



1
00:00:10,150 --> 00:00:04,630
station this is houston are you ready

2
00:00:17,750 --> 00:00:14,110
houston station we are ready

3
00:00:20,630 --> 00:00:17,760
wfmy tv this is mission control houston

4
00:00:23,029 --> 00:00:20,640
please call station for a voice check

5
00:00:27,349 --> 00:00:23,039
station this is wfmy tv can you hear us

6
00:00:34,470 --> 00:00:30,790
got you loud and clear help me

7
00:00:38,470 --> 00:00:36,470
but tom i gotta tell you how excited i

8
00:00:40,389 --> 00:00:38,480
am to do this because you were living

9
00:00:42,310 --> 00:00:40,399
out what most little boys think about i

10
00:00:43,750 --> 00:00:42,320
know for me growing up in north carolina

11
00:00:45,830 --> 00:00:43,760
being an astronaut was a pretty cool

12
00:00:47,110 --> 00:00:45,840
thing so uh you know for all the kids

13
00:00:48,630 --> 00:00:47,120

and the and the boys out there the

14

00:00:50,549 --> 00:00:48,640

office and the women too want to be

15

00:00:55,189 --> 00:00:50,559

astronauts that's a very good thing what

16

00:01:00,549 --> 00:00:57,830

hey thanks very much yeah i was a little

17

00:01:02,950 --> 00:01:00,559

kid dreaming that as well and uh it can

18

00:01:04,710 --> 00:01:02,960

happen it's i still can't believe i'm up

19

00:01:06,870 --> 00:01:04,720

here most of the time it's a real

20

00:01:08,390 --> 00:01:06,880

privilege a real honor but it's a lot of

21

00:01:11,030 --> 00:01:08,400

fun it's definitely work

22

00:01:12,710 --> 00:01:11,040

worth the trip getting here

23

00:01:17,830 --> 00:01:12,720

now is this your first time or tom how

24

00:01:23,429 --> 00:01:20,950

this is my second flight into space in

25

00:01:25,670 --> 00:01:23,439

2009 i came to visit the space station

26
00:01:26,710 --> 00:01:25,680
did some construction work on the space

27
00:01:28,950 --> 00:01:26,720
shuttle

28
00:01:31,350 --> 00:01:28,960
and we came up here and added some parts

29
00:01:33,030 --> 00:01:31,360
and did three space walks so it's been

30
00:01:34,950 --> 00:01:33,040
three years but once we came back on

31
00:01:37,910 --> 00:01:34,960
this trip two weeks ago

32
00:01:38,870 --> 00:01:37,920
i arrived on the soyuz and i feel like i

33
00:01:40,550 --> 00:01:38,880
just

34
00:01:42,710 --> 00:01:40,560
hadn't left the place almost it almost

35
00:01:44,550 --> 00:01:42,720
felt like home

36
00:01:45,830 --> 00:01:44,560
you have to describe for me and i've

37
00:01:47,109 --> 00:01:45,840
always tried to visualize what this

38
00:01:48,710 --> 00:01:47,119

would be like and you mentioned

39

00:01:49,910 --> 00:01:48,720

spacewalk that was going to be one of my

40

00:01:51,670 --> 00:01:49,920

questions about

41

00:01:53,749 --> 00:01:51,680

when you do the space walk and i know

42

00:01:55,590 --> 00:01:53,759

obviously no gravity no atmosphere but

43

00:01:57,429 --> 00:01:55,600

you do you get the sensation that you're

44

00:02:03,030 --> 00:01:57,439

moving as fast as you are when you're

45

00:02:07,190 --> 00:02:04,630

well you know there's no atmosphere up

46

00:02:09,350 --> 00:02:07,200

here so there's really no

47

00:02:11,510 --> 00:02:09,360

sense of movement however the earth is

48

00:02:13,910 --> 00:02:11,520

going by very quickly it's a beautiful

49

00:02:16,309 --> 00:02:13,920

panorama that's going by us we'll go

50

00:02:17,910 --> 00:02:16,319

around the world in 90 minutes i can get

51
00:02:19,990 --> 00:02:17,920
across

52
00:02:21,670 --> 00:02:20,000
north america in just about 15 minutes

53
00:02:23,350 --> 00:02:21,680
you have to be very quick to get a good

54
00:02:25,110 --> 00:02:23,360
look out there

55
00:02:26,470 --> 00:02:25,120
but i think you're right i think

56
00:02:27,990 --> 00:02:26,480
when you're in the spacesuit with the

57
00:02:29,190 --> 00:02:28,000
wonderful view you have through your

