
GOLD
AWARD
JAXA

1
00:00:04,910 --> 00:00:02,659
station Houston on space to ground to

2
00:00:13,370 --> 00:00:04,920
you like the framing are you ready for

3
00:00:15,049 --> 00:00:13,380
the event Museum of Flight this is

4
00:00:19,580 --> 00:00:15,059
Houston please call the station with a

5
00:00:21,200 --> 00:00:19,590
voice check station this is the museum

6
00:00:26,540 --> 00:00:21,210
of flight at Boeing Field how do you

7
00:00:28,070 --> 00:00:26,550
hear me museum of flight we have you

8
00:00:29,390 --> 00:00:28,080
loud and clear welcome aboard the

9
00:00:43,440 --> 00:00:29,400
International Space Station is good to

10
00:00:47,940 --> 00:00:45,420
ladies and gentlemen it is my sincere

11
00:00:51,060 --> 00:00:47,950
pleasure to introduce members of

12
00:00:53,220 --> 00:00:51,070
expedition 28 coming to us live from the

13
00:00:58,560 --> 00:00:53,230

International Space Station let's start

14
00:01:00,360 --> 00:00:58,570
the questions hello my name is Alex

15
00:01:02,130 --> 00:01:00,370
wensel from aviation high school in

16
00:01:04,560 --> 00:01:02,140
Seattle Washington and the first

17
00:01:06,330 --> 00:01:04,570
question is how did the crew from such

18
00:01:12,690 --> 00:01:06,340
diverse backgrounds cope with their

19
00:01:14,760 --> 00:01:12,700
differences in language and culture well

20
00:01:16,680 --> 00:01:14,770
ugh that's that's a really good really

21
00:01:20,340 --> 00:01:16,690
really good question and then and I

22
00:01:22,260 --> 00:01:20,350
think the main thing for us is you know

23
00:01:24,420 --> 00:01:22,270
we have a common goal and so when you

24
00:01:26,490 --> 00:01:24,430
have a common goal then you can overcome

25
00:01:29,550 --> 00:01:26,500
anything language difficulties you know

26
00:01:31,050 --> 00:01:29,560
differences in culture we had 15 nations

27
00:01:33,300 --> 00:01:31,060
that came together to build this

28
00:01:36,900 --> 00:01:33,310
incredible orbital research facility

29
00:01:39,570 --> 00:01:36,910
that we presently call home and you know

30
00:01:41,520 --> 00:01:39,580
we we did that with these different

31
00:01:43,350 --> 00:01:41,530
diverse nations because we all shared

32
00:01:45,060 --> 00:01:43,360
that common goal and it's the same for

33
00:01:46,530 --> 00:01:45,070
us up here as crew members on the

34
00:01:48,600 --> 00:01:46,540
International Space Station is we're all

35
00:01:49,889 --> 00:01:48,610
in this together we all understand that

36
00:01:52,109 --> 00:01:49,899
you know we've got to get the job done

37
00:01:53,940 --> 00:01:52,119
and we work very well together because

38
00:01:56,190 --> 00:01:53,950

of that because we share that that

39
00:01:58,230 --> 00:01:56,200
common goal that common objectives so

40
00:02:01,160 --> 00:01:58,240
that's that's the main that's the main

41
00:02:06,700 --> 00:02:01,170
thing that that helps us overcome those

42
00:02:10,669 --> 00:02:09,440
my name is Raymond Kenworthy of Gallup

43
00:02:12,980 --> 00:02:10,679
high school and this question is for

44
00:02:14,900 --> 00:02:12,990
Mike Fossum how do you overcome the

45
00:02:16,730 --> 00:02:14,910
mental aspects of living in space such

46
00:02:18,890 --> 00:02:16,740
as fatigue being with the same people

47
00:02:24,440 --> 00:02:18,900
for extended periods of time and or

48
00:02:27,410 --> 00:02:24,450
missing family and friends hey that that

49
00:02:29,090 --> 00:02:27,420
encompasses a lot I you know like Ron

50
00:02:30,949 --> 00:02:29,100
said as far as the different cultures

51
00:02:33,560 --> 00:02:30,959
getting together you know it's respect

52
00:02:35,540 --> 00:02:33,570
and it's a common goal and we all have

53
00:02:38,479 --> 00:02:35,550
that we've dreamed about doing this

54
00:02:40,910 --> 00:02:38,489
since we were your age and we've worked

55
00:02:43,699 --> 00:02:40,920
for it in our you know in our years in

56
00:02:45,410 --> 00:02:43,709
high school and college and the jobs

57
00:02:47,390 --> 00:02:45,420
beyond that to prepare ourselves for

58
00:02:49,070 --> 00:02:47,400
this opportunity and so in a huge way

59
00:02:51,500 --> 00:02:49,080
