



HATCH

EXIT

OVHD

LAB 06

1
00:00:03,290 --> 00:00:01,730
all right now thank you so much it's

2
00:00:05,390 --> 00:00:03,300
just been over a month since NASA

3
00:00:06,980 --> 00:00:05,400
astronaut scott Kelly began his a

4
00:00:09,259 --> 00:00:06,990
year-long stay on the International

5
00:00:11,749 --> 00:00:09,269
Space Station it's a mission that also

6
00:00:13,879 --> 00:00:11,759
involves his identical twin brother Mark

7
00:00:15,860 --> 00:00:13,889
Kelly and both brothers are with us this

8
00:00:17,570 --> 00:00:15,870
morning Scott is aboard the

9
00:00:19,820 --> 00:00:17,580
International Space Station and marks a

10
00:00:21,529 --> 00:00:19,830
bit closer he's a former astronaut NBC

11
00:00:22,910 --> 00:00:21,539
Space analyst is right here with us in

12
00:00:25,400 --> 00:00:22,920
the studio good morning to both of you

13
00:00:26,839 --> 00:00:25,410

good morning Savannah well we've got you

14

00:00:29,120 --> 00:00:26,849

here mark but I'll turn my first

15

00:00:30,800 --> 00:00:29,130

question to Scott you're up in space I

16

00:00:33,260 --> 00:00:30,810

know you're just going over the Bahamas

17

00:00:38,720 --> 00:00:33,270

right now how is your first month going

18

00:00:41,959 --> 00:00:38,730

you're one month down 11 more to go yeah

19

00:00:43,760 --> 00:00:41,969

so far so good when I got here about I

20

00:00:46,490 --> 00:00:43,770

think it's been about 40 days ago I

21

00:00:49,580 --> 00:00:46,500

almost felt like I had never left it's

22

00:00:51,170 --> 00:00:49,590

amazing how your body adapts to this

23

00:00:53,569 --> 00:00:51,180

environment and how it remembers

24

00:00:55,310 --> 00:00:53,579

actually being here so you know even

25

00:00:57,229 --> 00:00:55,320

though there's a long road ahead of me

26

00:01:05,780 --> 00:00:57,239

I'm feeling pretty good about the whole

27

00:01:07,640 --> 00:01:05,790

thing so far five other astronauts

28

00:01:09,820 --> 00:01:07,650

aboard the space station with you I'm

29

00:01:12,710 --> 00:01:09,830

imagining an episode of the real world

30

00:01:13,910 --> 00:01:12,720

how is it actually going up there how do

31

00:01:18,800 --> 00:01:13,920

you guys getting along and Penn how's

32

00:01:20,420 --> 00:01:18,810

your work going more importantly yeah we

33

00:01:21,800 --> 00:01:20,430

get along great you know we're all

34

00:01:24,560 --> 00:01:21,810

professionals we're in this together

35

00:01:28,760 --> 00:01:24,570

it's you know it's a tough environment

36

00:01:31,730 --> 00:01:28,770

to live in but you know as a team we we

37

00:01:34,160 --> 00:01:31,740

get through it and our works going great

38

00:01:36,830 --> 00:01:34,170

doing a lot of science doing a lot of

39

00:01:38,690 --> 00:01:36,840

work on the space station itself pretty

40

00:01:41,210 --> 00:01:38,700

soon we're gonna start moving one of the

41

00:01:43,580 --> 00:01:41,220

modules around and kind of reconfigure

42

00:01:45,230 --> 00:01:43,590

or reassemble the space station a little

43

00:01:52,969 --> 00:01:45,240

bit so we have that work ahead ahead of

44

00:01:57,440 --> 00:01:55,789

and mark you are part of this study and

45

00:01:58,880 --> 00:01:57,450

this is like it's kind of a dream come

46

00:02:01,160 --> 00:01:58,890

true for NASA because you have two

47

00:02:03,980 --> 00:02:01,170

genetically identical individuals one

48

00:02:06,139 --> 00:02:03,990

spending a year in space one down here

49

00:02:08,150 --> 00:02:06,149

on earth tell me about I guess the

50

00:02:09,830 --> 00:02:08,160

possibilities that this creates for NASA

51
00:02:11,240 --> 00:02:09,840