58
00:02:31,270 --> 00:02:29,200
visor

59
00:02:32,630 --> 00:02:31,280
sometimes if you're not prepared for it

60
00:02:34,790 --> 00:02:32,640
and suddenly look down at the earth

61
00:02:38,309 --> 00:02:34,800
below you can be caught by the rush of

62
00:02:40,390 --> 00:02:38,319
the earth going by quite a bit

63
00:02:41,350 --> 00:02:40,400

and also it makes me think of uh you

64

00:02:43,509 --> 00:02:41,360

know

65

00:02:46,309 --> 00:02:43,519

time and scheduling do you guys just

66

00:02:47,350 --> 00:02:46,319

decide what your body clocks will be

67

00:02:49,190 --> 00:02:47,360

when you get into space because

68

00:02:50,390 --> 00:02:49,200

obviously no time zone to worry about

69

00:02:52,390 --> 00:02:50,400

because you're up there how do you

70

00:02:53,509 --> 00:02:52,400

discern between night and day time when

71

00:02:57,430 --> 00:02:53,519

it's time to work and time to go to

72

00:03:02,710 --> 00:02:59,990

well our lives are very carefully uh

73

00:03:05,830 --> 00:03:02,720

constructed around five minute intervals

74

00:03:07,670 --> 00:03:05,840

believe it or not all day every day by

75

00:03:10,229 --> 00:03:07,680

the mission controls both in moscow and

76
00:03:12,630 --> 00:03:10,239
in houston so to split the difference

77
00:03:14,710 --> 00:03:12,640
between the two countries we operate on

78
00:03:16,070 --> 00:03:14,720
greenwich mean time

79
00:03:18,149 --> 00:03:16,080
and so that's what i'm living off of

80
00:03:19,509 --> 00:03:18,159
right right now uh we have to sleep

81
00:03:22,070 --> 00:03:19,519
shift every once in a while to

82
00:03:24,309 --> 00:03:22,080
accommodate uh a new vehicle coming up a

83
00:03:26,309 --> 00:03:24,319
cargo vehicle or um

84
00:03:27,270 --> 00:03:26,319
any other operation like when we arrived

85
00:03:28,070 --> 00:03:27,280
up here

86
00:03:29,670 --> 00:03:28,080
so

87
00:03:31,110 --> 00:03:29,680
it's uh you can't look out the window

88
00:03:33,110 --> 00:03:31,120

and tell what time it is

89

00:03:34,390 --> 00:03:33,120

for sure we have to go by our clocks and

90

00:03:37,270 --> 00:03:34,400

by the schedule that's in all the

91

00:03:38,710 --> 00:03:37,280

computers and we consult that very often

92

00:03:40,710 --> 00:03:38,720

is there much of a difference now i know

93

00:03:42,550 --> 00:03:40,720

this time you arrived through the

94

00:03:44,149 --> 00:03:42,560

russian spacecraft the last time was

95

00:03:45,430 --> 00:03:44,159

that a russian vehicle or was it united

96

00:03:49,190 --> 00:03:45,440

states when you did your first space

97

00:03:53,910 --> 00:03:51,509

came up on the shuttle on my first base

98

00:03:55,750 --> 00:03:53,920

flight and this time is on the soyuz and

99

00:03:58,789 --> 00:03:55,760

i've heard it described by a lot of

100

00:04:00,710 --> 00:03:58,799

people as the shuttle is kind of like a

101
00:04:02,789 --> 00:04:00,720
a big truck and the soyuz is like a

102
00:04:05,190 --> 00:04:02,799
little sports car it was a wonderful

103
00:04:06,470 --> 00:04:05,200
ride up here pretty incredible uh piece

104
00:04:08,710 --> 00:04:06,480
of technology

105
00:04:10,470 --> 00:04:08,720
it's uh very similar to what it was like

106
00:04:13,030 --> 00:04:10,480
in the 70s they make

107
00:04:15,350 --> 00:04:13,040
upgrades quite a bit so the inside the

108
00:04:17,349 --> 00:04:15,360
electronics has changed completely but

109
00:04:20,069 --> 00:04:17,359
the the thrusters are quite a bit the

110
00:04:21,270 --> 00:04:20,079
same um it felt like riding in a canoe

111
00:04:24,310 --> 00:04:21,280
that was being controlled by

112
00:04:25,590 --> 00:04:24,320
sledgehammers uh the the rockets are are

113
00:04:26,950 --> 00:04:25,600

knocking you to and fro because the

114

00:04:28,790 --> 00:04:26,960

soyuz is quite a bit smaller than the

115