we're living our dream right now and

60
00:02:53,810 --> 00:02:51,510
part of that is working together it is

61
00:02:55,340 --> 00:02:53,820
separation from family and you know for

62
00:02:56,960 --> 00:02:55,350
almost six months and really when you

63
00:02:59,449 --> 00:02:56,970

include the time that the three of us

64
00:03:01,910 --> 00:02:59,459
spent in Russia preparing to fly before

65
00:03:04,280 --> 00:03:01,920
we left to come up here it's really gone

66
00:03:06,350 --> 00:03:04,290
from home for seven and a half months or

67
00:03:09,199 --> 00:03:06,360
so so it's a it's a really a long haul

68
00:03:11,060 --> 00:03:09,209
but we're here living our dream we have

69
00:03:13,009 --> 00:03:11,070
a goal we have a mission and we're

70
00:03:14,600 --> 00:03:13,019
really busy and that's a good thing

71
00:03:16,819 --> 00:03:14,610
because there's enough time to look out

72
00:03:18,380 --> 00:03:16,829
of the window but we have a lot of very

73
00:03:20,539 --> 00:03:18,390
interesting work and very challenging

74
00:03:22,460 --> 00:03:20,549
work and so that keeps us involved from

75
00:03:29,030 --> 00:03:22,470
the moment we wake up in the morning

76
00:03:31,100 --> 00:03:29,040
until we go to bed at night hello my

77
00:03:33,110 --> 00:03:31,110
name is Kirsten lon from ingram high

78
00:03:35,330 --> 00:03:33,120
school in Seattle Washington and my

79
00:03:38,360 --> 00:03:35,340
question is for toe sheet for a Satoshi

80
00:03:40,160 --> 00:03:38,370
Furukawa does the crew eat meals

81
00:03:46,690 --> 00:03:40,170
together and how do you decide what to

82
00:03:50,960 --> 00:03:46,700
eat okay that's a good question we do

83
00:03:53,960 --> 00:03:50,970
u.s. segment crew members eat meals

84
00:03:56,810 --> 00:03:53,970
together unless we are very busy we each

85
00:03:59,750 --> 00:03:56,820
eat breakfast in the morning because in

86
00:04:04,340 --> 00:03:59,760
the morning we are very busy and here

87
00:04:09,440 --> 00:04:04,350
are some food examples for Tia chocolate

88
00:04:13,550 --> 00:04:09,450

pudding and we can take whatever we like

89
00:04:15,920 --> 00:04:13,560
from the containers and sometimes we eat

90
00:04:19,400 --> 00:04:15,930
our favorite food and sometimes we need

91
00:04:21,710 --> 00:04:19,410
to eat something we like

92
00:04:25,040 --> 00:04:21,720
little because we need to pay attention

93
00:04:27,530 --> 00:04:25,050
to a nutritional balance plus we can

94
00:04:30,980 --> 00:04:27,540
open a new container only after emptying

95
00:04:33,290 --> 00:04:30,990
the current one and we together with

96
00:04:35,990 --> 00:04:33,300
Russian crewmates eat meals together

97
00:04:38,960 --> 00:04:36,000
several times a week and we sometimes

98
00:04:47,600 --> 00:04:38,970
exchange us and Russian food and enjoy

99
00:04:49,430 --> 00:04:47,610
meals my name is Keira thrush from Tomah

100
00:04:53,330 --> 00:04:49,440
high school and my question is for Ron

101
00:04:54,890 --> 00:04:53,340
if any technology medical or mechanical

102
00:04:56,900 --> 00:04:54,900
could be developed to make training and

103
00:05:03,350 --> 00:04:56,910
transition from earth to space easier

104
00:05:05,120 --> 00:05:03,360
what would you use it for and why wow

105
00:05:08,090 --> 00:05:05,130
that's a that's a really tough question

106
00:05:09,680 --> 00:05:08,100
you know I think the biggest transition

107
00:05:12,050 --> 00:05:09,690
from a physical point of view that we

108
00:05:14,630 --> 00:05:12,060
have to make is going from one g-20 g

109
00:05:17,420 --> 00:05:14,640
from going to what everybody experiences

110
00:05:18,410 --> 00:05:17,430
on the earth to being weightless and so

111
00:05:20,060 --> 00:05:18,420
that's a you know that's a big

112
00:05:22,760 --> 00:05:20,070
transition that's a big adjustment for

113
00:05:26,450 --> 00:05:22,770

our bodies and we have aircraft that we

114
00:05:29,060 --> 00:05:26,460
fly parabolas basically we climb very

115
00:05:31,100 --> 00:05:29,070
steeply and then we push over and then

116
00:05:33,140 --> 00:05:31,110
dive back down at the top of that like

117
00:05:35,390 --> 00:05:33,150
the top of a roller coaster you know

