



GHT 192:16:19:49
EMA Proc Conf 01:00:17



PAO



1
00:00:05,829 --> 00:00:04,150
well welcome to uh mission control

2
00:00:08,150 --> 00:00:05,839
houston i know you guys are just down

3
00:00:10,790 --> 00:00:08,160
the street in building nine at the space

4
00:00:13,030 --> 00:00:10,800
vehicle mock-up facility uh but we're

5
00:00:14,470 --> 00:00:13,040
inside the mission control center this

6
00:00:17,109 --> 00:00:14,480
is the international space station

7
00:00:19,189 --> 00:00:17,119
flight control room i'm kyle herring i'm

8
00:00:22,310 --> 00:00:19,199
the public affairs officer who's on duty

9
00:00:24,470 --> 00:00:22,320
this week for space station commentary

10
00:00:26,790 --> 00:00:24,480
and i'm very pleased to be joined by

11
00:00:28,550 --> 00:00:26,800
dottie metcalf lindenberger dottie

12
00:00:30,470 --> 00:00:28,560
agreed to come over and talk to you guys

13
00:00:32,549 --> 00:00:30,480

and answer your questions i think she's

14

00:00:35,270 --> 00:00:32,559

an expert at knowing what

15

00:00:37,830 --> 00:00:35,280

life in space is all about she flew

16

00:00:40,470 --> 00:00:37,840

in space on a shuttle flight for a

17

00:00:42,069 --> 00:00:40,480

number of days 10 of those days at least

18

00:00:44,229 --> 00:00:42,079

were docked to the international space

19

00:00:45,910 --> 00:00:44,239

station that this flight control team in

20

00:00:48,069 --> 00:00:45,920

this room is operating right now

21

00:00:50,549 --> 00:00:48,079

watching over uh the six crew members

22

00:00:52,869 --> 00:00:50,559

that are on board so dottie welcome

23

00:00:54,470 --> 00:00:52,879

thanks for joining us for this it's uh

24

00:00:56,549 --> 00:00:54,480

exciting to have you here thank you very

25

00:01:00,950 --> 00:00:56,559

much kyle and for you guys out there

26

00:01:05,189 --> 00:01:02,950

um my name's grace i was kind of

27

00:01:07,190 --> 00:01:05,199

wondering um

28

00:01:08,630 --> 00:01:07,200

how did you like work with payloads how

29

00:01:11,270 --> 00:01:08,640

did they have to be altered in order to

30

00:01:12,950 --> 00:01:11,280

work in microgravity

31

00:01:15,670 --> 00:01:12,960

grace that's a great question about the

32

00:01:17,590 --> 00:01:15,680

payloads um you know one of the reasons

33

00:01:19,990 --> 00:01:17,600

we take payloads to space is because of

34

00:01:22,789 --> 00:01:20,000

microgravity and the fact that it offers

35

00:01:25,109 --> 00:01:22,799

a different environment for the fluids

36

00:01:27,350 --> 00:01:25,119

or the combustibles that we want to look

37

00:01:29,350 --> 00:01:27,360

at or the way things are crystallizing

38

00:01:31,510 --> 00:01:29,360

so i personally didn't have a chance to

39

00:01:33,510 --> 00:01:31,520

work on any specific payloads we were a

40

00:01:35,429 --> 00:01:33,520

delivery flight and we brought up

41

00:01:39,109 --> 00:01:35,439

several payloads that were to be used in

42

00:01:44,310 --> 00:01:39,119

the years following our flight

43

00:01:48,069 --> 00:01:46,310

hi um my name's susan and i was

44

00:01:49,350 --> 00:01:48,079

wondering was there like a defining

45

00:01:52,149 --> 00:01:49,360

point in your life when you knew you

46

00:01:53,749 --> 00:01:52,159

wanted to be an astronaut

47

00:01:55,429 --> 00:01:53,759

susan that's a great question i think

48

00:01:56,950 --> 00:01:55,439

there were many points along my life

49

00:01:59,670 --> 00:01:56,960

that led me in the way to be an

50

00:02:01,830 --> 00:01:59,680

astronaut um i enjoyed going to the

51
00:02:04,069 --> 00:02:01,840
museum of natural history in denver

52
00:02:06,230 --> 00:02:04,079
where i grew up and going to the

53
00:02:08,070 --> 00:02:06,240
planetarium and at that time there was a

54
00:02:10,309 --> 00:02:08,080
lot of information coming back about

55
00:02:13,670 --> 00:02:10,319
exploration in our solar system and it

56
00:02:15,270 --> 00:02:13,680
fascinated me as well as i remember the

57
00:02:19,110 --> 00:02:15,280
challenger launch

58
00:02:20,470 --> 00:02:19,120
and that was defining and then also

59
00:02:22,949 --> 00:02:20,480
in middle school i had some

60
00:02:25,190 --> 00:02:22,959
opportunities with science to do some

61
00:02:27,750 --> 00:02:25,200
presentations on

62
00:02:29,670 --> 00:02:27,760
fuels alternative fuels and then also a

63
00:02:31,589 --> 00:02:29,680

chance to go to space camp so i think

64

00:02:33,350 --> 00:02:31,599

all of those things helped me realize

65

00:02:35,830 --> 00:02:33,360

that i really enjoyed science and i

66

00:02:37,990 --> 00:02:35,840

wanted to work hard at it and when the

67

00:02:40,070 --> 00:02:38,000

opportunity came to apply

68

00:02:49,190 --> 00:02:40,080

as a teacher for being an astronaut i

69

00:02:53,110 --> 00:02:51,270

hello ma'am what was the most uh

70

00:02:55,430 --> 00:02:53,120

adrenaline inducing event that you've

71

00:02:57,589 --> 00:02:55,440

experienced in space

72

00:03:00,309 --> 00:02:57,599

i think the most adrenaline inducing

73

00:03:03,750 --> 00:03:00,319

experience was the actual launch

74

00:03:05,990 --> 00:03:03,760

it was very dynamic in the shuttle and

75

00:03:08,470 --> 00:03:06,000

it was you'd been working really hard as

76

00:03:10,470 --> 00:03:08,480

a team for that specific day

77

00:03:12,309 --> 00:03:10,480

and it was just exciting that we were

78

00:03:14,390 --> 00:03:12,319

going off because there's always the

79

00:03:16,710 --> 00:03:14,400

chance that there could be a scrub

80

00:03:18,949 --> 00:03:16,720

and the weather had been a little bit

81

00:03:21,190 --> 00:03:18,959

foggy leading up to our launch and so it