researchers well let me let me first

52
00:02:13,190 --> 00:02:11,250
back up why we're doing this

53
00:02:15,199 --> 00:02:13,200
so we have a good sense of what it takes

54
00:02:17,360 --> 00:02:15,209
to fly in space for six months but if

55
00:02:19,220 --> 00:02:17,370
one day we want to go to Mars or some

56
00:02:21,470 --> 00:02:19,230
other destination in the solar system we

57
00:02:22,850 --> 00:02:21,480
we know what the engineering is to do

58
00:02:25,370 --> 00:02:22,860
that we don't know a lot about the human

59
00:02:27,589 --> 00:02:25,380
body so Scott's spending a year in space

60
00:02:30,080 --> 00:02:27,599
and NASA studying both of us because we

61
00:02:31,699 --> 00:02:30,090
are genetically the same that's that's

62
00:02:33,500 --> 00:02:31,709
going to give NASA a lot of information

63
00:02:35,330 --> 00:02:33,510

to reach out into the solar system and

64

00:02:37,190 --> 00:02:35,340

what does that entail for you I guess

65

00:02:38,569 --> 00:02:37,200

you go to Houston you are part of

66

00:02:39,920 --> 00:02:38,579

experiments there drawing blood all

67

00:02:42,229 --> 00:02:39,930

kinds of things like that yeah so

68

00:02:44,390 --> 00:02:42,239

Scott's the guinea pig in space and I'm

69

00:02:46,160 --> 00:02:44,400

the guinea pig on earth and there's a

70

00:02:49,370 --> 00:02:46,170

lot of blood draws a lot of MRIs

71

00:02:51,020 --> 00:02:49,380

ultrasounds some stuff I'm not even sure

72

00:02:53,930 --> 00:02:51,030

what it is I just lay there on the table

73

00:02:55,550 --> 00:02:53,940

and Scott I know you Mark hasn't a

74

00:02:56,960 --> 00:02:55,560

professional drawing his blood and doing

75

00:02:58,789 --> 00:02:56,970

that kind of thing you have to do it

76

00:03:00,470 --> 00:02:58,799

yourself I imagine it's pretty

77

00:03:05,930 --> 00:03:00,480

complicated to do some of these

78

00:03:08,599 --> 00:03:05,940

experiments up there in space yeah you

79

00:03:13,160 --> 00:03:08,609

know sometimes we draw each other's

80

00:03:15,680 --> 00:03:13,170

blood and in my case I do it myself when

81

00:03:17,629 --> 00:03:15,690

I was suggested I do that to save crew

82

00:03:20,809 --> 00:03:17,639

time I thought there was no way I'd be

83

00:03:23,059 --> 00:03:20,819

able to do it but for whatever reason it

84

00:03:25,250 --> 00:03:23,069

doesn't hurt as much it's easier more

85

00:03:26,809 --> 00:03:25,260

convenient for me but because of how

86

00:03:29,620 --> 00:03:26,819

many times I have to do this more

87

00:03:32,120 --> 00:03:29,630

convenient for me to do it myself so

88

00:03:34,129 --> 00:03:32,130

yeah I do the blood draws myself and I

89

00:03:36,949 --> 00:03:34,139

also do a lot of the other things with

90

00:03:38,870 --> 00:03:36,959

guidance from the ground like the the

91

00:03:43,009 --> 00:03:38,880

ultrasounds for instance whether it's my

92

00:03:45,559 --> 00:03:43,019

eye or heart carotid brachial arteries

93

00:03:48,110 --> 00:03:45,569

my leg muscles all of those are done is

94

00:03:49,909 --> 00:03:48,120

as me is the operator with help from the

95

00:03:52,069 --> 00:03:49,919

ground and we have some other imaging

96

00:03:53,870 --> 00:03:52,079

devices too that we use especially on

97

00:03:55,879 --> 00:03:53,880

our eyes that that the crewmembers on

98

00:04:04,130 --> 00:03:55,889

board are the operators were like you

99

00:04:09,119 --> 00:04:07,589

Scot I really have a big follower and

100

00:04:11,190 --> 00:04:09,129

admirer of your Twitter feed you're

101
00:04:12,660 --> 00:04:11,200
getting a lot of beautiful images from

102