118
00:05:36,920 --> 00:05:35,400
we're floating in the end the aircraft

119
00:05:39,380 --> 00:05:36,930
so that's a way that we can practice

120
00:05:41,480 --> 00:05:39,390
some of our experiments work out some of

121
00:05:43,220 --> 00:05:41,490
the equipment that we have some some of

122
00:05:44,690 --> 00:05:43,230
the hardware that we have to make sure

123
00:05:46,730 --> 00:05:44,700
that's all going to work in a weightless

124
00:05:49,490 --> 00:05:46,740
environment but i think the the bigger

125
00:05:51,409 --> 00:05:49,500
transition for us you know long-duration

126
00:05:53,659 --> 00:05:51,419
crew members us that have been up here a

127
00:05:55,880 --> 00:05:53,669
long time is the the transition to go

128
00:05:57,740 --> 00:05:55,890
back to earth so when we go from this

129
00:05:59,570 --> 00:05:57,750
weightless environment we've been in for

130
00:06:02,300 --> 00:05:59,580
six or so you know five to seven months

131
00:06:04,460 --> 00:06:02,310
and we get back to the earth you know

132
00:06:06,230 --> 00:06:04,470
the body adjusts to being up here and

133
00:06:07,760 --> 00:06:06,240
one of the things it does is it realizes

134
00:06:10,159 --> 00:06:07,770
it doesn't need a skeleton anymore and

135
00:06:12,170 --> 00:06:10,169
it doesn't need muscles that as much you

136
00:06:15,409 --> 00:06:12,180
know as strong muscles anymore so we

137
00:06:17,480 --> 00:06:15,419
have to exercise two hours a day so that

138
00:06:19,250 --> 00:06:17,490

we can prepare ourselves to return to

139
00:06:21,530 --> 00:06:19,260
earth and so there's a lot of equipment

140
00:06:24,920 --> 00:06:21,540
we use up here there's a lot of medical

141
00:06:26,570 --> 00:06:24,930
procedures you know physical training

142
00:06:28,969 --> 00:06:26,580
equipment and medical equipment that we

143
00:06:30,830 --> 00:06:28,979
use to to make sure that our bodies will

144
00:06:36,749 --> 00:06:30,840
be prepared when we return our it's a

145
00:06:40,659 --> 00:06:39,459
hi my name is Jeremy strumming from

146
00:06:42,570 --> 00:06:40,669
Liberty High School in Issaquah

147
00:06:45,249 --> 00:06:42,580
Washington and my question is for Mike

148
00:06:47,350 --> 00:06:45,259
even after all your preparation for your

149
00:06:49,329 --> 00:06:47,360
mission is there anything that surprised

150
00:06:55,419 --> 00:06:49,339
you about the space station or living in

151
00:06:57,549 --> 00:06:55,429
space in general hey Jeremy that's

152
00:06:59,439 --> 00:06:57,559
that's a great question for me I'd had

153
00:07:01,359 --> 00:06:59,449
to space shuttle missions before this

154
00:07:03,850 --> 00:07:01,369
each of them they were about two weeks

155
00:07:06,100 --> 00:07:03,860
in duration so it had a total of a month

156
00:07:07,570 --> 00:07:06,110
in space before I arrived here to live

157
00:07:09,399 --> 00:07:07,580
on the space station for almost six

158
00:07:12,189 --> 00:07:09,409
months I thought I knew all about living

159
00:07:15,279 --> 00:07:12,199
and working in space and it amazed me

160
00:07:17,619 --> 00:07:15,289
how much how much I've learned about

161
00:07:19,179 --> 00:07:17,629
just how to move when you when you first

162
00:07:20,709 --> 00:07:19,189
get here you're really clumsy you're

163
00:07:23,230 --> 00:07:20,719

bumping into things you have a hard time

164
00:07:25,209 --> 00:07:23,240
controlling your body and you see us now

165
00:07:27,100 --> 00:07:25,219
I mean we're not really standing here

166
00:07:29,199 --> 00:07:27,110
we're floating and I could take Satoshi

167
00:07:30,999 --> 00:07:29,209
you know and I can lift him up and I

168
00:07:34,029 --> 00:07:31,009
could pull him down and move them around

169
00:07:35,619 --> 00:07:34,039
and but you're using your feet to grab

170
00:07:37,809 --> 00:07:35,629
on to things and your loop and your feet

171
00:07:40,839 --> 00:07:37,819
underneath handrails and other things to

172
00:07:43,509 --> 00:07:40,849
hold on and just how much how much more

173
00:07:45,699 --> 00:07:43,519
smoothly I can move through and after

174
00:07:47,920 --> 00:07:45,709
being up here you know three months

