STUDENTS FROM THE CARIBBEAN & CENTRAL AMERICA SPEAK TO THE SPACE STATION

1
00:00:05,690 --> 00:00:04,309
uh do you copy Josh over the ISS is

2
00:00:08,330 --> 00:00:05,700
currently flying over the Atlantic Ocean

3
00:00:10,669 --> 00:00:08,340
this contact will be performed using the

4
00:00:12,650 --> 00:00:10,679
amateur radio telebridge network Joss

5
00:00:14,390 --> 00:00:12,660
will be talking to students at schools

6
00:00:16,310 --> 00:00:14,400
in eight countries of the Caribbean and

7
00:00:18,349 --> 00:00:16,320
Central America these students sent

8
00:00:20,390 --> 00:00:18,359
questions related to disaster and

9
00:00:23,269 --> 00:00:20,400
natural Hazard monitoring such as

10
00:00:26,269 --> 00:00:23,279
hurricanes volcano eruptions tsunamis

11
00:00:33,970 --> 00:00:26,279
Coastal erosions and climate change okay

12
00:00:38,770 --> 00:00:36,410
welcome aboard the International Space

13
00:00:44,330 --> 00:00:42,290

your signal is loud and clear if you are

14
00:00:46,670 --> 00:00:44,340
ready I'm going to pass the microphone

15
00:00:48,950 --> 00:00:46,680
to the first student over

16
00:00:50,930 --> 00:00:48,960
I have you loud and clear and I'm ready

17
00:00:53,209 --> 00:00:50,940
for questions over

18
00:00:56,270 --> 00:00:53,219
Raul from Panama what is the

19
00:00:58,189 --> 00:00:56,280
International Space Station overall

20
00:01:01,310 --> 00:00:58,199
hello well the International Space

21
00:01:03,349 --> 00:01:01,320
Station is the largest spacecraft that

22
00:01:06,530 --> 00:01:03,359
we've ever built it is a floating

23
00:01:08,990 --> 00:01:06,540
laboratory it's about the size of a

24
00:01:11,630 --> 00:01:09,000
football field about about a hundred

25
00:01:13,609 --> 00:01:11,640
meters across and in the part that we

26
00:01:16,250 --> 00:01:13,619
live in it's about the size of a six

27
00:01:17,929 --> 00:01:16,260
bedroom house and we're traveling at

28
00:01:20,630 --> 00:01:17,939
over 17

29
00:01:23,630 --> 00:01:20,640
000 miles an hour we're just about 250

30
00:01:25,429 --> 00:01:23,640
miles above you and in fact just a

31
00:01:28,070 --> 00:01:25,439
couple minutes ago we passed over South

32
00:01:30,830 --> 00:01:28,080
America and we'll be over St Lucia in

33
00:01:34,550 --> 00:01:30,840
less than an hour and a half

34
00:01:39,710 --> 00:01:34,560
California Costa Rica from

35
00:01:45,770 --> 00:01:39,720
do you save my character events

36
00:01:47,530 --> 00:01:45,780
World a space and one is it's like two

37
00:01:50,749 --> 00:01:47,540
minutes

38
00:01:53,749 --> 00:01:50,759

well hanging from the bottom of the

39
00:01:57,050 --> 00:01:53,759
space station is something that looks

40
00:01:59,990 --> 00:01:57,060
like half of a soccer ball and each half

41
00:02:02,090 --> 00:02:00,000
of each face of that soccer ball is a

42
00:02:06,469 --> 00:02:02,100
beautiful window that we can look out

43
00:02:08,029 --> 00:02:06,479
and see our beautiful planet and so we

44
00:02:10,010 --> 00:02:08,039
love to spend a little time there

45
00:02:13,610 --> 00:02:10,020
whenever we can because the view of our

46
00:02:15,949 --> 00:02:13,620
planet is really breathtaking and I'll

47
00:02:18,770 --> 00:02:15,959
tell you when I'm in there it is never

48
00:02:20,930 --> 00:02:18,780
ever boring there's no part of this

49
00:02:22,480 --> 00:02:20,940
planet that I don't absolutely love

50
00:02:23,990 --> 00:02:22,490
looking at over

51
00:02:27,050 --> 00:02:24,000
[Music]