82

00:03:23,670 --> 00:03:21,200

was great to actually be launching but

83

00:03:26,070 --> 00:03:23,680

then the dynamics kick in and you feel

84

00:03:29,110 --> 00:03:26,080

the solid rocket boosters lifting you

85

00:03:31,110 --> 00:03:29,120

up into space and uh it's more than what

86

00:03:32,710 --> 00:03:31,120

you feel in the simulators so that was

87

00:03:35,670 --> 00:03:32,720

definitely

88

00:03:41,350 --> 00:03:35,680

adrenaline inducing

89
00:03:45,509 --> 00:03:44,070
hi my name is hannah and i was wondering

90
00:03:47,430 --> 00:03:45,519
if you could go back and change one

91
00:03:49,190 --> 00:03:47,440
thing about your past education or the

92
00:03:51,190 --> 00:03:49,200
steps that you took to get to nasa what

93
00:03:52,789 --> 00:03:51,200
would it be

94
00:03:54,869 --> 00:03:52,799
hannah i think i would

95
00:03:57,589 --> 00:03:54,879
have taken some engineering courses they

96
00:03:59,509 --> 00:03:57,599
weren't offered at my school but

97
00:04:01,670 --> 00:03:59,519
maybe i would have had a chance to

98
00:04:03,910 --> 00:04:01,680
to take a few more now i've been able to

99
00:04:06,470 --> 00:04:03,920
learn those things here on the job but i

100
00:04:08,630 --> 00:04:06,480
just i enjoy learning and so i think

101
00:04:11,190 --> 00:04:08,640
that would be something that i would do

102
00:04:14,149 --> 00:04:11,200
as well as to just take more advanced

103
00:04:16,069 --> 00:04:14,159
classes in other science areas as well

104
00:04:17,430 --> 00:04:16,079
as technology because you can never

105
00:04:19,749 --> 00:04:17,440
learn too much and i think that's the

106
00:04:22,390 --> 00:04:19,759
exciting part about working here is that

107
00:04:25,110 --> 00:04:22,400
every day we continue to learn more

108
00:04:27,430 --> 00:04:25,120
about ourselves and about the way things

109
00:04:29,350 --> 00:04:27,440
operate in space so that we can continue

110
00:04:36,150 --> 00:04:29,360
exploring

111
00:04:39,510 --> 00:04:38,070
hi i'm cassidy and i was wondering that

112
00:04:41,110 --> 00:04:39,520
going into space requires a lot of

113
00:04:43,510 --> 00:04:41,120

training and what was the hardest part

114

00:04:46,790 --> 00:04:43,520

and what was your favorite part

115

00:04:48,710 --> 00:04:46,800

uh cassidy training definitely we spent

116

00:04:49,749 --> 00:04:48,720

a little over a year as a shuttle crew

117

00:04:50,629 --> 00:04:49,759

training

118

00:04:52,310 --> 00:04:50,639

and

119

00:04:54,230 --> 00:04:52,320

i think actually the hardest part came

120

00:04:56,070 --> 00:04:54,240

when i was doing my initial astronaut

121

00:04:58,469 --> 00:04:56,080

candidacy training and that was the

122

00:05:01,590 --> 00:04:58,479

water survival i'd never been in a

123

00:05:03,990 --> 00:05:01,600

helicopter dunker and we went to florida

124

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

and they lower the dunker into the water

125

00:05:07,350 --> 00:05:05,680

and then it flips over and you have to

126

00:05:08,469 --> 00:05:07,360

wait while you're buckled in before

127

00:05:11,350 --> 00:05:08,479

escaping

128

00:05:13,189 --> 00:05:11,360

and the first time that i did it um

129

00:05:15,749 --> 00:05:13,199

definitely it caused some adrenaline

130

00:05:18,550 --> 00:05:15,759

that was an adrenal inducing event

131

00:05:20,230 --> 00:05:18,560

and uh i i ended up doing all of the

132

00:05:21,270 --> 00:05:20,240

survival techniques but it just was not

133

00:05:23,350 --> 00:05:21,280

my favorite

134

00:05:25,830 --> 00:05:23,360

it's kind of survivable drowning and it

135

00:05:27,749 --> 00:05:25,840

just wasn't as enjoyable to me but i

136

00:05:28,710 --> 00:05:27,759

really enjoyed training as a shuttle

137

00:05:30,390 --> 00:05:28,720

crew

138

00:05:32,550 --> 00:05:30,400

we had a great team

139

00:05:33,990 --> 00:05:32,560

this wonderful commander and pilot and

140

00:05:36,390 --> 00:05:34,000

mission specialist

141

00:05:38,710 --> 00:05:36,400

and i think that the classes that we

142

00:05:40,550 --> 00:05:38,720

took and all of our instructors just

143

00:05:42,950 --> 00:05:40,560

made it so enjoyable that you wanted to

144

00:05:44,629 --> 00:05:42,960

come every day and i really enjoyed the

145

00:05:46,950 --> 00:05:44,639

the long simulations that we would

146

00:05:48,870 --> 00:05:46,960

participate in where you would take a

147

00:05:50,150 --> 00:05:48,880

whole flight day and practice everything

148

00:05:52,629 --> 00:05:50,160

that you were going to do on that flight

149

00:05:55,350 --> 00:05:52,639

day from the robotic operations or maybe

150

00:05:56,950 --> 00:05:55,360

to the eevee opera eva operations we

151

00:06:07,189 --> 00:05:56,960

just practice all of those things and

152

00:06:11,270 --> 00:06:09,270

hi i'm betsy and i was wondering what

153

00:06:14,790 --> 00:06:11,280

advice you'd give to an aspiring young

154

00:06:16,870 --> 00:06:14,800

scholar in the math or aerospace field

155

00:06:19,110 --> 00:06:16,880

betsy i would give the advice that you

156

00:06:21,270 --> 00:06:19,120

should always work hard and ask

157

00:06:23,350 --> 00:06:21,280

questions there's going to be challenges

158

00:06:26,469 --> 00:06:23,360

along the way and not everything's going

159

00:06:29,029 --> 00:06:26,479

to come easily but if you

160

00:06:31,590 --> 00:06:29,039

pursue your interests and you follow up

161

00:06:34,150 --> 00:06:31,600

with your teachers or professors

162

00:06:37,909 --> 00:06:34,160

and you ask questions then you will have

163

00:06:46,150 --> 00:06:37,919

a rewarding path along that journey

