



1
00:00:07,269 --> 00:00:02,310
station this is houston are you ready

2
00:00:11,830 --> 00:00:10,070
we are ready for the event

3
00:00:13,589 --> 00:00:11,840
challenger learning center international

4
00:00:14,629 --> 00:00:13,599
conference this is mission control

5
00:00:18,310 --> 00:00:14,639
houston

6
00:00:21,750 --> 00:00:19,910
a station

7
00:00:23,310 --> 00:00:21,760
it's mark here in san antonio and a

8
00:00:28,630 --> 00:00:23,320
whole group of

9
00:00:28,640 --> 00:00:32,549
how do you guys here

10
00:00:36,790 --> 00:00:34,870
hey we uh we have you loud and clear

11
00:00:38,630 --> 00:00:36,800
welcome aboard the international space

12
00:00:40,389 --> 00:00:38,640
station

13
00:00:42,470 --> 00:00:40,399

hey scott thanks for doing this in the

14

00:00:47,350 --> 00:00:42,480

airlock so people can see the suits

15

00:00:47,360 --> 00:00:56,150

all right

16

00:01:00,389 --> 00:00:58,229

okay scott so we've got some questions

17

00:01:02,790 --> 00:01:00,399

down here i've got 12

18

00:01:04,549 --> 00:01:02,800

or 14 or so i know we have a very

19

00:01:06,070 --> 00:01:04,559

limited amount of time so i kind of want

20

00:01:07,270 --> 00:01:06,080

to get right into the questions but

21

00:01:09,270 --> 00:01:07,280

first of all

22

00:01:11,030 --> 00:01:09,280

tell us if you've seen any meteors i

23

00:01:15,429 --> 00:01:11,040

know that meteor shower was supposed to

24

00:01:19,590 --> 00:01:17,109

well i've been looking you know i think

25

00:01:23,109 --> 00:01:19,600

i may have seen one and got a picture of

26

00:01:24,469 --> 00:01:23,119

it but uh i wasn't absolutely certain so

27

00:01:26,550 --> 00:01:24,479

we're going to keep looking for them and

28

00:01:28,789 --> 00:01:26,560

hopefully we'll see something something

29

00:01:30,230 --> 00:01:28,799

tonight

30

00:01:31,990 --> 00:01:30,240

all right and then tell us what you got

31

00:01:36,710 --> 00:01:32,000

next to us there floating in front of

32

00:01:40,550 --> 00:01:38,469

this is this is our

33

00:01:42,789 --> 00:01:40,560

our pet skittles there's a bunch of

34

00:01:44,310 --> 00:01:42,799

skittles in here and it just kind of

35

00:01:51,590 --> 00:01:44,320

sometimes floats around the space

36

00:01:57,030 --> 00:01:54,630

at least you don't have to feed it

37

00:01:59,270 --> 00:01:57,040

take it for a walk

38

00:02:01,429 --> 00:01:59,280

all right so i'm gonna get sarah uh it's

39

00:02:06,870 --> 00:02:01,439

gonna sarah mclean who's 15 years old is

40

00:02:11,589 --> 00:02:10,150

yeah hello um i'm sarah my question is

41

00:02:13,430 --> 00:02:11,599

when did you know that you wanted to be

42

00:02:15,110 --> 00:02:13,440

an astronaut and is there anyone or

43

00:02:16,630 --> 00:02:15,120

anything along the way that helped

44

00:02:24,070 --> 00:02:16,640

inspire you or helped you reach your

45

00:02:28,470 --> 00:02:26,470

you know for me um you know when i was

46

00:02:31,350 --> 00:02:28,480

young in uh in elementary school i

47

00:02:33,030 --> 00:02:31,360

remember uh i was talking to a one of my

48

00:02:34,390 --> 00:02:33,040

classmates asked me what i wanted to do

49

00:02:36,550 --> 00:02:34,400

when i grew up and i don't remember what

50

00:02:38,229 --> 00:02:36,560

i said but he said that he wanted to be

51
00:02:39,990 --> 00:02:38,239
an astronaut and that was kind of the

52
00:02:42,390 --> 00:02:40,000
first time i thought about it and i said

53
00:02:44,150 --> 00:02:42,400
you know maybe i'll be an astronaut too

54
00:02:45,509 --> 00:02:44,160
and he said no

55
00:02:48,229 --> 00:02:45,519
you can't be an astronaut i'm going to

56
00:02:50,869 --> 00:02:48,239
be an astronaut that wasn't my brother

57
00:02:52,790 --> 00:02:50,879
but it was a another

58
00:02:54,710 --> 00:02:52,800
another uh friend and that kind of you

59
00:02:57,910 --> 00:02:54,720
know got me thinking and then it was

60
00:03:00,550 --> 00:02:57,920
just one thing i thought all along my uh

61
00:03:01,990 --> 00:03:00,560
you know my whole life growing up and uh

62
00:03:04,470 --> 00:03:02,000
you know i'm very fortunate to be in

63
00:03:09,110 --> 00:03:04,480

this uh position now be able to do this