52
00:02:30,710 --> 00:02:27,060
and Barbuda if a hurricane is happening

53
00:02:33,350 --> 00:02:30,720
can you see it in Space over in fact we

54
00:02:36,890 --> 00:02:33,360
can see hurricanes from space we are

55
00:02:39,229 --> 00:02:36,900
only 250 miles above you and racing

56
00:02:42,290 --> 00:02:39,239
around the planet so we can see these

57
00:02:44,690 --> 00:02:42,300
big storms we can see them from the

58
00:02:47,330 --> 00:02:44,700
cupola we can take a higher resolution

59
00:02:49,190 --> 00:02:47,340
photography and we can see when they're

60
00:02:51,589 --> 00:02:49,200
coming Lucia

61
00:02:55,309 --> 00:02:51,599
Republic how long did you study to

62
00:02:57,170 --> 00:02:55,319
become an astronaut over hello Lucia in

63
00:02:59,150 --> 00:02:57,180

fact I feel like I've been studying my

64
00:03:00,290 --> 00:02:59,160
whole life to be an astronaut and I

65
00:03:03,290 --> 00:03:00,300
don't know that I'm ever going to stop

66
00:03:04,570 --> 00:03:03,300
because I really really enjoy learning

67
00:03:07,850 --> 00:03:04,580
new things

68
00:03:10,009 --> 00:03:07,860
in my previous life I was a physicist I

69
00:03:11,930 --> 00:03:10,019
studied physics and then I became a

70
00:03:14,089 --> 00:03:11,940
pilot in the U.S Navy and then

71
00:03:16,790 --> 00:03:14,099
eventually a test pilot before I became

72
00:03:19,009 --> 00:03:16,800
an astronaut and so the best thing about

73
00:03:23,030 --> 00:03:19,019
this job is there's always something new

74
00:03:25,190 --> 00:03:23,040
to learn whether it is how to live and

75
00:03:27,530 --> 00:03:25,200
and work in space and get better at that

76
00:03:29,570 --> 00:03:27,540
or if it's helping our researchers do

77
00:03:31,610 --> 00:03:29,580
their experiments and learn new things

78
00:03:34,729 --> 00:03:31,620
about their fundamental science that

79
00:03:38,830 --> 00:03:34,739
they're doing over Gabriel from Cayman

80
00:03:41,390 --> 00:03:38,840
Islands what do you do in Space over

81
00:03:44,210 --> 00:03:41,400
hello Gabriel from the Cayman Islands

82
00:03:46,809 --> 00:03:44,220
well I'll tell you every day is

83
00:03:48,770 --> 00:03:46,819
different up here some days we're doing

84
00:03:50,270 --> 00:03:48,780
research and helping run those

85
00:03:52,309 --> 00:03:50,280
experiments that we were just talking

86
00:03:55,190 --> 00:03:52,319
about and those experiments go from

87
00:03:57,710 --> 00:03:55,200
everything from biology to physics to

88
00:03:59,089 --> 00:03:57,720

research on the human body or sometimes

89
00:04:01,550 --> 00:03:59,099
we're doing maintenance on the space

90
00:04:04,729 --> 00:04:01,560
station and sometimes we have to do even

91
00:04:07,430 --> 00:04:04,739
more adventurous things like go crapple

92
00:04:10,789 --> 00:04:07,440
and catch a cargo vehicle with a robotic

93
00:04:12,649 --> 00:04:10,799
arm or go outside and do a spacewalk and

94
00:04:14,630 --> 00:04:12,659
in fact just last week we did a

95
00:04:16,670 --> 00:04:14,640
spacewalk and we built some new

96
00:04:18,409 --> 00:04:16,680
apparatus that we can put a solar array

97
00:04:20,330 --> 00:04:18,419
on and we're going to go put solar

98
00:04:23,330 --> 00:04:20,340
arrays on next week over

