



041 36:34:04
MRS. FARRINGTON
01:00:00
00:35:37

PAO



1
00:00:06,150 --> 00:00:03,830
do you want to call the list out and and

2
00:00:08,470 --> 00:00:06,160
tell us we'll get that order straight oh

3
00:00:09,270 --> 00:00:08,480
it's okay if you don't go in exact order

4
00:00:11,110 --> 00:00:09,280
um

5
00:00:13,990 --> 00:00:11,120
so let's just have the first person come

6
00:00:16,230 --> 00:00:14,000
up and stand by the next voice you hear

7
00:00:17,750 --> 00:00:16,240
will be from mission control hi

8
00:00:18,950 --> 00:00:17,760
everybody josh barley here inside

9
00:00:20,310 --> 00:00:18,960
mission control we're looking forward to

10
00:00:21,990 --> 00:00:20,320
taking your questions i've got astronaut

11
00:00:24,150 --> 00:00:22,000
nicole stott sitting here beside me she

12
00:00:26,070 --> 00:00:24,160
has flown both on the space shuttle i

13
00:00:27,189 --> 00:00:26,080

remember a couple of missions and uh and

14

00:00:29,589 --> 00:00:27,199

the uh she lived on board the space

15

00:00:30,790 --> 00:00:29,599

station as well so she is uh ready to

16

00:00:32,150 --> 00:00:30,800

answer your question so if we'll go

17

00:00:35,350 --> 00:00:32,160

ahead and get started with the first one

18

00:00:37,030 --> 00:00:35,360

we'll see if we can answer it

19

00:00:42,549 --> 00:00:37,040

introduce yourself

20

00:00:47,830 --> 00:00:42,559

hi i'm latrell

21

00:00:54,869 --> 00:00:50,709

what does water look like in space

22

00:00:56,310 --> 00:00:54,879

think that's the question and well water

23

00:00:58,310 --> 00:00:56,320

kind of looks like water does on the

24

00:00:59,189 --> 00:00:58,320

ground except for it takes a different

25

00:01:01,670 --> 00:00:59,199

shape

26

00:01:04,149 --> 00:01:01,680

so if you were to say take your drink

27

00:01:05,350 --> 00:01:04,159

bag filled with water and squirt it out

28

00:01:07,510 --> 00:01:05,360

on the ground it's just going to kind of

29

00:01:09,350 --> 00:01:07,520

squirt out and then drop you know drop

30

00:01:11,109 --> 00:01:09,360

to the ground but in space if you squirt

31

00:01:13,030 --> 00:01:11,119

it out it's going to make this big ball

32

00:01:15,350 --> 00:01:13,040

of water that then it'll just float

33

00:01:17,109 --> 00:01:15,360

around unless you disrupt it and touch

34

00:01:19,429 --> 00:01:17,119

it and it'll go into a whole bunch of

35

00:01:21,429 --> 00:01:19,439

littler balls of water but one of the

36

00:01:23,350 --> 00:01:21,439

other neat things about water is that

37

00:01:24,950 --> 00:01:23,360

when it's in that big ball you can kind

38

00:01:27,350 --> 00:01:24,960

of stick your arm or something else

39

00:01:29,190 --> 00:01:27,360

through it and it'll just coat your arm

40

00:01:30,230 --> 00:01:29,200

like a glove with the water because

41

00:01:32,870 --> 00:01:30,240

that's

42

00:01:34,390 --> 00:01:32,880

uh the reason is that surface tension

43

00:01:36,789 --> 00:01:34,400

and things like that just behave

44

00:01:38,789 --> 00:01:36,799

differently in zero gravity instead of

45

00:01:40,069 --> 00:01:38,799

in gravity like they do down here so

46

00:01:41,510 --> 00:01:40,079

unless you shook it off your arm it's

47

00:01:45,749 --> 00:01:41,520

going to stay there but it still looks

48

00:01:45,759 --> 00:01:57,190

thank you thank you

49

00:01:57,200 --> 00:02:00,389

see do we have another question

50

00:02:00,399 --> 00:02:08,229

yes we're ready

51

00:02:08,239 --> 00:02:10,790

um

52

00:02:16,070 --> 00:02:13,190

would you like to go back in space on

53

00:02:18,390 --> 00:02:16,080

the international space station

54

00:02:19,830 --> 00:02:18,400

one answer one word i guess yes i would

55

00:02:22,070 --> 00:02:19,840

like to go back to space on the

56

00:02:24,309 --> 00:02:22,080

international space station it is a

57

00:02:27,190 --> 00:02:24,319

really incredible place and getting

58

00:02:30,630 --> 00:02:27,200

there and coming back is a really fun

59

00:02:33,350 --> 00:02:30,640

and uh impressive ride and the time on

60

00:02:35,190 --> 00:02:33,360

space station is just so amazing i mean

61

00:02:37,910 --> 00:02:35,200

everything from the way you float and

62

00:02:40,150 --> 00:02:37,920

move around in space and looking out the

63

00:02:42,229 --> 00:02:40,160

window back at earth or seeing other

64

00:02:44,150 --> 00:02:42,239

spacecraft and having that time with

65

00:02:45,830 --> 00:02:44,160

your crew up there and also

66

00:02:47,430 --> 00:02:45,840

the the really neat kind of science and

67

00:02:49,190 --> 00:02:47,440

work that's going up there i would love

68

00:02:50,550 --> 00:02:49,200

to go back to space station again i

69

00:02:51,750 --> 00:02:50,560

don't think anybody's ever said no to

70

00:02:54,470 --> 00:02:51,760

that question no i would have to

71

00:03:03,350 --> 00:02:54,480

question their judgment if they say no

72

00:03:03,360 --> 00:03:07,190

be next astronaut

73

00:03:11,430 --> 00:03:08,949

so i think the question is did i always

74

00:03:13,830 --> 00:03:11,440

want to be an astronaut and

75

00:03:15,990 --> 00:03:13,840

i think i always thought that being an

76

00:03:19,190 --> 00:03:16,000

astronaut was a really cool thing

77

00:03:20,869 --> 00:03:19,200

but it really wasn't until i think i was

78

00:03:22,070 --> 00:03:20,879

in college already when i started

79

00:03:23,509 --> 00:03:22,080

thinking about

80

00:03:25,509 --> 00:03:23,519

well maybe there's a possibility of

81

00:03:26,949 --> 00:03:25,519

actually being an astronaut but i was

82

00:03:29,350 --> 00:03:26,959

lucky enough to grow up with a family

83

00:03:31,670 --> 00:03:29,360

where we spent a lot of time out at an

84

00:03:33,350 --> 00:03:31,680

airport my dad liked to fly and so i

85

00:03:35,830 --> 00:03:33,360

learned all about flying and knew i

86

00:03:37,670 --> 00:03:35,840

wanted to do something with flying and

87

00:03:39,350 --> 00:03:37,680

in the end after i was studying

