



1
00:00:05,670 --> 00:00:04,070
good afternoon and welcome to the

2
00:00:07,749 --> 00:00:05,680
johnson space center where we have the

3
00:00:09,509 --> 00:00:07,759
man of the hour scott kelly with us just

4
00:00:11,110 --> 00:00:09,519
returned from a year in space here to

5
00:00:12,070 --> 00:00:11,120
answer a lot of questions and i am not

6
00:00:13,350 --> 00:00:12,080
going to get in the way of that but

7
00:00:15,350 --> 00:00:13,360
we'll start with letting him just say

8
00:00:16,470 --> 00:00:15,360
hello and welcome back to earth

9
00:00:19,349 --> 00:00:16,480
well thanks for

10
00:00:21,670 --> 00:00:19,359
being here everyone and uh coming to

11
00:00:23,349 --> 00:00:21,680
welcome me back to houston it's great to

12
00:00:26,630 --> 00:00:23,359
be back in

13
00:00:30,470 --> 00:00:26,640

in this uh city and this state in our

14

00:00:32,310 --> 00:00:30,480

country it's a real privilege to be part

15

00:00:33,670 --> 00:00:32,320

of this and part of something so great

16

00:00:35,670 --> 00:00:33,680

and i appreciate your time being here

17

00:00:36,950 --> 00:00:35,680

today thank you

18

00:00:38,150 --> 00:00:36,960

okay i know we've got a lot of questions

19

00:00:39,430 --> 00:00:38,160

here in the room and then also on the

20

00:00:40,950 --> 00:00:39,440

phone bridge so we're going to start

21

00:00:42,310 --> 00:00:40,960

here and then we'll take questions on

22

00:00:43,910 --> 00:00:42,320

the phone bridge for those who are on

23

00:00:45,029 --> 00:00:43,920

the phone bridge if you will press star

24

00:00:47,110 --> 00:00:45,039

1 to let us know that you have a

25

00:00:49,830 --> 00:00:47,120

question and star 2 when your question

26
00:00:51,270 --> 00:00:49,840
is answered and if you're watching on um

27
00:00:52,790 --> 00:00:51,280
on the internet and want to participate

28
00:00:54,950 --> 00:00:52,800
via social media you can also do that

29
00:00:55,990 --> 00:00:54,960
using the hashtag asknasa

30
00:00:57,110 --> 00:00:56,000
all right let's start here in the room

31
00:00:59,270 --> 00:00:57,120
if you have a question raise your hand

32
00:01:00,790 --> 00:00:59,280
and then we'll start with genius and

33
00:01:02,069 --> 00:01:00,800
siri

34
00:01:03,990 --> 00:01:02,079
abc news

35
00:01:05,670 --> 00:01:04,000
i mean you've done this so long did

36
00:01:07,270 --> 00:01:05,680
anything really surprise you about the

37
00:01:08,710 --> 00:01:07,280
year in space or was it what you

38
00:01:09,750 --> 00:01:08,720

expected

39

00:01:12,390 --> 00:01:09,760

um

40

00:01:14,469 --> 00:01:12,400

the flight itself there

41

00:01:15,350 --> 00:01:14,479

i think the only big surprise was how

42

00:01:17,910 --> 00:01:15,360

long

43

00:01:20,070 --> 00:01:17,920

a year is it seemed like i'd lived there

44

00:01:22,630 --> 00:01:20,080

forever uh seemed longer than i thought

45

00:01:25,109 --> 00:01:22,640

it would be but i did uh having flown

46

00:01:29,830 --> 00:01:25,119

before i did pace myself appropriately

47

00:01:31,590 --> 00:01:29,840

so i felt uh pretty good about that um

48

00:01:35,109 --> 00:01:31,600

so as far as the flight is concerned

49

00:01:38,710 --> 00:01:35,119

that that was the only real surprise

50

00:01:41,670 --> 00:01:38,720

your earth as art just went viral

51
00:01:43,190 --> 00:01:41,680
what's what about that really struck you

52
00:01:44,469 --> 00:01:43,200
when you would look down at earth every

53
00:01:46,469 --> 00:01:44,479
day

54
00:01:47,510 --> 00:01:46,479
well the earth is a

55
00:01:49,749 --> 00:01:47,520
beautiful

56
00:01:51,429 --> 00:01:49,759
planet it's uh you know everything

57
00:01:53,109 --> 00:01:51,439
practically everything to us it's very

58
00:01:55,190 --> 00:01:53,119
important to our

59
00:01:57,190 --> 00:01:55,200
our survival and it's the space station

60
00:01:58,149 --> 00:01:57,200
is a great vantage point to observe it

61
00:01:59,990 --> 00:01:58,159
and

62
00:02:02,870 --> 00:02:00,000
you know to share

63
00:02:04,789 --> 00:02:02,880

our planet in pictures

64

00:02:06,630 --> 00:02:04,799

and you also notice you know how the

65

00:02:07,510 --> 00:02:06,640

atmosphere looks and how fragile it

66

00:02:09,510 --> 00:02:07,520

looks

67

00:02:11,110 --> 00:02:09,520

makes you more of a environmentalist

68

00:02:13,750 --> 00:02:11,120

after spending so much time looking down

69

00:02:21,110 --> 00:02:13,760

at our planet okay we are going to limit

70

00:02:25,110 --> 00:02:22,710

sometimes i spend here couple days at

71

00:02:27,830 --> 00:02:25,120

home when i'm sick and i go stir crazy

72

00:02:30,070 --> 00:02:27,840

how do you stay one year without going

73

00:02:31,990 --> 00:02:30,080

absolutely bananas and was there a point

74

00:02:34,390 --> 00:02:32,000

where you said well i'm working as a

75

00:02:36,309 --> 00:02:34,400

human guinea pig

76
00:02:37,270 --> 00:02:36,319
maybe occasionally you do go bananas but

77
00:02:42,150 --> 00:02:37,280
uh

78
00:02:43,430 --> 00:02:42,160
i think nasa does a good job selecting

79
00:02:45,030 --> 00:02:43,440
people that are

80
00:02:46,229 --> 00:02:45,040
able to deal with those kind of

81
00:02:47,830 --> 00:02:46,239
environments

82
00:02:49,910 --> 00:02:47,840
and um

83
00:02:52,309 --> 00:02:49,920
you know just focusing you know trying

84
00:02:53,830 --> 00:02:52,319
to say stay like hyper focused on what

85
00:02:55,670 --> 00:02:53,840
you need to do what you need to pay

86
00:02:57,750 --> 00:02:55,680
attention to because

87
00:03:01,030 --> 00:02:57,760
you know in an environment like that

88
00:03:02,869 --> 00:03:01,040

it's it's critical to your survival um

89

00:03:05,350 --> 00:03:02,879

you know the car the navy had a term

90

00:03:06,470 --> 00:03:05,360

compartmentalized you know try to

91

00:03:08,309 --> 00:03:06,480

um

92

00:03:10,470 --> 00:03:08,319

you know just focus at the task of hand

93

00:03:14,470 --> 00:03:10,480

at hand take it one day at a time it's

94

00:03:16,229 --> 00:03:14,480

very important try not to um

95

00:03:18,229 --> 00:03:16,239

you know i tried to have like i tried to

96

00:03:19,910 --> 00:03:18,239

have milestones that were close like

97

00:03:21,509 --> 00:03:19,920

when is the next crew arriving when is

98

00:03:24,149 --> 00:03:21,519

the next visiting vehicle arriving the

99

00:03:26,630 --> 00:03:24,159

next dva the next robotics the next big

100

00:03:28,550 --> 00:03:26,640

science activity and i think that made a

101
00:03:30,869 --> 00:03:28,560
made a difference to me keeping my

102
00:03:32,789 --> 00:03:30,879
sanity

103
00:03:35,910 --> 00:03:32,799
all right how about right here

104
00:03:37,990 --> 00:03:35,920
kevin from kcra hi scott welcome back um

105
00:03:39,990 --> 00:03:38,000
two questions number one uh mark said

106
00:03:42,070 --> 00:03:40,000
that you did notice uh physically some

107
00:03:43,990 --> 00:03:42,080
changes upon your return can you detail

108
00:03:45,509 --> 00:03:44,000
those and number two i remember before

109
00:03:46,869 --> 00:03:45,519
you left you told me one thing you'd

110
00:03:48,390 --> 00:03:46,879
really like to see

111
00:03:50,789 --> 00:03:48,400
completed while you were gone was all

112
00:03:52,390 --> 00:03:50,799
the construction on iphone 5.