64

00:03:13,430 --> 00:03:12,309

and scott this is irene poro

65

00:03:16,070 --> 00:03:13,440

hi

66

00:03:19,430 --> 00:03:16,080

um many astronauts have reported that

67

00:03:21,750 --> 00:03:19,440

seeing the earth from space and in space

68

00:03:23,910 --> 00:03:21,760

can be a profound experience

69

00:03:26,070 --> 00:03:23,920

the shift has been

70

00:03:27,750 --> 00:03:26,080

called the overview effect

71

00:03:29,750 --> 00:03:27,760

could you comment on your experience in

72

00:03:32,949 --> 00:03:29,760

this regard and especially having been

73

00:03:35,190 --> 00:03:32,959

in orbit for months or soon for a year

74

00:03:36,550 --> 00:03:35,200

is a different experience than

75

00:03:41,589 --> 00:03:36,560

shorter mission

76

00:03:45,190 --> 00:03:43,589

well you never tire of looking at the

77

00:03:48,070 --> 00:03:45,200

earth i mean it's a

78

00:03:50,070 --> 00:03:48,080

you know incredibly beautiful planet and

79

00:03:52,229 --> 00:03:50,080

the things that are striking about it

80

00:03:55,270 --> 00:03:52,239

besides it's its beauty of course is

81

00:03:56,869 --> 00:03:55,280

that when you when you look at the earth

82

00:03:59,110 --> 00:03:56,879

from our perspective you don't see any

83

00:04:01,270 --> 00:03:59,120

political borders you see only

84

00:04:03,350 --> 00:04:01,280

natural borders you know in some cases

85

00:04:04,789 --> 00:04:03,360

those natural borders separate countries

86

00:04:06,869 --> 00:04:04,799

but by and large

87

00:04:07,589 --> 00:04:06,879

it gives us the impression that we're

88

00:04:09,509 --> 00:04:07,599

all

89

00:04:11,910 --> 00:04:09,519

citizens of

90

00:04:14,550 --> 00:04:11,920

planet earth which we are not you know

91

00:04:16,710 --> 00:04:14,560

particular any particular country so it

92

00:04:19,349 --> 00:04:16,720

it kind of gives you a sense of more uh

93

00:04:21,670 --> 00:04:19,359

you know unity on earth and you know how

94

00:04:22,710 --> 00:04:21,680

we're all in this uh situation of life

95

00:04:23,990 --> 00:04:22,720

together

96

00:04:26,790 --> 00:04:24,000

and the other thing you notice is the

97

00:04:27,749 --> 00:04:26,800

atmosphere is incredibly uh incredibly

98

00:04:29,350 --> 00:04:27,759

thin

99

00:04:31,110 --> 00:04:29,360

and you also know

100

00:04:32,950 --> 00:04:31,120

notice some of the countries that

101
00:04:35,430 --> 00:04:32,960
pollute it greatly like there's certain

102
00:04:37,749 --> 00:04:35,440
parts of asia that will fly over that uh

103
00:04:39,270 --> 00:04:37,759
you know is it's always cloudy and hard

104
00:04:41,110 --> 00:04:39,280
to see the ground and

105
00:04:43,270 --> 00:04:41,120
and those aren't clouds so it gives you

106
00:04:45,110 --> 00:04:43,280
a sense for you know how we need to take

107
00:04:47,430 --> 00:04:45,120
care of our environment better because

108
00:04:54,310 --> 00:04:47,440
it is very fragile the atmosphere looks

109
00:04:58,629 --> 00:04:56,230
hi i'm sheri barrera middle school

110
00:05:00,790 --> 00:04:58,639
science teacher my question is due to

111
00:05:03,110 --> 00:05:00,800
the physiological and psychological

112
00:05:10,469 --> 00:05:03,120
changes you have encountered in space do

113
00:05:14,550 --> 00:05:12,150

thank you for the the question sherry

114

00:05:17,110 --> 00:05:14,560

and we certainly do have uh a number of

115

00:05:18,870 --> 00:05:17,120

physiological and uh psychological

116

00:05:21,189 --> 00:05:18,880

changes that i think that occur over the

117

00:05:22,950 --> 00:05:21,199

time that we're in space um i've found

118

00:05:25,270 --> 00:05:22,960

that i sleep very well up here and i

119

00:05:27,189 --> 00:05:25,280

don't really dream any differently

120

00:05:29,830 --> 00:05:27,199

the thing that i do discover

121

00:05:31,270 --> 00:05:29,840

specifically about sleeping is that when

122

00:05:33,909 --> 00:05:31,280

the lights are off and when i wake up in

123

00:05:35,430 --> 00:05:33,919

the morning when the alarm goes off

124

00:05:37,510 --> 00:05:35,440

sometimes i feel

125

00:05:39,430 --> 00:05:37,520

like i'm upside down or i feel like i'm

126
00:05:41,110 --> 00:05:39,440