99
00:04:25,490 --> 00:04:23,340
inner from St Lucia do you study and

100
00:04:27,950 --> 00:04:25,500
measure climate change from space over

101
00:04:29,990 --> 00:04:27,960
well we can certainly take photography

102
00:04:31,670 --> 00:04:30,000
from the cupola like we were talking

103
00:04:34,129 --> 00:04:31,680
about and we can see the effects of

104
00:04:36,110 --> 00:04:34,139
climate change from time to time but

105
00:04:37,610 --> 00:04:36,120
primarily we have instruments that are

106
00:04:41,749 --> 00:04:37,620
mounted on the outside of the space

107
00:04:43,310 --> 00:04:41,759
station that are used to collect data on

108
00:04:46,189 --> 00:04:43,320
the planet itself whether that be

109
00:04:48,710 --> 00:04:46,199
surface temperature or atmospheric

110
00:04:50,570 --> 00:04:48,720
content and that helps us give

111
00:04:52,070 --> 00:04:50,580
information back to the researchers and

112
00:04:54,290 --> 00:04:52,080
the scientists to help us understand

113
00:04:56,570 --> 00:04:54,300

where we are where we're headed and what

114
00:04:59,689 --> 00:04:56,580
we can do about it over Leanne from

115
00:05:03,230 --> 00:04:59,699
Antigua when a volcanic option happens

116
00:05:06,050 --> 00:05:03,240
can you see the infection space over hi

117
00:05:07,730 --> 00:05:06,060
Leanne we absolutely can in fact we did

118
00:05:10,969 --> 00:05:07,740
have an astronaut a couple years ago

119
00:05:13,969 --> 00:05:10,979
who'd saw a volcano erupt and he

120
00:05:15,770 --> 00:05:13,979
actually made a call down to Alaska and

121
00:05:17,510 --> 00:05:15,780
let them know what he saw and they

122
00:05:19,850 --> 00:05:17,520
didn't even know it was erupting yet so

123
00:05:22,189 --> 00:05:19,860
yes we can absolutely see volcanoes from

124
00:05:24,290 --> 00:05:22,199
up here over Ben and I are from Saint

125
00:05:26,450 --> 00:05:24,300
Lucia what are the impacts of space

126
00:05:28,270 --> 00:05:26,460
hurricanes and does it affect us hey on

127
00:05:31,249 --> 00:05:28,280
Earth over

128
00:05:32,990 --> 00:05:31,259
well uh space hurricanes are a little

129
00:05:36,170 --> 00:05:33,000
different than the Hurricanes we're

130
00:05:38,990 --> 00:05:36,180
familiar with on Earth uh you know the

131
00:05:41,749 --> 00:05:39,000
hurricanes on Earth are based on water

132
00:05:43,570 --> 00:05:41,759
and rain and pressure differences and

133
00:05:46,510 --> 00:05:43,580
even the rotation of the earth

134
00:05:49,430 --> 00:05:46,520
the space hurricanes tend to come from

135
00:05:51,650 --> 00:05:49,440
energetic electrons that are coming from

136
00:05:54,350 --> 00:05:51,660
the Sun and then they collide with

137
00:05:56,150 --> 00:05:54,360
oxygen and nitrogen in our atmosphere

138
00:05:59,210 --> 00:05:56,160

and that's what makes those beautiful

139
00:06:01,129 --> 00:05:59,220
colors the greens and the blues of the

140
00:06:03,170 --> 00:06:01,139
Aurora and that's actually some really

141
00:06:05,870 --> 00:06:03,180
really neat quantum mechanics that makes

142
00:06:07,909 --> 00:06:05,880
that happen and sometimes very rarely

143
00:06:10,310 --> 00:06:07,919
but sometimes the magnetic field of the

144
00:06:12,230 --> 00:06:10,320