88

00:03:41,589 --> 00:03:39,360

engineering at school i thought well you

89

00:03:43,430 --> 00:03:41,599

know what better place to fly than space

90

00:03:44,710 --> 00:03:43,440

and that's what kind of got me really

91

00:03:46,550 --> 00:03:44,720

thinking about

92

00:03:48,869 --> 00:03:46,560

being an astronaut and then i was really

93

00:03:49,830 --> 00:03:48,879

fortunate to get a job at kennedy space

94

00:03:51,670 --> 00:03:49,840

center

95

00:03:53,750 --> 00:03:51,680

in florida and working with the space

96

00:03:55,429 --> 00:03:53,760

shuttles and got to see even more and

97

00:03:57,350 --> 00:03:55,439

more about what being an astronaut would

98

00:03:59,270 --> 00:03:57,360

be like and it made me more and more

99

00:04:01,110 --> 00:03:59,280

interested in it and i had people that

100

00:04:02,789 --> 00:04:01,120

encouraged me to apply and i'm very

101
00:04:04,630 --> 00:04:02,799
thankful to them because

102
00:04:05,910 --> 00:04:04,640
quite honestly i pinch myself or i have

103
00:04:08,470 --> 00:04:05,920
josh pinch me

104
00:04:10,789 --> 00:04:08,480
every day to uh remind me how lucky i am

105
00:04:11,750 --> 00:04:10,799
that i have this this very very cool job

106
00:04:17,030 --> 00:04:11,760
yeah

107
00:04:21,670 --> 00:04:18,870
hi my name is jeffrey

108
00:04:24,469 --> 00:04:21,680
hi jeffrey are you gone

109
00:04:26,950 --> 00:04:24,479
hi are you going to the mars mission

110
00:04:28,790 --> 00:04:26,960
am i going to the mars mission well i

111
00:04:31,030 --> 00:04:28,800
don't think so i think if i fly again

112
00:04:31,830 --> 00:04:31,040
it'll be back up to space station but i

113
00:04:34,710 --> 00:04:31,840

think

114

00:04:36,390 --> 00:04:34,720

that jeffrey um that you and probably

115

00:04:38,550 --> 00:04:36,400

some of those folks in your room with

116

00:04:40,310 --> 00:04:38,560

you uh should start thinking really

117

00:04:42,469 --> 00:04:40,320

seriously about you know that whole kind

118

00:04:43,909 --> 00:04:42,479

of astronaut or science and technology

119

00:04:46,390 --> 00:04:43,919

kind of jobs and

120

00:04:47,830 --> 00:04:46,400

and perhaps maybe um one of you or more

121

00:04:50,469 --> 00:04:47,840

of you in that room will be the ones

122

00:04:52,070 --> 00:04:50,479

going to to mars someday i i really

123

00:04:53,749 --> 00:04:52,080

really hope that

124

00:04:56,230 --> 00:04:53,759

uh that i can watch

125

00:04:58,150 --> 00:04:56,240

my son who's a fifth grader have those

126

00:05:00,070 --> 00:04:58,160

kinds of opportunities and

127

00:05:01,749 --> 00:05:00,080

the same for for you guys as well i

128

00:05:03,350 --> 00:05:01,759

think we do have that to look forward to

129

00:05:12,310 --> 00:05:03,360

but unfortunately i don't think i'll be

130

00:05:18,950 --> 00:05:14,550

is it comfortable in space

131

00:05:20,390 --> 00:05:18,960

really comfortable in space so imagine

132

00:05:22,390 --> 00:05:20,400

right now in your classroom that you

133

00:05:24,710 --> 00:05:22,400

were able to just kind of float up out

134

00:05:26,870 --> 00:05:24,720

of your chair and you didn't feel like

135

00:05:28,870 --> 00:05:26,880

the pressure of your legs or your bottom

136

00:05:31,110 --> 00:05:28,880

in your in your chair on the wooden seat

137

00:05:32,629 --> 00:05:31,120

or the metal seat right now and that

138

00:05:34,790 --> 00:05:32,639

you're just everything was just kind of

139

00:05:37,110 --> 00:05:34,800

offloaded and you were able to float it

140

00:05:38,469 --> 00:05:37,120

makes it very very comfortable and and

141

00:05:41,350 --> 00:05:38,479

that's everything from just how you

142

00:05:43,350 --> 00:05:41,360

float and move around to sleeping at

143

00:05:45,029 --> 00:05:43,360

night in a sleeping bag that you just

144

00:05:47,670 --> 00:05:45,039

kind of float in and use there's no

145

00:05:49,990 --> 00:05:47,680

pressure points and your body just can

146

00:06:00,070 --> 00:05:50,000

completely relax while you're in in

147

00:06:04,950 --> 00:06:03,110

what was it like on the nemo nine

148

00:06:07,830 --> 00:06:04,960

what was it like on nemo nine well you

149

00:06:10,070 --> 00:06:07,840

know when and it was really awesome when

150

00:06:12,469 --> 00:06:10,080

uh i had the chance to do that nemo 9

151

00:06:13,510 --> 00:06:12,479

mission i hadn't flown in space yet

152

00:06:15,350 --> 00:06:13,520

so

153

00:06:17,029 --> 00:06:15,360

i talked to a lot of the people who who

154

00:06:18,230 --> 00:06:17,039

had done the earlier nemo missions

155

00:06:20,309 --> 00:06:18,240

before me

156

00:06:23,189 --> 00:06:20,319

and several of them had flown in space

157

00:06:25,510 --> 00:06:23,199

before and they said to me that this

158

00:06:28,550 --> 00:06:25,520

this that i would find probably that

159

00:06:31,029 --> 00:06:28,560

this will be the closest thing that um

160

00:06:32,629 --> 00:06:31,039

compares to flying or living and working

161

00:06:34,469 --> 00:06:32,639

on a space station

162

00:06:36,469 --> 00:06:34,479

and i remember doing that mission and

163

00:06:37,909 --> 00:06:36,479

we're in this habitat or this you know

164

00:06:39,830 --> 00:06:37,919

this um

165

00:06:41,749 --> 00:06:39,840

i know it's almost like a submarine kind

166

00:06:43,270 --> 00:06:41,759

of thing that sits on the bottom of the

167

00:06:45,110 --> 00:06:43,280

ocean and

168

00:06:46,629 --> 00:06:45,120

about the size of one of the modules on

169

00:06:48,309 --> 00:06:46,639

the space station and i remember being

170

00:06:49,189 --> 00:06:48,319

in there thinking just how incredible it

171

00:06:51,270 --> 00:06:49,199

was

172

00:06:52,950 --> 00:06:51,280

that we were in this place where you

173

00:06:54,870 --> 00:06:52,960

couldn't just walk out the door without

174

00:06:57,029 --> 00:06:54,880

having special equipment on and you had

175

00:06:58,629 --> 00:06:57,039