00:04:14,610 --> 00:04:12,670
the space station and I know you have

103
00:04:21,249 --> 00:04:14,620
some other creature comforts like the

104
00:04:26,779 --> 00:04:24,400
you know the space station is actually a

105
00:04:28,309 --> 00:04:26,789
you know even though it's a remote place

106
00:04:30,140 --> 00:04:28,319
and it's a tough environment because you

107
00:04:33,050 --> 00:04:30,150
could never leave there's no running

108
00:04:34,879 --> 00:04:33,060
water you have a lot of work to do

109
00:04:37,550 --> 00:04:34,889
you're always at work there are little

110
00:04:39,800 --> 00:04:37,560
things that make life here more normal

111
00:04:42,589 --> 00:04:39,810
like the espresso machine which we just

112
00:04:45,610 --> 00:04:42,599
got running which by the way is a

113
00:04:47,809 --> 00:04:45,620

science experiment and we only have 15

114

00:04:49,850 --> 00:04:47,819

espresso capsules so we're kind of

115

00:04:53,870 --> 00:04:49,860

rationing those but it worked great

116

00:04:55,430 --> 00:04:53,880

tasted great recently got a projector

117

00:04:59,059 --> 00:04:55,440

television to use for work-related

118

00:05:01,879 --> 00:04:59,069

things like video conferences and and

119

00:05:03,649 --> 00:05:01,889

some software we we can look at on it

120

00:05:05,899 --> 00:05:03,659

but we also use it to watch movie so

121

00:05:13,830 --> 00:05:05,909

yeah some of those little small things

122

00:05:17,290 --> 00:05:16,030

absolutely I think they watched gravity

123

00:05:18,970 --> 00:05:17,300

I don't know if that's the movie I would

124

00:05:21,220 --> 00:05:18,980

have chosen mark I don't know about you

125

00:05:23,440 --> 00:05:21,230

it turns out and I won't get into all

126
00:05:25,900 --> 00:05:23,450
the reasons scientifically that you are

127
00:05:27,790 --> 00:05:25,910
now aging a little faster than your

128
00:05:30,070 --> 00:05:27,800
brother up in space so when he comes

129
00:05:31,510 --> 00:05:30,080
back you will be three milliseconds

130
00:05:33,250 --> 00:05:31,520
older do you have any older brother

131
00:05:35,440 --> 00:05:33,260
advice well that's what well I'm already

132
00:05:37,860 --> 00:05:35,450
6 months older so I'm going to gain

133
00:05:39,760 --> 00:05:37,870
another 3 milliseconds and that's a

134
00:05:43,240 --> 00:05:39,770
Einstein figured that out right a

135
00:05:44,650 --> 00:05:43,250
general theory of relativity so yeah

136
00:05:46,450 --> 00:05:44,660
we'll see what see what happens with

137
00:05:49,060 --> 00:05:46,460
those 3 milliseconds you should ask him

138
00:05:51,340 --> 00:05:49,070

to like flip over upside down so people

139

00:05:53,200 --> 00:05:51,350

could see in space oh well let's do it

140

00:05:55,180 --> 00:05:53,210

I your brother suggested you do some

141

00:05:56,290 --> 00:05:55,190

party trick Scott as we as we leave you

142

00:05:59,250 --> 00:05:56,300

can you can you show us some

143

00:06:03,220 --> 00:06:01,660

yeah sure well but first I need to

144

00:06:05,770 --> 00:06:03,230

correct my brother he said he was six

145

00:06:07,540 --> 00:06:05,780

months older he's really only six

146

00:06:09,490 --> 00:06:07,550

minutes older I know sometimes he thinks

147

00:06:21,120 --> 00:06:09,500

he's more like six months but it's

148

00:06:24,870 --> 00:06:23,610

hey Scott and change that airforce sign

149

00:06:27,000 --> 00:06:24,880

you got in the background you need to

150

00:06:28,650 --> 00:06:27,010

put a Navy sign up there I like this

151

00:06:30,240 --> 00:06:28,660

this is a great opportunity for you to

152

00:06:32,790 --> 00:06:30,250