175
00:07:50,350 --> 00:07:47,930
already I can feel you know myself

176
00:07:52,179 --> 00:07:50,360
moving more smoothly through the space

177
00:07:54,279 --> 00:07:52,189
station it's still hard to work on

178
00:07:55,959 --> 00:07:54,289
things it I like working in the garage

179
00:07:57,639 --> 00:07:55,969
and working with tools and I lay

180
00:08:00,069 --> 00:07:57,649
everything out and I've got the parts

181
00:08:02,019 --> 00:08:00,079
out and my tools out and here it's just

182
00:08:04,299 --> 00:08:02,029
hard because everything's floating and

183
00:08:05,619 --> 00:08:04,309
you have to relearn how to work on

184
00:08:10,610 --> 00:08:05,629
things so for me that's the biggest

185
00:08:15,630 --> 00:08:13,740
hi my name is Nick cadet Master Sergeant

186
00:08:17,610 --> 00:08:15,640
Nicole Amalfi from Fairchild Air Force

187
00:08:19,320 --> 00:08:17,620
Base composite squadron in Spokane

188
00:08:21,840 --> 00:08:19,330

Washington this question is for two

189
00:08:23,640 --> 00:08:21,850
Satoshi sir if you were to select the

190
00:08:25,290 --> 00:08:23,650
most beautiful place on earth based on

191
00:08:34,380 --> 00:08:25,300
what you see from orbit which where

192
00:08:37,740 --> 00:08:34,390
would that be that's an interesting

193
00:08:41,550 --> 00:08:37,750
question well it would be a night city

194
00:08:45,750 --> 00:08:41,560
view and the Aurora curtain like green

195
00:08:49,110 --> 00:08:45,760
or red Aurora sways and dances a in that

196
00:08:52,890 --> 00:08:49,120
polar region plus beautiful at night

197
00:08:54,980 --> 00:08:52,900
view of cities from the International

198
00:09:05,370 --> 00:08:54,990
Space Station it is a breathtaking view

199
00:09:07,080 --> 00:09:05,380
from over Aurora hi my name is Karan

200
00:09:09,360 --> 00:09:07,090
Singh from aviation high schoo Seattle

201
00:09:11,730 --> 00:09:09,370
Washington and this question is for Ron

202
00:09:13,680 --> 00:09:11,740
how does the earth-based preparation for

203
00:09:16,770 --> 00:09:13,690
performing experiments in space differ

204
00:09:23,100 --> 00:09:16,780
from their performance different from

205
00:09:24,990 --> 00:09:23,110
their performance in space well one of

206
00:09:27,060 --> 00:09:25,000
the challenges that we face is you know

207
00:09:29,940 --> 00:09:27,070
our training at some sometimes it's very

208
00:09:32,670 --> 00:09:29,950
very long before we actually do the

209
00:09:34,200 --> 00:09:32,680
experiments on orbit and and sometimes

210
00:09:36,630 --> 00:09:34,210
we don't even know exactly what

211
00:09:39,720 --> 00:09:36,640
experiments we're going to do before we

212
00:09:42,240 --> 00:09:39,730
leave so you know that's part of you

213
00:09:44,220 --> 00:09:42,250

know utilizing and getting the most use

214
00:09:47,670 --> 00:09:44,230
out of this this facility that we have

215
00:09:49,890 --> 00:09:47,680
up here is to be flexible and so instead

216
00:09:52,680 --> 00:09:49,900
of training for specific experiments a

217
00:09:54,270 --> 00:09:52,690
lot of times we get skills on how to do

218
00:09:57,240 --> 00:09:54,280
a series of different types of

219
00:09:58,620 --> 00:09:57,250
experiments and so that's a you know one

220
00:10:01,230 --> 00:09:58,630
of the big things we do on the ground as

221
00:10:03,540 --> 00:10:01,240
we learn about the different experiment

222
00:10:07,350 --> 00:10:03,550
racks that we have we've got combustion

223
00:10:10,470 --> 00:10:07,360
facilities we've got protein crystal

224
00:10:13,290 --> 00:10:10,480
growth facilities fluid experiment

225
00:10:15,210 --> 00:10:13,300
facilities you know a whole big wide

226
00:10:17,400 --> 00:10:15,220
variety of different type of experiments

227
00:10:19,110 --> 00:10:17,410
that are conducted on board here and so

228
00:10:20,880 --> 00:10:19,120
we have to be a little bit familiar I

229
00:10:22,110 --> 00:10:20,890
mean we're not the experts in all these

230
00:10:22,650 --> 00:10:22,120
different experiments but we have to

231
00:10:24,930 --> 00:10:22,660
have

232
00:10:27,059 --> 00:10:24,940
basic knowledge of all of them so that's

233