hanging from the ceiling and it takes a

127
00:05:42,790 --> 00:05:41,120
little bit of time i have to turn the

128
00:05:44,629 --> 00:05:42,800
lights on to really kind of orient

129
00:05:49,670 --> 00:05:44,639
myself to where i am

130
00:05:54,469 --> 00:05:52,230
good morning i'm federico zaragoza

131
00:05:57,270 --> 00:05:54,479
greetings from san antonio texas

132
00:05:59,590 --> 00:05:57,280
what are the most common misconceptions

133
00:06:06,870 --> 00:05:59,600
about living on the international space

134
00:06:12,710 --> 00:06:10,070
you know that's a that's a really uh

135
00:06:13,990 --> 00:06:12,720
difficult question uh for me to answer

136
00:06:15,830 --> 00:06:14,000
i've never been asked that question

137
00:06:17,670 --> 00:06:15,840
before and most questions that i'm asked

138
00:06:20,390 --> 00:06:17,680

i've been asked before so i i

139

00:06:22,390 --> 00:06:20,400

congratulate you for coming up with a

140

00:06:23,909 --> 00:06:22,400

good one

141

00:06:26,629 --> 00:06:23,919

you know i don't really know what the

142

00:06:27,670 --> 00:06:26,639

public's perception of life is up here

143

00:06:29,110 --> 00:06:27,680

but

144

00:06:31,430 --> 00:06:29,120

what i can say

145

00:06:33,029 --> 00:06:31,440

is that we work really hard you know we

146

00:06:35,270 --> 00:06:33,039

work from the time we get up until

147

00:06:37,749 --> 00:06:35,280

basically to maybe an hour or two before

148

00:06:40,070 --> 00:06:37,759

we go to go to bed there's a lot of

149

00:06:42,309 --> 00:06:40,080

overhead that

150

00:06:43,990 --> 00:06:42,319

goes along with living and working in in

151
00:06:45,270 --> 00:06:44,000
space and taking care of this space

152
00:06:46,629 --> 00:06:45,280
station

153
00:06:49,029 --> 00:06:46,639
that people

154
00:06:50,950 --> 00:06:49,039
you know don't recognize it is uh

155
00:06:52,309 --> 00:06:50,960
somewhat of a harsh environment to live

156
00:06:54,710 --> 00:06:52,319
in you know for instance we don't have

157
00:06:56,710 --> 00:06:54,720
running water so we can't uh you know

158
00:06:59,110 --> 00:06:56,720
take a shower

159
00:07:00,870 --> 00:06:59,120
you know we just take sponge baths and

160
00:07:02,390 --> 00:07:00,880
you know after a while that gets uh it

161
00:07:03,909 --> 00:07:02,400
gets a little bit old but it's also at

162
00:07:05,589 --> 00:07:03,919
the same time you know it's surprising

163
00:07:07,110 --> 00:07:05,599

what you can get used to and the fact

164

00:07:07,909 --> 00:07:07,120

that everything floats like skittles

165

00:07:10,309 --> 00:07:07,919

here

166

00:07:12,309 --> 00:07:10,319

makes it uh you know makes it hard to do

167

00:07:14,870 --> 00:07:12,319

things things become uh you know very

168

00:07:16,870 --> 00:07:14,880

difficult to you know what might be

169

00:07:18,469 --> 00:07:16,880

considered a simple task takes a lot

170

00:07:24,629 --> 00:07:18,479

more effort because of you know you

171

00:07:29,990 --> 00:07:27,589

hello my name is justin hutchison i'm 11

172

00:07:32,150 --> 00:07:30,000

years old and my question is what are

173

00:07:38,390 --> 00:07:32,160

the challenges of exercising in

174

00:07:41,749 --> 00:07:40,070

hey justin that's a great question and

175

00:07:43,589 --> 00:07:41,759

we have some very smart people on the

176

00:07:45,830 --> 00:07:43,599

ground some engineers that developed the

177

00:07:47,749 --> 00:07:45,840

exercise equipment for us to use up here

178

00:07:49,350 --> 00:07:47,759

exercise is incredibly important to keep

179

00:07:51,189 --> 00:07:49,360

our bodies healthy and strong so that

180

00:07:52,790 --> 00:07:51,199

we're ready that our bones are strong

181

00:07:55,350 --> 00:07:52,800

that our muscles are strong when we

182

00:07:57,029 --> 00:07:55,360

return back to the earth and so we have

183

00:07:59,029 --> 00:07:57,039

a treadmill up here to exercise our

184

00:08:01,589 --> 00:07:59,039

hearts to provide aerobic

185

00:08:03,990 --> 00:08:01,599

exercise and so we actually have to wear

186

00:08:05,670 --> 00:08:04,000

a harness to hold us down onto the

187

00:08:07,270 --> 00:08:05,680

treadmill while we're running otherwise

188