164

00:06:49,670 --> 00:06:47,590

hi i'm heather

165

00:06:51,830 --> 00:06:49,680

um i was wondering if you knew what you

166

00:06:52,629 --> 00:06:51,840

wanted to do before you got to college

167

00:06:55,430 --> 00:06:52,639

and

168

00:06:56,950 --> 00:06:55,440

like what you knew um how to what to

169

00:06:58,469 --> 00:06:56,960

major in

170

00:07:00,469 --> 00:06:58,479

heather that's a great question you know

171

00:07:02,070 --> 00:07:00,479

i did set off to college thinking i'm

172

00:07:04,469 --> 00:07:02,080

going to be a math major just like my

173

00:07:06,870 --> 00:07:04,479

mom and i took math classes at school

174

00:07:09,270 --> 00:07:06,880

and i really enjoyed them but i wasn't

175

00:07:11,589 --> 00:07:09,280

as passionate about them as i was about

176

00:07:13,749 --> 00:07:11,599

an intro to geology course i really

177

00:07:15,749 --> 00:07:13,759

enjoyed the field trips i loved putting

178

00:07:18,550 --> 00:07:15,759

together the histories of the rock and

179

00:07:21,430 --> 00:07:18,560

figuring out what they meant and so

180

00:07:24,469 --> 00:07:21,440

after that intro course my freshman year

181

00:07:26,710 --> 00:07:24,479

i look i sat down and i decided

182

00:07:29,110 --> 00:07:26,720

that i enjoyed the math but i was going

183

00:07:31,909 --> 00:07:29,120

to change my direction and go with

184

00:07:35,270 --> 00:07:31,919

geology and i had some opportunities to

185

00:07:37,749 --> 00:07:35,280

do internships both mapping in

186

00:07:39,830 --> 00:07:37,759

outside of yellowstone for a summer and

187

00:07:41,749 --> 00:07:39,840

looking at the last glaciation there and

188

00:07:44,950 --> 00:07:41,759

then also doing some mapping in southern

189

00:07:47,589 --> 00:07:44,960

colorado and both of those experiences

190

00:07:48,950 --> 00:07:47,599

were very rewarding to me so i'm glad i

191

00:07:50,790 --> 00:07:48,960

made that change and i think that's

192

00:07:52,790 --> 00:07:50,800

important that you realize you can

193

00:07:54,390 --> 00:07:52,800

change your path and many times you

194

00:07:56,070 --> 00:07:54,400

might change your path and that's okay

195

00:07:59,029 --> 00:07:56,080

as long as you

196

00:08:02,309 --> 00:07:59,039

are enjoying what you're doing and uh

197

00:08:07,430 --> 00:08:02,319

and finding that it's challenging to you

198

00:08:10,950 --> 00:08:09,510

my name is laura and my question was

199

00:08:12,629 --> 00:08:10,960

what is the greatest difficulty you've

200

00:08:16,469 --> 00:08:12,639

encountered as a woman and to what

201

00:08:20,070 --> 00:08:18,309

laura that's a it's a challenging

202

00:08:22,550 --> 00:08:20,080

question

203

00:08:24,710 --> 00:08:22,560

you know as a woman a lot of my mentors

204

00:08:27,189 --> 00:08:24,720

were not women because there were not

205

00:08:28,469 --> 00:08:27,199

professors in my field that were women

206

00:08:30,390 --> 00:08:28,479

and so

207

00:08:32,149 --> 00:08:30,400

while i couldn't see someone that looked

208

00:08:34,389 --> 00:08:32,159

exactly like me

209

00:08:36,709 --> 00:08:34,399

i made the opportunity to

210

00:08:38,870 --> 00:08:36,719

meet really great men who taught me lots

211

00:08:40,550 --> 00:08:38,880

of interesting things and i learned a

212

00:08:43,350 --> 00:08:40,560

lot from them and i still keep in touch

213

00:08:44,870 --> 00:08:43,360

with my professors to this day

214

00:08:47,110 --> 00:08:44,880

so i think that

215

00:08:49,590 --> 00:08:47,120

you can realize that you want to see

216

00:08:51,509 --> 00:08:49,600

people that um maybe look like you but

217

00:08:54,630 --> 00:08:51,519

that doesn't mean it should limit your

218

00:08:57,910 --> 00:08:54,640

possibility that that you can still find

219

00:08:59,990 --> 00:08:57,920

great um commonalities with uh

220

00:09:02,230 --> 00:09:00,000

with whoever is teaching you and again

221

00:09:05,350 --> 00:09:02,240

just keep asking questions and believing

222

00:09:05,360 --> 00:09:08,949

thank you

223

00:09:12,630 --> 00:09:11,269

hi i'm munu and i was wondering why

224

00:09:14,949 --> 00:09:12,640

science appealed to you when you were a

225

00:09:17,509 --> 00:09:14,959

child

226

00:09:19,110 --> 00:09:17,519

well science appealed to me because it's

227

00:09:20,630 --> 00:09:19,120

it's got so many things that are

228

00:09:22,790 --> 00:09:20,640

changing and we're always learning

229

00:09:24,949 --> 00:09:22,800

something new so like i said i enjoyed

230

00:09:26,470 --> 00:09:24,959

going to the museum and planetarium

231

00:09:28,470 --> 00:09:26,480

because we were learning new information

232

00:09:30,389 --> 00:09:28,480

about our solar system and we continue

233

00:09:32,790 --> 00:09:30,399

to learn more information every day

234

00:09:35,030 --> 00:09:32,800

through nasa and our partners

235

00:09:36,790 --> 00:09:35,040

and i think that's just what always has

236

00:09:39,910 --> 00:09:36,800

fascinated me is that it's an unending

237

00:09:40,949 --> 00:09:39,920

story and there's so many possibilities

238

00:09:42,389 --> 00:09:40,959

and

239

00:09:44,230 --> 00:09:42,399

i just really enjoyed those

240

00:09:45,750 --> 00:09:44,240

possibilities and the fact that they

241

00:09:47,829 --> 00:09:45,760

were challenging

242

00:09:49,590 --> 00:09:47,839

it meant that i had to do research and

243

00:09:51,269 --> 00:09:49,600

that i had to work math problems or

244

00:09:52,470 --> 00:09:51,279

physics problems i had to spend some

245

00:09:55,190 --> 00:09:52,480

extra time

246

00:09:56,949 --> 00:09:55,200