00:10:28,860 --> 00:10:27,069
kind of the approach that we take is to

234
00:10:30,629 --> 00:10:28,870
get a broad knowledge of all the

235
00:10:33,030 --> 00:10:30,639
different types of experiments that we

236
00:10:38,569 --> 00:10:33,040
could possibly perform while we're up

237
00:10:43,879 --> 00:10:41,780
I'm wilm user from Seattle we go to

238
00:10:46,549 --> 00:10:43,889

aviation high school in Seattle this

239
00:10:49,189 --> 00:10:46,559
question is for Mike what are the roles

240
00:10:51,410 --> 00:10:49,199
of astronauts and pilots in a field that

241
00:10:57,590 --> 00:10:51,420
increasingly depends upon unmanned or

242
00:10:59,210 --> 00:10:57,600
remote controlled missions now that's a

243
00:11:01,220 --> 00:10:59,220
really good question because the the

244
00:11:03,650 --> 00:11:01,230
whole field the whole concept of

245
00:11:05,629 --> 00:11:03,660
remote-controlled robotic kinds of

246
00:11:07,280 --> 00:11:05,639
missions is changing and it certainly is

247
00:11:10,039 --> 00:11:07,290
in the world of aviation just in the

248
00:11:11,809 --> 00:11:10,049
last 10 years or 15 years where remotely

249
00:11:13,369 --> 00:11:11,819
piloted vehicles and things like that

250
00:11:14,869 --> 00:11:13,379
are taking on a bigger and bigger role

251
00:11:16,579 --> 00:11:14,879
but I'll give you a good example and

252
00:11:18,669 --> 00:11:16,589
it's taking place just outside this

253
00:11:21,259 --> 00:11:18,679
window behind us right now there's a

254
00:11:23,389 --> 00:11:21,269
special purpose dexterous manipulator a

255
00:11:25,309 --> 00:11:23,399
very very complicated tool it's a

256
00:11:27,769 --> 00:11:25,319
wonderful tool and it's it's over the

257
00:11:29,900 --> 00:11:27,779
course of two days here it's changing

258
00:11:31,970 --> 00:11:29,910
out a power switch is kind of a

259
00:11:34,009 --> 00:11:31,980
complicated little power control box

260
00:11:36,199 --> 00:11:34,019
it's about that big that's on the

261
00:11:38,660 --> 00:11:36,209
outside of the space station and it

262
00:11:41,539 --> 00:11:38,670
takes it about it really about two days

263
00:11:45,619 --> 00:11:41,549

to get get in position get everything

264
00:11:48,109 --> 00:11:45,629
lined up and it's a very slow and

265
00:11:50,150 --> 00:11:48,119
tedious Ron and I are both spacewalkers

266
00:11:52,699 --> 00:11:50,160
we've done four spacewalks together and

267
00:11:56,090 --> 00:11:52,709
that task is a spacewalk task for us is

268
00:11:57,619 --> 00:11:56,100
about in 30-45 minutes so you know

269
00:12:00,229 --> 00:11:57,629
that's kind of the differences that the

270
00:12:03,979 --> 00:12:00,239
human in the loop can really understand

271
00:12:07,579 --> 00:12:03,989
feel it make decisions and adjust very

272
00:12:11,419 --> 00:12:07,589
rapidly and our ability to get the

273
00:12:14,299 --> 00:12:11,429
robots to control that way is is still

274
00:12:16,280 --> 00:12:14,309
in process and there's there's always

275
00:12:19,579 --> 00:12:16,290
the value for getting humanized and

276
00:12:21,199 --> 00:12:19,589
human hands and a human brain in the

277
00:12:22,579 --> 00:12:21,209
middle of the problem and the challenge

278
00:12:25,009 --> 00:12:22,589
now there's some places where that's not

279
00:12:27,229 --> 00:12:25,019
appropriate we're glad to have the the

280
00:12:28,970 --> 00:12:27,239
robot outside it doesn't look like a

281
00:12:31,069 --> 00:12:28,980
robot that's not Robonaut that you might

282
00:12:32,989 --> 00:12:31,079
see on the news but we're glad to see

283
00:12:34,850 --> 00:12:32,999
the robotic manipulator outside that's

284
00:12:36,799 --> 00:12:34,860
doing that job because it's risky doing

285
00:12:39,049 --> 00:12:36,809
the space walks to and this is a perfect

286
00:12:40,759 --> 00:12:39,059
task for it to do but it's an example

287
00:12:42,199 --> 00:12:40,769
where if the speed was important you'd

288
00:12:50,590 --> 00:12:42,209

be sending you know the two of us

289
00:13:01,300 --> 00:12:54,699
hello i am Civil Air Patrol cadet

290
00:13:03,249 --> 00:13:01,310
element mmm jajaja vomit Olympia Civil

291
00:13:06,069 --> 00:13:03,259