00:08:09,110 --> 00:08:07,280

with the first step we would go flying

189

00:08:11,270 --> 00:08:09,120

off and then of course we do a

190

00:08:12,950 --> 00:08:11,280

resistance exercise too exercise for our

191

00:08:15,589 --> 00:08:12,960

muscles like lifting weights but there's

192

00:08:17,990 --> 00:08:15,599

no weight in space because there's no we

193

00:08:21,110 --> 00:08:18,000

don't feel gravity and so we have a

194

00:08:23,990 --> 00:08:21,120

special kind of a universal gym that

195

00:08:25,830 --> 00:08:24,000

uses cylinders evacuated cylinders and

196

00:08:27,270 --> 00:08:25,840

these pistons pull against the this

197

00:08:28,869 --> 00:08:27,280

vacuum in order to provide the

198

00:08:30,790 --> 00:08:28,879

resistance and we can do all sorts of

199

00:08:33,190 --> 00:08:30,800

exercises squats and

200

00:08:34,630 --> 00:08:33,200

and dead lifts and and bench press and

201
00:08:38,230 --> 00:08:34,640
all these are very important for keeping

202
00:08:42,310 --> 00:08:40,230
good morning my name is beckyanna i'm

203
00:08:43,909 --> 00:08:42,320
from challenger in indiana and i'm

204
00:08:45,829 --> 00:08:43,919
wondering and you touched on it a little

205
00:08:47,910 --> 00:08:45,839
bit but about your sleep patterns on

206
00:08:49,910 --> 00:08:47,920
orbit if they change because you're

207
00:08:51,269 --> 00:08:49,920
exercising more or less if it's

208
00:08:53,110 --> 00:08:51,279
different because you're sleeping

209
00:08:59,350 --> 00:08:53,120
strapped to the wall

210
00:09:03,990 --> 00:09:01,430
you know i i've been part of this sleep

211
00:09:05,990 --> 00:09:04,000
study and i don't have my my sleep watch

212
00:09:07,910 --> 00:09:06,000
on because actually a couple of days ago

213
00:09:09,430 --> 00:09:07,920

i lost it it floated away and i can't

214

00:09:11,509 --> 00:09:09,440

find it but they were going to get me a

215

00:09:12,870 --> 00:09:11,519

new one

216

00:09:14,790 --> 00:09:12,880

so i've been part of the sleep study

217

00:09:16,470 --> 00:09:14,800

since my first flight in 1999 and i

218

00:09:19,269 --> 00:09:16,480

think what what uh

219

00:09:21,670 --> 00:09:19,279

you know the biggest piece of data is i

220

00:09:23,509 --> 00:09:21,680

i sleep a little less here in space you

221

00:09:26,310 --> 00:09:23,519

know generally maybe about 20 minutes

222

00:09:29,110 --> 00:09:26,320

less than i get on earth overall

223

00:09:29,910 --> 00:09:29,120

sleeping can be difficult here because

224

00:09:33,350 --> 00:09:29,920

you're

225

00:09:35,030 --> 00:09:33,360

used to your whole life sleeping with

226

00:09:36,550 --> 00:09:35,040

pressure on your body whether it's you

227

00:09:38,310 --> 00:09:36,560

know the pressure of gravity or the

228

00:09:39,910 --> 00:09:38,320

pressure of the blanket you know that

229

00:09:41,590 --> 00:09:39,920

becomes very comfortable the other

230

00:09:43,430 --> 00:09:41,600

reason why i think it's more difficult

231

00:09:45,590 --> 00:09:43,440

to sleep is because

232

00:09:46,949 --> 00:09:45,600

when you when you sleep on earth you uh

233

00:09:48,790 --> 00:09:46,959

you know you get in bed and you're

234

00:09:50,550 --> 00:09:48,800

you're assuming a position that's more

235

00:09:53,750 --> 00:09:50,560

comfortable than you're generally

236

00:09:56,630 --> 00:09:53,760

walking around or sitting position and

237

00:09:58,550 --> 00:09:56,640

it provides some relief and lets you uh

238

00:10:01,030 --> 00:09:58,560

you know helps you fall asleep where

239

00:10:02,150 --> 00:10:01,040

here what we kind of do is you know you

240

00:10:04,069 --> 00:10:02,160

get in your sleeping bag and then you

241

00:10:06,150 --> 00:10:04,079

just close your eyes and the level of

242

00:10:08,310 --> 00:10:06,160

you know comfort level doesn't change so

243

00:10:10,389 --> 00:10:08,320

i think it makes um you know sleeping a

244

00:10:13,430 --> 00:10:10,399

little bit uh more

245

00:10:17,269 --> 00:10:13,440

difficult and uh you know just has feels

246

00:10:22,470 --> 00:10:19,430

hey scott these next two guys are

247

00:10:24,870 --> 00:10:22,480

matthew and nicholas 15 years old twin

248