to think about what was going on with

176

00:07:00,870 --> 00:06:58,639

the systems and the stuff that make the

177

00:07:02,790 --> 00:07:00,880

place work all the time and

178

00:07:05,430 --> 00:07:02,800

how you operate differently and then

179

00:07:07,029 --> 00:07:05,440

after flying in space it just was it was

180

00:07:09,270 --> 00:07:07,039

exactly what those other people had said

181

00:07:12,070 --> 00:07:09,280

to me it was the perfect

182

00:07:14,230 --> 00:07:12,080

perfect place to learn about how to live

183

00:07:15,830 --> 00:07:14,240

and work in an environment that's not

184

00:07:18,070 --> 00:07:15,840

like we have in our houses where we can

185

00:07:20,629 --> 00:07:18,080

just walk outside and you know breathe

186

00:07:23,270 --> 00:07:20,639

the air and move freely we have to all

187

00:07:24,550 --> 00:07:23,280

the time think about

188

00:07:27,110 --> 00:07:24,560

working differently and keeping

189

00:07:28,790 --> 00:07:27,120

ourselves safe and wearing the equipment

190

00:07:30,390 --> 00:07:28,800

that you need to live and work in that

191

00:07:33,350 --> 00:07:30,400

kind of environment so

192

00:07:35,430 --> 00:07:33,360

it was really really cool and to be

193

00:07:36,790 --> 00:07:35,440

on the bottom of the ocean for three

194

00:07:38,790 --> 00:07:36,800

weeks

195

00:07:41,110 --> 00:07:38,800

being able to go out and dive from that

196

00:07:43,589 --> 00:07:41,120

habitat and experience the environment

197

00:07:47,110 --> 00:07:43,599

around there it's it's very comparable

198

00:07:48,790 --> 00:07:47,120

to me to that experience i had uh being

199

00:07:51,029 --> 00:07:48,800

able to do a spacewalk on the space

200

00:07:53,510 --> 00:07:51,039

station and being able to experience

201
00:07:55,589 --> 00:07:53,520
that in a very different way um to see

202
00:07:57,430 --> 00:07:55,599
our earth in a different way and to just

203
00:07:59,510 --> 00:07:57,440
appreciate it like that

204
00:08:01,110 --> 00:07:59,520
from from a perspective that's very

205
00:08:03,670 --> 00:08:01,120
different than kind of

206
00:08:05,270 --> 00:08:03,680
that we have kind of moving across

207
00:08:06,710 --> 00:08:05,280
you know moving across the surface of

208
00:08:18,869 --> 00:08:06,720
earth

209
00:08:18,879 --> 00:08:23,430
hi my name is brian hi

210
00:08:28,469 --> 00:08:26,230
uh in the future will you guys ever make

211
00:08:31,830 --> 00:08:28,479
more special technology to

212
00:08:35,509 --> 00:08:33,750
we go past venus

213
00:08:37,589 --> 00:08:35,519

yeah well you know right now we have

214

00:08:39,750 --> 00:08:37,599

technology that we don't have people on

215

00:08:41,750 --> 00:08:39,760

board the spacecraft that do that but we

216

00:08:43,670 --> 00:08:41,760

have all kinds of robotic

217

00:08:45,750 --> 00:08:43,680

missions that take us outside of low

218

00:08:47,910 --> 00:08:45,760

earth orbit take us you know past the

219

00:08:49,910 --> 00:08:47,920

moon past mars and then in the other

220

00:08:51,509 --> 00:08:49,920

direction outside you know into the

221

00:08:53,509 --> 00:08:51,519

solar system as well where we're

222

00:08:55,030 --> 00:08:53,519

learning all kinds of things about the

223

00:08:56,870 --> 00:08:55,040

other planets in our solar system as

224

00:08:59,269 --> 00:08:56,880

well as outside of it

225

00:09:01,350 --> 00:08:59,279

and so i think the you know the natural

226

00:09:03,190 --> 00:09:01,360

path with the technology will be

227

00:09:05,430 --> 00:09:03,200

just like we're looking at taking people

228

00:09:08,870 --> 00:09:05,440

to mars someday we'll be looking at

229

00:09:11,670 --> 00:09:08,880

going further and further out away from

230

00:09:14,790 --> 00:09:11,680

our you know our kind of earthly um

231

00:09:17,350 --> 00:09:14,800

place and exploring the the solar system

232

00:09:19,750 --> 00:09:17,360

and the universe even more with

233

00:09:20,870 --> 00:09:19,760

people on board as well so and that's

234

00:09:22,630 --> 00:09:20,880

one of the things that we're using the

235

00:09:24,790 --> 00:09:22,640

space station for right now we're we're

236

00:09:26,230 --> 00:09:24,800

in low earth orbit we're what 200

237

00:09:27,990 --> 00:09:26,240

something miles

238

00:09:30,310 --> 00:09:28,000

uh above the earth which doesn't really

239

00:09:31,990 --> 00:09:30,320

seem all that far but just by being in

240

00:09:34,070 --> 00:09:32,000

that place we can learn more and more

241

00:09:35,670 --> 00:09:34,080

about how our bodies behave

242

00:09:37,750 --> 00:09:35,680

in space and what we need to pay

243

00:09:40,790 --> 00:09:37,760

attention to there and also about the

244

00:09:43,829 --> 00:09:40,800

technology like you know engines rocket

245

00:09:45,110 --> 00:09:43,839

engines and fuel and um food and all

246

00:09:46,949 --> 00:09:45,120

those kinds of things that will need to

247

00:09:55,590 --> 00:09:46,959

go further and further away from earth

248

00:10:00,470 --> 00:09:58,389

i was wondering if how do you use the

249

00:10:03,750 --> 00:10:00,480

restroom in space

250

00:10:04,710 --> 00:10:03,760

you know that's a really good question

251

00:10:07,190 --> 00:10:04,720

and

252

00:10:09,030 --> 00:10:07,200

it's one of those things that is just

253

00:10:10,630 --> 00:10:09,040

you know it's kind of the same and then

254

00:10:12,870 --> 00:10:10,640

it's very different to what we do here

255

00:10:14,550 --> 00:10:12,880

on earth and i consider those things to

256

00:10:16,630 --> 00:10:14,560

be part of it you know part of what i

257

00:10:18,389 --> 00:10:16,640

consider the whole adventure of of

258

00:10:19,910 --> 00:10:18,399

flying in space is that

259

00:10:21,829 --> 00:10:19,920

you know the uniqueness of it and kind

260

00:10:23,269 --> 00:10:21,839

of the the fun side of it the adventure

261

00:10:25,269 --> 00:10:23,279

side of it was that it's not going to be

262