but the satisfaction i had when i solved

247

00:09:59,030 --> 00:09:56,959

those problems or when i worked with

248

00:10:02,150 --> 00:09:59,040

others to solve problems that was very

249

00:10:04,550 --> 00:10:02,160

rewarding too so science to me offers a

250

00:10:06,790 --> 00:10:04,560

lot of opportunities it's going to help

251

00:10:09,350 --> 00:10:06,800

us in the future we absolutely need to

252

00:10:11,110 --> 00:10:09,360

understand the language of science to be

253

00:10:13,590 --> 00:10:11,120

successful in the future

254

00:10:16,230 --> 00:10:13,600

and to make this planet better so

255

00:10:20,150 --> 00:10:16,240

that's why i like science

256

00:10:25,269 --> 00:10:22,389

hi my name is claire um i was wondering

257

00:10:27,670 --> 00:10:25,279

how being an educated educator positive

258

00:10:30,150 --> 00:10:27,680

positively influenced you and like led

259

00:10:31,670 --> 00:10:30,160

you to a career working at nasa

260

00:10:33,590 --> 00:10:31,680

clara that's a great question actually

261

00:10:36,069 --> 00:10:33,600

the questions of my students are what

262

00:10:38,310 --> 00:10:36,079

led me to find out that i could be that

263

00:10:39,590 --> 00:10:38,320

i could apply as a teacher to be an

264

00:10:41,910 --> 00:10:39,600

astronaut

265

00:10:44,310 --> 00:10:41,920

one of my students in an astronomy class

266

00:10:45,910 --> 00:10:44,320

had been kind of struggling and

267

00:10:47,829 --> 00:10:45,920

i wanted her to realize that i really

268

00:10:49,990 --> 00:10:47,839

cared about her questions and so one day

269

00:10:52,150 --> 00:10:50,000

she asked how do astronauts go to the

270

00:10:54,310 --> 00:10:52,160

bathroom in space that's a very popular

271

00:10:55,350 --> 00:10:54,320

question that we get here at nasa

272

00:10:56,790 --> 00:10:55,360

and

273

00:10:58,790 --> 00:10:56,800

i was really glad she asked that

274

00:11:00,710 --> 00:10:58,800

question because i didn't know what the

275

00:11:02,150 --> 00:11:00,720

exact mechanism looked like i didn't

276

00:11:03,190 --> 00:11:02,160

know what the bathroom for the shuttle

277

00:11:05,910 --> 00:11:03,200

looked like

278

00:11:08,230 --> 00:11:05,920

and in researching it i also came across

279

00:11:09,990 --> 00:11:08,240

then the application process but i just

280

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

think being an educator helped me

281

00:11:13,670 --> 00:11:11,760

realize that there's more questions that

282

00:11:15,509 --> 00:11:13,680

i don't think of you guys think of some

283

00:11:17,269 --> 00:11:15,519

really awesome questions and those

284

00:11:19,670 --> 00:11:17,279

questions are going to propel us to

285

00:11:22,310 --> 00:11:19,680

answers in the future so keep asking

286

00:11:24,470 --> 00:11:22,320

them and i'm glad i had the opportunity

287

00:11:29,190 --> 00:11:24,480

to be a teacher

288

00:11:32,870 --> 00:11:31,190

hello my name is gracie and i was

289

00:11:34,630 --> 00:11:32,880

wondering what it was like working with

290

00:11:35,990 --> 00:11:34,640

astronauts from other countries such as

291

00:11:38,550 --> 00:11:36,000

russia

292

00:11:40,230 --> 00:11:38,560

grayson that's a great great question um

293

00:11:42,630 --> 00:11:40,240

we joined

294

00:11:44,389 --> 00:11:42,640

russian cosmonauts on orbit and they

295

00:11:46,389 --> 00:11:44,399

were fantastic to work with they had in

296

00:11:48,230 --> 00:11:46,399

fact just gotten to the space station a

297

00:11:49,750 --> 00:11:48,240

few days earlier than us

298

00:11:52,790 --> 00:11:49,760

and so there were there ended up being

299

00:11:54,310 --> 00:11:52,800

13 of us on orbit at one time which is

300

00:11:56,710 --> 00:11:54,320

um right at the record there had been

301
00:11:58,710 --> 00:11:56,720
other missions that had 13 as well

302
00:11:59,829 --> 00:11:58,720
and that's a lot of people in space but

303
00:12:01,750 --> 00:11:59,839
it's never too crowded in the

304
00:12:03,509 --> 00:12:01,760
international space station and i think

305
00:12:06,230 --> 00:12:03,519
the neat thing was that they took us on

306
00:12:08,069 --> 00:12:06,240
tours of their modules they're

307
00:12:10,790 --> 00:12:08,079
they're really proud of their systems

308
00:12:12,790 --> 00:12:10,800
and showing that to us and it gave us a

309
00:12:15,430 --> 00:12:12,800
framework to appreciate our systems and

310
00:12:16,870 --> 00:12:15,440
then to compare them and and understand

311
00:12:18,550 --> 00:12:16,880
more about their systems and how they

312
00:12:21,030 --> 00:12:18,560
all work together

313
00:12:22,710 --> 00:12:21,040

also while i was on the international

314

00:12:25,590 --> 00:12:22,720

space station i had the opportunity to

315

00:12:29,030 --> 00:12:25,600

work with two japanese astronauts um

316

00:12:29,910 --> 00:12:29,040

suici and naoko yamasaki

317

00:12:31,269 --> 00:12:29,920

and

318

00:12:32,790 --> 00:12:31,279

that was really rewarding too is the

319

00:12:35,509 --> 00:12:32,800

first time that there were two japanese

320

00:12:37,670 --> 00:12:35,519

astronauts in space and naoko was on our

321

00:12:39,350 --> 00:12:37,680

crew and she just worked so hard and

322

00:12:40,790 --> 00:12:39,360

diligently and she was just a great

323

00:12:42,949 --> 00:12:40,800

crewmate to have

324

00:12:44,550 --> 00:12:42,959

so i love the aspect of the

325

00:12:46,710 --> 00:12:44,560

international space station and getting

326

00:12:48,710 --> 00:12:46,720

to work with people from all around the

327

00:12:53,990 --> 00:12:48,720

world

328