00:10:26,630 --> 00:10:24,880

brothers

249

00:10:28,870 --> 00:10:26,640

thanks

250

00:10:30,870 --> 00:10:28,880

um how long did you have to prepare

251

00:10:36,630 --> 00:10:30,880

yourself physically and mentally to go

252

00:10:41,750 --> 00:10:39,350

you know we have uh our preparation for

253

00:10:43,590 --> 00:10:41,760

the flight is about a little over two

254

00:10:46,069 --> 00:10:43,600

years of training

255

00:10:47,910 --> 00:10:46,079

you know most of that is on systems and

256

00:10:50,710 --> 00:10:47,920

you know how to perform the procedures

257

00:10:52,310 --> 00:10:50,720

we we do up here and the experiments and

258

00:10:53,350 --> 00:10:52,320

things like that you know some of it's

259

00:10:54,389 --> 00:10:53,360

physical

260

00:10:56,150 --> 00:10:54,399

and

261

00:10:58,550 --> 00:10:56,160

you know the mental preparation i think

262

00:10:59,430 --> 00:10:58,560

is just just you know preparing myself

263

00:11:00,790 --> 00:10:59,440

for

264

00:11:02,949 --> 00:11:00,800

what it's going to be like to be here

265

00:11:05,110 --> 00:11:02,959

for so long it was good that i had done

266

00:11:06,470 --> 00:11:05,120

a six-month flight previously so i knew

267

00:11:07,430 --> 00:11:06,480

what to expect

268

00:11:09,030 --> 00:11:07,440

um

269

00:11:10,550 --> 00:11:09,040

you know however as astronauts you know

270

00:11:12,870 --> 00:11:10,560

we're training all the time in in

271

00:11:14,710 --> 00:11:12,880

various different ways so

272

00:11:17,110 --> 00:11:14,720

formally probably about two and a half

273

00:11:18,790 --> 00:11:17,120

years informally you know a really long

274

00:11:21,030 --> 00:11:18,800

time i guess since uh

275

00:11:25,269 --> 00:11:21,040

since i joined the astronaut office in

276

00:11:35,990 --> 00:11:28,230

hi and i'm hi i'm nicholas was there

277

00:11:40,230 --> 00:11:36,870

um

278

00:11:43,509 --> 00:11:40,240

on this flight not yet you know i'm

279

00:11:45,670 --> 00:11:43,519

coming up on the uh the duration

280

00:11:48,150 --> 00:11:45,680

uh of my last flight so i think i've

281

00:11:50,790 --> 00:11:48,160

been here about 140 days my last flight

282

00:11:52,069 --> 00:11:50,800

was 159

283

00:11:54,949 --> 00:11:52,079

you know i can tell you i have a

284

00:11:56,389 --> 00:11:54,959

different feeling now it doesn't feel

285

00:11:58,629 --> 00:11:56,399

although i feel like i've been here a

286

00:11:59,750 --> 00:11:58,639

long time and i'm gonna be here even

287

00:12:02,949 --> 00:11:59,760

longer

288

00:12:06,150 --> 00:12:02,959

uh about another you know over over 200

289

00:12:09,509 --> 00:12:06,160

days i don't have the same uh feeling of

290

00:12:10,949 --> 00:12:09,519

uh you know fatigue and getting uh

291

00:12:13,670 --> 00:12:10,959

you know getting to the end of this

292

00:12:15,990 --> 00:12:13,680

mission as i did at this uh same point

293

00:12:17,430 --> 00:12:16,000

last time and i think that's part of you

294

00:12:19,670 --> 00:12:17,440

know what your brother asked the the

295

00:12:21,350 --> 00:12:19,680

kind of the mental you know preparation

296

00:12:22,870 --> 00:12:21,360

and training for this i recognize that

297

00:12:25,269 --> 00:12:22,880

i'm going to be here for a whole year a

298

00:12:30,389 --> 00:12:25,279

year is a long time so my my

299

00:12:34,949 --> 00:12:32,550

hi my name is stacy shrewsbury and i'm

300

00:12:36,710 --> 00:12:34,959

asking this question on behalf of susan

301
00:12:38,870 --> 00:12:36,720
evans we're from the challenger learning

302
00:12:40,949 --> 00:12:38,880
center at heartland community college

303
00:12:43,910 --> 00:12:40,959
what advice do you have for today's

304
00:12:48,310 --> 00:12:43,920
youth about choosing a career in stem

305
00:12:52,069 --> 00:12:50,150
hi stacy that's a it's a great question

306
00:12:53,030 --> 00:12:52,079
you know education in stem is so

307
00:12:55,910 --> 00:12:53,040
important

308
00:12:57,590 --> 00:12:55,920
um the science technology uh engineering

309
00:12:59,829 --> 00:12:57,600
math all these things uh really

310
00:13:00,949 --> 00:12:59,839
contribute really to what we've been

311