00:10:28,949 --> 00:10:25,279

exactly like what we do down here on

263

00:10:31,350 --> 00:10:28,959

earth but um in space you have um we'll

264

00:10:33,110 --> 00:10:31,360

go the number one number two route and

265

00:10:35,509 --> 00:10:33,120

you have the capability to deal with

266

00:10:37,509 --> 00:10:35,519

both of those and for number two it's

267

00:10:39,110 --> 00:10:37,519

kind of like a camp potty you know where

268

00:10:41,269 --> 00:10:39,120

you um

269

00:10:43,110 --> 00:10:41,279

use that to contain the solid waste and

270

00:10:45,269 --> 00:10:43,120

then that gets uh

271

00:10:47,509 --> 00:10:45,279

burnt up in the atmosphere someday in a

272

00:10:49,670 --> 00:10:47,519

spacecraft that takes trash away from

273

00:10:50,550 --> 00:10:49,680

the space station and for number one

274

00:10:53,670 --> 00:10:50,560

it's

275

00:10:57,190 --> 00:10:53,680

basically a hose we call a urine hose

276

00:10:58,630 --> 00:10:57,200

that has a vacuum on it and you just

277

00:11:00,790 --> 00:10:58,640

take advantage of that system it

278

00:11:02,630 --> 00:11:00,800

contains the the urine and then one of

279

00:11:05,030 --> 00:11:02,640

the really neat things about

280

00:11:06,790 --> 00:11:05,040

what happens there is like with the

281

00:11:08,230 --> 00:11:06,800

space station as a whole where we want

282

00:11:10,949 --> 00:11:08,240

to be as

283

00:11:13,269 --> 00:11:10,959

independent uh a spacecraft as possible

284

00:11:15,750 --> 00:11:13,279

not relying on earth resources all at

285

00:11:18,710 --> 00:11:15,760

the time to get us what we need

286

00:11:20,630 --> 00:11:18,720

we recycle all of our

287

00:11:22,710 --> 00:11:20,640

all of our liquids and moisture onboard

288

00:11:25,030 --> 00:11:22,720

station and do that in a way that allows

289

00:11:26,870 --> 00:11:25,040

us to generate new clean water and also

290

00:11:28,949 --> 00:11:26,880

water to use in our technical systems

291

00:11:31,509 --> 00:11:28,959

too so really kind of a neat process

292

00:11:33,269 --> 00:11:31,519

that goes on on board and uh

293

00:11:34,710 --> 00:11:33,279

hopefully that answers a little bit

294

00:11:36,310 --> 00:11:34,720

about

295

00:11:37,990 --> 00:11:36,320

what it's like to go to the bathroom in

296

00:11:39,670 --> 00:11:38,000

space if you guys want to see it and and

297

00:11:41,590 --> 00:11:39,680

you go to youtube maybe your teacher can

298

00:11:44,150 --> 00:11:41,600

do this it's a clean video but go uh go

299

00:11:45,430 --> 00:11:44,160

to youtube and type in space potty and

300

00:11:47,190 --> 00:11:45,440

you'll see a video that we did with mike

301
00:11:48,870 --> 00:11:47,200
massimino another astronaut here a few

302
00:11:50,069 --> 00:11:48,880
years ago it's it's the shuttle potty

303
00:11:52,310 --> 00:11:50,079
that you're gonna see it's not the space

304
00:11:53,990 --> 00:11:52,320
station potty but uh you'll get the idea

305
00:11:56,389 --> 00:11:54,000
i guess yeah it's a very descriptive

306
00:12:00,470 --> 00:11:56,399
video so enjoy it's all about the vacuum

307
00:12:00,480 --> 00:12:10,550
who's next

308
00:12:10,560 --> 00:12:15,910
hi my name is catherine hi catherine

309
00:12:21,910 --> 00:12:19,750
um are the missions really hard

310
00:12:23,670 --> 00:12:21,920
are the missions really hard well you

311
00:12:26,230 --> 00:12:23,680
know that's that that's kind of hard to

312
00:12:27,990 --> 00:12:26,240
answer actually because we we do so much

313
00:12:29,190 --> 00:12:28,000

training before our missions to prepare

314

00:12:30,710 --> 00:12:29,200

us for

315

00:12:32,230 --> 00:12:30,720

what we know is going to happen when

316

00:12:33,509 --> 00:12:32,240

we're on board all the science we're

317

00:12:35,269 --> 00:12:33,519

going to do

318

00:12:37,030 --> 00:12:35,279

the maintenance tasks that we have to

319

00:12:39,030 --> 00:12:37,040

work on each day the way we're going to

320

00:12:41,030 --> 00:12:39,040

exercise and eat when we're up there and

321

00:12:43,110 --> 00:12:41,040

that kind of thing so that doesn't

322

00:12:45,509 --> 00:12:43,120

really seem hard when you're up there

323

00:12:47,030 --> 00:12:45,519

because you're kind of expecting it so i

324

00:12:48,790 --> 00:12:47,040

think that the thing that's that's kind

325

00:12:50,790 --> 00:12:48,800

of hard is there there's two things

326

00:12:53,269 --> 00:12:50,800

really one is when something doesn't go

327

00:12:55,430 --> 00:12:53,279

like you expected and you need to work

328

00:12:57,750 --> 00:12:55,440

differently with the ground team and

329

00:12:59,750 --> 00:12:57,760

your crew members to make sure that you

330

00:13:01,350 --> 00:12:59,760

get those kinds of things all worked out

331

00:13:03,590 --> 00:13:01,360

that's a little a little bit difficult

332

00:13:05,269 --> 00:13:03,600

or challenging but again our training

333

00:13:07,350 --> 00:13:05,279

also kind of prepares us for dealing

334

00:13:09,750 --> 00:13:07,360

with those kinds of things but i'd say

335

00:13:11,750 --> 00:13:09,760

probably the hardest thing about a long

336

00:13:14,710 --> 00:13:11,760

duration space flight especially is

337

00:13:16,310 --> 00:13:14,720

being away from your family and i think

338

00:13:18,069 --> 00:13:16,320

it'll be a great day when we have

339

00:13:19,509 --> 00:13:18,079

families living and working in space

340

00:13:21,590 --> 00:13:19,519

together and it's just kind of one of

341

00:13:23,269 --> 00:13:21,600

those places you go to work every day

342

00:13:24,710 --> 00:13:23,279

and

343

00:13:34,230 --> 00:13:24,720

but for me that was probably the hardest

344

00:13:39,110 --> 00:13:36,310

hi my name is abigail

345

00:13:44,389 --> 00:13:41,509

i was wondering whenever you were in

346

00:13:47,350 --> 00:13:44,399

elementary school like us

347

00:13:49,189 --> 00:13:47,360

like when you decided to be

348

00:13:50,389 --> 00:13:49,199

an astronaut

349