113
00:03:54,229 --> 00:03:52,400

that's not done

114

00:03:56,710 --> 00:03:54,239

what do you say now about that

115

00:03:58,710 --> 00:03:56,720

well i haven't seen it yet but uh i was

116

00:03:59,830 --> 00:03:58,720

hoping and you just you know let me know

117

00:04:02,710 --> 00:03:59,840

that it wasn't done that's something

118

00:04:03,910 --> 00:04:02,720

really unfortunate um

119

00:04:04,630 --> 00:04:03,920

so

120

00:04:32,150 --> 00:04:04,640

i

121

00:04:35,990 --> 00:04:32,160

um

122

00:04:38,870 --> 00:04:36,000

my level of like muscle soreness and

123

00:04:39,909 --> 00:04:38,880

fatigue is is a lot higher than it was

124

00:04:41,030 --> 00:04:39,919

last time

125

00:04:42,710 --> 00:04:41,040

um

126
00:04:44,550 --> 00:04:42,720
it almost makes me think of maybe it's

127
00:04:47,189 --> 00:04:44,560
that maybe there's a linear function to

128
00:04:49,830 --> 00:04:47,199
it i also have an issue with my you know

129
00:04:51,590 --> 00:04:49,840
my skin that because it hadn't touched

130
00:04:54,550 --> 00:04:51,600
anything for so long

131
00:04:57,270 --> 00:04:54,560
like any significant contact is very

132
00:04:59,909 --> 00:04:57,280
very sensitive to uh it's almost like a

133
00:05:01,990 --> 00:04:59,919
burning feeling on wherever i like sit

134
00:05:03,990 --> 00:05:02,000
or lie or walk

135
00:05:05,430 --> 00:05:04,000
i actually have these are i'm not

136
00:05:07,830 --> 00:05:05,440
wearing these shoes all the time i just

137
00:05:09,990 --> 00:05:07,840
wore these for you guys i got some hoka

138
00:05:12,310 --> 00:05:10,000

one one you know those thick running

139

00:05:14,310 --> 00:05:12,320

shoes out there that are

140

00:05:16,390 --> 00:05:14,320

making my feet uh

141

00:05:17,350 --> 00:05:16,400

feel a little bit better

142

00:05:19,029 --> 00:05:17,360

okay

143

00:05:22,070 --> 00:05:19,039

hi scott welcome back tom crosstalk with

144

00:05:23,830 --> 00:05:22,080

nbc uh to follow up on that so

145

00:05:26,629 --> 00:05:23,840

you seem to have no problem when you got

146

00:05:27,830 --> 00:05:26,639

out of the soyuz uh you know you looked

147

00:05:30,390 --> 00:05:27,840

like you could have walked on your own

148

00:05:32,710 --> 00:05:30,400

if you had to um in terms of

149

00:05:35,430 --> 00:05:32,720

so in terms of just standing and walking

150

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

and moving how is that going and can you

151
00:05:38,790 --> 00:05:37,520
talk to us about uh you know coming back

152
00:05:41,029 --> 00:05:38,800
to earth now

153
00:05:43,350 --> 00:05:41,039
being on the ground any

154
00:05:45,909 --> 00:05:43,360
um you know what was the term they used

155
00:05:48,550 --> 00:05:45,919
to call back in the 60s a culture shock

156
00:05:50,390 --> 00:05:48,560
or re-entry shock psychological just

157
00:05:52,230 --> 00:05:50,400
being here on the ground again you know

158
00:05:54,230 --> 00:05:52,240
i think it helps having flown a

159
00:05:56,390 --> 00:05:54,240
long-duration flight before because i i

160
00:05:58,710 --> 00:05:56,400
anticipated being kind of shocked by all

161
00:06:00,790 --> 00:05:58,720
the people there when you've seen so few

162
00:06:02,070 --> 00:06:00,800
people for so long and then you get out

163
00:06:03,990 --> 00:06:02,080

of the capsule

164

00:06:06,070 --> 00:06:04,000

and uh and there are all these people

165

00:06:07,830 --> 00:06:06,080

but i i think just having had the

166

00:06:08,629 --> 00:06:07,840

experience previously i was ready for

167

00:06:11,110 --> 00:06:08,639

that

168

00:06:13,590 --> 00:06:11,120

um i've been very busy since i got back

169

00:06:15,670 --> 00:06:13,600

so i don't i don't think it's really

170

00:06:17,749 --> 00:06:15,680

hit me yet um

171

00:06:20,710 --> 00:06:17,759

and i think there'll be a point here

172

00:06:23,350 --> 00:06:20,720

pretty soon where i'll uh you know start

173

00:06:24,230 --> 00:06:23,360

maybe feeling that kind of uh

174

00:06:28,150 --> 00:06:24,240

you know

175

00:06:29,909 --> 00:06:28,160

you would want to call that from you

176
00:06:32,550 --> 00:06:29,919
know having so little

177
00:06:34,950 --> 00:06:32,560
on the space station and

178
00:06:36,550 --> 00:06:34,960
you know so few like choices about what

179
00:06:39,350 --> 00:06:36,560
you're going to do every day what's

180
00:06:41,749 --> 00:06:39,360
available to you to basically having

181
00:06:43,029 --> 00:06:41,759
just about anything if

182
00:06:44,629 --> 00:06:43,039
you know depending on your situation

183
00:06:45,990 --> 00:06:44,639
obviously

184
00:06:49,589 --> 00:06:46,000
okay mark

185
00:06:55,270 --> 00:06:50,550
um

186
00:06:56,550 --> 00:06:55,280
the experience it was seeming like a

187
00:06:58,230 --> 00:06:56,560
long time

188
00:07:02,469 --> 00:06:58,240

you were on the space station going

189

00:07:04,230 --> 00:07:02,479

around the earth this is all looking for

190

00:07:06,230 --> 00:07:04,240

if you were traveling to another

191

00:07:08,309 --> 00:07:06,240

destination asteroid or mars do you

192

00:07:09,430 --> 00:07:08,319

think that would make a difference or is

193

00:07:11,350 --> 00:07:09,440

that something that has to be

194

00:07:17,189 --> 00:07:11,360

investigated but do you have any sense

195

00:07:21,189 --> 00:07:19,189

i could have gone longer on this flight

196

00:07:23,270 --> 00:07:21,199

if there was a good reason like if

197

00:07:26,309 --> 00:07:23,280

someone said as an example whatever

198

00:07:28,390 --> 00:07:26,319

vehicle we were we were uh

199

00:07:29,909 --> 00:07:28,400

flying to space on was no longer you

200

00:07:32,390 --> 00:07:29,919

know we couldn't use it anymore and if

201
00:07:33,909 --> 00:07:32,400
we had to abandon the space station or

202
00:07:35,110 --> 00:07:33,919
keep me there for longer that would

203
00:07:37,270 --> 00:07:35,120
wouldn't have been a problem i think if

204
00:07:39,350 --> 00:07:37,280
there's a valid reason if you're doing

205
00:07:41,749 --> 00:07:39,360
it for a reason if there's a good reason

206
00:07:42,870 --> 00:07:41,759
whether it's science or

207
00:07:45,749 --> 00:07:42,880
um

208
00:07:46,629 --> 00:07:45,759
you know going to a certain destination

209
00:07:48,309 --> 00:07:46,639
you know

210
00:07:49,830 --> 00:07:48,319
not just me but i think people just you

211
00:07:51,110 --> 00:07:49,840
know rise the occasion if you're doing

212
00:07:54,950 --> 00:07:51,120
something important that's going to

213
00:07:57,350 --> 00:07:54,960

motivate you to continue to to do it and

214

00:07:59,189 --> 00:07:57,360

so i personally think

215

00:08:01,430 --> 00:07:59,199

you know going to mars if it takes you

216

00:08:02,469 --> 00:08:01,440

know two years or two and a half years

217

00:08:06,230 --> 00:08:02,479

um

218

00:08:08,150 --> 00:08:06,240

yeah that's that's doable that certainly

219

00:08:09,990 --> 00:08:08,160

you know the first people that go there

220

00:08:12,469 --> 00:08:10,000

that's going to be a big

221

00:08:14,230 --> 00:08:12,479

big motivator being first to to get to

222

00:08:16,629 --> 00:08:14,240

mars

223

00:08:18,390 --> 00:08:16,639

okay right here david abc news you told

224

00:08:19,589 --> 00:08:18,400

me 10 days ago it's kind of on to this

225

00:08:22,309 --> 00:08:19,599

thing that

226

00:08:24,309 --> 00:08:22,319

mars is clearly doable in your mind is

227

00:08:26,070 --> 00:08:24,319

that psychologically as doable

228

00:08:27,589 --> 00:08:26,080

physically it's doable is the science

229

00:08:29,830 --> 00:08:27,599

there do you feel like you've already

230

00:08:31,589 --> 00:08:29,840

proven that we can do it

231

00:08:33,829 --> 00:08:31,599

i think you know i think there's still

232

00:08:36,469 --> 00:08:33,839

things we we have to learn but i think

233

00:08:38,070 --> 00:08:36,479

we can learn them

234

00:08:40,790 --> 00:08:38,080

there are challenges we still have to

235

00:08:42,630 --> 00:08:40,800

meet like you know the radiation issue

236

00:08:44,470 --> 00:08:42,640

if you you know if you take six months

237

00:08:46,710 --> 00:08:44,480

to get there that's a that's a lot of

238

00:08:47,990 --> 00:08:46,720

radiation the crew is getting if you get

239

00:08:50,150 --> 00:08:48,000

there quicker

240

00:08:52,070 --> 00:08:50,160

then that's less radiation so maybe

241

00:08:53,750 --> 00:08:52,080

maybe the solution is

242

00:08:55,750 --> 00:08:53,760

you know it's a balance between you know

243

00:08:56,630 --> 00:08:55,760

how you protect a crew versus maybe you

244

00:08:58,389 --> 00:08:56,640

just

245

00:09:00,389 --> 00:08:58,399

try to you know you have a propulsion

246

00:09:01,269 --> 00:09:00,399

system that gets you there faster

247

00:09:02,949 --> 00:09:01,279

um

248

00:09:05,750 --> 00:09:02,959

you know having a robust life support

249

00:09:06,550 --> 00:09:05,760

system is important um and being able to

250

00:09:09,110 --> 00:09:06,560

uh

251
00:09:10,630 --> 00:09:09,120
to maintain it and

252
00:09:12,870 --> 00:09:10,640
you know there are the medical aspects

253
00:09:15,350 --> 00:09:12,880
but i think i think we know enough and i

254
00:09:16,870 --> 00:09:15,360
think we're close enough that if we made

255
00:09:18,310 --> 00:09:16,880
the choice hey we're going to do this

256
00:09:22,630 --> 00:09:18,320
we're going to set a goal we're going to

257
00:09:24,230 --> 00:09:22,640
set uh a time yeah i think we can do it

258
00:09:26,470 --> 00:09:24,240
on our pizza

259
00:09:28,150 --> 00:09:26,480
what's that first thing you ate other

260
00:09:29,990 --> 00:09:28,160
than the salad so

261
00:09:33,829 --> 00:09:30,000
you know i always try to answer my

262
00:09:35,750 --> 00:09:33,839
questions very honestly and

263
00:09:37,910 --> 00:09:35,760

there is a little bit of irony in the

264

00:09:40,389 --> 00:09:37,920

first thing i ate and i didn't recognize

265

00:09:43,269 --> 00:09:40,399

it until after i had eaten it like half

266

00:09:45,110 --> 00:09:43,279

of it but it looked so good there was a

267

00:09:47,829 --> 00:09:45,120

banana

268

00:09:49,509 --> 00:09:47,839

and i as soon as i ate half of it i

269

00:09:52,310 --> 00:09:49,519

recognized the irony of that was the

270

00:09:53,750 --> 00:09:52,320

first thing i ate on earth

271

00:09:55,190 --> 00:09:53,760

all right let's start here

272

00:09:57,350 --> 00:09:55,200

it's it's got aaron berger with

273

00:09:58,389 --> 00:09:57,360

architect welcome back sorry to say that

274

00:10:00,150 --> 00:09:58,399

texans still haven't solved their

275

00:10:02,230 --> 00:10:00,160

quarterback problem while you're going

276

00:10:05,030 --> 00:10:02,240

for a year either

277

00:10:06,790 --> 00:10:05,040

wanted to uh ask you you know after you

278

00:10:08,710 --> 00:10:06,800

got out of the capsule now if you were

279

00:10:10,069 --> 00:10:08,720

going to mars or somewhere else like

280

00:10:11,829 --> 00:10:10,079

that it took you a long time you would

281

00:10:13,910 --> 00:10:11,839

not be able there would be people there

282

00:10:16,150 --> 00:10:13,920

to help you out and you know sit you

283

00:10:17,670 --> 00:10:16,160

down and stuff do you feel at that point

284

00:10:20,069 --> 00:10:17,680

like you could have gotten out of a

285

00:10:22,389 --> 00:10:20,079

capsule or out of a spacecraft put on a

286

00:10:25,110 --> 00:10:22,399

space suit and sort of set up base camp

287

00:10:26,710 --> 00:10:25,120

you know on mars or wherever so

288

00:10:28,230 --> 00:10:26,720

good question i actually learned

289

00:10:31,269 --> 00:10:28,240

something on this flight that i didn't

290

00:10:33,590 --> 00:10:31,279

really fully appreciate and that is when

291

00:10:35,509 --> 00:10:33,600

that soyuz lands upright you're pretty

292

00:10:37,829 --> 00:10:35,519

much getting out of it yourself

293

00:10:39,750 --> 00:10:37,839

i always had the assumption that you

294

00:10:43,110 --> 00:10:39,760

know someone they would kind of reach

295

00:10:46,949 --> 00:10:43,120

down and unstrap the commander and then

296

00:10:48,870 --> 00:10:46,959

sort of somehow pull him out but uh when

297

00:10:51,269 --> 00:10:48,880

it's when it lands upright

298

00:10:53,190 --> 00:10:51,279

he he basically got halfway out you know

299

00:10:55,590 --> 00:10:53,200

unstrapped himself which is not easy in

300

00:10:56,389 --> 00:10:55,600

that thing and which how much room is in

301
00:10:57,829 --> 00:10:56,399
there

302
00:10:59,750 --> 00:10:57,839
um

303
00:11:01,829 --> 00:10:59,760
so he he unstrapped himself got halfway

304
00:11:04,630 --> 00:11:01,839
out then they pulled him out i had to

305
00:11:07,750 --> 00:11:04,640
un-strap close the hatch

306
00:11:10,310 --> 00:11:07,760
move over to his seat open the hatch

307
00:11:12,470 --> 00:11:10,320
get up outside and

308
00:11:14,870 --> 00:11:12,480
get myself about halfway out before they

309
00:11:17,190 --> 00:11:14,880
could pull me out so i i got a sense for

310
00:11:19,350 --> 00:11:17,200
yes i could do that you know mars has

311
00:11:21,030 --> 00:11:19,360
has less gravity which is which is

312
00:11:23,030 --> 00:11:21,040
helpful as well but

313
00:11:24,630 --> 00:11:23,040

i think probably what

314

00:11:26,389 --> 00:11:24,640

if we would have had a ballistic landing

315

00:11:27,269 --> 00:11:26,399

and landed landed upright i could have

316

00:11:31,190 --> 00:11:27,279

gotten

317

00:11:33,030 --> 00:11:31,200

of the caps a little bit of challenge

318

00:11:34,550 --> 00:11:33,040

getting down the side if no one was

319

00:11:36,710 --> 00:11:34,560

there to help us because you'd kind of

320

00:11:38,550 --> 00:11:36,720

you know fall off the top of the capsule

321

00:11:41,269 --> 00:11:38,560

then you'd probably sit there for a long

322

00:11:43,110 --> 00:11:41,279

time and adapt and then try to do

323

00:11:46,710 --> 00:11:43,120

whatever you needed to do to you know to

324

00:11:49,670 --> 00:11:46,720

continue on with your your business

325

00:11:51,509 --> 00:11:49,680

okay i'm mobile cbs news you're quite

326

00:11:53,670 --> 00:11:51,519

prolific on social media can you talk