just harass your brother I want to say

153

00:06:34,440 --> 00:06:32,800

thank you to Scott Kelly aboard the

154

00:06:35,760 --> 00:06:34,450

International Space Station into mark

155

00:06:37,440 --> 00:06:35,770

right here on earth great to see you

156

00:06:37,940 --> 00:06:37,450

both thank you so much thank you very

157

00:06:41,760 --> 00:06:37,950

much

158

00:06:51,680 --> 00:06:41,770

all right yeah pleasure being with you

159

00:06:56,280 --> 00:06:54,210

station this is Houston ACR that

160

00:06:58,800 --> 00:06:56,290

concludes the NBC today portion of the

161

00:07:06,870 --> 00:06:58,810

event please stand by for YouTube

162

00:07:08,700 --> 00:07:06,880

questions hello I'm Hank so you're

163

00:07:10,110 --> 00:07:08,710

spending an entire year in space which

164

00:07:11,670 --> 00:07:10,120

is cool but you're also very much

165

00:07:13,320 --> 00:07:11,680

offering up your living body for a

166

00:07:14,850 --> 00:07:13,330

scientific experimentation here and you

167

00:07:16,980 --> 00:07:14,860

are going to have significant health

168

00:07:19,830 --> 00:07:16,990

impacts because of this research what

169

00:07:26,460 --> 00:07:19,840

makes you willing and even enthusiastic

170

00:07:30,330 --> 00:07:26,470

to do that well all all astronauts that

171

00:07:33,840 --> 00:07:30,340

fly in space are human subjects so it's

172

00:07:36,330 --> 00:07:33,850

this is just not about me it's you know

173

00:07:39,120 --> 00:07:36,340

something we all do certainly I'll be up

174

00:07:40,830 --> 00:07:39,130

here a little bit longer but the reason

175

00:07:42,480 --> 00:07:40,840

I'm willing to do this I think it's an

176

00:07:45,750 --> 00:07:42,490

important research that we do and it's

177

00:07:47,250 --> 00:07:45,760

gonna be critical someday to us you know

178

00:07:53,420 --> 00:07:47,260

going further out into space and

179

00:07:58,620 --> 00:07:56,730

hi I'm Louie Cole I travel the world and

180

00:08:01,470 --> 00:07:58,630

make videos from our YouTube channel fun

181

00:08:02,700 --> 00:08:01,480

for Louie and in my adventures I find

182

00:08:05,160 --> 00:08:02,710

there's a lot of obstacles that come

183

00:08:06,990 --> 00:08:05,170

across what's been the biggest obstacle

184

00:08:14,450 --> 00:08:07,000

of the mission that you're on and how

185

00:08:17,130 --> 00:08:14,460

did you overcome it well this is my

186

00:08:19,680 --> 00:08:17,140

fourth time in space my second

187

00:08:22,620 --> 00:08:19,690

long-duration flight so I kind of eased

188

00:08:25,680 --> 00:08:22,630

into this pretty easily if kind of felt

189

00:08:28,050 --> 00:08:25,690

like I had really never left it's really

190

00:08:31,080 --> 00:08:28,060

amazing how your body remembers the

191

00:08:32,909 --> 00:08:31,090

environment I think though the biggest

192

00:08:34,710 --> 00:08:32,919

obstacle or the biggest challenge will

193

00:08:36,480 --> 00:08:34,720

be the the duration of

194

00:08:38,550 --> 00:08:36,490

of this flight you know just being here

195

00:08:40,080 --> 00:08:38,560

for so long never being able to leave

196

00:08:42,420 --> 00:08:40,090

never being able to leave your place of

197

00:08:44,790 --> 00:08:42,430

work so you know so far it's been a

198

00:08:46,560 --> 00:08:44,800

pretty seamless transition but I you

199

00:08:51,980 --> 00:08:46,570

know I expect as I'm here longer it'll

200

00:08:56,100 --> 00:08:54,690

hi astronaut Kelly I'm Emily Grassley

201
00:08:57,660 --> 00:08:56,110
from the brain scoop standing in front

202
00:08:58,890 --> 00:08:57,670
of our meteorite collection here at the