00:12:58,069 --> 00:12:56,069

hi my name is stephanie i was wondering

329

00:13:00,310 --> 00:12:58,079

if anyone ever tried to talk you out of

330

00:13:02,470 --> 00:13:00,320

pursuing a career at nasa and ultimately

331

00:13:04,230 --> 00:13:02,480

becoming an astronaut and if so how did

332

00:13:06,629 --> 00:13:04,240

you handle that

333

00:13:09,269 --> 00:13:06,639

well stephanie i feel pretty lucky that

334

00:13:11,269 --> 00:13:09,279

the people around me supported me in my

335

00:13:12,550 --> 00:13:11,279

pursuit they were realistic and they

336

00:13:13,590 --> 00:13:12,560

said that you know it's a difficult

337

00:13:15,110 --> 00:13:13,600

challenge

338

00:13:17,430 --> 00:13:15,120

my husband pointed out that there are

339

00:13:20,550 --> 00:13:17,440

many talented people that could do the

340

00:13:23,670 --> 00:13:20,560

same job and and that's absolutely true

341

00:13:26,870 --> 00:13:23,680

and and yet they all supported uh my

342

00:13:28,710 --> 00:13:26,880

applying and they were excited when i

343

00:13:30,389 --> 00:13:28,720

received notice that i was going to

344

00:13:32,389 --> 00:13:30,399

become an astronaut and they've

345

00:13:34,389 --> 00:13:32,399

continued to be supportive so my parents

346

00:13:36,629 --> 00:13:34,399

supported my dream my husband

347

00:13:39,590 --> 00:13:36,639

and then i even had a chance to bring my

348

00:13:44,230 --> 00:13:39,600

daughter along in the journey

349

00:13:48,069 --> 00:13:46,150

hi my name is laura

350

00:13:50,310 --> 00:13:48,079

you have so many interests regarding the

351

00:13:52,710 --> 00:13:50,320

study of space from robotics to

352

00:13:54,550 --> 00:13:52,720

materials and their many applications

353

00:13:56,150 --> 00:13:54,560

how do you balance family and hobbies

354

00:13:58,069 --> 00:13:56,160

with the many interesting parts of your

355

00:13:59,990 --> 00:13:58,079

career

356

00:14:01,030 --> 00:14:00,000

well like all things balancing is a

357

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

challenge

358

00:14:06,310 --> 00:14:03,920

but uh you just you know you try to work

359

00:14:07,990 --> 00:14:06,320

things as you can and uh

360

00:14:09,990 --> 00:14:08,000

you know like i said there's there's

361

00:14:12,150 --> 00:14:10,000

time to be passionate about the science

362

00:14:14,550 --> 00:14:12,160

that you're doing and be excited about

363

00:14:16,150 --> 00:14:14,560

the training and learning more and then

364

00:14:18,230 --> 00:14:16,160

it's also just as fun to be out on the

365

00:14:20,790 --> 00:14:18,240

soccer field with my daughter and then i

366

00:14:23,990 --> 00:14:20,800

have a personal hobby of running that um

367

00:14:25,750 --> 00:14:24,000

helps me stay grounded too so all i like

368

00:14:27,670 --> 00:14:25,760

to try to keep all those things going

369

00:14:31,829 --> 00:14:27,680

when possible

370

00:14:35,829 --> 00:14:34,310

hi my name is ariane um i was wondering

371

00:14:37,269 --> 00:14:35,839

if you had known when you were our age

372

00:14:40,230 --> 00:14:37,279

that you would accomplish so much what

373

00:14:42,150 --> 00:14:40,240

advice would you have given yourself

374

00:14:44,310 --> 00:14:42,160

well eric that's a that's a really good

375

00:14:46,550 --> 00:14:44,320

question i didn't have any idea that i

376

00:14:48,790 --> 00:14:46,560

would be doing all this at your age i

377

00:14:51,269 --> 00:14:48,800

did have dreams of doing it but i also

378

00:14:53,829 --> 00:14:51,279

saw myself doing other things too and i

379

00:14:55,509 --> 00:14:53,839

think that's the important thing about

380

00:14:57,590 --> 00:14:55,519

as you journey through life is that you

381

00:14:59,269 --> 00:14:57,600

see yourself doing multiple things

382

00:15:00,310 --> 00:14:59,279

there's always dreams and goals out

383

00:15:02,550 --> 00:15:00,320

there

384

00:15:04,550 --> 00:15:02,560

one of my passions is hiking and it's

385

00:15:06,790 --> 00:15:04,560

kind of like in hiking you see other

386

00:15:08,389 --> 00:15:06,800

mountain ranges that you want to go to

387

00:15:10,069 --> 00:15:08,399

and there's other

388

00:15:12,470 --> 00:15:10,079

places that you want to venture and

389

00:15:15,990 --> 00:15:12,480

travel to and so it's it's the same in

390

00:15:18,470 --> 00:15:16,000

this i i dreamed it and i worked hard

391

00:15:19,750 --> 00:15:18,480

but i also knew that um if this didn't

392

00:15:21,829 --> 00:15:19,760

work out there would be other things

393

00:15:23,590 --> 00:15:21,839

that would work out as well and so i

394

00:15:25,829 --> 00:15:23,600

encourage you to have

395

00:15:27,829 --> 00:15:25,839

dreams and pursue them and pursue them

396

00:15:33,350 --> 00:15:27,839

with passion

397

00:15:38,550 --> 00:15:36,150

hi my name is smithy i was wondering who

398

00:15:41,430 --> 00:15:38,560

or what inspired you to pursue science

399

00:15:43,670 --> 00:15:41,440

and to become an astronaut

400

00:15:46,629 --> 00:15:43,680

well many people inspired me along the

401
00:15:48,550 --> 00:15:46,639
way i grew up with parents that were

402
00:15:51,189 --> 00:15:48,560
teachers and teachers in math and

403
00:15:53,990 --> 00:15:51,199
science and so from a young age they

404
00:15:56,470 --> 00:15:54,000
were already setting the seeds of of

405
00:15:58,870 --> 00:15:56,480
growth there and then i had really great

406
00:16:01,430 --> 00:15:58,880
teachers in middle school i had a

407
00:16:03,269 --> 00:16:01,440
teacher that took me to california for

408
00:16:05,670 --> 00:16:03,279
the alternative fuels where i had a