327

00:11:55,350 --> 00:11:53,680

about why you decided to go full

328

00:11:57,590 --> 00:11:55,360

throttle on that how important it was

329

00:11:58,949 --> 00:11:57,600

and i'm also curious of all the major

330

00:12:00,629 --> 00:11:58,959

news events that happened on earth in

331

00:12:02,389 --> 00:12:00,639

this one year that you were gone were

332

00:12:04,550 --> 00:12:02,399

there any that greatly impacted you up

333

00:12:06,069 --> 00:12:04,560

there

334

00:12:07,190 --> 00:12:06,079

good questions

335

00:12:10,550 --> 00:12:07,200

um

336

00:12:13,190 --> 00:12:10,560

so the social media part of it was

337

00:12:16,230 --> 00:12:13,200

my girlfriend and long time partner miko

338

00:12:19,030 --> 00:12:16,240

is here and she works for nasa pao and

339

00:12:21,190 --> 00:12:19,040

she helped me with that

340

00:12:23,590 --> 00:12:21,200

and that was something that

341

00:12:25,350 --> 00:12:23,600

we could share together so

342

00:12:26,790 --> 00:12:25,360

it was a combination of me being able to

343

00:12:28,069 --> 00:12:26,800

share the experience with people on

344

00:12:29,750 --> 00:12:28,079

earth but it was something that we could

345

00:12:31,269 --> 00:12:29,760

work on together which made the

346

00:12:33,990 --> 00:12:31,279

experience

347

00:12:36,230 --> 00:12:34,000

for both of us i think

348

00:12:38,389 --> 00:12:36,240

more rewarding

349

00:12:40,949 --> 00:12:38,399

rather than our conversations on a daily

350

00:12:42,550 --> 00:12:40,959

basis being what did you do today

351

00:12:44,710 --> 00:12:42,560

you know i went to the store i went to

352

00:12:47,269 --> 00:12:44,720

the gym i went to work we could work on

353

00:12:48,790 --> 00:12:47,279

this as a project together and

354

00:12:51,030 --> 00:12:48,800

so it was a combination of wanting to

355

00:12:52,310 --> 00:12:51,040

share the experience but also want to do

356

00:12:54,389 --> 00:12:52,320

something with her and she did an

357

00:12:55,750 --> 00:12:54,399

outstanding job as you can as you can

358

00:12:58,310 --> 00:12:55,760

see on this

359

00:12:59,910 --> 00:12:58,320

so uh you know i applaud her and do not

360

00:13:02,389 --> 00:12:59,920

take credit for this whole thing i mean

361

00:13:05,990 --> 00:13:02,399

it was it was a partnership so

362

00:13:07,910 --> 00:13:06,000

um as far as the news is concerned

363

00:13:09,190 --> 00:13:07,920

one news story

364

00:13:11,430 --> 00:13:09,200

and

365

00:13:13,509 --> 00:13:11,440

i follow the news more closely i i kind

366

00:13:14,949 --> 00:13:13,519

of have a little bit of withdrawal now

367

00:13:16,310 --> 00:13:14,959

i've been so busy i haven't been able to

368

00:13:19,110 --> 00:13:16,320

follow the news

369

00:13:21,190 --> 00:13:19,120

i was asking my flight doc steve here as

370

00:13:22,629 --> 00:13:21,200

when we landed how super tuesday went

371

00:13:23,910 --> 00:13:22,639

it's one of the first questions i asked

372

00:13:26,550 --> 00:13:23,920

him when i got out of the out of

373

00:13:27,990 --> 00:13:26,560

the capsule because we have uh i have

374

00:13:29,509 --> 00:13:28,000

the news on

375

00:13:30,790 --> 00:13:29,519

you know all the time up there so you're

376

00:13:31,670 --> 00:13:30,800

always kind of listening to it and

377

00:13:35,190 --> 00:13:31,680

actually

378

00:13:36,629 --> 00:13:35,200

having the news on this uh projector tv

379

00:13:38,870 --> 00:13:36,639

it actually gives you an audio

380

00:13:41,030 --> 00:13:38,880

indication of whether you have this the

381

00:13:42,949 --> 00:13:41,040

k-u-com link so you know whether you

382

00:13:45,269 --> 00:13:42,959

have email or the phone

383

00:13:47,350 --> 00:13:45,279

you can just hear if the you know the

384

00:13:49,030 --> 00:13:47,360

news feed starts up so it's actually

385

00:13:51,189 --> 00:13:49,040

serves a dual role of keeping you

386

00:13:54,150 --> 00:13:51,199

connected to what's on earth and

387

00:13:55,509 --> 00:13:54,160

kind of like an operational role but uh

388

00:13:56,949 --> 00:13:55,519

so what did you think about how super

389

00:13:58,069 --> 00:13:56,959

tuesday went

390

00:13:59,590 --> 00:13:58,079

um

391

00:14:00,870 --> 00:13:59,600

i would say

392

00:14:03,030 --> 00:14:00,880

that

393

00:14:05,189 --> 00:14:03,040

as a government employee i'm subject to

394

00:14:06,470 --> 00:14:05,199

the hatch act so i can't say what i

395

00:14:09,430 --> 00:14:06,480

think but

396

00:14:10,949 --> 00:14:09,440

i will say that of all the news stories

397

00:14:12,629 --> 00:14:10,959

uh throughout the year

398

00:14:14,949 --> 00:14:12,639

that's one that has been going on for a

399

00:14:17,110 --> 00:14:14,959

long time and has been taking up a lot

400

00:14:19,910 --> 00:14:17,120

of the the uh

401
00:14:23,509 --> 00:14:19,920
the uh you know the airwaves and i paid

402
00:14:25,430 --> 00:14:23,519
attention to it very very closely

403
00:14:29,189 --> 00:14:25,440
all right let's go right here

404
00:14:30,470 --> 00:14:29,199
robert with collectspace.com

405
00:14:31,590 --> 00:14:30,480
working off of that and the mention of

406
00:14:33,430 --> 00:14:31,600
the tv

407
00:14:34,550 --> 00:14:33,440
and creature comforts in space you

408
00:14:36,470 --> 00:14:34,560
mentioned a

409
00:14:39,509 --> 00:14:36,480
week ago or so

410
00:14:41,189 --> 00:14:39,519
about the size of your crew quarters and

411
00:14:42,870 --> 00:14:41,199
perhaps them not being large enough can

412
00:14:44,790 --> 00:14:42,880
you elaborate on that a little bit and

413
00:14:47,269 --> 00:14:44,800

also if there was anything else about

414

00:14:49,750 --> 00:14:47,279

the space station that made your stay

415

00:14:51,590 --> 00:14:49,760

for a year easier or harder yeah so i

416

00:14:53,829 --> 00:14:51,600

didn't i didn't say they weren't large

417

00:14:56,710 --> 00:14:53,839

enough i think what i said is i spent a

418

00:14:59,509 --> 00:14:56,720

lot of time in that very small space if

419

00:15:01,670 --> 00:14:59,519

you can consider the fact that you know

420

00:15:03,590 --> 00:15:01,680

you sleep in there and then if you're

421

00:15:06,230 --> 00:15:03,600

you know going in there at lunchtime to

422

00:15:07,670 --> 00:15:06,240

work do work email or or whatever and

423

00:15:09,829 --> 00:15:07,680

then you spend a few hours in the

424

00:15:12,550 --> 00:15:09,839

evening i probably spent like six months

425

00:15:14,550 --> 00:15:12,560

in that little box but that doesn't mean

426

00:15:16,550 --> 00:15:14,560

it's too too small i think as far as

427

00:15:18,150 --> 00:15:16,560

size is concerned it's appropriate what

428

00:15:19,350 --> 00:15:18,160

i think the point i was trying to make

429

00:15:21,350 --> 00:15:19,360

is that

430

00:15:24,150 --> 00:15:21,360

if you are going to mars

431

00:15:27,670 --> 00:15:24,160

or some destination you're going to be

432

00:15:29,670 --> 00:15:27,680

especially when you're in a smaller

433

00:15:31,110 --> 00:15:29,680

vehicle than the space station is and

434

00:15:33,110 --> 00:15:31,120

you're kind of living on top of one

435

00:15:36,470 --> 00:15:33,120

another having that

436

00:15:38,710 --> 00:15:36,480

space that you spend so much time in

437

00:15:40,790 --> 00:15:38,720

is very very important and you need to

438

00:15:43,350 --> 00:15:40,800

make it as perfect as you can with

439

00:15:45,350 --> 00:15:43,360

regards to you know the the uh the

440

00:15:48,470 --> 00:15:45,360

environment as far as the

441

00:15:50,710 --> 00:15:48,480

you know the air the temperature the

442

00:15:52,870 --> 00:15:50,720

having interfaces with the systems

443

00:15:55,509 --> 00:15:52,880

having communication having some

444

00:15:57,110 --> 00:15:55,519

entertainment and noise abatement will

445

00:15:59,110 --> 00:15:57,120

be very important because you know

446

00:16:01,350 --> 00:15:59,120

you're going to be sleeping and you know

447

00:16:02,949 --> 00:16:01,360

living and exercising and eating and

448

00:16:04,710 --> 00:16:02,959

doing everything right on top of one

449

00:16:06,310 --> 00:16:04,720

another so and it's something that's

450

00:16:09,030 --> 00:16:06,320

easy to do too i don't think it's a

451
00:16:11,030 --> 00:16:09,040
technical challenge to make that

452
00:16:12,389 --> 00:16:11,040
crew quarters which is not bad i'm not

453
00:16:14,230 --> 00:16:12,399
really complaining i'm just saying we

454
00:16:16,310 --> 00:16:14,240
should make it better or as best as we

455
00:16:18,870 --> 00:16:16,320
possibly can

456
00:16:20,550 --> 00:16:18,880
okay right through here hi john ferguson

457
00:16:21,670 --> 00:16:20,560
galveston daily news

458
00:16:23,430 --> 00:16:21,680
i'm wondering was there ever a

459
00:16:25,590 --> 00:16:23,440
particular moment where you felt

460
00:16:28,069 --> 00:16:25,600
homesick i know you talked about being

461
00:16:29,189 --> 00:16:28,079
psychologically prepared but

462
00:16:30,949 --> 00:16:29,199
you know there

463
00:16:33,670 --> 00:16:30,959

there are um

464

00:16:35,110 --> 00:16:33,680

certainly family issues that happen

465

00:16:37,430 --> 00:16:35,120

crises

466

00:16:40,870 --> 00:16:37,440

like my last flight as you all know my

467

00:16:43,030 --> 00:16:40,880

sister-in-law gabby was was shot and

468

00:16:45,509 --> 00:16:43,040

i wouldn't characterize it as feeling

469

00:16:48,069 --> 00:16:45,519

homesick but certainly you know you feel

470

00:16:51,269 --> 00:16:48,079

like you want to be there but you know

471

00:16:52,629 --> 00:16:51,279

it's not like i felt physically

472

00:16:54,230 --> 00:16:52,639

affected

473

00:16:55,749 --> 00:16:54,240

or you know

474

00:16:59,749 --> 00:16:55,759

it didn't

475

00:17:03,269 --> 00:17:02,310

but you certainly long for things at

476
00:17:05,590 --> 00:17:03,279
home

477
00:17:07,590 --> 00:17:05,600
um but i wouldn't characterize it as

478
00:17:09,590 --> 00:17:07,600
like having the blues or something like

479
00:17:10,710 --> 00:17:09,600
that yeah

480
00:17:13,270 --> 00:17:10,720
just a reminder if you're following

481
00:17:15,110 --> 00:17:13,280
along at home to use the hashtag ask

482
00:17:16,230 --> 00:17:15,120
nasa on social media to get a question

483
00:17:17,829 --> 00:17:16,240
to us and we'll take a couple of those

484
00:17:19,750 --> 00:17:17,839
in just a couple minutes but let's start

485
00:17:22,630 --> 00:17:19,760
over here now alexandra becker with

486
00:17:25,029 --> 00:17:22,640
texas medical center news welcome home

487
00:17:26,789 --> 00:17:25,039
um in regards to the twin study is there

488
00:17:28,630 --> 00:17:26,799

an area of that research that you're

489

00:17:31,110 --> 00:17:28,640

most interested in or that you're most

490

00:17:32,870 --> 00:17:31,120

excited about learning

491

00:17:34,310 --> 00:17:32,880

yeah absolutely i think you know the the

492

00:17:35,830 --> 00:17:34,320

genetic-based part of it there are a

493

00:17:37,909 --> 00:17:35,840

bunch of different experiments but some

494

00:17:40,630 --> 00:17:37,919

of them has to do with

495

00:17:42,950 --> 00:17:40,640

you know my brother and my dna being

496

00:17:44,390 --> 00:17:42,960

almost identical and what are the

497

00:17:46,630 --> 00:17:44,400

effects of

498

00:17:48,310 --> 00:17:46,640

space flight on that and that's an area

499

00:17:50,390 --> 00:17:48,320

that

500

00:17:52,549 --> 00:17:50,400

this is our first time getting involved

501
00:17:53,909 --> 00:17:52,559
in that those kind of studies

502
00:17:55,909 --> 00:17:53,919
um

503
00:17:57,909 --> 00:17:55,919
in space for nasa but also i think just

504
00:17:59,590 --> 00:17:57,919
in general you know this kind of genetic

505
00:18:01,350 --> 00:17:59,600
based research is something that's new

506
00:18:03,830 --> 00:18:01,360
for us so that's i mean to me very

507
00:18:05,430 --> 00:18:03,840
exciting because it's it's new it's also

508
00:18:07,590 --> 00:18:05,440
obviously personal

509
00:18:10,789 --> 00:18:07,600
um there's information that we'll be

510
00:18:11,590 --> 00:18:10,799
able to find out uh about ourselves and

511
00:18:15,350 --> 00:18:11,600
our

512
00:18:17,350 --> 00:18:15,360
there's some questions about how that's

513
00:18:19,110 --> 00:18:17,360

dealt with from a privacy issue but it's

514

00:18:20,549 --> 00:18:19,120

and it's something that we can we'll

515

00:18:23,750 --> 00:18:20,559

we'll talk about in the future but all

516

00:18:24,710 --> 00:18:23,760

that's that's very interesting

517

00:18:26,789 --> 00:18:24,720

right here

518

00:18:28,070 --> 00:18:26,799

kevin reese with khw here in houston you

519

00:18:30,070 --> 00:18:28,080

you've talked a little bit about some of

520

00:18:31,669 --> 00:18:30,080

the the physical changes that you felt

521

00:18:32,870 --> 00:18:31,679

but uh in the brief time that you've had

522

00:18:34,710 --> 00:18:32,880

with your brother

523

00:18:36,230 --> 00:18:34,720

have you guys i don't know how connected

524

00:18:37,830 --> 00:18:36,240

you are as twins have you noticed

525

00:18:38,870 --> 00:18:37,840

anything while we're waiting for the

526

00:18:40,789 --> 00:18:38,880

science

527

00:18:45,350 --> 00:18:40,799

that is different about you he's got a

528

00:18:48,070 --> 00:18:46,549

i think he's

529

00:18:49,750 --> 00:18:48,080

i don't think he goes to the tanning bed

530

00:18:51,590 --> 00:18:49,760

though i think it's because he plays too

531

00:18:52,950 --> 00:18:51,600

much golf and his timing at the time on

532

00:18:55,190 --> 00:18:52,960

his hands

533

00:18:57,029 --> 00:18:55,200

but beyond that it's too early to tell

534

00:18:58,230 --> 00:18:57,039

you guys looking at each other you you

535

00:18:59,510 --> 00:18:58,240

don't know you haven't had time to

536

00:19:02,470 --> 00:18:59,520

discuss

537

00:19:04,789 --> 00:19:02,480

um yeah not nothing nothing that that

538

00:19:10,870 --> 00:19:04,799

comes to mind right now

539

00:19:14,070 --> 00:19:12,549

i don't know where that came from i i

540

00:19:15,430 --> 00:19:14,080

did measure myself and it was an inch

541

00:19:17,830 --> 00:19:15,440