203
00:09:00,810 --> 00:08:58,900
Field Museum in Chicago

204
00:09:02,790 --> 00:09:00,820
my question for you I know you're

205
00:09:04,530 --> 00:09:02,800
studying your immune systems responses

206
00:09:06,960 --> 00:09:04,540
and functionality while living in space

207
00:09:08,610 --> 00:09:06,970
for a year so considering how much of a

208
00:09:10,590 --> 00:09:08,620
person's healthy immune system has

209
00:09:12,690 --> 00:09:10,600
evolved for millions of years along with

210
00:09:14,190 --> 00:09:12,700
life-forms on earth do you have any

211
00:09:16,260 --> 00:09:14,200
predictions for how humans could

212
00:09:18,480 --> 00:09:16,270
maintain a well-balanced microbiome

213
00:09:20,850 --> 00:09:18,490

while living in space without things

214

00:09:27,510 --> 00:09:20,860

like plants animals or microbes gleaned

215

00:09:29,340 --> 00:09:27,520

from life-forms on earth thanks you know

216

00:09:31,560 --> 00:09:29,350

that's a good question I I do know that

217

00:09:35,880 --> 00:09:31,570

one of the studies I'm participating in

218

00:09:37,860 --> 00:09:35,890

is this microbiome research you know we

219

00:09:40,260 --> 00:09:37,870

do get some you know fresh fruits and

220

00:09:41,850 --> 00:09:40,270

vegetables up here in our diet is you

221

00:09:44,610 --> 00:09:41,860

know not exactly the same it is on earth

222

00:09:49,770 --> 00:09:44,620

but I really hadn't considered that you

223

00:09:53,760 --> 00:09:49,780

know what the impact to living here on

224

00:09:55,260 --> 00:09:53,770

the microbiome of our bodies is but I

225

00:09:56,490 --> 00:09:55,270

guess you know there is some and

226

00:09:59,670 --> 00:09:56,500

certainly that's why we're doing the

227

00:10:02,100 --> 00:09:59,680

research so hopefully you know this

228

00:10:04,110 --> 00:10:02,110

experiment will find those answers I

229

00:10:06,390 --> 00:10:04,120

don't have a personal hypothesis but I'm

230

00:10:08,940 --> 00:10:06,400

sure you know the experimenters do and

231

00:10:12,210 --> 00:10:08,950

if you want more information I'm sure

232

00:10:16,460 --> 00:10:12,220

your NASA contact you know can get that

233

00:10:20,880 --> 00:10:19,050

hey mr. Kelly Kyle Hill here from

234

00:10:23,280 --> 00:10:20,890

because science on the Nerdist channel

235

00:10:25,050 --> 00:10:23,290

in Los Angeles I'm wondering surveying

236

00:10:26,670 --> 00:10:25,060

the popular culture landscape and what

237

00:10:28,650 --> 00:10:26,680

you know of our future space missions

238

00:10:30,960 --> 00:10:28,660

what do you think will be the thing that

239

00:10:33,480 --> 00:10:30,970

inspires the next generation of

240

00:10:40,310 --> 00:10:33,490

astronauts to be the first generation of

241

00:10:47,430 --> 00:10:43,890

well you know I hope kids get

242

00:10:49,500 --> 00:10:47,440

inspiration from the space program like

243

00:10:51,210 --> 00:10:49,510

they do other place

244

00:10:54,540 --> 00:10:51,220

you know hopefully what we're doing here

245

00:10:57,240 --> 00:10:54,550

inspires kids to study STEM education

246

00:10:59,760 --> 00:10:57,250

science technology engineering math

247

00:11:01,560 --> 00:10:59,770

subjects because those are critical to

248

00:11:03,210 --> 00:11:01,570

our future not only our space program

249

00:11:04,680 --> 00:11:03,220

but to our economy as a whole

250

00:11:06,210 --> 00:11:04,690

so you know I hope they get some

251
00:11:07,980 --> 00:11:06,220
inspiration from what we're doing here I

252
00:11:10,470 --> 00:11:07,990
hope they also get inspiration from you

253
00:11:13,470 --> 00:11:10,480