earth is such that it actually makes a

145
00:06:14,870 --> 00:06:12,240
swirl of that Aurora and makes it look

146
00:06:17,990 --> 00:06:14,880
like a hurricane but the good news is

147
00:06:20,450 --> 00:06:18,000
that doesn't have an effect uh for on us

148
00:06:22,010 --> 00:06:20,460
on the planet there's no threat there it

149
00:06:24,409 --> 00:06:22,020
does sometimes maybe affect our

150
00:06:26,150 --> 00:06:24,419
satellites a little bit but I'm I

151
00:06:27,830 --> 00:06:26,160
haven't seen a space hurricane yet but

152
00:06:31,129 --> 00:06:27,840
I'm keeping my fingers crossed for sure

153
00:06:35,090 --> 00:06:31,139
oh over Josh from Saint Kitts and Nevis

154
00:06:39,469 --> 00:06:35,100
do other planets have volcanoes over

155
00:06:42,529 --> 00:06:39,479
hello Josh yes uh there are other uh

156
00:06:45,110 --> 00:06:42,539
planets with volcanoes we see a lot of

157
00:06:47,510 --> 00:06:45,120
old dead volcanoes around the solar

158
00:06:50,749 --> 00:06:47,520
system uh in fact I think it's just

159
00:06:53,990 --> 00:06:50,759
Earth and maybe Jupiter's moon EO that

160
00:06:57,050 --> 00:06:54,000
have active volcanoes right now we think

161
00:06:59,809 --> 00:06:57,060
that there might be some on Venus and

162
00:07:02,029 --> 00:06:59,819
maybe on another one of uh Jupiter's

163
00:07:04,610 --> 00:07:02,039

moons Europa but we're not quite sure

164
00:07:06,770 --> 00:07:04,620
but yes there are definitely volcanoes

165
00:07:10,670 --> 00:07:06,780
throughout the solar system over

166
00:07:15,529 --> 00:07:13,790
approach the Atlantic Ocean over

167
00:07:16,909 --> 00:07:15,539
we haven't seen it yet because that

168
00:07:18,350 --> 00:07:16,919
tends to happen in the middle of the

169
00:07:26,529 --> 00:07:18,360
summer but I'll keep an eye out for it

170
00:07:31,010 --> 00:07:29,270
great question if you go Google it there

171
00:07:33,110 --> 00:07:31,020
are some incredible images of the moon

172
00:07:35,510 --> 00:07:33,120
that we've taken just this week those

173
00:07:37,370 --> 00:07:35,520
pictures are breathtaking over on behalf

174
00:07:39,469 --> 00:07:37,380
of hi I'm from Trinidad and Tobago what

175
00:07:42,170 --> 00:07:39,479
can I do to make sea level stop rising

176
00:07:43,670 --> 00:07:42,180
over I think you just did it I think the

177
00:07:45,249 --> 00:07:43,680
very first thing we need to do is ask

178
00:07:47,990 --> 00:07:45,259
what we can do

179
00:07:51,409 --> 00:07:48,000
we are absolutely in a spot where we're

180
00:07:52,850 --> 00:07:51,419
affecting uh the planet and we hope we

181
00:07:54,350 --> 00:07:52,860
wish that wasn't true but wishing that

182
00:07:56,749 --> 00:07:54,360
it's not true doesn't help us solve the

183
00:07:58,430 --> 00:07:56,759
problem so I think that humans are smart

184
00:08:00,170 --> 00:07:58,440
enough and resourceful enough to fix it

185
00:08:02,390 --> 00:08:00,180
and if we're all together we can

186
00:08:04,249 --> 00:08:02,400
actually solve this very hard problem

187
00:08:06,710 --> 00:08:04,259
over

188
00:08:08,270 --> 00:08:06,720

we have a loss of signal ladies and

189
00:08:10,150 --> 00:08:08,280
gentlemen we've just shared a moment in

190
00:08:30,189 --> 00:08:10,160
history