00:04:29,909 --> 00:04:28,800

soyuz than the shuttle

116

00:04:31,830 --> 00:04:29,919

and

117

00:04:34,070 --> 00:04:31,840

but it was just beautiful how despite

118

00:04:35,909 --> 00:04:34,080

these big rocket firings it was able to

119

00:04:37,670 --> 00:04:35,919

just nudge right up to the space station

120

00:04:40,310 --> 00:04:37,680

and just slide into the

121

00:04:42,150 --> 00:04:40,320

into docking just perfectly all

122

00:04:44,070 --> 00:04:42,160

automatically we were ready to take over

123

00:04:45,350 --> 00:04:44,080

if we needed to but the automatics

124

00:04:46,950 --> 00:04:45,360

worked perfectly this time is a

125

00:04:48,230 --> 00:04:46,960

beautiful spaceship

126

00:04:50,310 --> 00:04:48,240

that's amazing you know it makes me

127

00:04:52,390 --> 00:04:50,320

wonder and since you're you know an old

128

00:04:55,270 --> 00:04:52,400

pro at this and now we hear a lot of

129

00:04:57,350 --> 00:04:55,280

talk about privatization of rides into

130

00:05:02,710 --> 00:04:57,360

outer space i mean do you think that's

131

00:05:06,390 --> 00:05:04,710

well i think it's uh it's inevitable

132

00:05:08,230 --> 00:05:06,400

actually and i wouldn't be surprised if

133

00:05:10,150 --> 00:05:08,240

in five to ten years tickets are

134

00:05:11,590 --> 00:05:10,160

available to fly into space for at least

135

00:05:13,430 --> 00:05:11,600

short trips

136

00:05:15,749 --> 00:05:13,440

the you know any any major uh

137

00:05:18,790 --> 00:05:15,759

transformation in technology especially

138

00:05:20,950 --> 00:05:18,800

transportation usually starts with uh

139

00:05:23,270 --> 00:05:20,960

some wealthy individuals making the

140

00:05:26,870 --> 00:05:23,280

first leap taking a lot of the business

141

00:05:28,310 --> 00:05:26,880

risks and in this case probably some

142

00:05:30,230 --> 00:05:28,320

taking on some

143

00:05:32,469 --> 00:05:30,240

health risks as well coming up on the

144

00:05:33,909 --> 00:05:32,479

new vehicles but uh it's very exciting

145

00:05:35,830 --> 00:05:33,919

to see what's happening it's very

146

00:05:39,510 --> 00:05:35,840

exciting to to be a part of it we hope

147

00:05:41,029 --> 00:05:39,520

to get a cargo vehicle up here at least

148

00:05:42,710 --> 00:05:41,039

hopefully two of them actually to be

149

00:05:44,150 --> 00:05:42,720

able to grab them and dock them to the

150

00:05:46,390 --> 00:05:44,160

space station there won't be people in

151

00:05:47,990 --> 00:05:46,400

those it'll be just some of our cargo

152

00:05:49,430 --> 00:05:48,000

but this is the next step in the

153

00:05:51,029 --> 00:05:49,440

evolution of

154

00:05:52,390 --> 00:05:51,039

a space faring nation and we're very

155

00:05:53,749 --> 00:05:52,400

excited about it

156

00:05:55,189 --> 00:05:53,759

i know you're from statesville north

157

00:05:56,870 --> 00:05:55,199

carolina and i was wondering did they

158

00:05:58,629 --> 00:05:56,880

let you contact your family very often

159

00:06:00,469 --> 00:05:58,639

when you're in outer space and if you do

160

00:06:04,550 --> 00:06:00,479

is it a phone call or a video call how

161

00:06:08,870 --> 00:06:06,550

it's both we actually have what's called

162

00:06:11,909 --> 00:06:08,880

internet protocol phone up here allows

163

00:06:14,150 --> 00:06:11,919

me to uh go through my laptop bounce off

164

00:06:16,629 --> 00:06:14,160

a whole bunch of satellites and actually

165

00:06:18,710 --> 00:06:16,639

dial any phone number in the united

166

00:06:20,390 --> 00:06:18,720

states so i have a conversation quite

167

00:06:21,510 --> 00:06:20,400

often with my wife just call her on her

168

00:06:23,670 --> 00:06:21,520

cell phone

169

00:06:24,550 --> 00:06:23,680

uh we do have about once a week we have

170

00:06:34,150 --> 00:06:24,560