know their friends and family and you

254
00:11:17,310 --> 00:11:13,480
know people that they learn from their

255
00:11:19,980 --> 00:11:17,320
teachers you know whatever role models

256
00:11:26,130 --> 00:11:19,990
they may have because that is our future

257
00:11:27,750 --> 00:11:26,140
and you know kids are our future hi

258
00:11:28,680 --> 00:11:27,760
Scott I'm Henry rice from the YouTube

259
00:11:29,910 --> 00:11:28,690
channels minutephysics

260
00:11:31,320 --> 00:11:29,920
and minute Earth I've always been

261
00:11:33,060 --> 00:11:31,330
fascinated by the instability of

262
00:11:34,800 --> 00:11:33,070
rotation around the intermediate axis of

263
00:11:36,660 --> 00:11:34,810

an object for example if you rotate

264

00:11:38,910 --> 00:11:36,670

around the axis of large angular inertia

265

00:11:42,330 --> 00:11:38,920

it's a stable rotation if you rotate

266

00:11:45,720 --> 00:11:42,340

around the very smallest axis of inertia

267

00:11:47,790 --> 00:11:45,730

it is also a stable rotation but if you

268

00:11:50,910 --> 00:11:47,800

try to rotate around the intermediate

269

00:11:52,440 --> 00:11:50,920

axis of rotation it's unstable you see

270

00:11:54,360 --> 00:11:52,450

these things flip back and forth back

271

00:11:55,590 --> 00:11:54,370

and forth and back and forth you can see

272

00:11:56,490 --> 00:11:55,600

this is obviously a challenge here on

273

00:11:58,200 --> 00:11:56,500

earth because you have to throw things

274

00:11:59,010 --> 00:11:58,210

through the air and some s and I was

275

00:12:01,230 --> 00:11:59,020

wondering if you might be able to do a

276

00:12:02,490 --> 00:12:01,240

demo for us on the ISS thanks for your

277

00:12:08,550 --> 00:12:02,500

time and I hope you enjoy your year in

278

00:12:10,350 --> 00:12:08,560

space yeah I guess what you're talking

279

00:12:12,870 --> 00:12:10,360

about is how this Leatherman tool is

280

00:12:18,090 --> 00:12:12,880

wrote it'll rotate along one axis and

281

00:12:19,860 --> 00:12:18,100

then flip over so I hope that was a good

282

00:12:22,620 --> 00:12:19,870

demonstration I'll do it again here real

283

00:12:34,920 --> 00:12:22,630

quick as we go to the next question and

284

00:12:39,929 --> 00:12:37,499

hello Scott my name is michael stevens

285

00:12:42,030 --> 00:12:39,939

from the youtube channel Vsauce I'm

286

00:12:44,129 --> 00:12:42,040

asking this question from Toronto

287

00:12:47,009 --> 00:12:44,139

Ontario and my question is about

288

00:12:49,650 --> 00:12:47,019

cosmic-ray visuals I've heard that up in

289

00:12:52,109 --> 00:12:49,660

space stray cosmic rays can cause you to

290

00:12:54,179 --> 00:12:52,119

see flashes of light has that ever

291

00:12:59,129 --> 00:12:54,189

happened to you and if so what does it

292

00:13:01,169 --> 00:12:59,139

look like you know the first time I saw

293

00:13:04,679 --> 00:13:01,179

those was on my Hubble Space Telescope

294

00:13:06,299 --> 00:13:04,689

mission in 1999 the Hubble flies a lot

295

00:13:09,030 --> 00:13:06,309

higher than the space station so we can

296

00:13:11,040 --> 00:13:09,040

see a lot more of those cosmic rays I

297

00:13:14,489 --> 00:13:11,050

would see you know on order of maybe

298

00:13:16,530 --> 00:13:14,499

like 50 an hour but the space station is

299

00:13:20,040 --> 00:13:16,540

lower and a little bit more protected

300

00:13:21,689 --> 00:13:20,050

from those and you see them much less

301
00:13:26,009 --> 00:13:21,699
frequently although I'll see you know

302
00:13:28,470 --> 00:13:26,019
maybe a few each night in my previous

303
00:13:31,049 --> 00:13:28,480