409
00:16:07,910 --> 00:16:05,680
chance to present to other adults and

410
00:16:10,069 --> 00:16:07,920
that was challenging to me and

411
00:16:11,030 --> 00:16:10,079
helped me learn more

412
00:16:12,710 --> 00:16:11,040
and

413
00:16:15,670 --> 00:16:12,720

then i had some really great high school

414

00:16:17,110 --> 00:16:15,680

teachers both math and science that won

415

00:16:19,430 --> 00:16:17,120

my math coach

416

00:16:21,590 --> 00:16:19,440

was my coach as well for cross country

417

00:16:23,749 --> 00:16:21,600

and just i continued to keep in touch

418

00:16:25,189 --> 00:16:23,759

with them today because they were so

419

00:16:28,230 --> 00:16:25,199

inspiring to me and they really helped

420

00:16:30,870 --> 00:16:28,240

me work hard and to realize that i had

421

00:16:33,509 --> 00:16:30,880

the possibilities within me to be good

422

00:16:39,910 --> 00:16:33,519

at math and science

423

00:16:43,749 --> 00:16:42,150

hi my name is julia and i was wondering

424

00:16:45,990 --> 00:16:43,759

what were some of the payloads that you

425

00:16:48,069 --> 00:16:46,000

helped send up and which were most

426

00:16:51,030 --> 00:16:48,079

interesting to you

427

00:16:53,509 --> 00:16:51,040

oh great question julia um we actually

428

00:16:55,670 --> 00:16:53,519

brought up some um

429

00:16:58,230 --> 00:16:55,680

vaccines to look at that will help us

430

00:16:59,670 --> 00:16:58,240

understand more about our

431

00:17:00,550 --> 00:16:59,680

immune system

432

00:17:01,990 --> 00:17:00,560

and

433

00:17:03,350 --> 00:17:02,000

the thing that that's difficult

434

00:17:05,990 --> 00:17:03,360

sometimes about the science that you

435

00:17:07,750 --> 00:17:06,000

bring up is it can't always be analyzed

436

00:17:09,110 --> 00:17:07,760

in a short time frame and so it's still

437

00:17:11,669 --> 00:17:09,120

an analysis

438

00:17:13,590 --> 00:17:11,679

but that was one of the

439

00:17:15,909 --> 00:17:13,600

experiments that we brought up to space

440

00:17:18,309 --> 00:17:15,919

was a way to look at how to better deal

441

00:17:20,870 --> 00:17:18,319

with salmonella and then also we brought

442

00:17:23,270 --> 00:17:20,880

up the window observation research

443

00:17:25,829 --> 00:17:23,280

facility which is called the wharf and

444

00:17:27,270 --> 00:17:25,839

it is a big rack that houses many

445

00:17:29,350 --> 00:17:27,280

different cameras

446

00:17:31,750 --> 00:17:29,360

and all of those cameras are allowing us

447

00:17:33,669 --> 00:17:31,760

to look at the earth in a different way

448

00:17:35,750 --> 00:17:33,679

some of it is an infrared and some of it

449

00:17:38,710 --> 00:17:35,760

is just in better

450

00:17:40,310 --> 00:17:38,720

digital camera views and so it was with

451
00:17:41,110 --> 00:17:40,320
great pride that we brought that up as

452
00:17:41,909 --> 00:17:41,120
well

453
00:17:44,230 --> 00:17:41,919
and

454
00:17:46,470 --> 00:17:44,240
there were other experiments that we

455
00:17:48,310 --> 00:17:46,480
brought up i can't name them all but

456
00:17:50,630 --> 00:17:48,320
we're glad that they were able to be put

457
00:17:52,710 --> 00:17:50,640
into use for the scientists around the

458
00:17:54,549 --> 00:17:52,720
world to help us do things better here

459
00:17:56,630 --> 00:17:54,559
on earth as well as to get ready for

460
00:18:01,270 --> 00:17:56,640
exploring

461
00:18:06,310 --> 00:18:04,310
hello my name is jessica i was wondering

462
00:18:08,870 --> 00:18:06,320
why do you think it is so important for

463
00:18:10,470 --> 00:18:08,880

women to pursue stem careers despite all

464

00:18:13,190 --> 00:18:10,480

the difficulties we face being a

465

00:18:15,270 --> 00:18:13,200

minority in the field

466

00:18:17,430 --> 00:18:15,280

jessica i think it's important for women

467

00:18:19,990 --> 00:18:17,440

to pursue stem careers because we're

468

00:18:22,310 --> 00:18:20,000

good at them and because we're

469

00:18:23,990 --> 00:18:22,320

continuing to grow in the field and

470

00:18:26,630 --> 00:18:24,000

we're seeing more and more women being

471

00:18:28,870 --> 00:18:26,640

successful in those areas so as we have

472

00:18:30,230 --> 00:18:28,880

more mentors that are women as we see

473

00:18:31,510 --> 00:18:30,240

people like karen nyberg on the

474

00:18:33,669 --> 00:18:31,520

international space station and the

475

00:18:35,510 --> 00:18:33,679

women that have gone before her i think

476

00:18:37,830 --> 00:18:35,520

it's really important that we realize

477

00:18:39,830 --> 00:18:37,840

that uh this is a place for us and that

478

00:18:43,430 --> 00:18:39,840

we can do great things here and that we

479

00:18:49,350 --> 00:18:43,440

have great colleagues to share that with

480

00:18:53,190 --> 00:18:51,430

hello i'm michelle and i was wondering

481

00:18:54,830 --> 00:18:53,200

what were your responsibilities when you

482

00:18:58,310 --> 00:18:54,840

flew on the sds

483

00:19:00,870 --> 00:18:58,320

131 michelle that's a great question

484

00:19:02,630 --> 00:19:00,880

i was the flight engineer on the flight

485

00:19:05,350 --> 00:19:02,640

deck which means that i backed up the

486

00:19:07,590 --> 00:19:05,360

commander and pilot as we launched into

487

00:19:09,830 --> 00:19:07,600

space and then once we were on orbit i

488

00:19:12,630 --> 00:19:09,840

was a robotic arm operator for the space

489

00:19:15,029 --> 00:19:12,640

shuttle's robotic arm as well as the

490

00:19:16,549 --> 00:19:15,039

intravehicular

491

00:19:19,110 --> 00:19:16,559

crew member who helped with the three

492

00:19:21,590 --> 00:19:19,120