and a half so maybe somebody just

542

00:19:19,590 --> 00:19:17,840

decided to round up and write it as a

543

00:19:20,789 --> 00:19:19,600

fact

544

00:19:21,510 --> 00:19:20,799

so

545

00:19:26,390 --> 00:19:21,520

but

546

00:19:29,430 --> 00:19:27,830

let's take a couple questions from

547

00:19:30,630 --> 00:19:29,440

social media we have our social media

548

00:19:31,430 --> 00:19:30,640

specialists here in the room to voice

549

00:19:33,510 --> 00:19:31,440

them

550

00:19:36,230 --> 00:19:33,520

awesome so this question comes to us on

551
00:19:38,870 --> 00:19:36,240
twitter from andrew zajac and he's

552
00:19:41,110 --> 00:19:38,880
wondering what is was it more difficult

553
00:19:43,190 --> 00:19:41,120
mentally or physically adjusting to your

554
00:19:45,510 --> 00:19:43,200
urine space

555
00:19:50,070 --> 00:19:45,520
adjusting to space is easier than

556
00:19:53,909 --> 00:19:51,750
you know you do feel a little you know

557
00:19:56,230 --> 00:19:53,919
you don't feel i don't think i ever felt

558
00:19:58,230 --> 00:19:56,240
completely normal um up there there's

559
00:19:59,669 --> 00:19:58,240
always some little subtlety of how

560
00:20:00,710 --> 00:19:59,679
you're feeling even after you've been up

561
00:20:03,750 --> 00:20:00,720
there for

562
00:20:04,710 --> 00:20:03,760
340 days um

563
00:20:05,590 --> 00:20:04,720

but

564

00:20:08,789 --> 00:20:05,600

yeah i

565

00:20:10,870 --> 00:20:08,799

think coming back to gravity is harder

566

00:20:12,950 --> 00:20:10,880

than leaving gravity

567

00:20:16,549 --> 00:20:12,960

so i don't know maybe the aliens got it

568

00:20:21,750 --> 00:20:18,630

another interesting one

569

00:20:23,830 --> 00:20:21,760

coming to us from lucasree on twitter is

570

00:20:27,029 --> 00:20:23,840

what did you do in your spare time when

571

00:20:30,470 --> 00:20:27,039

you were in space for the year

572

00:20:38,149 --> 00:20:34,870

talk on the phone do email take pictures

573

00:20:42,710 --> 00:20:41,590

watch tv shows and movies

574

00:20:44,950 --> 00:20:42,720

that's

575

00:20:46,870 --> 00:20:44,960

most of it

576
00:20:49,430 --> 00:20:46,880
awesome and this is more concerning the

577
00:20:51,750 --> 00:20:49,440
work you did but liz collins is asking

578
00:20:53,350 --> 00:20:51,760
on behalf of her fifth grade class what

579
00:20:57,669 --> 00:20:53,360
was your favorite year in space

580
00:21:02,390 --> 00:21:00,230
my favorite i really liked the rodent

581
00:21:05,750 --> 00:21:02,400
research we did because it was so

582
00:21:11,029 --> 00:21:07,909
and it was such a large operation

583
00:21:11,990 --> 00:21:11,039
there's some things we do that are

584
00:21:14,390 --> 00:21:12,000
you know

585
00:21:16,149 --> 00:21:14,400
you could do an experiment that

586
00:21:17,669 --> 00:21:16,159
you just get the procedure and you start

587
00:21:19,669 --> 00:21:17,679
doing the experiment and then there's

588
00:21:21,270 --> 00:21:19,679

things like the space walk which takes

589

00:21:22,630 --> 00:21:21,280

you sometimes

590

00:21:24,070 --> 00:21:22,640

um

591

00:21:26,230 --> 00:21:24,080

you know a couple of months to prepare

592

00:21:27,190 --> 00:21:26,240

for or in one time in our case just five

593

00:21:29,590 --> 00:21:27,200

days

594

00:21:33,830 --> 00:21:29,600

uh but then the rodents were kind of in

595

00:21:35,750 --> 00:21:33,840

that kind of realm of of things that uh

596

00:21:38,870 --> 00:21:35,760

you know take a lot of preparation a lot

597

00:21:41,190 --> 00:21:38,880

of setup very meticulous and

598

00:21:43,510 --> 00:21:41,200

you know because it does involve animals

599

00:21:45,430 --> 00:21:43,520

it's got to be done a certain way

600

00:21:47,350 --> 00:21:45,440

in a very humane way and then the

601
00:21:49,909 --> 00:21:47,360
science we were doing was was very

602
00:21:51,990 --> 00:21:49,919
interesting as well and uh

603
00:21:54,230 --> 00:21:52,000
associated with them so i think if i had

604
00:21:56,549 --> 00:21:54,240
to say one experiments experiment it

605
00:21:58,149 --> 00:21:56,559
would be that

606
00:22:00,390 --> 00:21:58,159
all right um just a reminder for the

607
00:22:01,830 --> 00:22:00,400
people on the phone bridge to press star

608
00:22:02,950 --> 00:22:01,840
one if you have a question we'll go over

609
00:22:04,789 --> 00:22:02,960
there in just a minute but i think we've

610
00:22:07,110 --> 00:22:04,799
got another one in here in the room go

611
00:22:08,710 --> 00:22:07,120
ahead yes uh jake reiner with kprc

612
00:22:10,789 --> 00:22:08,720
channel two

613
00:22:13,029 --> 00:22:10,799

can you explain why it's more difficult

614

00:22:15,350 --> 00:22:13,039

to come back to gravity than it is going

615

00:22:18,390 --> 00:22:15,360

the other way

616

00:22:22,549 --> 00:22:20,710

yeah i don't i don't know why it's

617

00:22:24,390 --> 00:22:22,559

that feels the way that way for me i

618

00:22:28,149 --> 00:22:24,400

don't know if steve has

619

00:22:31,430 --> 00:22:29,669

you've had a lot of experience of going

620

00:22:33,669 --> 00:22:31,440

in space and

621

00:22:34,549 --> 00:22:33,679

not quite so much returning after a year

622

00:22:37,029 --> 00:22:34,559

so

623

00:22:40,710 --> 00:22:37,039

your body just gets very used to gravity

624

00:22:44,549 --> 00:22:41,510

yeah

625

00:22:48,310 --> 00:22:46,789

some people have a big issue going to

626

00:22:50,710 --> 00:22:48,320

space i mean maybe maybe it's just

627

00:22:52,950 --> 00:22:50,720

person dependent i don't know um

628

00:22:56,070 --> 00:22:52,960

but some people get really sick i'm just

629

00:22:58,470 --> 00:22:56,080

not one of those and uh

630

00:23:00,390 --> 00:22:58,480

but coming back i definitely feel like

631

00:23:03,750 --> 00:23:00,400

this is this is harder

632

00:23:05,110 --> 00:23:03,760

than uh than doing that

633

00:23:06,630 --> 00:23:05,120

all right one more here in the room then

634

00:23:08,390 --> 00:23:06,640

we'll go to the phone bridge talk a

635

00:23:09,909 --> 00:23:08,400

little about what your time back has

636

00:23:10,950 --> 00:23:09,919

been like but can you describe it a

637

00:23:12,710 --> 00:23:10,960

little more

638

00:23:13,590 --> 00:23:12,720

how busy have you been

639

00:23:15,430 --> 00:23:13,600

so we

640

00:23:17,270 --> 00:23:15,440

we landed at uh

641

00:23:19,029 --> 00:23:17,280

i don't know what was up one in the

642

00:23:21,830 --> 00:23:19,039

morning i think

643

00:23:23,510 --> 00:23:21,840

yeah my two flight

644

00:23:25,350 --> 00:23:23,520

steve um

645

00:23:29,590 --> 00:23:25,360

we landed

646

00:23:32,630 --> 00:23:29,600

did some medical tests there

647

00:23:34,710 --> 00:23:32,640

from norway we were gonna fly to uh

648

00:23:37,669 --> 00:23:34,720

goose bay canada but the weather was bad

649

00:23:39,590 --> 00:23:37,679

and we went landed in gander

650

00:23:41,029 --> 00:23:39,600

right gander

651
00:23:43,190 --> 00:23:41,039
a lot of the time on the plane i was

652
00:23:45,110 --> 00:23:43,200
trying to sleep which is was kind of

653
00:23:49,269 --> 00:23:45,120
hard because it was i was uncomfortable

654
00:23:53,110 --> 00:23:50,950
but i did sleep some

655
00:23:54,070 --> 00:23:53,120
and then when we got back i went back

656
00:23:56,310 --> 00:23:54,080
over

657
00:23:58,549 --> 00:23:56,320
to jsc here to some of the medical

658
00:24:00,710 --> 00:23:58,559
facilities and did some tests had

659
00:24:01,990 --> 00:24:00,720
physical exam blood

660
00:24:05,269 --> 00:24:02,000
drawn

661
00:24:07,590 --> 00:24:05,279
did this uh functional fitness test

662
00:24:10,230 --> 00:24:07,600
which is kind of a test of your you know

663
00:24:10,950 --> 00:24:10,240

your physical ability to do things if

664

00:24:15,510 --> 00:24:10,960

you

665

00:24:17,830 --> 00:24:15,520

from from space

666

00:24:20,950 --> 00:24:17,840

and then the next day so i got home at

667

00:24:22,789 --> 00:24:20,960

about 4 a.m jumped in my pool was up by

668

00:24:25,190 --> 00:24:22,799

about nine in the morning

669

00:24:27,430 --> 00:24:25,200

back at work at 10 for a bunch more

670

00:24:28,789 --> 00:24:27,440

medical tests yes which was yesterday

671

00:24:29,830 --> 00:24:28,799

actually

672

00:24:32,950 --> 00:24:29,840

um

673

00:24:35,350 --> 00:24:32,960

a bunch more medical tests and

674

00:24:38,070 --> 00:24:35,360

did this functional fitness test again

675

00:24:39,110 --> 00:24:38,080

did some other tests of of uh you know

676
00:24:41,190 --> 00:24:39,120
on my

677
00:24:44,950 --> 00:24:41,200
muscle strength

678
00:24:47,269 --> 00:24:44,960
that took some time today i was at utmb

679
00:24:48,789 --> 00:24:47,279
and victory lakes and had a bunch of

680
00:24:54,310 --> 00:24:48,799
mris

681
00:24:56,549 --> 00:24:54,320
japanese experiment

682
00:24:59,669 --> 00:24:56,559
this afternoon and now i'm here so it's

683
00:25:03,110 --> 00:25:01,029
all busy let's go down to the phone

684
00:25:04,549 --> 00:25:03,120
bridge one more reminder if you have a

685
00:25:06,310 --> 00:25:04,559
question on the phone bridge press star

686
00:25:08,310 --> 00:25:06,320
one to let us know and if your question

687
00:25:10,390 --> 00:25:08,320
is answered press star two to go out of

688
00:25:12,870 --> 00:25:10,400

the queue and you can keep sending in

689

00:25:14,310 --> 00:25:12,880

the ask nasa hashtag questions on social

690

00:25:15,669 --> 00:25:14,320

media we'll try and answer some more of

691

00:25:16,950 --> 00:25:15,679

those a little later

692

00:25:19,750 --> 00:25:16,960

let's start with marcia dunn from the

693

00:25:22,230 --> 00:25:19,760

associated press

694

00:25:24,310 --> 00:25:22,240

yes hi uh welcome back scott um you're

695

00:25:26,950 --> 00:25:24,320

being offered up as the poster boy for

696

00:25:29,029 --> 00:25:26,960

mars and i'm i'm wondering how you feel

697

00:25:31,430 --> 00:25:29,039

about that and do you have any insight

698

00:25:33,350 --> 00:25:31,440

on what about you

699

00:25:34,310 --> 00:25:33,360

helped you persevere

700

00:25:37,510 --> 00:25:34,320

um

701
00:25:39,029 --> 00:25:37,520
succeed on all fronts it seems and and

702
00:25:41,990 --> 00:25:39,039
would be good at something like this i

703
00:25:43,350 --> 00:25:42,000
mean what insight do you have and how

704
00:25:46,789 --> 00:25:43,360
might nasa

705
00:25:48,310 --> 00:25:46,799
pick crews based on your experience

706
00:25:50,310 --> 00:25:48,320
well i don't know about the poster boy

707
00:25:51,750 --> 00:25:50,320
but

708
00:25:52,789 --> 00:25:51,760
i don't know anything about that marcia

709
00:25:54,470 --> 00:25:52,799
but

710
00:25:55,830 --> 00:25:54,480
i you know i think nasa does a good job

711
00:25:57,350 --> 00:25:55,840
of picking people for these type of

712
00:25:58,630 --> 00:25:57,360
things and if it wasn't me doing this it

713
00:26:00,710 --> 00:25:58,640

would have been one of my colleagues and

714

00:26:03,669 --> 00:26:00,720

they would have i'm sure done just as

715

00:26:05,029 --> 00:26:03,679

good a job as i did or better um

716

00:26:07,029 --> 00:26:05,039

you know it just so happens that i was

717

00:26:10,070 --> 00:26:07,039

the first person to do this and it

718

00:26:12,549 --> 00:26:10,080

doesn't necessarily mean i'm the best or

719

00:26:15,350 --> 00:26:12,559

or you know would be better than anyone

720

00:26:17,029 --> 00:26:15,360

else um i think we have a lot of very

721

00:26:19,190 --> 00:26:17,039

talented and dedicated people in our

722

00:26:21,110 --> 00:26:19,200

office and i think you know many of them

723

00:26:25,110 --> 00:26:21,120

could have done just as good or better

724

00:26:27,110 --> 00:26:25,120

at this maybe the night i did

725

00:26:29,430 --> 00:26:27,120

okay how about next tracy watson from

726

00:26:31,350 --> 00:26:29,440

usa today

727

00:26:32,710 --> 00:26:31,360

hi thanks for taking my question i was

728

00:26:35,590 --> 00:26:32,720

just wondering if you're having a little

729

00:26:37,909 --> 00:26:35,600

trouble with things not behaving in 1g

730

00:26:40,149 --> 00:26:37,919

as they do in zero g and i wanted to

731

00:26:41,750 --> 00:26:40,159

know also about uh which muscles are

732

00:26:43,669 --> 00:26:41,760

affected what is the kind of muscles

733

00:26:46,310 --> 00:26:43,679

that you don't use in zero g or if it's

734

00:26:48,070 --> 00:26:46,320

just kind of everything thanks

735

00:26:50,630 --> 00:26:48,080

the first thing i tried to throw on a on

736

00:26:52,630 --> 00:26:50,640

a table i missed i tried to shoot some

737

00:26:55,350 --> 00:26:52,640

basketballs yesterday and i didn't get

738

00:26:56,870 --> 00:26:55,360

any of them in the hoop in the net

739

00:26:58,789 --> 00:26:56,880

not that i'm a good basketball player in

740

00:27:00,710 --> 00:26:58,799

general anyway but i

741

00:27:02,870 --> 00:27:00,720

um

742

00:27:05,269 --> 00:27:02,880

i i don't seem to have a tendency though

743

00:27:07,510 --> 00:27:05,279

to want to drop things like some people

744

00:27:09,510 --> 00:27:07,520

i've never on my first flight that was

745

00:27:12,390 --> 00:27:09,520

seven days i had that tendency to want

746

00:27:15,269 --> 00:27:12,400

to let something go but never again you

747

00:27:17,750 --> 00:27:15,279

know let something float um

748

00:27:18,630 --> 00:27:17,760

but definitely throwing things you

749

00:27:20,710 --> 00:27:18,640

you

750

00:27:22,470 --> 00:27:20,720

tend to underestimate the effects of

751

00:27:24,149 --> 00:27:22,480

gravity you know what's really harder

752

00:27:25,190 --> 00:27:24,159

though is throwing something in space

753

00:27:28,310 --> 00:27:25,200

straight

754

00:27:30,149 --> 00:27:28,320

because that that is a hard thing to not

755

00:27:31,750 --> 00:27:30,159

to to

756

00:27:35,510 --> 00:27:31,760

compensate for not having gravity you

757

00:27:37,990 --> 00:27:35,520

always wind up lofting everything um

758

00:27:39,430 --> 00:27:38,000

and the second part of the question i

759

00:27:43,750 --> 00:27:39,440

forget now tracy can you repeat the

760

00:27:52,070 --> 00:27:46,070

i think what muscle verbs were oh muscle