experience with Hubble they were very

304
00:13:33,150 --> 00:13:31,059
much more distinct and would kind of

305
00:13:34,859 --> 00:13:33,160
look like they were just white flashes

306
00:13:36,869 --> 00:13:34,869
of light like a firework that was kind

307
00:13:39,840 --> 00:13:36,879
of radial towards the center of my eye

308
00:13:41,069 --> 00:13:39,850
now they seem a little bit different and

309
00:13:43,230 --> 00:13:41,079
I don't know if that's because of the

310
00:13:49,739 --> 00:13:43,240
altitude we're at but a little bit more

311
00:13:54,269 --> 00:13:49,749
not as well-defined not and kind of more

312
00:13:56,400 --> 00:13:54,279
random in in you know how they streak

313
00:13:59,579 --> 00:13:56,410

across my field of view I guess I should

314

00:14:01,919 --> 00:13:59,589

say but you know I was thinking about it

315

00:14:03,840 --> 00:14:01,929

last night when I saw one thinking about

316

00:14:05,910 --> 00:14:03,850

hey not only is this thing going across

317

00:14:13,679 --> 00:14:05,920

my visual field but it's also going

318

00:14:14,999 --> 00:14:13,689

through my brain hey Scott is Destin

319

00:14:16,439 --> 00:14:15,009

from smarter every day enjoyed working

320

00:14:17,429 --> 00:14:16,449

with you hope to do it again drop me an

321

00:14:19,289 --> 00:14:17,439

email if you're interested quick

322

00:14:20,879 --> 00:14:19,299

question what kind of watch do you wear

323

00:14:22,710 --> 00:14:20,889

I know you have two but I don't know why

324

00:14:24,749 --> 00:14:22,720

what features are important when an

325

00:14:29,910 --> 00:14:24,759

astronauts watch stay safe up there

326

00:14:33,329 --> 00:14:29,920

commander hey Destin good to hear from

327

00:14:38,309 --> 00:14:33,339

you so normally the watch I wear up here

328

00:14:40,139 --> 00:14:38,319

is an omega watch because one reason the

329

00:14:42,689 --> 00:14:40,149

Omega is good is because it has a very

330

00:14:45,150 --> 00:14:42,699

loud alarm it has a light that is very

331

00:14:46,949 --> 00:14:45,160

bright it's one that was designed for a

332

00:14:48,450 --> 00:14:46,959

space light you could almost use as a

333

00:14:51,470 --> 00:14:48,460

flashlight and if

334

00:14:53,820 --> 00:14:51,480

it's really dark like in the evenings

335

00:14:55,200 --> 00:14:53,830

today I'm wearing a Breitling that my

336

00:14:57,090 --> 00:14:55,210

brother gave me because I was just

337

00:15:00,360 --> 00:14:57,100

talking to him on The Today Show

338

00:15:01,830 --> 00:15:00,370

so but I normally don't wear this watch

339

00:15:04,320 --> 00:15:01,840

during the working day and the other one

340

00:15:05,670 --> 00:15:04,330

is a sleep study watch that Misha and I

341

00:15:07,980 --> 00:15:05,680

have to wear the whole time we're up

342

00:15:09,180 --> 00:15:07,990

here which measures acceleration in

343

00:15:12,570 --> 00:15:09,190

other words whether you're moving around

344

00:15:14,430 --> 00:15:12,580

or not and light so it can tell you know

345

00:15:20,850 --> 00:15:14,440

pretty accurately when we're asleep and

346

00:15:22,650 --> 00:15:20,860

when we're awake hi this is Hank again

347

00:15:24,180 --> 00:15:22,660

so imagine when the thrust of that last

348

00:15:26,250 --> 00:15:24,190

rocket stops and you become weightless

349

00:15:28,350 --> 00:15:26,260

for the first time of the journey

350

00:15:29,190 --> 00:15:28,360

it feels initially like you're falling

351
00:15:30,600 --> 00:15:29,200
because that's what you're doing you're

352
00:15:32,340 --> 00:15:30,610
really falling around the earth and

353
00:15:33,570 --> 00:15:32,350