spacewalks that we conducted and i was a

493

00:19:23,590 --> 00:19:21,600

mover we had over six tons of equipment

494

00:19:25,909 --> 00:19:23,600

to deliver to the space station

495

00:19:27,669 --> 00:19:25,919

everything from clothing and food to the

496

00:19:31,350 --> 00:19:27,679

experiments i've been talking about and

497

00:19:33,909 --> 00:19:31,360

logistics racks and so we were movers

498

00:19:38,150 --> 00:19:33,919

robotic arm operators

499

00:19:43,590 --> 00:19:38,160

spacewalkers and flight engineer

500

00:19:49,270 --> 00:19:46,630

hi my name is diane and i was wondering

501
00:19:50,870 --> 00:19:49,280
how microgravity affected how you ate a

502
00:19:52,549 --> 00:19:50,880
meal

503
00:19:55,430 --> 00:19:52,559
that's a great question

504
00:19:58,390 --> 00:19:55,440
um microgravity does affect your stomach

505
00:20:01,430 --> 00:19:58,400
it kind of floats up into your um upper

506
00:20:03,190 --> 00:20:01,440
chest and so when uh when at first you

507
00:20:04,950 --> 00:20:03,200
don't feel real hungry when you get to

508
00:20:07,029 --> 00:20:04,960
space but you know you need to eat one

509
00:20:09,270 --> 00:20:07,039
of the things we had continuously heard

510
00:20:10,710 --> 00:20:09,280
from those who flew before us is to make

511
00:20:12,710 --> 00:20:10,720
sure that you

512
00:20:13,909 --> 00:20:12,720
do the normal eating habits and drinking

513
00:20:15,750 --> 00:20:13,919

habits that you have on earth because

514

00:20:17,350 --> 00:20:15,760

they'll keep your body healthy

515

00:20:19,190 --> 00:20:17,360

and so

516

00:20:21,830 --> 00:20:19,200

some challenges that you have of course

517

00:20:24,230 --> 00:20:21,840

are keeping liquids in containers

518

00:20:26,230 --> 00:20:24,240

we have special pinches on straws that

519

00:20:28,149 --> 00:20:26,240

keep the liquids contained in the in the

520

00:20:29,830 --> 00:20:28,159

containers but sometimes you bump them

521

00:20:31,430 --> 00:20:29,840

and they float out and they make big

522

00:20:32,230 --> 00:20:31,440

bubbles so you have to be careful with

523

00:20:33,430 --> 00:20:32,240

that

524

00:20:35,590 --> 00:20:33,440

and then

525

00:20:37,270 --> 00:20:35,600

your food you you definitely want to

526

00:20:40,149 --> 00:20:37,280

keep it in the containers that you have

527

00:20:42,149 --> 00:20:40,159

so you you cut them open carefully and

528

00:20:47,110 --> 00:20:42,159

you scoop very gently you don't want to

529

00:20:51,590 --> 00:20:49,909

uh and then sometimes the spices that we

530

00:20:53,029 --> 00:20:51,600

take up you have to be careful with too

531

00:20:56,070 --> 00:20:53,039

i had a little bit of hot sauce that i

532

00:20:58,149 --> 00:20:56,080

would put on some eggs one morning and

533

00:21:00,549 --> 00:20:58,159

um the tortilla that i had the egg on

534

00:21:01,669 --> 00:21:00,559

kind of got bumped and the eggs got

535

00:21:03,750 --> 00:21:01,679

loose and

536

00:21:04,950 --> 00:21:03,760

i went to grab them but i also swiped my

537

00:21:06,070 --> 00:21:04,960

eye and i got a little bit of hot sauce

538

00:21:08,390 --> 00:21:06,080

in my eye and

539

00:21:10,149 --> 00:21:08,400

it burned a little bit so you just have

540

00:21:12,549 --> 00:21:10,159

to be a little more careful because your

541

00:21:14,470 --> 00:21:12,559

food takes on that third dimension but i

542

00:21:16,149 --> 00:21:14,480

think that caused us to play with food a

543

00:21:18,470 --> 00:21:16,159

little bit more so

544

00:21:19,909 --> 00:21:18,480

you know we'd float chocolates and flip

545

00:21:21,350 --> 00:21:19,919

around them and then grab them in our

546

00:21:23,430 --> 00:21:21,360

mouth or

547

00:21:26,070 --> 00:21:23,440

float different m ms to each other that

548

00:21:28,830 --> 00:21:26,080

makes it fun

549

00:21:34,710 --> 00:21:32,310

you hi i'm mira i was just wondering how

550

00:21:36,950 --> 00:21:34,720

your body felt after you came down from

551
00:21:40,149 --> 00:21:36,960
the micro like the microgravity levels

552
00:21:41,430 --> 00:21:40,159
up in space like were you sore or tired

553
00:21:43,590 --> 00:21:41,440
you know that's a great question our

554
00:21:45,350 --> 00:21:43,600
bodies do change while we're in space

555
00:21:47,830 --> 00:21:45,360
and one of the biggest things that we

556
00:21:50,310 --> 00:21:47,840
notice our fluid shift in the in the

557
00:21:52,549 --> 00:21:50,320
reduction of blood volume

558
00:21:54,549 --> 00:21:52,559
i felt uh when i first got back a little

559
00:21:57,110 --> 00:21:54,559
bit dizzy it was hard to walk just

560
00:21:59,270 --> 00:21:57,120
straight and our neuro vestibular system

561
00:22:01,750 --> 00:21:59,280
the stuff that keeps us balanced

562
00:22:04,230 --> 00:22:01,760
wasn't adapted to earth's gravity quite

563
00:22:06,870 --> 00:22:04,240

yet takes a little over three days for

564

00:22:08,950 --> 00:22:06,880

that to really happen so i'd find myself

565

00:22:12,310 --> 00:22:08,960

walking what i thought was straight but

566

00:22:15,430 --> 00:22:12,320

i might be leaning a little bit

567

00:22:17,830 --> 00:22:15,440

and uh so i didn't feel 100 the first

568

00:22:19,350 --> 00:22:17,840

day but i did find some time to go out

569

00:22:20,870 --> 00:22:19,360

on the beach and dance with my daughter

570

00:22:23,590 --> 00:22:20,880

so i was just extra careful when i was

571

00:22:24,310 --> 00:22:23,600

dancing i didn't do any exotic moves

572

00:22:25,909 --> 00:22:24,320

but

573

00:22:28,390 --> 00:22:25,919

you just have to be a little bit extra

574

00:22:30,070 --> 00:22:28,400