Air Patrol squadron and these questions

292
00:13:08,110 --> 00:13:06,079
for Satoshi how have the advancements in

293
00:13:13,680 --> 00:13:08,120
technology affected life on the ISS

294
00:13:20,410 --> 00:13:16,800
okay that's a great question

295
00:13:23,079 --> 00:13:20,420
advancements in technology made that

296
00:13:26,290 --> 00:13:23,089
life on the ISS better and more

297
00:13:28,240 --> 00:13:26,300
comfortable it is like the advancements

298
00:13:32,170 --> 00:13:28,250
in technology changed your daily life

299
00:13:35,230 --> 00:13:32,180
from 13 years ago for example the

300
00:13:39,100 --> 00:13:35,240
computer sanel computers have made great

301
00:13:42,610 --> 00:13:39,110
progress and the CPUs got much faster

302
00:13:45,809 --> 00:13:42,620
and now the wireless access to a server

303
00:13:50,519 --> 00:13:45,819
is available on both the ISS as well and

304
00:13:53,939 --> 00:13:50,529
cameras became more higher

305
00:13:56,470 --> 00:13:53,949
specifications and we we now have a

306
00:13:58,720 --> 00:13:56,480
higher resolution hi more and more

307
00:14:01,870 --> 00:13:58,730
sensitive cameras than before and we can

308
00:14:03,460 --> 00:14:01,880
take high-resolution pictures of night

309
00:14:08,040 --> 00:14:03,470
views from the International Space

310
00:14:11,530 --> 00:14:08,050
Station and plus advancements in science

311
00:14:13,960 --> 00:14:11,540
have us perform more up-to-date research

312
00:14:20,350 --> 00:14:13,970
on the ISS thank you for the great

313
00:14:22,840 --> 00:14:20,360

question hi I'm civil air patrol today

314
00:14:24,759 --> 00:14:22,850
technical sergeant chris garcia from the

315
00:14:27,040 --> 00:14:24,769
fairchild composite squadron in Spokane

316
00:14:29,590 --> 00:14:27,050
Washington and my question is for Ron is

317
00:14:31,059 --> 00:14:29,600
it easy to see from orbit which parts of

318
00:14:33,819 --> 00:14:31,069
the planet have people using natural

319
00:14:41,470 --> 00:14:33,829
resources and which parts have people

320
00:14:42,790 --> 00:14:41,480
showing restraint yeah well at night you

321
00:14:45,340 --> 00:14:42,800
definitely can see because the you know

322
00:14:48,160 --> 00:14:45,350
you see the lights so it's you know the

323
00:14:50,350 --> 00:14:48,170
earth really when we cross into the dark

324
00:14:52,420 --> 00:14:50,360
side of the our orbit you know you the

325
00:14:54,730 --> 00:14:52,430
earth just comes alive I mean it's just

326
00:14:56,519 --> 00:14:54,740
amazing to see the lights but obviously

327
00:14:59,129 --> 00:14:56,529
each of those lights represents

328
00:15:02,060 --> 00:14:59,139
civilization and you can definitely see

329
00:15:04,220 --> 00:15:02,070
the results of human impacts on

330
00:15:06,080 --> 00:15:04,230
planet you can see in the forms of

331
00:15:08,690 --> 00:15:06,090
erosion you can see in the forms of

332
00:15:11,060 --> 00:15:08,700
pollution you know we've been seeing a

333
00:15:14,350 --> 00:15:11,070
lot at this time of year we see a lot of

334
00:15:17,750 --> 00:15:14,360
smoke a lot of fields are being burned

335
00:15:19,880 --> 00:15:17,760
throughout all across the world and so

336
00:15:22,340 --> 00:15:19,890
that is very very visible from space and

337
00:15:24,230 --> 00:15:22,350
so we definitely you know there's you

338
00:15:25,970 --> 00:15:24,240

know if we were visitors here and just

339
00:15:26,870 --> 00:15:25,980
decided to come into orbit we would

340
00:15:29,180 --> 00:15:26,880
definitely know that there were people

341
00:15:30,710 --> 00:15:29,190
down there that there was life down

342
00:15:37,580 --> 00:15:30,720
there because you could you could

343
00:15:39,260 --> 00:15:37,590
definitely see the the impact hi my name

344
00:15:41,960 --> 00:15:39,270
is back swosser i go to ballard high

345
00:15:43,700 --> 00:15:41,970
school in Seattle this is for Mike what

346
00:15:45,350 --> 00:15:43,710
advice would you give to a high school

347
00:15:53,150 --> 00:15:45,360
student who wants to become an astronaut

348
00:15:55,370 --> 00:15:53,160
and work aboard the ISS that's easy in

349