761

00:27:58,630 --> 00:27:53,669

all right how about next uh we'll hear

762

00:28:02,950 --> 00:28:01,110

commander kelly welcome back um you uh

763

00:28:04,950 --> 00:28:02,960

test uh this is tom risen with us news

764

00:28:07,350 --> 00:28:04,960

uh you tested the hololens on the

765

00:28:08,789 --> 00:28:07,360

station uh can you talk about uh what do

766

00:28:11,110 --> 00:28:08,799

you think the potential of virtual

767

00:28:13,190 --> 00:28:11,120

reality could be in space uh

768

00:28:14,710 --> 00:28:13,200

what are could it help pass the time or

769

00:28:16,630 --> 00:28:14,720

could it be a little bit disorienting

770

00:28:18,789 --> 00:28:16,640

because you're in small quarters and

771

00:28:20,310 --> 00:28:18,799

uh i know that some people uh complain

772

00:28:22,870 --> 00:28:20,320

that virtual reality can mess with your

773

00:28:25,590 --> 00:28:22,880

eyes or it can be a little disorienting

774

00:28:27,830 --> 00:28:25,600

what are your thoughts about vr in space

775

00:28:30,710 --> 00:28:27,840

i think virtual reality has a lot of

776

00:28:34,870 --> 00:28:30,720

potential um you know with the device

777

00:28:37,909 --> 00:28:34,880

you mentioned we were doing a test and

778

00:28:40,710 --> 00:28:37,919

there's it has uh had cameras on it and

779

00:28:43,269 --> 00:28:40,720

we could also see like a you know a

780

00:28:46,710 --> 00:28:43,279

display that's in your field of view

781

00:28:49,029 --> 00:28:46,720

where the person on the ground could be

782

00:28:51,510 --> 00:28:49,039

drawing things in your field of view and

783

00:28:53,909 --> 00:28:51,520

and pointing to things

784

00:28:54,870 --> 00:28:53,919

and i could be doing the same thing like

785

00:28:57,029 --> 00:28:54,880

you know if you're trying to do a

786

00:28:58,470 --> 00:28:57,039

maintenance procedure i could say hey is

787

00:29:00,710 --> 00:28:58,480

this the

788

00:29:03,029 --> 00:29:00,720

bolt or connector you're talking about

789

00:29:05,110 --> 00:29:03,039

and the person can just write an arrow

790

00:29:07,750 --> 00:29:05,120

in your field of view and it worked

791

00:29:09,590 --> 00:29:07,760

great i was really surprised that the we

792

00:29:10,389 --> 00:29:09,600

messed around with it for like two hours

793

00:29:12,789 --> 00:29:10,399

and it

794

00:29:14,630 --> 00:29:12,799

immediately i sense this is a capability

795

00:29:17,029 --> 00:29:14,640

we could use right now you could put a

796

00:29:19,909 --> 00:29:17,039

put a procedure in your field of view

797

00:29:21,669 --> 00:29:19,919

maybe off to the side um

798

00:29:23,750 --> 00:29:21,679

and then you know be working on

799

00:29:25,590 --> 00:29:23,760

something and just glance right up at it

800

00:29:28,549 --> 00:29:25,600

or even looking through it you can

801
00:29:30,470 --> 00:29:28,559
change the opacity of the procedure so

802
00:29:33,190 --> 00:29:30,480
it's right in your field of view it's

803
00:29:35,830 --> 00:29:33,200
pretty impressive

804
00:29:37,510 --> 00:29:35,840
so i i think it's got great but not only

805
00:29:40,070 --> 00:29:37,520
this this device but just the the

806
00:29:41,990 --> 00:29:40,080
technology in general has got great uh

807
00:29:43,190 --> 00:29:42,000
potential for applications not only in

808
00:29:45,750 --> 00:29:43,200
space but

809
00:29:46,789 --> 00:29:45,760
of course on earth as well as far as it

810
00:29:49,350 --> 00:29:46,799
messaging

811
00:29:50,710 --> 00:29:49,360
with you uh vestibularly it actually has

812
00:29:52,870 --> 00:29:50,720
a game on it

813
00:29:55,590 --> 00:29:52,880

where you uh

814

00:29:57,430 --> 00:29:55,600

it has like alien spaceships coming

815

00:29:59,110 --> 00:29:57,440

inside the space station and there's

816

00:29:59,990 --> 00:29:59,120

these like aliens attacking you you

817

00:30:03,190 --> 00:30:00,000

gotta

818

00:30:04,630 --> 00:30:03,200

and we were playing around with that a

819

00:30:09,350 --> 00:30:04,640

little bit too and that didn't seem to

820

00:30:13,830 --> 00:30:09,360

make anyone sick it was kind of fun

821

00:30:16,070 --> 00:30:13,840

okay next up irene klotz from reuters

822

00:30:17,750 --> 00:30:16,080

hi thanks very much um i thought you

823

00:30:19,430 --> 00:30:17,760

took some really beautiful pictures of

824

00:30:22,549 --> 00:30:19,440

the planet while you were up there and

825

00:30:24,950 --> 00:30:22,559

just was wondering um from your

826

00:30:26,470 --> 00:30:24,960

new new perspective and long perspective

827

00:30:28,950 --> 00:30:26,480

if there's any place that you

828

00:30:31,430 --> 00:30:28,960

particularly want to go now

829

00:30:33,430 --> 00:30:31,440

and also if you feel that you're you

830

00:30:35,029 --> 00:30:33,440

know back on the planet to stay now if

831

00:30:36,389 --> 00:30:35,039

there's any other

832

00:30:39,110 --> 00:30:36,399

things that you

833

00:30:41,669 --> 00:30:39,120

want to do here or

834

00:30:43,590 --> 00:30:41,679

return to space at some point thanks you

835

00:30:45,669 --> 00:30:43,600

know there's there are many beautiful

836

00:30:47,350 --> 00:30:45,679

places on earth you know the bahamas is

837

00:30:48,950 --> 00:30:47,360

one that always stands out is just

838

00:30:52,549 --> 00:30:48,960

striking the color of the water i've

839

00:30:56,870 --> 00:30:54,870

several times

840

00:30:58,630 --> 00:30:56,880

so if there's a place that i could go

841

00:30:59,350 --> 00:30:58,640

that i've never been

842

00:31:09,669 --> 00:30:59,360

the

843

00:31:11,509 --> 00:31:09,679

lakes of different sizes and colors and

844

00:31:12,549 --> 00:31:11,519

it just looks very remote and very

845

00:31:14,470 --> 00:31:12,559

beautiful

846

00:31:15,830 --> 00:31:14,480

and someplace that would be you know

847

00:31:17,990 --> 00:31:15,840

very uh

848

00:31:19,669 --> 00:31:18,000

looked like pretty hard to get to and so

849

00:31:22,070 --> 00:31:19,679

if i had to choose one place if someone

850

00:31:23,909 --> 00:31:22,080

said hey where if you know you could go

851
00:31:26,230 --> 00:31:23,919
one place right now where would it be it

852
00:31:28,389 --> 00:31:26,240
would be not right now i mean

853
00:31:30,310 --> 00:31:28,399
like maybe in six months where where

854
00:31:32,070 --> 00:31:30,320
would it be and i think it would be that

855
00:31:34,230 --> 00:31:32,080
area i got to look into it some more too

856
00:31:36,950 --> 00:31:34,240
to see you know exactly what these you

857
00:31:37,750 --> 00:31:36,960
know lakes are called even you know

858
00:31:40,070 --> 00:31:37,760
what

859
00:31:42,230 --> 00:31:40,080
country actually owns them and probably

860
00:31:45,430 --> 00:31:42,240
some of it is china but uh i'm not

861
00:31:49,509 --> 00:31:47,590
okay rachel crane from cnn you can go

862
00:31:52,310 --> 00:31:49,519
next

863
00:31:54,470 --> 00:31:52,320

welcome home scott uh quick question i

864

00:31:56,549 --> 00:31:54,480

was wondering while you were on board

865

00:31:58,870 --> 00:31:56,559

there were several cargo resupply

866

00:32:00,870 --> 00:31:58,880

missions that failed and i'm curious to

867

00:32:02,789 --> 00:32:00,880

know what went through your head when

868

00:32:04,630 --> 00:32:02,799

you heard about that and how that

869

00:32:06,470 --> 00:32:04,640

impacted the environment on board the

870

00:32:08,870 --> 00:32:06,480

international space station

871

00:32:11,029 --> 00:32:08,880

well we lost the first one the orbital

872

00:32:12,310 --> 00:32:11,039

well before i got there and then we lost

873

00:32:14,389 --> 00:32:12,320

the uh

874

00:32:16,789 --> 00:32:14,399

so we were also we we kind of started

875

00:32:18,630 --> 00:32:16,799

out at a little bit of a deficit uh

876

00:32:20,310 --> 00:32:18,640

right when i got on board for certain

877

00:32:22,549 --> 00:32:20,320

things and then when we lost the

878

00:32:25,590 --> 00:32:22,559

progress it affected us some more it

879

00:32:27,590 --> 00:32:25,600

affected the russians more than us but

880

00:32:29,430 --> 00:32:27,600

in the end it

881

00:32:32,230 --> 00:32:29,440

you know it'll affect all of us and that

882

00:32:33,590 --> 00:32:32,240

we you know we'll we'll share things if

883

00:32:34,870 --> 00:32:33,600

we have to

884

00:32:36,950 --> 00:32:34,880

um

885

00:32:39,430 --> 00:32:36,960

but

886

00:32:40,389 --> 00:32:39,440

you know that was one vehicle

887

00:32:42,470 --> 00:32:40,399

so

888

00:32:44,630 --> 00:32:42,480

you know we have a lot of redundancy we

889

00:32:46,789 --> 00:32:44,640

have other vehicles that can resupply us

890

00:32:48,789 --> 00:32:46,799

but then when when the spacex

891

00:32:51,590 --> 00:32:48,799

mishap happened

892

00:32:53,509 --> 00:32:51,600

then it was like okay well now if

893

00:32:54,549 --> 00:32:53,519

the next one really does have to work or

894

00:32:55,990 --> 00:32:54,559

we're going to be

895

00:32:58,310 --> 00:32:56,000

i'm sure we would have figured something

896

00:33:00,630 --> 00:32:58,320

out but you know there's a plan for us

897

00:33:02,149 --> 00:33:00,640

to go down to like reduced rations if

898

00:33:03,509 --> 00:33:02,159

you have to so we would all have gotten

899

00:33:05,350 --> 00:33:03,519

a little skinnier

900

00:33:07,590 --> 00:33:05,360

and you know we would have had to make

901
00:33:09,190 --> 00:33:07,600
certain things last longer

902
00:33:11,750 --> 00:33:09,200
i'm sure we would have figured it out

903
00:33:13,669 --> 00:33:11,760
nasa does a good very good job at rising

904
00:33:16,149 --> 00:33:13,679
to the occasion when we have to

905
00:33:17,509 --> 00:33:16,159
but uh you know if that htv wouldn't

906
00:33:19,909 --> 00:33:17,519
have worked we would have it would have

907
00:33:23,430 --> 00:33:19,919
really affected our our quality of life

908
00:33:29,830 --> 00:33:25,190
all right how about next we'll take

909
00:33:33,430 --> 00:33:31,909
hi scott welcome back um i was wondering

910
00:33:34,950 --> 00:33:33,440
if you could talk about any vision

911
00:33:36,389 --> 00:33:34,960
changes you experienced during this

912
00:33:38,630 --> 00:33:36,399
mission compared to your previous

913
00:33:41,430 --> 00:33:38,640

missions and whether you've noticed any

914

00:33:43,830 --> 00:33:41,440
difference since you've returned

915

00:33:45,830 --> 00:33:43,840
i i would say it was very consistent

916

00:33:46,789 --> 00:33:45,840
with my my last

917

00:33:49,830 --> 00:33:46,799
flight

918

00:33:52,310 --> 00:33:49,840
from a subjective point of view

919

00:33:54,549 --> 00:33:52,320
we're collecting more data this time on

920

00:33:55,830 --> 00:33:54,559
board so we'll have a little bit better

921

00:33:57,430 --> 00:33:55,840
insight to

922

00:33:59,509 --> 00:33:57,440
you know when those change changes

923

00:34:00,710 --> 00:33:59,519
occurred and and

924

00:34:02,870 --> 00:34:00,720
um

925

00:34:04,870 --> 00:34:02,880
you know how they were in flight versus

926
00:34:07,509 --> 00:34:04,880
on the ground but i don't

927
00:34:09,109 --> 00:34:07,519
think that at least subjectively it was

928
00:34:11,349 --> 00:34:09,119
much different than my

929
00:34:13,190 --> 00:34:11,359
my last experience which is kind of in

930
00:34:16,230 --> 00:34:13,200
the beginning you noticed some changes

931
00:34:19,190 --> 00:34:16,240
and then it kind of levels off um and in

932
00:34:22,790 --> 00:34:19,200
this case kind of stayed the same way

933
00:34:25,909 --> 00:34:24,149
okay again if you are on the phone

934
00:34:32,470 --> 00:34:25,919
bridge and have a question please press

935
00:34:37,270 --> 00:34:34,710
hey scott thanks for taking my question

936
00:34:39,510 --> 00:34:37,280
um i'm curious why were you so eager to

937
00:34:40,790 --> 00:34:39,520
jump in the pool and live up to your

938
00:34:43,109 --> 00:34:40,800

expectations

939

00:34:45,190 --> 00:34:43,119

and then um more seriously uh i'm

940

00:34:47,909 --> 00:34:45,200

wondering what you think is the most

941

00:34:51,109 --> 00:34:47,919

unexpected difference you encountered

942

00:34:53,669 --> 00:34:51,119

between the six months versus the year

943

00:34:55,430 --> 00:34:53,679

um yeah the reason i was eager to jump

944

00:34:57,910 --> 00:34:55,440

in the pool is because even though i

945

00:34:59,910 --> 00:34:57,920

took a shower in canada i hadn't had

946

00:35:03,030 --> 00:34:59,920

running water in

947

00:35:05,030 --> 00:35:03,040

340 days and it's something you really

948

00:35:07,829 --> 00:35:05,040

miss actually you know my cosmonaut

949

00:35:09,990 --> 00:35:07,839

colleague misha kornienko that's one of

950

00:35:13,270 --> 00:35:10,000

the things he always cited as what he

951

00:35:19,109 --> 00:35:13,280

wanted to do too is go swimming get

952

00:35:23,270 --> 00:35:21,910

we we make do with not having a shower

953

00:35:25,030 --> 00:35:23,280

on board and it's not like you feel

954

00:35:28,829 --> 00:35:25,040

dirty but you definitely feel like you

955

00:35:31,190 --> 00:35:28,839

would like to jump in a pool so i did

956

00:35:32,950 --> 00:35:31,200

um it's nice that it was in texas yeah

957

00:35:35,910 --> 00:35:32,960

what was the other question uh can you

958

00:35:37,190 --> 00:35:35,920

repeat the second part of your question

959

00:35:39,670 --> 00:35:37,200

yeah um

960

00:35:41,910 --> 00:35:39,680

what was the most unexpected difference

961

00:35:44,150 --> 00:35:41,920

you encountered between your six months

962

00:35:45,829 --> 00:35:44,160

fifth and then the year either while

963

00:35:47,349 --> 00:35:45,839

you're up there or

964

00:35:49,589 --> 00:35:47,359

upon returning something that you

965

00:35:55,430 --> 00:35:49,599

weren't anticipating that the extra six

966

00:35:59,750 --> 00:35:57,750

you know when six months when you get

967

00:36:01,670 --> 00:35:59,760

there you can kind of see the end

968

00:36:04,390 --> 00:36:01,680

you know you think okay i launched in

969

00:36:06,630 --> 00:36:04,400

october i'm coming back in march

970

00:36:08,550 --> 00:36:06,640

i can envision getting there

971

00:36:10,230 --> 00:36:08,560