00:13:02,710 --> 00:13:00,959
able to create up here in the

312
00:13:05,509 --> 00:13:02,720
international space station this amazing

313
00:13:07,430 --> 00:13:05,519

national laboratory um that's uh

314

00:13:09,430 --> 00:13:07,440

an international partnership

315

00:13:12,069 --> 00:13:09,440

um but i think you really need to

316

00:13:13,750 --> 00:13:12,079

encourage kids to just pursue what it is

317

00:13:15,030 --> 00:13:13,760

that they're interested in i think it's

318

00:13:17,910 --> 00:13:15,040

important to

319

00:13:20,389 --> 00:13:17,920

to emphasize math and and technology and

320

00:13:22,069 --> 00:13:20,399

and uh those sorts of things but to find

321

00:13:25,670 --> 00:13:22,079

something that they have a passion for

322

00:13:27,350 --> 00:13:25,680

and can and can really dig into and

323

00:13:32,629 --> 00:13:27,360

that will provide something of interest

324

00:13:37,509 --> 00:13:35,269

hello my name is tristan garcia my

325

00:13:39,030 --> 00:13:37,519

question is dear experience so far in

326

00:13:40,790 --> 00:13:39,040

space what advice would you give the

327

00:13:49,750 --> 00:13:40,800

astronauts leaving tomorrow if they're

328

00:13:54,949 --> 00:13:52,870

what the advice i would give to uh

329

00:13:56,470 --> 00:13:54,959

to folks leaving on a trip to mars is

330

00:13:58,550 --> 00:13:56,480

you know they really know how to have to

331

00:13:59,590 --> 00:13:58,560

know how the systems on the the vehicle

332

00:14:01,269 --> 00:13:59,600

work you know there's a lot of

333

00:14:02,629 --> 00:14:01,279

maintenance we do here

334

00:14:04,629 --> 00:14:02,639

and

335

00:14:07,829 --> 00:14:04,639

you know even though these systems are

336

00:14:08,949 --> 00:14:07,839

generally pretty robust and work well

337

00:14:10,550 --> 00:14:08,959

there are times when they're going to

338

00:14:11,910 --> 00:14:10,560

have to fix them

339

00:14:13,509 --> 00:14:11,920

they're not going to have the same type

340

00:14:15,590 --> 00:14:13,519

of communication

341

00:14:17,590 --> 00:14:15,600

that we have here with the mission

342

00:14:18,389 --> 00:14:17,600

control centers around the world to help

343

00:14:20,389 --> 00:14:18,399

us

344

00:14:22,470 --> 00:14:20,399

so they're going to have to live

345

00:14:25,189 --> 00:14:22,480

much more in an autonomous way because

346

00:14:27,030 --> 00:14:25,199

of the time delays that are involved and

347

00:14:29,350 --> 00:14:27,040

it would be very impractical for us to

348

00:14:30,949 --> 00:14:29,360

do some of the repairs we do if we had

349

00:14:32,870 --> 00:14:30,959

to ask the ground a question and we

350

00:14:35,430 --> 00:14:32,880

wouldn't get the answer for you know 30

351

00:14:37,350 --> 00:14:35,440

minutes for example so knowing how to

352

00:14:38,550 --> 00:14:37,360

fix the systems knowing how the systems

353

00:14:41,189 --> 00:14:38,560

operate

354

00:14:43,269 --> 00:14:41,199

would be a very uh important piece of

355

00:14:48,069 --> 00:14:43,279

advice i would give to anyone leaving on

356

00:14:53,829 --> 00:14:52,069

hi i'm i'm cindy glenn from any isd

357

00:14:56,389 --> 00:14:53,839

school district in san antonio and i

358

00:14:59,269 --> 00:14:56,399

teach technology my question for you is

359

00:15:01,829 --> 00:14:59,279

what kind of technology like ipad laptop

360

00:15:03,030 --> 00:15:01,839

smartphone do you use mostly on the iss

361

00:15:10,230 --> 00:15:03,040

and are there any differences from

362

00:15:14,150 --> 00:15:11,990

thanks cindy we have uh lots of

363

00:15:15,990 --> 00:15:14,160

technology up here of course we have

364

00:15:18,069 --> 00:15:16,000

laptops and computers all over the place

365

00:15:19,670 --> 00:15:18,079

that they're really our main interface

366

00:15:21,829 --> 00:15:19,680

with the systems here on the space

367

00:15:24,310 --> 00:15:21,839

station we have tablet computers that we

368

00:15:26,150 --> 00:15:24,320

use as well and

369

00:15:28,310 --> 00:15:26,160

and so we have technology throughout

370

00:15:30,069 --> 00:15:28,320

here that help us on a daily basis i'd

371

00:15:31,829 --> 00:15:30,079