careful those first few days and as we

575

00:22:32,549 --> 00:22:30,080

see folks return from longer space

576

00:22:34,950 --> 00:22:32,559

missions they have a very intensive uh

577

00:22:37,669 --> 00:22:34,960

rehab regimen that they follow and

578

00:22:39,350 --> 00:22:37,679

that's very important and uh it starts

579

00:22:41,750 --> 00:22:39,360

from that very first day that they

580

00:22:43,430 --> 00:22:41,760

return back to earth and continues for

581

00:22:47,110 --> 00:22:43,440

several weeks

582

00:22:49,190 --> 00:22:47,120

to get them all back into shape so

583

00:22:50,789 --> 00:22:49,200

space flight is wonderful but it does

584

00:22:53,029 --> 00:22:50,799

take a little bit of a toll on your body

585

00:22:55,029 --> 00:22:53,039

and we've worked out ways to mitigate

586

00:22:58,710 --> 00:22:55,039

that

587

00:23:03,110 --> 00:23:00,870

hi my name is kelly and i was wondering

588

00:23:05,590 --> 00:23:03,120

what is your current like work like

589

00:23:07,669 --> 00:23:05,600

typical work day

590

00:23:09,270 --> 00:23:07,679

kelly that's a great question i'm

591

00:23:11,830 --> 00:23:09,280

supporting the international space

592

00:23:12,870 --> 00:23:11,840

station operations branch in our office

593

00:23:15,270 --> 00:23:12,880

and

594

00:23:18,070 --> 00:23:15,280

my day job is going to different

595

00:23:19,909 --> 00:23:18,080

meetings that support future flights and

596

00:23:21,669 --> 00:23:19,919

the manifesting of equipment to our crew

597

00:23:23,750 --> 00:23:21,679

members making sure they're going to get

598

00:23:25,190 --> 00:23:23,760

the right food and supplies that they're

599

00:23:26,310 --> 00:23:25,200

expecting at the times that they're

600

00:23:27,110 --> 00:23:26,320

expecting

601
00:23:31,110 --> 00:23:27,120
and

602
00:23:32,470 --> 00:23:31,120
to students like you or to other

603
00:23:34,470 --> 00:23:32,480
outreach

604
00:23:36,870 --> 00:23:34,480
groups as well as to share my

605
00:23:39,909 --> 00:23:36,880
experiences with space but every day is

606
00:23:39,919 --> 00:23:44,230
thank you

607
00:23:48,149 --> 00:23:45,990
okay hi my name is anna and i was

608
00:23:52,070 --> 00:23:48,159
wondering where you hope to see nasa's

609
00:23:53,669 --> 00:23:52,080
future after the days of the iss

610
00:23:56,630 --> 00:23:53,679
and i hope we take what we're learning

611
00:23:59,269 --> 00:23:56,640
on the iss and we go out into our solar

612
00:24:02,070 --> 00:23:59,279
system for exploration and i know that

613
00:24:04,549 --> 00:24:02,080

one day mars is going to be our our

614

00:24:06,070 --> 00:24:04,559

destination and i really i look forward

615

00:24:08,230 --> 00:24:06,080

to that day because i think as a

616

00:24:11,029 --> 00:24:08,240

geologist personally there's some

617

00:24:13,110 --> 00:24:11,039

exciting stuff that we can do on mars

618

00:24:15,750 --> 00:24:13,120

there's there's the possibility of

619

00:24:18,310 --> 00:24:15,760

course of uh finding more evidence of

620

00:24:20,149 --> 00:24:18,320

life and then i think climbing those

621

00:24:21,669 --> 00:24:20,159

mountains and looking at those canyons

622

00:24:23,590 --> 00:24:21,679

would be amazing

623

00:24:26,390 --> 00:24:23,600

so i would really like to see us on the

624

00:24:32,149 --> 00:24:26,400

surface of mars one day

625

00:24:36,630 --> 00:24:34,310

hi my name's haley and i was wondering

626

00:24:38,870 --> 00:24:36,640

um since you're also an astronaut

627

00:24:40,750 --> 00:24:38,880

educator what kind of people like has

628

00:24:47,510 --> 00:24:40,760

that let you know

629

00:24:51,750 --> 00:24:49,269

did we lose you guys haley i heard a

630

00:24:53,750 --> 00:24:51,760

little bit of that question um you were

631

00:24:56,070 --> 00:24:53,760

asking about being an educator and being

632

00:24:57,750 --> 00:24:56,080

an astronaut and who have i had a chance

633

00:24:59,029 --> 00:24:57,760

to work with i do get a chance to work

634

00:25:00,470 --> 00:24:59,039

with other

635

00:25:02,070 --> 00:25:00,480

teachers and go out and talk to them and

636

00:25:04,230 --> 00:25:02,080

share my experiences so that they can

637

00:25:06,070 --> 00:25:04,240

take them the experiences into their

638

00:25:07,510 --> 00:25:06,080

classroom and i really enjoy talking to

639

00:25:09,350 --> 00:25:07,520

students like you i know you guys are

640

00:25:10,950 --> 00:25:09,360

all juniors and you're here on a summer

641

00:25:12,789 --> 00:25:10,960

program and that takes a lot of

642

00:25:14,470 --> 00:25:12,799

dedication and i know that you're

643

00:25:17,750 --> 00:25:14,480

working hard back in your classrooms to

644

00:25:19,350 --> 00:25:17,760

have this opportunity so um i really

645

00:25:21,750 --> 00:25:19,360

enjoy that

646

00:25:24,230 --> 00:25:21,760

aspect of getting to to

647

00:25:26,070 --> 00:25:24,240

share with people that i once taught in

648

00:25:27,830 --> 00:25:26,080

a classroom with or that i was

649

00:25:31,350 --> 00:25:27,840

colleagues with

650

00:25:33,830 --> 00:25:31,360

back about almost nine years ago

651

00:25:35,830 --> 00:25:33,840

well thanks we uh we really enjoyed you

652

00:25:37,750 --> 00:25:35,840

guys joining us here and and hope that

653

00:25:39,029 --> 00:25:37,760

you guys enjoy your stay

654

00:25:40,950 --> 00:25:39,039

there as well there's a lot of

655

00:25:43,430 --> 00:25:40,960

exploration tools in that same building

656

00:25:45,909 --> 00:25:43,440

where you guys are located so

657

00:25:48,230 --> 00:25:45,919

enjoy your stay and we really enjoyed