00:13:51,350 --> 00:13:50,399

and why

350

00:13:53,590 --> 00:13:51,360

okay

351

00:13:55,350 --> 00:13:53,600

well in elementary school and it was

352

00:13:58,710 --> 00:13:55,360

actually one was i was

353

00:14:01,030 --> 00:13:58,720

what seven years old i think when we had

354

00:14:03,910 --> 00:14:01,040

the moon landing and i remember watching

355

00:14:06,949 --> 00:14:03,920

the moon landing when i was seven

356

00:14:08,629 --> 00:14:06,959

and um thinking like i said before

357

00:14:11,110 --> 00:14:08,639

thinking wow this is

358

00:14:12,949 --> 00:14:11,120

this was really cool how cool is it that

359

00:14:15,269 --> 00:14:12,959

you know that that dot of light i look

360

00:14:16,949 --> 00:14:15,279

at in in space at night

361

00:14:19,350 --> 00:14:16,959

that there's people up there

362

00:14:20,870 --> 00:14:19,360

but i have to tell you at that point i

363

00:14:22,230 --> 00:14:20,880

you know maybe i wasn't smart enough to

364

00:14:24,389 --> 00:14:22,240

think it or

365

00:14:26,470 --> 00:14:24,399

um or whatever but i i really didn't

366

00:14:28,230 --> 00:14:26,480

think that it was something i could do i

367

00:14:31,590 --> 00:14:28,240

you know for whatever reason

368

00:14:33,670 --> 00:14:31,600

and um like i said before too my my dad

369

00:14:35,350 --> 00:14:33,680

liked building airplanes and i spent a

370

00:14:36,629 --> 00:14:35,360

lot of time out at an airport where i

371

00:14:38,790 --> 00:14:36,639

saw what

372

00:14:40,710 --> 00:14:38,800

you know what flying was all about and

373

00:14:43,030 --> 00:14:40,720

that kind of thing and

374

00:14:44,870 --> 00:14:43,040

that was really very interesting to me

375

00:14:46,389 --> 00:14:44,880

and flying the first time and having

376

00:14:48,629 --> 00:14:46,399

that perspective just even from a little

377

00:14:50,550 --> 00:14:48,639

airplane seeing how cars look like you

378

00:14:52,949 --> 00:14:50,560

know matchbox cars and all that and that

379

00:14:54,629 --> 00:14:52,959

you get this different view on earth

380

00:14:57,590 --> 00:14:54,639

i think that's what kind of ultimately

381

00:14:58,790 --> 00:14:57,600

led me down the path of at least wanting

382

00:15:00,870 --> 00:14:58,800

to fly

383

00:15:02,870 --> 00:15:00,880

and ultimately thinking wow what better

384

00:15:05,829 --> 00:15:02,880

place to fly than space and really

385

00:15:06,629 --> 00:15:05,839

thankful that i i had a job at nasa

386

00:15:07,750 --> 00:15:06,639

where

387

00:15:09,990 --> 00:15:07,760

i was working with some of the

388

00:15:11,750 --> 00:15:10,000

spacecraft before i ever even applied to

389

00:15:14,230 --> 00:15:11,760

be an astronaut and could see what that

390

00:15:16,470 --> 00:15:14,240

was all about and work with the people

391

00:15:18,550 --> 00:15:16,480

that put all of those those amazing

392

00:15:20,629 --> 00:15:18,560

vehicles together and then later have

393

00:15:21,670 --> 00:15:20,639

the opportunity to actually fly on them

394

00:15:24,550 --> 00:15:21,680

and i'm going to mention this because i

395

00:15:26,870 --> 00:15:24,560

have my shirt on for today my sts-128

396

00:15:29,189 --> 00:15:26,880

mission patch patches on this shirt and

397

00:15:30,949 --> 00:15:29,199

today was what what is it the fourth

398

00:15:32,230 --> 00:15:30,959

anniversary

399

00:15:34,310 --> 00:15:32,240

of the

400

00:15:37,030 --> 00:15:34,320

mission the sts-128 mission our first

401
00:15:38,310 --> 00:15:37,040
day in space so this is my little memory

402
00:15:40,150 --> 00:15:38,320
of

403
00:15:42,230 --> 00:15:40,160
trying to help me remember four years

404
00:15:45,269 --> 00:15:42,240
ago uh that really cool first time

405
00:15:46,870 --> 00:15:45,279
flying in space and i can tell you i'm

406
00:15:49,430 --> 00:15:46,880
thankful for the pictures and video

407
00:15:51,670 --> 00:15:49,440
because uh it's nice to go back and see

408
00:15:52,790 --> 00:15:51,680
just just how wonderful that was and you

409
00:15:54,150 --> 00:15:52,800
know i've got all the feelings and

410
00:15:55,670 --> 00:15:54,160
everything inside me about it my

411
00:15:57,350 --> 00:15:55,680
particular memories but to be able to go

412
00:15:59,269 --> 00:15:57,360
back and look at

413
00:16:00,870 --> 00:15:59,279

at that is pretty cool too and to still

414

00:16:03,910 --> 00:16:00,880

be in contact and friends with my

415

00:16:10,310 --> 00:16:03,920

crewmates is really neat as well

416

00:16:13,670 --> 00:16:11,910

hi my name is

417

00:16:16,629 --> 00:16:13,680

my question is what does it feel like

418

00:16:19,590 --> 00:16:16,639

when you're blasting off into space

419

00:16:21,110 --> 00:16:19,600

way awesome is what it feels like and uh

420

00:16:22,470 --> 00:16:21,120

and you you know you think you've got

421

00:16:24,150 --> 00:16:22,480

yourself all prepared for what it's

422

00:16:26,150 --> 00:16:24,160

going to feel like and

423

00:16:28,870 --> 00:16:26,160

you know i worked at uh i worked at

424

00:16:30,790 --> 00:16:28,880

kennedy space center for a long a long

425

00:16:32,710 --> 00:16:30,800

time maybe longer than some of you were

426

00:16:34,710 --> 00:16:32,720

are alive yet um

427

00:16:37,749 --> 00:16:34,720

and so i had the chance really the good

428

00:16:40,710 --> 00:16:37,759

fortune to watch a number of uh of

429

00:16:42,710 --> 00:16:40,720

shuttle launches and other launches um

430

00:16:44,389 --> 00:16:42,720

from cape canaveral and things and so i

431

00:16:45,990 --> 00:16:44,399

always imagined what it would be like

432

00:16:47,749 --> 00:16:46,000

and i of course talked to

433

00:16:49,189 --> 00:16:47,759

other people who had done it to see what

434

00:16:50,870 --> 00:16:49,199

it feel like but let me just tell you

435

00:16:52,629 --> 00:16:50,880

that you have kind of this impression of

436

00:16:54,790 --> 00:16:52,639

what it's going to be and it's

437

