can and then it's just a matter

201
00:09:24,230 --> 00:09:22,320
of getting enough experiments up and

202
00:09:27,110 --> 00:09:24,240
down from the space station

203
00:09:29,190 --> 00:09:27,120
to really reap on on that science we've

204
00:09:31,350 --> 00:09:29,200
already been delivering and we've got a

205
00:09:32,870 --> 00:09:31,360
lot more to come and like sandy said

206
00:09:34,230 --> 00:09:32,880
there's a lot of things we don't know so