but when you launch in march and you're

972

00:36:12,630 --> 00:36:10,240

thinking about coming back

973

00:36:15,349 --> 00:36:12,640

the next march it is not something that

974

00:36:17,670 --> 00:36:15,359

you can really comprehend i remember

975

00:36:19,430 --> 00:36:17,680

because i think the perfect duration for

976
00:36:20,550 --> 00:36:19,440
a space flight is somewhere on the order

977
00:36:22,790 --> 00:36:20,560
of you know

978
00:36:24,150 --> 00:36:22,800
two and a half to three months and when

979
00:36:25,990 --> 00:36:24,160
you get to two and a half to three

980
00:36:27,510 --> 00:36:26,000
months you think i've really been here

981
00:36:29,910 --> 00:36:27,520
for a long time

982
00:36:31,270 --> 00:36:29,920
and know that you have you know nine

983
00:36:33,270 --> 00:36:31,280
months to go

984
00:36:35,030 --> 00:36:33,280
that's kind of hard to

985
00:36:38,310 --> 00:36:35,040
kind of get your head around

986
00:36:41,750 --> 00:36:38,320
as far as coming back

987
00:36:42,950 --> 00:36:41,760
you know i i'm kind of surprised how i

988
00:36:45,829 --> 00:36:42,960

do feel

989

00:36:48,790 --> 00:36:45,839

different physically than the last time

990

00:36:52,150 --> 00:36:48,800

with regards to like muscle soreness and

991

00:36:54,470 --> 00:36:52,160

and uh and joint pain and then it's the

992

00:36:56,710 --> 00:36:54,480

skin issue so

993

00:36:58,550 --> 00:36:56,720

that was something that was kind of

994

00:37:00,069 --> 00:36:58,560

unexpected for me i figured that

995

00:37:02,390 --> 00:37:00,079

probably be it'd be probably a little

996

00:37:05,430 --> 00:37:02,400

bit different but it's more than just a

997

00:37:13,270 --> 00:37:09,990

okay next up anne ball from voa news

998

00:37:16,150 --> 00:37:13,280

welcome back scott um i'm wondering what

999

00:37:18,150 --> 00:37:16,160

it is that you are going to miss about

1000

00:37:19,670 --> 00:37:18,160

being in space is there anything you're

1001

00:37:22,950 --> 00:37:19,680

really going to miss about being up

1002

00:37:26,150 --> 00:37:22,960

there absolutely um

1003

00:37:28,470 --> 00:37:26,160

uh many things uh i think the most

1004

00:37:30,069 --> 00:37:28,480

important or the most significant one is

1005

00:37:32,310 --> 00:37:30,079

the thing i like about it the most and

1006

00:37:34,950 --> 00:37:32,320

that is something that

1007

00:37:37,910 --> 00:37:34,960

doing this job is is something that's

1008

00:37:39,829 --> 00:37:37,920

very very challenging very difficult

1009

00:37:41,829 --> 00:37:39,839

um

1010

00:37:44,550 --> 00:37:41,839

and then you know working hard at it and

1011

00:37:47,190 --> 00:37:44,560

then just being you know fulfilled by by

1012

00:37:49,670 --> 00:37:47,200

your success and you can find that and

1013

00:37:51,829 --> 00:37:49,680

uh if i never fly in space again

1014

00:37:54,230 --> 00:37:51,839

i'll find that in other areas of my life

1015

00:37:55,910 --> 00:37:54,240

but not in this kind of way where the

1016

00:37:58,630 --> 00:37:55,920

implications of you

1017

00:37:59,910 --> 00:37:58,640

you know messing things up are so severe

1018

00:38:03,109 --> 00:37:59,920

that

1019

00:38:04,550 --> 00:38:03,119

in my case more rewarding is kind of

1020

00:38:06,069 --> 00:38:04,560

like you know why you

1021

00:38:07,589 --> 00:38:06,079

you know why i wanted to be a pilot in

1022

00:38:09,190 --> 00:38:07,599

the navy and land on the aircraft

1023

00:38:10,870 --> 00:38:09,200

carrier it's not because i thought

1024

00:38:13,030 --> 00:38:10,880

flying on there landing on the aircraft

1025

00:38:13,910 --> 00:38:13,040

carrier would be fun it's because

1026
00:38:16,710 --> 00:38:13,920
i knew

1027
00:38:18,870 --> 00:38:16,720
that there was it was hard and there was

1028
00:38:21,670 --> 00:38:18,880
risk and

1029
00:38:25,030 --> 00:38:21,680
and it was important and thereby for me

1030
00:38:29,349 --> 00:38:26,870
all right ken chang from the new york

1031
00:38:31,430 --> 00:38:29,359
times next

1032
00:38:32,950 --> 00:38:31,440
hi thank you for taking my question

1033
00:38:35,430 --> 00:38:32,960
how's this warning are you done with

1034
00:38:36,390 --> 00:38:35,440
space now or are you hoping to go back

1035
00:38:38,710 --> 00:38:36,400
up

1036
00:38:41,270 --> 00:38:38,720
i'll never be done with space

1037
00:38:44,870 --> 00:38:41,280
i will always be involved

1038
00:38:47,109 --> 00:38:44,880

whether i fly in space again

1039

00:38:49,589 --> 00:38:47,119

you know i you know even my brother has

1040

00:38:51,270 --> 00:38:49,599

been retired for a bunch of years he

1041

00:38:53,190 --> 00:38:51,280

still hasn't given up the idea that he's

1042

00:38:54,790 --> 00:38:53,200

gonna fly in space again

1043

00:38:56,950 --> 00:38:54,800

so

1044

00:38:59,270 --> 00:38:56,960

if i don't do it with nasa i doubt i

1045

00:39:01,990 --> 00:38:59,280

would fly again with with nasa having

1046

00:39:03,270 --> 00:39:02,000

you know have the most time

1047

00:39:06,310 --> 00:39:03,280

in uh

1048

00:39:08,150 --> 00:39:06,320

you know in space by any american i mean

1049

00:39:10,150 --> 00:39:08,160

it we have so many talented people in

1050

00:39:12,150 --> 00:39:10,160

our office there's no reason to fly me

1051
00:39:15,430 --> 00:39:12,160
again they could fly somebody else that

1052
00:39:17,829 --> 00:39:15,440
hasn't had as much opportunity

1053
00:39:19,030 --> 00:39:17,839
to do that and

1054
00:39:20,870 --> 00:39:19,040
so

1055
00:39:23,349 --> 00:39:20,880
but i i don't think i would ever say i'm

1056
00:39:24,630 --> 00:39:23,359
i'm absolutely a hundred percent done

1057
00:39:26,950 --> 00:39:24,640
because i think there's a lot of

1058
00:39:28,790 --> 00:39:26,960
exciting possibilities out there and you

1059
00:39:31,589 --> 00:39:28,800
know maybe in the commercial

1060
00:39:33,829 --> 00:39:31,599
aspect certainly

1061
00:39:35,990 --> 00:39:33,839
and you know they might need a guy like

1062
00:39:38,390 --> 00:39:36,000
me someday or someone else or i don't

1063
00:39:39,589 --> 00:39:38,400

know maybe maybe in the next 20 years

1064

00:39:40,550 --> 00:39:39,599

you'll be able to just buy a cheap

1065

00:39:43,670 --> 00:39:40,560

ticket

1066

00:39:48,470 --> 00:39:43,680

go for a little visit

1067

00:39:52,069 --> 00:39:51,030

hi thank you for taking my question um

1068

00:39:54,310 --> 00:39:52,079

ma

1069

00:39:56,069 --> 00:39:54,320

i was wondering that of course

1070

00:39:58,230 --> 00:39:56,079

nasa and the scientific world have

1071

00:40:00,710 --> 00:39:58,240

learned a lot about the experience but

1072

00:40:03,589 --> 00:40:00,720

what personally have you learned scott

1073

00:40:07,670 --> 00:40:05,430

nasa's learned a lot from the mission

1074

00:40:09,910 --> 00:40:07,680

but what have you learned personally

1075

00:40:13,190 --> 00:40:09,920

um what have i learned personally about

1076

00:40:15,190 --> 00:40:13,200

spending um a year in space

1077

00:40:17,109 --> 00:40:15,200

um

1078

00:40:18,710 --> 00:40:17,119

i was amazed and i was thinking about

1079

00:40:20,630 --> 00:40:18,720

this when i was backing away in the

1080

00:40:23,510 --> 00:40:20,640

soyuz is just you know what an

1081

00:40:25,589 --> 00:40:23,520

incredible achievement that

1082

00:40:26,790 --> 00:40:25,599

this space station is in this this

1083

00:40:29,510 --> 00:40:26,800

program is

1084

00:40:31,349 --> 00:40:29,520

you know how hard it is to build

1085

00:40:33,589 --> 00:40:31,359

something like that and operate it for

1086

00:40:35,349 --> 00:40:33,599

the last 15 years and

1087

00:40:38,470 --> 00:40:35,359

and what we

1088

00:40:41,190 --> 00:40:38,480

how we benefit from it by doing these

1089

00:40:43,430 --> 00:40:41,200

very very difficult things technically

1090

00:40:46,150 --> 00:40:43,440

and operationally challenging things and

1091

00:40:48,069 --> 00:40:46,160

it's uh you know that's the main thing

1092

00:40:50,470 --> 00:40:48,079

i kind of knew that you know going into

1093

00:40:53,670 --> 00:40:50,480

it but just experiencing it every day

1094

00:40:56,069 --> 00:40:53,680

for 340 days really you know hit home

1095

00:40:58,230 --> 00:40:56,079

for me um

1096

00:41:00,950 --> 00:40:58,240

just how you know if we put our mind to

1097

00:41:03,990 --> 00:41:00,960

it we can achieve things that

1098

00:41:06,150 --> 00:41:04,000

you know are it would seem impossible

1099

00:41:08,069 --> 00:41:06,160

like if you would have said to somebody

1100

00:41:09,589 --> 00:41:08,079

you know 30 years from now hey there's a

1101
00:41:11,829 --> 00:41:09,599
picture of the space station we're going

1102
00:41:12,790 --> 00:41:11,839
to build and keep it manned for 15 years

1103
00:41:15,510 --> 00:41:12,800
and do

1104
00:41:17,589 --> 00:41:15,520
all this science and other operations on

1105
00:41:18,550 --> 00:41:17,599
people would have been like crazy you

1106
00:41:21,910 --> 00:41:18,560
know

1107
00:41:23,750 --> 00:41:21,920
that's not i think it's a million pounds

1108
00:41:26,150 --> 00:41:23,760
the size of a football field you know

1109
00:41:27,990 --> 00:41:26,160
the internal volume of some say a six

1110
00:41:29,589 --> 00:41:28,000
bedroom house with the

1111
00:41:32,069 --> 00:41:29,599
you know there's life support systems

1112
00:41:35,430 --> 00:41:32,079
that turn our our urine into water the

1113
00:41:36,870 --> 00:41:35,440

water into oxygen um

1114

00:41:39,589 --> 00:41:36,880

you know we drink the water it's

1115

00:41:42,550 --> 00:41:39,599

practically a closed loop system

1116

00:41:43,750 --> 00:41:42,560

using only the power from the sun

1117

00:41:45,190 --> 00:41:43,760

it's

1118

00:41:47,109 --> 00:41:45,200

just an incredible

1119

00:41:49,109 --> 00:41:47,119

incredible achievement that i think

1120

00:41:51,030 --> 00:41:49,119

everyone involved in it you know

1121

00:41:55,670 --> 00:41:51,040

including the people that pay for it the

1122

00:42:01,270 --> 00:41:57,990

okay how about uh michelle fitzsimmons

1123

00:42:06,790 --> 00:42:03,910

hi commander kelly welcome back um i was

1124

00:42:09,829 --> 00:42:06,800

wondering if there is uh an easy cost

1125

00:42:11,510 --> 00:42:09,839

for ability we have on earth that we

1126
00:42:14,790 --> 00:42:11,520
kind of take for granted you know if we

1127
00:42:17,030 --> 00:42:14,800
were to be up in zero g and that becomes

1128
00:42:19,670 --> 00:42:17,040
way more difficult um and then also on

1129
00:42:21,910 --> 00:42:19,680
the the kind of commercial space uh

1130
00:42:22,790 --> 00:42:21,920
flight front do you think kind of normal

1131
00:42:24,630 --> 00:42:22,800
people

1132
00:42:26,230 --> 00:42:24,640
should be able to go up into space and

1133
00:42:28,870 --> 00:42:26,240
you know whether they have

1134
00:42:30,710 --> 00:42:28,880
uh the fortitude and an ability to

1135
00:42:31,670 --> 00:42:30,720
experience what it's like up there thank

1136
00:42:36,790 --> 00:42:31,680
you

1137
00:42:39,349 --> 00:42:36,800
couldn't quite make that out

1138
00:42:41,670 --> 00:42:39,359

sure uh just to save

1139

00:42:42,630 --> 00:42:41,680

an easy task here on earth or an ability

1140

00:42:44,790 --> 00:42:42,640

we have

1141

00:42:45,910 --> 00:42:44,800

that becomes more difficult um

1142

00:42:48,470 --> 00:42:45,920

you know we would be surprised how

1143

00:42:49,750 --> 00:42:48,480

difficult it is up in up in space an

1144

00:42:51,990 --> 00:42:49,760

easy task here on earth it's more

1145

00:42:53,030 --> 00:42:52,000

difficult in space

1146

00:42:55,589 --> 00:42:53,040

oh

1147

00:42:57,589 --> 00:42:55,599

just about everything is is easier here

1148

00:43:00,069 --> 00:42:57,599

except there are a couple of things that

1149

00:43:01,910 --> 00:43:00,079

are easier in space one is moving heart

1150

00:43:03,750 --> 00:43:01,920

large objects around because they don't

1151
00:43:05,750 --> 00:43:03,760
have any weight the other thing it would

1152
00:43:07,990 --> 00:43:05,760
be like getting behind your tv to

1153
00:43:10,870 --> 00:43:08,000
connect the vcr up i mean because you

1154
00:43:12,550 --> 00:43:10,880
can just float in every any orientation

1155
00:43:14,309 --> 00:43:12,560
everything else is more difficult in

1156
00:43:15,349 --> 00:43:14,319
space because you can't put anything

1157
00:43:17,349 --> 00:43:15,359
down

1158
00:43:19,270 --> 00:43:17,359
you have to either velcro stick it in

1159
00:43:21,190 --> 00:43:19,280
your pocket or hold it in your hand or

1160
00:43:22,390 --> 00:43:21,200
let it float away in which case it's

1161
00:43:23,910 --> 00:43:22,400
probably going to float away and you're

1162
00:43:26,230 --> 00:43:23,920
never going to see it again

1163
00:43:27,109 --> 00:43:26,240

so yeah just about everything else is

1164

00:43:28,309 --> 00:43:27,119

more

1165

00:43:30,230 --> 00:43:28,319

difficult

1166

00:43:31,349 --> 00:43:30,240

than the second part um do you think

1167

00:43:33,270 --> 00:43:31,359

normal people should be able to go to

1168

00:43:35,589 --> 00:43:33,280

space i think everyone should be able to

1169

00:43:37,589 --> 00:43:35,599

go to space i mean there's it's going to

1170

00:43:38,470 --> 00:43:37,599

depend on the person and what kind of

1171

00:43:41,270 --> 00:43:38,480

you know

1172

00:43:43,270 --> 00:43:41,280

experience they would want um

1173

00:43:45,910 --> 00:43:43,280

so it'd be great i think to have a

1174

00:43:48,790 --> 00:43:45,920

variety of ways to

1175

00:43:51,430 --> 00:43:48,800

get to space or near space maybe for the

1176

00:43:53,510 --> 00:43:51,440

view you can get a pretty

1177

00:43:56,630 --> 00:43:53,520

spectacular view with not going all the

1178

00:43:57,829 --> 00:43:56,640

way to the edge of space but or you know

1179

00:43:59,829 --> 00:43:57,839

above

1180

00:44:02,309 --> 00:43:59,839

the the limit but it'd be great if there

1181

00:44:04,550 --> 00:44:02,319

were a bunch of different uh

1182

00:44:05,829 --> 00:44:04,560

experiences that people could afford and

1183

00:44:06,950 --> 00:44:05,839

that were safe and i'm sure we're going

1184

00:44:08,710 --> 00:44:06,960

to see that