00:16:57,350 --> 00:16:54,800

this much more impressive than

438

00:16:58,710 --> 00:16:57,360

than you can ever imagine and it's just

439

00:17:01,269 --> 00:16:58,720

you know everything from the way it

440

00:17:03,509 --> 00:17:01,279

feels and sounds and what it's doing to

441

00:17:07,029 --> 00:17:03,519

your body and how you're shaking and

442

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

woohoo in as you're going and then just

443

00:17:11,909 --> 00:17:08,880

after that eight or so minutes this just

444

00:17:14,549 --> 00:17:11,919

kind of beauty beautiful just relaxing

445

00:17:17,510 --> 00:17:14,559

comfortable floating quiet

446

00:17:19,669 --> 00:17:17,520

um ride once you're in orbit and

447

00:17:21,189 --> 00:17:19,679

it is it is an incredible ride

448

00:17:22,150 --> 00:17:21,199

and those of us who saw it in person you

449

00:17:23,750 --> 00:17:22,160

know obviously i've never been in there

450

00:17:24,789 --> 00:17:23,760

and nicole has but it but being at the

451
00:17:26,630 --> 00:17:24,799
kennedy space center watching these

452
00:17:28,230 --> 00:17:26,640
things lift off wasn't like anything you

453
00:17:30,150 --> 00:17:28,240
can even it's not like the movies it's

454
00:17:32,070 --> 00:17:30,160
not like you see on tv because you're

455
00:17:33,909 --> 00:17:32,080
about what four miles away when three

456
00:17:35,669 --> 00:17:33,919
four miles away and you see it before

457
00:17:37,590 --> 00:17:35,679
you hear it so you see it go off you see

458
00:17:38,950 --> 00:17:37,600
all the smoke and the vapor and and it's

459
00:17:40,710 --> 00:17:38,960
just a very bright light and then all of

460
00:17:42,310 --> 00:17:40,720
a sudden you start to kind of hear this

461
00:17:43,750 --> 00:17:42,320
rumble and then it just hits you like a

462
00:17:45,669 --> 00:17:43,760
wall i mean it is

463
00:17:46,950 --> 00:17:45,679

imagine the loudest train loudest

464

00:17:48,710 --> 00:17:46,960

airplane you've ever heard in your life

465

00:17:50,070 --> 00:17:48,720

and it just rattles you like crazy it's

466

00:17:52,150 --> 00:17:50,080

it's it's amazing and then it's over

467

00:17:53,510 --> 00:17:52,160

with i get goosebumps thinking about it

468

00:17:57,029 --> 00:17:53,520

yeah it's a good question watching it or

469

00:17:57,039 --> 00:18:03,029

thank you

470

00:18:08,710 --> 00:18:04,710

hi i'm joe

471

00:18:12,950 --> 00:18:10,710

what is the purpose of the

472

00:18:15,190 --> 00:18:12,960

international space station

473

00:18:16,549 --> 00:18:15,200

good question awesome question what is

474

00:18:18,710 --> 00:18:16,559

the purpose of the international space

475

00:18:20,390 --> 00:18:18,720

station well you know um

476

00:18:22,150 --> 00:18:20,400

i think that you know the purpose over

477

00:18:23,750 --> 00:18:22,160

time has evolved but it's ultimately

478

00:18:25,990 --> 00:18:23,760

evolved to what the real purpose of the

479

00:18:27,510 --> 00:18:26,000

space station is you know we had tasks

480

00:18:29,590 --> 00:18:27,520

along the way while we were building the

481

00:18:31,909 --> 00:18:29,600

space station where we were really kind

482

00:18:34,150 --> 00:18:31,919

of proving out if we could even do this

483

00:18:36,789 --> 00:18:34,160

kind of thing this very complex thing in

484

00:18:38,789 --> 00:18:36,799

space not just as you know one country

485

00:18:41,190 --> 00:18:38,799

but as 15 countries putting all

486

00:18:43,510 --> 00:18:41,200

different kinds of hardware together and

487

00:18:45,510 --> 00:18:43,520

we very successfully met that challenge

488

00:18:47,830 --> 00:18:45,520

and uh now we have this just this

489

00:18:50,230 --> 00:18:47,840

magnificent facility that's uh orbiting

490

00:18:52,549 --> 00:18:50,240

our earth every day and

491

00:18:54,150 --> 00:18:52,559

the the purpose of the space station is

492

00:18:56,470 --> 00:18:54,160

for us to

493

00:18:59,430 --> 00:18:56,480

live and work up there and to do the

494

00:19:01,669 --> 00:18:59,440

research that's necessary or that we

495

00:19:03,909 --> 00:19:01,679

can in this very unique zero-gravity

496

00:19:06,310 --> 00:19:03,919

environment that will help us learn more

497

00:19:09,110 --> 00:19:06,320

about how we can live better here on

498

00:19:11,990 --> 00:19:09,120

earth but also how we can further

499

00:19:13,909 --> 00:19:12,000

explore outside of low earth orbit

500

00:19:16,710 --> 00:19:13,919

and it is just a magnificent place for

501
00:19:19,190 --> 00:19:16,720
doing this it's i when i was up there

502
00:19:20,230 --> 00:19:19,200
i think on a daily basis we had over a

503
00:19:21,830 --> 00:19:20,240
hundred

504
00:19:23,510 --> 00:19:21,840
active investigations going on yeah

505
00:19:24,870 --> 00:19:23,520
they've got 200 now yeah and that's and

506
00:19:26,150 --> 00:19:24,880
that's whether you know i mean a crew

507
00:19:28,310 --> 00:19:26,160
member could be interfacing with it

508
00:19:30,070 --> 00:19:28,320
directly you know actually working the

509
00:19:31,909 --> 00:19:30,080
the science experiment like you guys do

510
00:19:33,029 --> 00:19:31,919
i'm sure in some of your science classes

511
00:19:35,750 --> 00:19:33,039
in school

512
00:19:38,390 --> 00:19:35,760
or um helping the people on the ground

513
00:19:41,110 --> 00:19:38,400

work the the experiment on board

514

00:19:43,350 --> 00:19:41,120

and and that's everything from learning

515

00:19:45,270 --> 00:19:43,360

more about our our own bodies and

516

00:19:48,230 --> 00:19:45,280

learning about how fuels burn more

517

00:19:49,510 --> 00:19:48,240

efficiently how materials are developed

518

00:19:51,270 --> 00:19:49,520

how

519

00:19:53,190 --> 00:19:51,280

i mean every science area you can

520

00:19:55,029 --> 00:19:53,200

imagine is being investigated in some

521

00:19:56,630 --> 00:19:55,039

way onboard the space station and it's

522

00:19:58,710 --> 00:19:56,640

because it provides

523