missing it for a year it's that moment

354
00:15:34,740 --> 00:15:33,580
when the airplane drops in the

355
00:15:36,330 --> 00:15:34,750
turbulence are you at the top of the

356
00:15:38,160 --> 00:15:36,340
roller coast can you feel that feeling

357
00:15:40,080 --> 00:15:38,170
in your stomach that's what I imagine it

358
00:15:42,000 --> 00:15:40,090
feels like when did that feeling stop or

359
00:15:48,810 --> 00:15:42,010
does it stop or do you just feel like

360
00:15:52,560 --> 00:15:48,820
you're falling forever well on launch it

361
00:15:54,330 --> 00:15:52,570
it stops pretty quickly you know I think

362
00:15:56,670 --> 00:15:54,340
some people don't even ever experience

363
00:16:00,120 --> 00:15:56,680

it I don't really feel that way for long

364

00:16:02,600 --> 00:16:00,130

I'm launched after the engines cut off

365

00:16:05,190 --> 00:16:02,610

and you first experience microgravity

366

00:16:06,690 --> 00:16:05,200

you know however you know I can go in my

367

00:16:08,520 --> 00:16:06,700

crew quarters at night when it's dark

368

00:16:11,970 --> 00:16:08,530

and I'm getting ready to go to sleep and

369

00:16:14,970 --> 00:16:11,980

close my eyes and you know convince

370

00:16:17,070 --> 00:16:14,980

myself I do have a feeling of falling

371

00:16:18,630 --> 00:16:17,080

but it takes a little bit of effort but

372

00:16:20,490 --> 00:16:18,640

we are we're you know that's why

373

00:16:22,290 --> 00:16:20,500

everything floats here is because no

374

00:16:24,030 --> 00:16:22,300

it's not because we're so far away from

375

00:16:25,770 --> 00:16:24,040

Earth and the gravity is low it's

376

00:16:29,370 --> 00:16:25,780

because we're all in freefall around the

377

00:16:32,310 --> 00:16:29,380

earth at the same time so I can convince

378

00:16:33,930 --> 00:16:32,320

myself that I feel that although I don't

379

00:16:41,280 --> 00:16:33,940

feel it right this second as I'm talking

380

00:16:42,930 --> 00:16:41,290

to you hi I'm Larry Cole I travel the

381

00:16:45,360 --> 00:16:42,940

world filming videos for my YouTube

382

00:16:46,740 --> 00:16:45,370

channel and doing what you're doing

383

00:16:48,840 --> 00:16:46,750

staying up on the International Space

384

00:16:50,490 --> 00:16:48,850

Station is the biggest adventure I could

385

00:16:52,980 --> 00:16:50,500

imagine and I'm sure it has been for you

386

00:16:55,320 --> 00:16:52,990

but if you could travel to anywhere else

387

00:17:01,420 --> 00:16:55,330

in space any solar system or planet

388

00:17:06,800 --> 00:17:04,850

you know people normally ask you know if

389

00:17:08,810 --> 00:17:06,810

you could travel to any other place in

390

00:17:11,630 --> 00:17:08,820

our solar system and then I generally

391

00:17:14,210 --> 00:17:11,640

say Mars but the way you posed the

392

00:17:18,250 --> 00:17:14,220

question I think if I could go anywhere

393

00:17:20,449 --> 00:17:18,260

we would probably be to a planet that

394

00:17:24,140 --> 00:17:20,459

astronomers and scientists have just

395

00:17:26,150 --> 00:17:24,150

determined is most like Earth and you

396

00:17:29,030 --> 00:17:26,160

know to see what's really there you know

397

00:17:31,790 --> 00:17:29,040

if there are living creatures or you

398

00:17:33,590 --> 00:17:31,800

know just how that planet is evolved and

399

00:17:38,900 --> 00:17:33,600

how similar it really is to our home

400

00:17:45,980 --> 00:17:38,910

planet station and this is Houston ACR

401

00:17:48,590 --> 00:17:45,990

that concludes the event thank you my

402

00:17:50,630 --> 00:17:48,600

pleasure thank you NBC Today and YouTube