1185

00:44:10,710 --> 00:44:08,720

you know sometime hopefully in the not

1186

00:44:11,829 --> 00:44:10,720

too distant future

1187

00:44:14,390 --> 00:44:11,839

all right

1188

00:44:15,589 --> 00:44:14,400

okay i think tracy watson has a

1189

00:44:20,630 --> 00:44:15,599

follow-up question and we'll come back

1190

00:44:24,630 --> 00:44:22,550

yeah thank you uh can you tell me

1191

00:44:26,390 --> 00:44:24,640

whether about the workflow and how you

1192

00:44:28,710 --> 00:44:26,400

manage that whether you had to sometimes

1193

00:44:29,510 --> 00:44:28,720

push back against um the ground on how

1194

00:44:31,750 --> 00:44:29,520

much

1195

00:44:34,390 --> 00:44:31,760

they wanted you to do and how you

1196

00:44:36,870 --> 00:44:34,400

adjusted it to a year in space versus

1197

00:44:39,190 --> 00:44:36,880

six months in space thanks yeah that's a

1198

00:44:41,670 --> 00:44:39,200

very good question um

1199

00:44:43,510 --> 00:44:41,680

in my case i've always had a great

1200

00:44:46,230 --> 00:44:43,520

working relationship with the ground

1201

00:44:49,109 --> 00:44:46,240

with and been very open with with them

1202

00:44:51,430 --> 00:44:49,119

and you know it's a team effort so

1203

00:44:53,750 --> 00:44:51,440

um you know there are priorities and

1204

00:44:55,750 --> 00:44:53,760

there are you know higher priorities and

1205

00:44:57,510 --> 00:44:55,760

you try to get the higher stuff done and

1206

00:44:59,750 --> 00:44:57,520

you try you know with the help of our

1207

00:45:02,230 --> 00:44:59,760

flight surgeons manage our fatigue level

1208

00:45:04,390 --> 00:45:02,240

and we're all kind of a big team doing

1209

00:45:06,630 --> 00:45:04,400

that and in my experience it's always

1210

00:45:08,950 --> 00:45:06,640

worked it's always worked great

1211

00:45:10,870 --> 00:45:08,960

um

1212

00:45:12,710 --> 00:45:10,880

i can't maybe something happened to my

1213

00:45:13,829 --> 00:45:12,720

brain i can't ever remember the second

1214

00:45:18,790 --> 00:45:13,839

question

1215

00:45:21,829 --> 00:45:20,550

okay we'll come back in uh to the room

1216

00:45:23,349 --> 00:45:21,839

here if we get a chance we'll see if

1217

00:45:25,030 --> 00:45:23,359

tracy has another one um let's start

1218

00:45:27,030 --> 00:45:25,040

with eric berger

1219

00:45:28,390 --> 00:45:27,040

hey again scott um

1220

00:45:30,150 --> 00:45:28,400

having spent a year in space thinking

1221

00:45:31,990 --> 00:45:30,160

about going to mars

1222

00:45:33,670 --> 00:45:32,000

there's some debate about whether you

1223

00:45:34,870 --> 00:45:33,680

know artificial gravity would be is

1224

00:45:37,030 --> 00:45:34,880

worth the trouble

1225

00:45:38,550 --> 00:45:37,040

um and having spent now almost a year in

1226

00:45:40,950 --> 00:45:38,560

microgravity

1227

00:45:43,270 --> 00:45:40,960

how do you feel i mean you probably have

1228

00:45:45,589 --> 00:45:43,280

the best you know platform to address

1229

00:45:48,790 --> 00:45:45,599

that question

1230

00:45:50,630 --> 00:45:48,800

so art of artificial gravity solves

1231

00:45:52,870 --> 00:45:50,640

problems with um

1232

00:45:54,390 --> 00:45:52,880

making your work easier where you don't

1233

00:45:55,990 --> 00:45:54,400

have to deal with all the stuff that

1234

00:45:57,589 --> 00:45:56,000

floats

1235

00:45:59,670 --> 00:45:57,599

i think it probably helps in certain

1236

00:46:02,710 --> 00:45:59,680

systems and how they function

1237

00:46:04,710 --> 00:46:02,720

certainly will help in your physiology

1238

00:46:07,190 --> 00:46:04,720

if it's though i i think it depends on

1239

00:46:09,670 --> 00:46:07,200

how you do it if it's if it's like you

1240

00:46:12,790 --> 00:46:09,680

know 2001 where you have this big

1241

00:46:15,510 --> 00:46:12,800

orb rotating wheel that's much different

1242

00:46:16,790 --> 00:46:15,520

than if you had i think a vehicle that

1243

00:46:19,750 --> 00:46:16,800

you know

1244

00:46:20,870 --> 00:46:19,760

had varying levels of of gravity i don't

1245

00:46:22,870 --> 00:46:20,880

know that

1246

00:46:24,630 --> 00:46:22,880

if if you had

1247

00:46:26,230 --> 00:46:24,640

you know earth's gravity on one side

1248

00:46:29,030 --> 00:46:26,240

nurse gravity on the other and then you

1249

00:46:31,270 --> 00:46:29,040

lived in between all the time how your

1250

00:46:33,430 --> 00:46:31,280

body would deal with that so

1251

00:46:35,910 --> 00:46:33,440

i think it's a balance between

1252

00:46:37,750 --> 00:46:35,920

you know having all this maybe wasted

1253

00:46:39,190 --> 00:46:37,760

space you couldn't use

1254

00:46:42,069 --> 00:46:39,200

and

1255

00:46:44,069 --> 00:46:42,079

versus what what the benefits would be

1256

00:46:45,910 --> 00:46:44,079

or if you could you know make the

1257

00:46:47,910 --> 00:46:45,920

science fiction kind of vehicle then

1258

00:46:49,829 --> 00:46:47,920

maybe that's the way to go i don't i

1259

00:46:52,630 --> 00:46:49,839

don't know how you know technically

1260

00:46:54,790 --> 00:46:52,640

feasible that is right now

1261

00:46:56,870 --> 00:46:54,800

but i tell you what you know i i am a

1262

00:46:59,349 --> 00:46:56,880

big believer if we can

1263

00:47:01,829 --> 00:46:59,359

if we can dream something and if we can

1264

00:47:02,550 --> 00:47:01,839

put our minds to it we can we can do it

1265

00:47:05,109 --> 00:47:02,560

so

1266

00:47:08,309 --> 00:47:05,119

i think it's it's uh i would never rule

1267

00:47:13,510 --> 00:47:10,390

okay let's come over here to mark

1268

00:47:15,109 --> 00:47:13,520

thanks mark radius i mean i have a

1269

00:47:18,230 --> 00:47:15,119

related question

1270

00:47:20,069 --> 00:47:18,240

nasa's looking at in-space habitat

1271

00:47:22,710 --> 00:47:20,079

um do you think you might have some good

1272

00:47:32,150 --> 00:47:22,720

suggestions uh for them to consider on

1273

00:47:36,870 --> 00:47:33,829

actually i do i've actually thought when

1274

00:47:39,109 --> 00:47:36,880

i saw that on the news actually that

1275

00:47:41,430 --> 00:47:39,119

there was a contract given

1276

00:47:42,870 --> 00:47:41,440

i don't even know what company or what

1277

00:47:45,190 --> 00:47:42,880

what the details were but there was some

1278

00:47:46,710 --> 00:47:45,200

money dedicated to that i thought i

1279

00:47:49,670 --> 00:47:46,720

think i'd be great to help with that

1280

00:47:53,430 --> 00:47:49,680

kind of project and i would love to

1281

00:47:55,589 --> 00:47:53,440

be involved in something like that

1282

00:47:57,190 --> 00:47:55,599

in terms of sort of comfort and

1283

00:47:58,950 --> 00:47:57,200

functionality that you think would be

1284

00:48:00,309 --> 00:47:58,960

important

1285

00:48:01,510 --> 00:48:00,319

absolutely

1286

00:48:03,589 --> 00:48:01,520

you know i've talked about the crew

1287

00:48:05,510 --> 00:48:03,599

quarters certainly

1288

00:48:07,510 --> 00:48:05,520

like noise abatement on our exercise

1289

00:48:10,309 --> 00:48:07,520

equipment

1290

00:48:12,549 --> 00:48:10,319

noise abatement on our other facilities

1291

00:48:15,030 --> 00:48:12,559

like the you know the bathroom when

1292

00:48:16,549 --> 00:48:15,040

you're going to be living in one

1293

00:48:17,750 --> 00:48:16,559

tiny area

1294

00:48:19,349 --> 00:48:17,760

and how you

1295

00:48:21,430 --> 00:48:19,359

make that work

1296

00:48:23,750 --> 00:48:21,440

you know i think we should look at other

1297

00:48:25,589 --> 00:48:23,760

other things you know if our exercise

1298

00:48:28,069 --> 00:48:25,599

equipment is very good but it's also

1299

00:48:30,309 --> 00:48:28,079

very heavy and takes up a lot of room

1300

00:48:31,910 --> 00:48:30,319

you know maybe there's other ways we can

1301
00:48:33,750 --> 00:48:31,920
get the same

1302
00:48:37,670 --> 00:48:33,760
effect without the same kind of

1303
00:48:40,790 --> 00:48:38,870
in a

1304
00:48:42,309 --> 00:48:40,800
medical way like we were talking you

1305
00:48:43,510 --> 00:48:42,319
know one of the issues we have with

1306
00:48:45,670 --> 00:48:43,520
coming back

1307
00:48:48,309 --> 00:48:45,680
and why you feel the way you do i think

1308
00:48:49,990 --> 00:48:48,319
some people feel the way that they do is

1309
00:48:51,430 --> 00:48:50,000
is because they've lost a lot of their

1310
00:48:53,510 --> 00:48:51,440
blood volume

1311
00:48:55,670 --> 00:48:53,520
i mean you could look at you know giving

1312
00:48:58,710 --> 00:48:55,680
that back to the person when they when

1313
00:49:00,950 --> 00:48:58,720

they land potentially or something else

1314

00:49:02,549 --> 00:49:00,960

um you know i got an iv when i was

1315

00:49:04,630 --> 00:49:02,559

coming back

1316

00:49:07,109 --> 00:49:04,640

that helped a little bit but just kind

1317

00:49:08,710 --> 00:49:07,119

of more thinking out outside of the box

1318

00:49:11,030 --> 00:49:08,720

in that kind of way

1319

00:49:13,430 --> 00:49:11,040

i think is something that

1320

00:49:14,710 --> 00:49:13,440

we should start considering more

1321

00:49:16,069 --> 00:49:14,720

okay

1322

00:49:17,910 --> 00:49:16,079

if you don't mind i've got two but the

1323

00:49:19,829 --> 00:49:17,920

first one is i was fascinated in your

1324

00:49:22,150 --> 00:49:19,839

documentary that ran on pbs which i

1325

00:49:24,710 --> 00:49:22,160

thought was excellent about the smell of

1326
00:49:26,870 --> 00:49:24,720
space which i've never heard of before

1327
00:49:29,589 --> 00:49:26,880
um so having lived with that and the

1328
00:49:31,750 --> 00:49:29,599
smell of the iss for the last year when

1329
00:49:33,750 --> 00:49:31,760
you when they opened up the hatch in

1330
00:49:35,990 --> 00:49:33,760
kazakhstan and you were able to breathe

1331
00:49:38,710 --> 00:49:36,000
that air what was that like can you

1332
00:49:40,470 --> 00:49:38,720
describe it so i actually said to uh

1333
00:49:42,870 --> 00:49:40,480
well first the air was refreshing

1334
00:49:46,309 --> 00:49:42,880
because it was cool and it was

1335
00:49:49,349 --> 00:49:46,319
different than the air i had experienced

1336
00:49:50,870 --> 00:49:49,359
for the last 340 days so in that way it

1337
00:49:52,230 --> 00:49:50,880
was refreshing but as soon as i got in

1338
00:49:53,990 --> 00:49:52,240

the chair i don't know if i said to

1339

00:49:56,470 --> 00:49:54,000

steve or someone else that was there i

1340

00:49:59,990 --> 00:49:56,480

said what is it smells like a fragrance

1341

00:50:03,109 --> 00:50:00,000

like something like a plant was blooming

1342

00:50:07,510 --> 00:50:03,119

um in that area and you know i'd only

1343

00:50:09,510 --> 00:50:07,520

been to the landing site twice before

1344

00:50:11,270 --> 00:50:09,520

in with the soyuz the first time i was

1345

00:50:13,030 --> 00:50:11,280

in it and i guess i didn't notice this

1346

00:50:14,309 --> 00:50:13,040

steve's been there a lot more times than

1347

00:50:16,710 --> 00:50:14,319

i have and he said that's the smell of

1348

00:50:17,829 --> 00:50:16,720

the the burning uh

1349

00:50:21,510 --> 00:50:17,839

soyuz

1350

00:50:25,030 --> 00:50:21,520

it has kind of a sweet

1351

00:50:27,270 --> 00:50:25,040

uh how would you describe

1352

00:50:29,510 --> 00:50:27,280

it's kind of a sweet smell to it does it

1353

00:50:31,270 --> 00:50:29,520

feel like your senses are suddenly alive

1354

00:50:34,230 --> 00:50:31,280

when you were able to breathe oh it's

1355

00:50:35,670 --> 00:50:34,240

it's great yeah absolutely

1356

00:50:37,349 --> 00:50:35,680

my second question pardon me but you

1357

00:50:41,270 --> 00:50:37,359

know you're you'll now go down and you

1358

00:50:43,030 --> 00:50:41,280

are have you had gone down holding two

1359

00:50:45,349 --> 00:50:43,040

nasa records

1360

00:50:46,790 --> 00:50:45,359

you'll go down in american space history

1361

00:50:49,190 --> 00:50:46,800

and people will read about you for the

1362

00:50:51,589 --> 00:50:49,200

next several decades

1363

00:50:53,510 --> 00:50:51,599

what does it feel like to be the guy who

1364

00:50:55,670 --> 00:50:53,520

has set these records to be

1365

00:50:57,349 --> 00:50:55,680

one of america's space heroes i'll tell

1366

00:50:59,430 --> 00:50:57,359

you what these these records are made to

1367

00:51:01,109 --> 00:50:59,440

be broken and there's this guy jeff

1368

00:51:03,109 --> 00:51:01,119

williams that's going to launch here in

1369

00:51:05,270 --> 00:51:03,119

the next couple next couple of weeks

1370

00:51:06,309 --> 00:51:05,280

he's going to break my number of days

1371

00:51:08,549 --> 00:51:06,319

record

1372

00:51:10,390 --> 00:51:08,559

not by i'm not sure by how much but

1373

00:51:13,190 --> 00:51:10,400

total number of days in space for an

1374

00:51:15,750 --> 00:51:13,200

american he'll break it so which is

1375

00:51:17,589 --> 00:51:15,760

great i mean i'm a big believer in

1376

00:51:19,349 --> 00:51:17,599

pushing the envelope on this kind of

1377

00:51:21,750 --> 00:51:19,359

stuff i don't know when

1378

00:51:23,910 --> 00:51:21,760

when someone will have more than 340

1379

00:51:26,470 --> 00:51:23,920

days in space uh

1380

00:51:27,990 --> 00:51:26,480

next but hopefully it won't be too long

1381

00:51:29,430 --> 00:51:28,000

you know because that's

1382

00:51:31,190 --> 00:51:29,440

you know that

1383

00:51:33,910 --> 00:51:31,200

you know pushing the envelope is what

1384

00:51:36,230 --> 00:51:33,920

makes our you know society progress so

1385

00:51:37,510 --> 00:51:36,240

it's uh i don't i don't have

1386

00:51:39,349 --> 00:51:37,520

i don't know i definitely don't have an

1387

00:51:41,990 --> 00:51:39,359

issue with it i'm a big proponent of

1388

00:51:43,670 --> 00:51:42,000

that and how do i feel about

1389

00:51:45,910 --> 00:51:43,680

these kind of things i just it's you

1390

00:51:49,190 --> 00:51:45,920

know it just i'm i'm just privileged to

1391

00:51:51,589 --> 00:51:50,470

okay we'll take a couple of questions

1392

00:51:53,589 --> 00:51:51,599

here in the room and then see if we can

1393

00:51:54,630 --> 00:51:53,599

get maybe two more from social media so