say a couple of the the biggest

372

00:15:34,150 --> 00:15:31,839

differences that

373

00:15:35,030 --> 00:15:34,160

compared to using them on earth uh for

374

00:15:36,629 --> 00:15:35,040

one

375

00:15:38,829 --> 00:15:36,639

anytime you're using a laptop you have

376

00:15:43,030 --> 00:15:38,839

to secure yourself to the ground

377

00:15:44,790 --> 00:15:43,040

um hook your feet under some some

378

00:15:45,990 --> 00:15:44,800

hand rails otherwise as soon as you

379

00:15:48,150 --> 00:15:46,000

start tapping on the keyboard you're

380

00:15:49,590 --> 00:15:48,160

just going to float away

381

00:15:51,670 --> 00:15:49,600

for the tablet

382

00:15:52,629 --> 00:15:51,680

in order to change the orientation

383

00:15:54,230 --> 00:15:52,639

you know

384

00:15:56,470 --> 00:15:54,240

on the earth when you change the

385

00:15:58,310 --> 00:15:56,480

orientation the there are sensors inside

386

00:15:59,829 --> 00:15:58,320

it that automatically sense which way

387

00:16:02,389 --> 00:15:59,839

the the tablet is facing whether it's

388

00:16:04,150 --> 00:16:02,399

porch or a landscape and i found up here

389

00:16:05,670 --> 00:16:04,160

if i want to have a different

390

00:16:06,629 --> 00:16:05,680

orientation i actually have to spin

391

00:16:09,430 --> 00:16:06,639

around

392

00:16:11,269 --> 00:16:09,440

and try and generate some g's on the

393

00:16:16,710 --> 00:16:11,279

tablet in order to make it change its

394

00:16:20,310 --> 00:16:18,550

greetings gentlemen i first want to say

395

00:16:22,150 --> 00:16:20,320

thank you for this opportunity we know

396

00:16:23,829 --> 00:16:22,160

you have a very busy schedule and we

397

00:16:25,910 --> 00:16:23,839

really do appreciate you taking your

398

00:16:27,590 --> 00:16:25,920

time for doing this

399

00:16:29,430 --> 00:16:27,600

my name is michelle rissy and my

400

00:16:31,590 --> 00:16:29,440

question is if you could change one

401
00:16:33,670 --> 00:16:31,600
thing on the international space station

402
00:16:40,230 --> 00:16:33,680
of your experience what would it be and

403
00:16:44,550 --> 00:16:42,310
i would have more people up here you

404
00:16:46,870 --> 00:16:44,560
know i'd like to have my family friends

405
00:16:48,629 --> 00:16:46,880
uh my kids you know

406
00:16:50,629 --> 00:16:48,639
people to uh

407
00:16:52,790 --> 00:16:50,639
share this experience with i'm actually

408
00:16:54,150 --> 00:16:52,800
very fortunate i can you know share it

409
00:16:56,310 --> 00:16:54,160
with my brother although we've never

410
00:16:58,870 --> 00:16:56,320
been in space together it's it's great

411
00:17:00,310 --> 00:16:58,880
it's uh you know a real privilege having

412
00:17:03,030 --> 00:17:00,320
uh him to

413
00:17:04,710 --> 00:17:03,040

to talk about uh this great experience

414

00:17:06,150 --> 00:17:04,720

and what it's like and and share that

415

00:17:07,029 --> 00:17:06,160

with him but you know having other

416

00:17:08,870 --> 00:17:07,039

people

417

00:17:10,870 --> 00:17:08,880

uh to have the opportunity to come up

418

00:17:12,710 --> 00:17:10,880

here is something that uh that i would

419

00:17:14,870 --> 00:17:12,720

change like i said it is a is a

420

00:17:16,309 --> 00:17:14,880

privilege to be able to do this and uh

421

00:17:18,309 --> 00:17:16,319

you know the more people that do it the

422

00:17:19,669 --> 00:17:18,319

better and i think that would be a

423

00:17:21,590 --> 00:17:19,679

great thing if we could change that

424

00:17:26,309 --> 00:17:21,600

hopefully we will someday and hopefully

425

00:17:29,029 --> 00:17:27,590

good morning i'm melissa from the

426

00:17:31,270 --> 00:17:29,039

challenger learning center in paducah

427

00:17:33,909 --> 00:17:31,280

kentucky and we just finished our first

428

00:17:36,870 --> 00:17:33,919

ever underwater iss camp where they

429

00:17:39,190 --> 00:17:36,880

built a big size model as they would in

430

00:17:41,510 --> 00:17:39,200

the nbl so what is the one thing you

431

00:17:48,630 --> 00:17:41,520

believe we should absolutely be teaching

432

00:17:52,390 --> 00:17:50,390

well i think uh

433

00:17:54,470 --> 00:17:52,400

it's one of the things that we learn up