00:20:00,710 --> 00:19:58,720

a very unique environment for looking at

524

00:20:02,710 --> 00:20:00,720

things and how they work

525

00:20:04,470 --> 00:20:02,720

in a way that we just can't do here on

526

00:20:06,630 --> 00:20:04,480

earth and so it gives us all kinds of

527

00:20:07,990 --> 00:20:06,640

new and interesting answers to things

528

00:20:09,350 --> 00:20:08,000

that whole thing we talked about with

529

00:20:11,669 --> 00:20:09,360

the water

530

00:20:13,270 --> 00:20:11,679

i mean you look at water in space and

531

00:20:15,190 --> 00:20:13,280

what it does and how it sticks to your

532

00:20:16,710 --> 00:20:15,200

hands and how it and then scientists are

533

00:20:19,270 --> 00:20:16,720

thinking about well in space we could

534

00:20:21,830 --> 00:20:19,280

use water or some other liquid in a very

535

00:20:24,549 --> 00:20:21,840

different way than we do here on earth

536

00:20:26,789 --> 00:20:24,559

perhaps to simplify the way we

537

00:20:28,789 --> 00:20:26,799

build rocket engines and lubricate

538

00:20:30,549 --> 00:20:28,799

things why have big ball metal ball

539

00:20:32,070 --> 00:20:30,559

bearings lubricating a system if you

540

00:20:34,230 --> 00:20:32,080

could have a liquid that does that

541

00:20:35,909 --> 00:20:34,240

because it behaves differently in space

542

00:20:37,909 --> 00:20:35,919

or the way crystals grow they grow

543

00:20:39,909 --> 00:20:37,919

perfectly in the 0g environment and we

544

00:20:41,990 --> 00:20:39,919

can learn more and more things about

545

00:20:44,789 --> 00:20:42,000

how our bodies work and

546

00:20:46,789 --> 00:20:44,799

how medicines can be made or solving you

547

00:20:49,350 --> 00:20:46,799

know just really cool problems because

548

00:20:51,350 --> 00:20:49,360

we have this this this laboratory in

549

00:20:53,029 --> 00:20:51,360

space to do that and

550

00:20:54,870 --> 00:20:53,039

and that ultimately is the purpose this

551
00:20:56,549 --> 00:20:54,880
laboratory in space to help us

552
00:20:58,950 --> 00:20:56,559
live better here on earth and figure out

553
00:21:00,630 --> 00:20:58,960
how to explore outside of earth's

554
00:21:07,190 --> 00:21:00,640
atmosphere as well

555
00:21:13,430 --> 00:21:10,390
hi my name is jade and how long does it

556
00:21:15,190 --> 00:21:13,440
take to um to be an astronaut

557
00:21:16,630 --> 00:21:15,200
how long does it take to be an astronaut

558
00:21:18,310 --> 00:21:16,640
well um

559
00:21:19,990 --> 00:21:18,320
you know you start in school kind of

560
00:21:22,070 --> 00:21:20,000
right where you guys are right now and a

561
00:21:24,070 --> 00:21:22,080
lot of it has to do with you know paying

562
00:21:24,950 --> 00:21:24,080
attention to the stuff you enjoy doing

563
00:21:28,710 --> 00:21:24,960

and

564

00:21:29,909 --> 00:21:28,720

who are astronauts or actually i think

565

00:21:32,230 --> 00:21:29,919

most you know we're in this mission

566

00:21:34,070 --> 00:21:32,240

control center here now too with the

567

00:21:36,549 --> 00:21:34,080

folks that that support the astronauts

568

00:21:38,230 --> 00:21:36,559

that are on the space station it was all

569

00:21:41,110 --> 00:21:38,240

about taking those interests that you

570

00:21:42,710 --> 00:21:41,120

have in science and math and you know

571

00:21:44,549 --> 00:21:42,720

engineering and maybe not even knowing

572

00:21:47,029 --> 00:21:44,559

that it was an interest in science and

573

00:21:48,870 --> 00:21:47,039

engineering and math at that time but

574

00:21:50,710 --> 00:21:48,880

paying attention to those things

575

00:21:53,029 --> 00:21:50,720

and letting that be what helps guide you

576
00:21:55,590 --> 00:21:53,039
through school and stuff and and for me

577
00:21:57,669 --> 00:21:55,600
i think the flying thing was was the big

578
00:21:59,590 --> 00:21:57,679
thing i was interested in and so wanting

579
00:22:01,430 --> 00:21:59,600
to know how things fly

580
00:22:03,510 --> 00:22:01,440
wanting to um

581
00:22:05,110 --> 00:22:03,520
figure out how to build things that fly

582
00:22:07,830 --> 00:22:05,120
and maybe then one day flying them

583
00:22:08,789 --> 00:22:07,840
myself was the thing that motivated me

584
00:22:10,470 --> 00:22:08,799
so

585
00:22:13,270 --> 00:22:10,480
there's a lot of kind of basic things

586
00:22:14,789 --> 00:22:13,280
you have to do in school to qualify to

587
00:22:15,750 --> 00:22:14,799
even interview as an astronaut and

588
00:22:17,270 --> 00:22:15,760

that's

589

00:22:18,950 --> 00:22:17,280

i think very well documented on our

590

00:22:20,390 --> 00:22:18,960

website you can go on science math and

591

00:22:23,029 --> 00:22:20,400

science math yeah math and science math

592

00:22:25,029 --> 00:22:23,039

and science and it is fun

593

00:22:26,630 --> 00:22:25,039

and uh but there's you know there's

594

00:22:28,470 --> 00:22:26,640

really good information on the website

595

00:22:30,310 --> 00:22:28,480

about you know what it takes to apply

596

00:22:33,510 --> 00:22:30,320

and a lot of that is just you know a

597

00:22:35,909 --> 00:22:33,520

degree in a math or science um

598

00:22:38,390 --> 00:22:35,919

area of study and then working in that

599

00:22:39,750 --> 00:22:38,400

area for a while a couple years i've

600

00:22:42,149 --> 00:22:39,760

seen people that have come straight out

601
00:22:44,390 --> 00:22:42,159
of their university work and

602
00:22:46,470 --> 00:22:44,400
been selected as astronauts but it's

603
00:22:48,230 --> 00:22:46,480
really kind of a focused science and

604
00:22:50,070 --> 00:22:48,240
math driven thing

605
00:22:51,909 --> 00:22:50,080
but you got to enjoy what you're doing

606
00:22:54,390 --> 00:22:51,919
along the way and

607
00:22:56,390 --> 00:22:54,400
that'll take you down those paths of

608
00:22:57,990 --> 00:22:56,400
of engineering math science if that's if

609
00:22:59,270 --> 00:22:58,000
that's what you're all about

610
00:23:00,630 --> 00:22:59,280