1394

00:51:56,390 --> 00:51:54,640

start here

1395

00:51:58,630 --> 00:51:56,400

but i think what tom's trying to say and

1396

00:52:00,630 --> 00:51:58,640

it's what we're asking is that you you

1397

00:52:02,710 --> 00:52:00,640

have rekindled

1398

00:52:04,790 --> 00:52:02,720

the mission with you as the center of it

1399

00:52:09,030 --> 00:52:04,800

has rekindled this interest in states we

1400

00:52:13,030 --> 00:52:11,190

what do you take away from that

1401
00:52:14,630 --> 00:52:13,040
for yourself for the program for the

1402
00:52:17,589 --> 00:52:14,640
country

1403
00:52:19,829 --> 00:52:17,599
um well i didn't know that you know i

1404
00:52:22,230 --> 00:52:19,839
maybe i'm somewhat insulated from some

1405
00:52:26,309 --> 00:52:22,240
of this the media surrounding this this

1406
00:52:33,750 --> 00:52:29,190
i've been

1407
00:52:37,030 --> 00:52:33,760
presidential primaries for the last nine

1408
00:52:40,710 --> 00:52:38,950
so uh

1409
00:52:42,790 --> 00:52:40,720
so what do i

1410
00:52:44,390 --> 00:52:42,800
i i guess it's great you know it's i

1411
00:52:46,950 --> 00:52:44,400
think space is important i think it's

1412
00:52:48,390 --> 00:52:46,960
our future it it helps our economy grow

1413
00:52:51,750 --> 00:52:48,400

it improves

1414

00:52:54,710 --> 00:52:53,030

you know i think there are things we're

1415

00:52:57,990 --> 00:52:54,720

going to discover about our experience

1416

00:52:59,510 --> 00:52:58,000

in space in the space station that we

1417

00:53:01,510 --> 00:52:59,520

you know we don't even know now it's

1418

00:53:03,430 --> 00:53:01,520

kind of like you know when the guys were

1419

00:53:05,030 --> 00:53:03,440

walking on the moon they didn't you were

1420

00:53:07,109 --> 00:53:05,040

trying to develop you know more advanced

1421

00:53:09,430 --> 00:53:07,119

computers and technologies that you know

1422

00:53:11,990 --> 00:53:09,440

they never they never imagined that uh

1423

00:53:13,190 --> 00:53:12,000

you know how important that stuff would

1424

00:53:15,109 --> 00:53:13,200

be to us

1425

00:53:17,430 --> 00:53:15,119

you know not too long in the in the

1426
00:53:18,630 --> 00:53:17,440
future so

1427
00:53:21,270 --> 00:53:18,640
yeah i think it's great that there's a

1428
00:53:22,870 --> 00:53:21,280
renewed renewed interest

1429
00:53:26,309 --> 00:53:22,880
okay right over here

1430
00:53:27,589 --> 00:53:26,319
uh rob perla with collect space again um

1431
00:53:29,349 --> 00:53:27,599
to the extent that you talked to him

1432
00:53:31,510 --> 00:53:29,359
about it over the year or even after you

1433
00:53:33,190 --> 00:53:31,520
landed how comparable was misha's

1434
00:53:35,829 --> 00:53:33,200
experience to your own

1435
00:53:38,790 --> 00:53:35,839
and um psychologically

1436
00:53:39,910 --> 00:53:38,800
uh and was there any difference between

1437
00:53:41,829 --> 00:53:39,920
your two

1438
00:53:44,230 --> 00:53:41,839

340 days

1439

00:53:46,309 --> 00:53:44,240

you know i can't really comment on

1440

00:53:48,390 --> 00:53:46,319

his his personal experience

1441

00:53:51,190 --> 00:53:48,400

psychologically what i can say is he's a

1442

00:53:54,470 --> 00:53:51,200

great great guy and i it was a privilege

1443

00:53:56,549 --> 00:53:54,480

flying with him and he'll be a lifelong

1444

00:53:59,190 --> 00:53:56,559

lifelong friend of mine any and he did

1445

00:54:01,190 --> 00:53:59,200

great i mean but other than that you

1446

00:54:03,750 --> 00:54:01,200

know i i think it wouldn't be my place

1447

00:54:05,670 --> 00:54:03,760

to comment on you know how he did uh

1448

00:54:08,309 --> 00:54:05,680

like personally and what his personal

1449

00:54:10,470 --> 00:54:08,319

feelings are i'll let him answer those

1450

00:54:13,349 --> 00:54:10,480

those questions for your own experience

1451

00:54:15,190 --> 00:54:13,359

was is helpful was it

1452

00:54:16,790 --> 00:54:15,200

necessary to have someone else going

1453

00:54:19,030 --> 00:54:16,800

through the same

1454

00:54:20,710 --> 00:54:19,040

year in space with you or was it

1455

00:54:23,510 --> 00:54:20,720

sufficient to have people coming in and

1456

00:54:27,030 --> 00:54:25,270

i think

1457

00:54:28,069 --> 00:54:27,040

it was nice i don't think it was

1458

00:54:30,390 --> 00:54:28,079

required

1459

00:54:32,950 --> 00:54:30,400

um i think for some people it might be

1460

00:54:35,190 --> 00:54:32,960

more important um to have

1461

00:54:37,190 --> 00:54:35,200

someone doing the same thing as them

1462

00:54:38,710 --> 00:54:37,200

i don't think i necessarily needed that

1463

00:54:40,470 --> 00:54:38,720

but it was uh

1464

00:54:42,710 --> 00:54:40,480

i i enjoyed it

1465

00:54:46,789 --> 00:54:42,720

and i liked having him as as my

1466

00:54:49,829 --> 00:54:48,470

okay let's get a couple from

1467

00:54:51,990 --> 00:54:49,839

ask nasa

1468

00:54:54,950 --> 00:54:52,000

um so one of the first you experienced

1469

00:54:56,549 --> 00:54:54,960

was an eva so um rome shock on twitter

1470

00:54:59,589 --> 00:54:56,559

is wondering can you speak to your

1471

00:55:02,390 --> 00:54:59,599

experience on that eva

1472

00:55:03,829 --> 00:55:02,400

yeah that's uh that's something those

1473

00:55:05,109 --> 00:55:03,839

space walks

1474

00:55:07,990 --> 00:55:05,119

very

1475

00:55:10,069 --> 00:55:08,000

you know technically challenging

1476

00:55:11,829 --> 00:55:10,079

uh can be physically challenging

1477

00:55:14,230 --> 00:55:11,839

depending on what you're doing and the

1478

00:55:17,589 --> 00:55:14,240

time you're uh

1479

00:55:18,549 --> 00:55:17,599

you're outside uh errors varied from you

1480

00:55:19,990 --> 00:55:18,559

know over

1481

00:55:21,910 --> 00:55:20,000

seven hours that

1482

00:55:23,270 --> 00:55:21,920

shel ingram and i did and the first two

1483

00:55:25,430 --> 00:55:23,280

i did to uh

1484

00:55:26,789 --> 00:55:25,440

to just over five hours

1485

00:55:29,829 --> 00:55:26,799

um

1486

00:55:34,309 --> 00:55:29,839

so they were much different

1487

00:55:38,390 --> 00:55:35,829

i guess one

1488

00:55:41,670 --> 00:55:38,400

main feeling i had

1489

00:55:44,710 --> 00:55:41,680

after doing those first two is that

1490

00:55:46,390 --> 00:55:44,720

you know i got this sense that

1491

00:55:48,789 --> 00:55:46,400

you have all these people involved in

1492

00:55:50,069 --> 00:55:48,799

this and they all do great work and it's

1493

00:55:52,150 --> 00:55:50,079

uh

1494

00:55:54,309 --> 00:55:52,160

and they're very very important to the

1495

00:55:55,589 --> 00:55:54,319

process and what what what we're doing

1496

00:55:57,589 --> 00:55:55,599

but in the end

1497

00:55:59,750 --> 00:55:57,599

there's only one person you can rely on

1498

00:56:02,069 --> 00:55:59,760

out there and that's your your eva buddy

1499

00:56:04,150 --> 00:56:02,079

everything else is just advice but

1500

00:56:06,309 --> 00:56:04,160

that's the person you know you're very

1501

00:56:08,069 --> 00:56:06,319

very reliant on one another for your

1502

00:56:10,150 --> 00:56:08,079

lives literally

1503

00:56:11,750 --> 00:56:10,160

um doesn't take away from you know

1504

00:56:14,470 --> 00:56:11,760

everyone that helps us but all they can

1505

00:56:16,950 --> 00:56:14,480

give you is advice

1506

00:56:19,589 --> 00:56:16,960

so that's kind of the main

1507

00:56:21,589 --> 00:56:19,599

takeaway i had from those experiences

1508

00:56:23,190 --> 00:56:21,599

the view is great too it's

1509

00:56:24,630 --> 00:56:23,200

pretty amazing

1510

00:56:26,390 --> 00:56:24,640

awesome so i think we're gonna take one

1511

00:56:27,750 --> 00:56:26,400

more and um this is related to the

1512

00:56:30,230 --> 00:56:27,760

people you spent your time with up there

1513

00:56:32,549 --> 00:56:30,240

so lady lloyd on twitter is wondering

1514

00:56:34,710 --> 00:56:32,559

how much does the changing personnel on

1515

00:56:36,549 --> 00:56:34,720

station affect your psyche do you

1516

00:56:39,589 --> 00:56:36,559

welcome the change or is it hard to see

1517

00:56:41,430 --> 00:56:39,599

the people leave before you do

1518

00:56:45,030 --> 00:56:41,440

change is good

1519

00:56:47,430 --> 00:56:45,040

it's something you welcome

1520

00:56:49,910 --> 00:56:47,440

and it's hard to see them leave

1521

00:56:51,109 --> 00:56:49,920

when they do leave

1522

00:56:54,230 --> 00:56:51,119

and

1523

00:56:56,150 --> 00:56:54,240

in the case in in my case especially

1524

00:56:57,589 --> 00:56:56,160

with

1525

00:57:01,510 --> 00:56:57,599

having

1526
00:57:03,589 --> 00:57:01,520
had two groups of like guys that weren't

1527
00:57:04,950 --> 00:57:03,599
either experienced space station got

1528
00:57:07,750 --> 00:57:04,960
well

1529
00:57:08,789 --> 00:57:07,760
i had three guys that had never flown in

1530
00:57:10,870 --> 00:57:08,799
space that were going to be long

1531
00:57:13,910 --> 00:57:10,880
duration crew members it was somewhat

1532
00:57:16,150 --> 00:57:13,920
sad to uh do like for chell and kimia

1533
00:57:18,390 --> 00:57:16,160
for me to to get them all

1534
00:57:20,549 --> 00:57:18,400
to watch them develop and then get them

1535
00:57:22,710 --> 00:57:20,559
to where they're like functioning very

1536
00:57:24,230 --> 00:57:22,720
at a very high level and then they leave

1537
00:57:25,430 --> 00:57:24,240
and then i gotta kind of start all over

1538
00:57:27,109 --> 00:57:25,440

a little bit

1539

00:57:29,109 --> 00:57:27,119

but uh that's the case with anyone it's

1540

00:57:30,950 --> 00:57:29,119

not particularly them but it was

1541

00:57:33,829 --> 00:57:30,960

but it was fascinating seeing them go

1542

00:57:35,270 --> 00:57:33,839

from brand new guys to seasoned veterans

1543

00:57:37,510 --> 00:57:35,280

over the course of

1544

00:57:39,990 --> 00:57:37,520

you know several months and then it was

1545

00:57:41,750 --> 00:57:40,000

i was sorry to see them leave

1546

00:57:43,829 --> 00:57:41,760

okay we are just about out of time but i

1547

00:57:46,390 --> 00:57:43,839

think we can get one more

1548

00:57:48,549 --> 00:57:46,400

vantage point of space um

1549

00:57:50,309 --> 00:57:48,559

what did you see uh i guess the impact

1550

00:57:53,670 --> 00:57:50,319

on the earth i know you took a lot of

1551
00:57:54,630 --> 00:57:53,680
photographs what was that impact you saw

1552
00:57:56,870 --> 00:57:54,640
and maybe

1553
00:57:59,109 --> 00:57:56,880
how we're contributing to the change on

1554
00:58:01,349 --> 00:57:59,119
the airport

1555
00:58:03,430 --> 00:58:01,359
you could see a lot of pollution

1556
00:58:04,549 --> 00:58:03,440
in uh

1557
00:58:06,789 --> 00:58:04,559
you know over

1558
00:58:09,109 --> 00:58:06,799
parts of asia

1559
00:58:11,270 --> 00:58:09,119
that's almost continuous constantly

1560
00:58:12,950 --> 00:58:11,280
there that you can't really see the

1561
00:58:14,230 --> 00:58:12,960
ground very well

1562
00:58:15,990 --> 00:58:14,240
and uh

1563
00:58:19,109 --> 00:58:16,000

you know those fires in california over

1564

00:58:21,349 --> 00:58:19,119

the summer i mean that smoke was was a

1565

00:58:23,589 --> 00:58:21,359

pretty uh extensive

1566

00:58:25,349 --> 00:58:23,599

you know covering large parts of the u.s

1567

00:58:27,349 --> 00:58:25,359

you could tell it was the same

1568

00:58:29,030 --> 00:58:27,359

same amount of smoke you know noticing

1569

00:58:31,349 --> 00:58:29,040

weather systems in areas where you're

1570

00:58:33,510 --> 00:58:31,359

not normally used to seeing them or

1571

00:58:34,950 --> 00:58:33,520

expect them to be

1572

00:58:37,349 --> 00:58:34,960

but the predominant thing is you just

1573

00:58:39,349 --> 00:58:37,359

notice how thin the atmosphere is

1574

00:58:41,270 --> 00:58:39,359

how fragile it looks

1575

00:58:44,549 --> 00:58:41,280

so that you know combined with you know

1576

00:58:52,549 --> 00:58:44,559

this large swaths of pollution is uh is

1577

00:58:55,750 --> 00:58:54,309

you got to take care of the environment

1578

00:58:57,589 --> 00:58:55,760

i mean

1579

00:58:59,109 --> 00:58:57,599

you know people say um

1580

00:59:02,549 --> 00:58:59,119

they often say

1581

00:59:04,549 --> 00:59:02,559

trying to think of the term um

1582

00:59:06,230 --> 00:59:04,559

you know about saving the planet we need

1583

00:59:07,990 --> 00:59:06,240

to save the planet

1584

00:59:09,510 --> 00:59:08,000

planet will be just fine and sus is

1585

00:59:11,190 --> 00:59:09,520

going to have a problem

1586

00:59:12,789 --> 00:59:11,200

you know planet will get better you know

1587

00:59:15,670 --> 00:59:12,799

we might not be here because we're going

1588

00:59:17,990 --> 00:59:15,680

to you know destroy the environment and

1589

00:59:19,750 --> 00:59:18,000

you know and but i think the planet will

1590

00:59:21,510 --> 00:59:19,760

eventually recover

1591

00:59:23,510 --> 00:59:21,520

probably be without people

1592

00:59:25,670 --> 00:59:23,520

so you know it's very you know for us to

1593

00:59:28,230 --> 00:59:25,680

take care of our the air we breathe and

1594

00:59:30,950 --> 00:59:28,240

the you know the

1595

00:59:34,630 --> 00:59:30,960

and the water we drink is uh is is

1596

00:59:37,430 --> 00:59:34,640

critical and and i do believe we have an

1597

00:59:39,990 --> 00:59:37,440

impact on that and we

1598

00:59:43,750 --> 00:59:40,000

do have the uh the ability to change it

1599

00:59:47,510 --> 00:59:45,670

okay i think that's all we have time for

1600

00:59:49,030 --> 00:59:47,520

i know scott has to probably get back to

1601
00:59:51,510 --> 00:59:49,040
a lot of medical tests

1602
00:59:53,910 --> 00:59:51,520
yeah so we're gonna we're gonna wrap up

1603
00:59:55,589 --> 00:59:53,920
there um but of course uh this is not

1604
00:59:57,349 --> 00:59:55,599
really the end for him at all he's got

1605
00:59:59,349 --> 00:59:57,359
another year of medical testing and you

1606
01:00:01,349 --> 00:59:59,359
can keep up with all that not only on

1607
01:00:04,069 --> 01:00:01,359
social media but also online at

1608
01:00:06,230 --> 01:00:04,079
www.nasa.gov

1609
01:00:07,510 --> 01:00:06,240
one year so we'll hope to hear more