00:15:57,050 --> 00:15:55,380
short and it work hard follow your

350
00:15:59,420 --> 00:15:57,060
passion we have very different

351
00:16:01,280 --> 00:15:59,430
backgrounds you know ron was a test

352
00:16:03,590 --> 00:16:01,290
pilot a fighter pilot and a test pilot

353
00:16:05,330 --> 00:16:03,600
you know I'm an engineer a flight test

354
00:16:07,940 --> 00:16:05,340
engineer in the Air Force you know in

355
00:16:10,700 --> 00:16:07,950
Satoshi is a medical doctor very

356
00:16:12,980 --> 00:16:10,710
different backgrounds and there's there

357
00:16:14,240 --> 00:16:12,990
the astronaut corps and cosmonaut Corps

358
00:16:15,950 --> 00:16:14,250
are made up of people from a lot of

359
00:16:17,840 --> 00:16:15,960
different backgrounds there's no one

360
00:16:20,000 --> 00:16:17,850
specialty that says okay that's that's

361
00:16:22,280 --> 00:16:20,010
what you do to be you know crew member

362
00:16:23,360 --> 00:16:22,290
in space we have different kinds of

363
00:16:25,910 --> 00:16:23,370

people with different science

364
00:16:28,670 --> 00:16:25,920
backgrounds engineering backgrounds some

365
00:16:31,910 --> 00:16:28,680
military many not military some pilots

366
00:16:33,350 --> 00:16:31,920
or other flyers and many not so as lots

367
00:16:35,990 --> 00:16:33,360
of different backgrounds the key thing

368
00:16:37,790 --> 00:16:36,000
is follow your passion don't go be an

369
00:16:40,190 --> 00:16:37,800
astronaut achill engineer because you

370
00:16:42,620 --> 00:16:40,200
think that's got astronaut in it it

371
00:16:45,440 --> 00:16:42,630
doesn't if you're really interested in

372
00:16:47,570 --> 00:16:45,450
in metals and strengths of materials and

373
00:16:49,940 --> 00:16:47,580
stuff could be a metallurgist or a

374
00:16:51,890 --> 00:16:49,950
mechanical engineer and be the best at

375
00:16:53,840 --> 00:16:51,900
whatever it is that you choose to do

376
00:16:55,550 --> 00:16:53,850
because that's what really is important

377
00:16:57,770 --> 00:16:55,560
is standing out as one of the best in

378
00:16:59,240 --> 00:16:57,780
your field you can only be the best if

379
00:17:01,190 --> 00:16:59,250
you're passionate about it if you're

380
00:17:03,350 --> 00:17:01,200
following something that you really want

381
00:17:05,630 --> 00:17:03,360
to do then you can be the best and

382
00:17:07,220 --> 00:17:05,640
you're going to stand out in that career

383
00:17:08,929 --> 00:17:07,230
field and give you a shot at this one

384
00:17:10,960 --> 00:17:08,939
there's no guarantees but you're also

385
00:17:13,340 --> 00:17:10,970
going to enjoy the ride a lot more than

386
00:17:20,330 --> 00:17:13,350
doing something you don't really want to

387
00:17:25,470 --> 00:17:23,310
hi my name is Gino Kelly I'm from

388
00:17:28,650 --> 00:17:25,480

aviation high school and this question

389
00:17:30,750 --> 00:17:28,660
is for Satoshi how does your perspective

390
00:17:32,310 --> 00:17:30,760
of earth and life on earth changed since

391
00:17:38,910 --> 00:17:32,320
you have been on the International Space

392
00:17:41,310 --> 00:17:38,920
Station now that's a good question when

393
00:17:43,620 --> 00:17:41,320
I looked out of a window of an

394
00:17:47,010 --> 00:17:43,630
international space station I was

395
00:17:49,430 --> 00:17:47,020
touched with thin blue a layer of

396
00:17:51,930 --> 00:17:49,440
atmosphere at the rim of Earth I

397
00:17:54,720 --> 00:17:51,940
understood that the the beautiful

398
00:17:58,290 --> 00:17:54,730
atmospheric layer protects us and earth

399
00:18:02,400 --> 00:17:58,300
from harsh environment in space and I

400
00:18:05,150 --> 00:18:02,410
realized that we needed to preserve our

401
00:18:13,560 --> 00:18:05,160
mother planet Earth's natural splendor

402
00:18:15,090 --> 00:18:13,570
thank you my name is serving area I'm

403
00:18:17,340 --> 00:18:15,100
from aviation high school in Seattle

404
00:18:20,190 --> 00:18:17,350
Washington and my question is for Ron

405
00:18:26,430 --> 00:18:20,200
how often do experiments give unexpected

406
00:18:28,770 --> 00:18:26,440
results well unexpected results are

407
00:18:30,030 --> 00:18:28,780