that's the i think that's what everybody

611
00:23:01,909 --> 00:23:00,640
always says you got to go find something

612
00:23:03,830 --> 00:23:01,919
that you love to do and you guys have

613
00:23:05,430 --> 00:23:03,840

plenty of time to do that but you know

614

00:23:06,950 --> 00:23:05,440

life is too short to have a boring job

615

00:23:08,470 --> 00:23:06,960

so good friends go find something that

616

00:23:09,909 --> 00:23:08,480

you really like to do and

617

00:23:16,710 --> 00:23:09,919

uh it's interesting what happens to you

618

00:23:21,510 --> 00:23:19,510

hello my name is emma

619

00:23:25,909 --> 00:23:21,520

my question is why does nasa trade off

620

00:23:27,750 --> 00:23:25,919

astronauts to go to a space stationary

621

00:23:30,149 --> 00:23:27,760

okay so why does nasa trade off

622

00:23:32,310 --> 00:23:30,159

astronauts to go to the space station so

623

00:23:34,310 --> 00:23:32,320

so right now we have six crew members on

624

00:23:36,070 --> 00:23:34,320

board and three of them are about to

625

00:23:37,190 --> 00:23:36,080

come home september 10th then a couple

626
00:23:40,310 --> 00:23:37,200
weeks here

627
00:23:43,350 --> 00:23:40,320
so um we do that because

628
00:23:45,510 --> 00:23:43,360
um first of all we have um spacecraft

629
00:23:47,909 --> 00:23:45,520
that have kind of a limited lifetime on

630
00:23:49,669 --> 00:23:47,919
board and so you know they have what is

631
00:23:51,430 --> 00:23:49,679
about seven months worth of time that

632
00:23:53,590 --> 00:23:51,440
they can stay up on the space station

633
00:23:55,590 --> 00:23:53,600
before the spaceship that you rode up on

634
00:23:57,750 --> 00:23:55,600
needs to come back so that kind of

635
00:23:59,909 --> 00:23:57,760
drives the amount of time that the

636
00:24:00,950 --> 00:23:59,919
astronauts can stay up there too

637
00:24:02,870 --> 00:24:00,960
and so

638
00:24:04,470 --> 00:24:02,880

each of those spacecraft has a seat for

639

00:24:06,950 --> 00:24:04,480

three and three of the people come down

640

00:24:09,110 --> 00:24:06,960

and then three more people go up and so

641

00:24:11,110 --> 00:24:09,120

so there's that piece of it but there's

642

00:24:12,789 --> 00:24:11,120

also the um

643

00:24:14,950 --> 00:24:12,799

the piece that says we want to rotate

644

00:24:16,630 --> 00:24:14,960

people through so we get a different

645

00:24:19,110 --> 00:24:16,640

experience base up there we have

646

00:24:22,549 --> 00:24:19,120

different people living working in space

647

00:24:25,110 --> 00:24:22,559

and uh that that experience thing

648

00:24:27,029 --> 00:24:25,120

and then we also have um

649

00:24:29,909 --> 00:24:27,039

you know there's there's things about

650

00:24:32,230 --> 00:24:29,919

the environment in space that uh make us

651
00:24:34,149 --> 00:24:32,240
want to limit the amount of time we have

652
00:24:36,950 --> 00:24:34,159
people up there so right now with what

653
00:24:38,789 --> 00:24:36,960
we know about how our bodies uh respond

654
00:24:41,510 --> 00:24:38,799
to space whether that's you know the way

655
00:24:43,750 --> 00:24:41,520
our m our muscles and our bones uh react

656
00:24:45,669 --> 00:24:43,760
to being in space or

657
00:24:48,549 --> 00:24:45,679
our cardiac you know the way our heart

658
00:24:51,190 --> 00:24:48,559
and um our other systems respond

659
00:24:53,190 --> 00:24:51,200
we are managing that as well and and six

660
00:24:55,750 --> 00:24:53,200
months really seems to be the kind of

661
00:24:57,909 --> 00:24:55,760
time that um cycling uh astronauts to

662
00:24:59,269 --> 00:24:57,919
the space station is best now we do have

663
00:25:01,830 --> 00:24:59,279

so many some astronauts that are going

664

00:25:03,190 --> 00:25:01,840

to be going up for a year

665

00:25:04,630 --> 00:25:03,200

and um

666

00:25:06,070 --> 00:25:04,640

and that will give us the opportunity to

667

00:25:08,390 --> 00:25:06,080

look you know a little bit differently

668

00:25:10,549 --> 00:25:08,400

at how how crew members and you know and

669

00:25:12,710 --> 00:25:10,559

human beings will respond to that space

670

00:25:14,390 --> 00:25:12,720

environment and because of what we've

671

00:25:16,470 --> 00:25:14,400

done with crew members prior to this we

672

00:25:18,070 --> 00:25:16,480

feel very comfortable sending somebody

673

00:25:19,669 --> 00:25:18,080

there for a year and allowing them to

674

00:25:20,870 --> 00:25:19,679

experience that way and then we'll just

675

00:25:22,310 --> 00:25:20,880

rotate our vehicles a little bit

676

00:25:24,950 --> 00:25:22,320

differently so that you're not going up

677

00:25:26,870 --> 00:25:24,960

and coming down on the same one yeah

678

00:25:28,870 --> 00:25:26,880

i think that was our last question i

679

00:25:29,990 --> 00:25:28,880

believe so we want to thank you

680

00:25:31,350 --> 00:25:30,000

our friends in there at mcquarter

681

00:25:33,669 --> 00:25:31,360

elementary you're not very far away from

682

00:25:35,110 --> 00:25:33,679

us here uh at the johnson space center

683

00:25:36,950 --> 00:25:35,120

so we hope you guys come and say hi

684

00:25:38,230 --> 00:25:36,960

sometime and take a look at this

685

00:25:39,430 --> 00:25:38,240

awesome room that we're sitting in right

686

00:25:40,630 --> 00:25:39,440

now this is the mission control center

687

00:25:42,390 --> 00:25:40,640

where they control everything onboard

688

00:25:43,750 --> 00:25:42,400

the space station so come by and and

689

00:25:44,950 --> 00:25:43,760

take a look at it maybe you'll have one

690

00:25:45,830 --> 00:25:44,960

of these jobs one time or maybe you'll

691

00:25:47,029 --> 00:25:45,840

be like

692

00:25:48,870 --> 00:25:47,039

nicole over here and actually fly into

693

00:25:50,230 --> 00:25:48,880

space a couple times so thank you guys

694

00:25:52,549 --> 00:25:50,240

for joining us have a good day study

695

00:25:54,549 --> 00:25:52,559

hard and have a good semester thanks for