434

00:17:56,870 --> 00:17:54,480

here that this kind of endeavor is not

435

00:17:59,590 --> 00:17:56,880

something that uh one person can do on

436

00:18:02,630 --> 00:17:59,600

their own that just our team up here can

437

00:18:04,470 --> 00:18:02,640

do on its own we have a huge network of

438

00:18:06,789 --> 00:18:04,480

support

439

00:18:09,990 --> 00:18:06,799

on the ground in countries all over the

440

00:18:11,669 --> 00:18:10,000

world and the success that we have up

441

00:18:13,430 --> 00:18:11,679

here in the experiments that we do and

442

00:18:15,350 --> 00:18:13,440

the maintenance that we do um in the

443

00:18:17,830 --> 00:18:15,360

construction that we've been able to do

444

00:18:20,310 --> 00:18:17,840

has come from teamwork so i think taking

445

00:18:22,870 --> 00:18:20,320

um that lesson and really employing that

446

00:18:24,630 --> 00:18:22,880

and and having the students recognize

447

00:18:27,029 --> 00:18:24,640

how important it is to be able to work

448

00:18:29,669 --> 00:18:27,039

as a team um to have somebody that is

449

00:18:30,950 --> 00:18:29,679

able to leave lead and somebody and

450

00:18:32,789 --> 00:18:30,960

folks that are able to follow

451

00:18:34,549 --> 00:18:32,799

effectively and communicate well

452

00:18:36,549 --> 00:18:34,559

together you know those are all lessons

453

00:18:38,549 --> 00:18:36,559

that we see every day here on the space

454

00:18:40,830 --> 00:18:38,559

station um and then in the human

455

00:18:43,830 --> 00:18:40,840

spaceflight

456

00:18:46,310 --> 00:18:43,840

program hi i'm john from the town of

457

00:18:48,710 --> 00:18:46,320

ramaphote challenger center in rocklin

458

00:18:50,789 --> 00:18:48,720

county new york and my question is what

459

00:18:58,710 --> 00:18:50,799

is the hardest thing to adjust to when

460

00:19:03,110 --> 00:19:00,710

as the as the rookie i'm going to answer

461

00:19:05,350 --> 00:19:03,120

that one because uh it's still all very

462

00:19:07,029 --> 00:19:05,360

fresh for me you know i think the the

463

00:19:10,470 --> 00:19:07,039

hardest thing for me is just keeping

464

00:19:12,710 --> 00:19:10,480

things organized every time i uh anytime

465

00:19:14,789 --> 00:19:12,720

we get tools out to use the

466

00:19:16,310 --> 00:19:14,799

use tools or we take something apart

467

00:19:18,950 --> 00:19:16,320

just keeping track of all the different

468

00:19:21,430 --> 00:19:18,960

pieces and not having them float away um

469

00:19:24,230 --> 00:19:21,440

is incredibly difficult and i've found

470

00:19:25,669 --> 00:19:24,240

that you have to be very organized uh

471

00:19:28,150 --> 00:19:25,679

you have to keep things

472

00:19:29,590 --> 00:19:28,160

in in bags or

473

00:19:31,510 --> 00:19:29,600

taped to the wall to make sure that you

474

00:19:32,950 --> 00:19:31,520

don't lose pieces because you know

475

00:19:33,830 --> 00:19:32,960

something that's floating in front of

476

00:19:38,549 --> 00:19:33,840

you

477

00:19:40,549 --> 00:19:38,559

be completely gone and so just learning

478

00:19:42,310 --> 00:19:40,559

how to how to stay organized and be

479

00:19:43,990 --> 00:19:42,320

efficient has has been a challenge for

480

00:19:45,990 --> 00:19:44,000

me

481

00:19:48,710 --> 00:19:46,000

hey scott and shell thank you so much

482

00:19:50,470 --> 00:19:48,720

for doing this houston is telling us on

483

00:19:53,270 --> 00:19:50,480

this end that we are done

484

00:19:55,110 --> 00:19:53,280

uh we really really appreciate you

485

00:19:57,510 --> 00:19:55,120

taking the opportunity the time out of

486

00:19:59,029 --> 00:19:57,520

your day uh to answer all these great

487

00:20:00,630 --> 00:19:59,039

questions for the challenger learning

488

00:20:05,510 --> 00:20:00,640

center so thank you very much and scott

489

00:20:05,520 --> 00:20:18,470

hey it was our pleasure

490

00:20:22,070 --> 00:20:20,070

station this is houston acr that

491

00:20:23,669 --> 00:20:22,080

concludes the event thank you

492

00:20:25,750 --> 00:20:23,679

and thank you chandra learning center

493

00:20:27,350 --> 00:20:25,760

international conference station we're