usually the best results that's why you

408
00:18:31,020 --> 00:18:30,040
do the experiment in the first place

409
00:18:32,730 --> 00:18:31,030
because if you already knew the answer

410
00:18:35,580 --> 00:18:32,740
you wouldn't be doing the experiment so

411
00:18:38,760 --> 00:18:35,590
we've it happens we've had some fluid

412
00:18:40,860 --> 00:18:38,770
fluids experiments that are basically

413
00:18:42,960 --> 00:18:40,870

going to change the way we change our

414
00:18:45,690 --> 00:18:42,970
understanding of how fluids react and

415
00:18:48,510 --> 00:18:45,700
we've had some other experiments where

416
00:18:50,940 --> 00:18:48,520
we've really discovered things that you

417
00:18:52,380 --> 00:18:50,950
know we didn't know existed and so you

418
00:18:54,270 --> 00:18:52,390
know whenever we have these experiments

419
00:18:55,590 --> 00:18:54,280
that give us something a little

420
00:18:56,970 --> 00:18:55,600
different that's always exciting for us

421
00:19:00,300 --> 00:18:56,980
up here and it's exciting for everybody

422
00:19:01,740 --> 00:19:00,310
on the ground and you know it's it's one

423
00:19:03,720 --> 00:19:01,750
of the joys of being up here and meet in

424
00:19:05,790 --> 00:19:03,730
this very very unique environment

425
00:19:07,800 --> 00:19:05,800
because the experimentation that we do

426
00:19:09,690 --> 00:19:07,810
up here the research that we do up here

427
00:19:11,490 --> 00:19:09,700
it can only be done up here it can't be

428
00:19:13,710 --> 00:19:11,500
done anywhere else this is a very very

429
00:19:15,300 --> 00:19:13,720
unique environment and that's why you

430
00:19:16,890 --> 00:19:15,310
know we put so much effort into building

431
00:19:19,110 --> 00:19:16,900
it is so that we could have these

432
00:19:20,430 --> 00:19:19,120
unexpected results these these results

433
00:19:33,760 --> 00:19:20,440
that we couldn't duplicate on the earth

434
00:19:38,590 --> 00:19:36,220
we certainly want to thank the crew of

435
00:19:40,360 --> 00:19:38,600
expedition 28 for welcoming us aboard

436
00:19:42,940 --> 00:19:40,370
the International Space Station today

437
00:19:44,830 --> 00:19:42,950
and more importantly I want to thank all

438
00:19:46,960 --> 00:19:44,840

of you as well for being here and

439
00:19:49,690 --> 00:19:46,970
sharing with us this very special event

440
00:19:51,700 --> 00:19:49,700
I want to mention also that there will

441
00:19:53,560 --> 00:19:51,710
be additional space related activities

442
00:19:55,960 --> 00:19:53,570
and presentations in the side gallery

443
00:19:58,660 --> 00:19:55,970
and the Murdoch theater between eleven

444
00:20:00,400 --> 00:19:58,670
o'clock today and 1pm so thanks very

445
00:20:06,970 --> 00:20:00,410
much unless your appreciation to the

446
00:20:11,360 --> 00:20:09,440
thanks to everybody it was it was great

447
00:20:13,310 --> 00:20:11,370
speaking everybody today there was those

448
00:20:15,020 --> 00:20:13,320
were absolutely outstanding questions

449
00:20:17,120 --> 00:20:15,030
it's obviously you put obvious you put a

450
00:20:19,490 --> 00:20:17,130
lot of work and thought into into those

451
00:20:20,960 --> 00:20:19,500
questions it was it really warms our

452
00:20:22,940 --> 00:20:20,970
heart to hear how much interest

453
00:20:25,610 --> 00:20:22,950
everybody has in what we're doing up

454
00:20:27,350 --> 00:20:25,620
here and you know we hope that you guys

455
00:20:30,169 --> 00:20:27,360
follow in our footsteps and be the next

456
00:20:31,520 --> 00:20:30,179
generation of explorers and and remember

457
00:20:33,710 --> 00:20:31,530
you know science technology engineering

458
00:20:36,230 --> 00:20:33,720
and math are really important not only

459
00:20:38,899 --> 00:20:36,240
for for your future but for the future

460
00:20:40,250 --> 00:20:38,909
of our planet so so please work hard in

461
00:20:54,620 --> 00:20:40,260
those in those areas in all the areas

462
00:21:01,560 --> 00:20:57,090
station this is Houston ACR that

463
00:21:03,779 --> 00:21:01,570

concludes the event thank you get to the

464
00:21:05,639 --> 00:21:03,789
Museum of Flight and ISS will now be