a

171

00:06:36,469 --> 00:06:34,160

been

172

00:06:38,550 --> 00:06:36,479

made a lot of great strides and

173

00:06:41,110 --> 00:06:38,560

keeping us together as a family while

174

00:06:42,469 --> 00:06:41,120

we're so isolated and so far away up

175

00:06:44,070 --> 00:06:42,479

here in space so that's a real nice

176

00:06:46,070 --> 00:06:44,080

thing to have

177

00:06:47,350 --> 00:06:46,080

well we only have a few just a short

178

00:06:49,029 --> 00:06:47,360

amount of time left one more quick

179

00:06:54,950 --> 00:06:49,039

question and that is what type of

180

00:07:00,309 --> 00:06:57,830

there is about 130 up here

181

00:07:02,390 --> 00:07:00,319

i've involved in all the life sciences

182

00:07:03,589 --> 00:07:02,400

experiments that i could sign up for

183

00:07:05,110 --> 00:07:03,599

i'm uh

184

00:07:06,870 --> 00:07:05,120

doing some of the experiments on some of

185

00:07:09,510 --> 00:07:06,880

my crewmates i am actually the guinea

186

00:07:11,110 --> 00:07:09,520

pig in some of them um and we're also

187

00:07:14,150 --> 00:07:11,120

just operating some working in the in

188

00:07:16,469 --> 00:07:14,160

the racks some cellular biology

189

00:07:18,309 --> 00:07:16,479

and microbial biology and protein

190

00:07:20,469 --> 00:07:18,319

crystal growth as well but i'm going to

191

00:07:22,870 --> 00:07:20,479

be working on quite a bit of ultrasound

192

00:07:25,350 --> 00:07:22,880

uh cardiac monitoring we're looking at

193

00:07:28,309 --> 00:07:25,360

uh how the the heart behaves in space as

194

00:07:30,230 --> 00:07:28,319

you may know space flight is is a lot of

195

00:07:33,110 --> 00:07:30,240

ways a lot of organ systems is like

196

00:07:34,790 --> 00:07:33,120

rapid aging high radiation environment

197

00:07:36,390 --> 00:07:34,800

there's not any gravity that we have to

198

00:07:39,029 --> 00:07:36,400

work against so our bones and our

199

00:07:41,270 --> 00:07:39,039

muscles atrophy and they age

200

00:07:43,029 --> 00:07:41,280

much faster so you can get done

201
00:07:45,270 --> 00:07:43,039
in just a few months up here what might

202
00:07:47,350 --> 00:07:45,280
take decades to do on the ground or in

203
00:07:50,150 --> 00:07:47,360
the radiation case you can't even do it

204
00:07:51,990 --> 00:07:50,160
on the ground you can't recreate it uh

205
00:07:53,270 --> 00:07:52,000
of the same type so

206
00:07:54,629 --> 00:07:53,280
i'm going to be involved with a lot of

207
00:07:55,990 --> 00:07:54,639
that very excited about seeing what the

208
00:07:58,550 --> 00:07:56,000
results are going to be i just did an

209
00:07:59,990 --> 00:07:58,560
ultrasound of

210
00:08:01,909 --> 00:08:00,000
many of the organs in my body in my

211
00:08:03,110 --> 00:08:01,919
blood vessels just a couple of days ago

212
00:08:04,150 --> 00:08:03,120
at the end of this week i'm going to be

213
00:08:06,629 --> 00:08:04,160

starting

214

00:08:09,430 --> 00:08:06,639

a lot of cardiac examinations on myself

215

00:08:10,950 --> 00:08:09,440

a constant ekg that's going to be going

216

00:08:12,710 --> 00:08:10,960

to be done

217

00:08:14,710 --> 00:08:12,720

i have to draw a lot of a lot of blood

218

00:08:16,469 --> 00:08:14,720

and keep that in the freezer and bring

219

00:08:17,990 --> 00:08:16,479

it back and very excited to see what the

220

00:08:19,670 --> 00:08:18,000

results are going to be

221

00:08:22,309 --> 00:08:19,680

and real quick just to satisfy my

222

00:08:29,350 --> 00:08:22,319

curiosity which is more unnerving the

223

00:08:34,230 --> 00:08:31,189

well i i can't tell you about the

224

00:08:36,149 --> 00:08:34,240

re-entry in the soyuz uh but both of

225

00:08:38,550 --> 00:08:36,159

them are with uh great amounts of

226

00:08:40,070 --> 00:08:38,560

excitement so i wouldn't say unnerving

227

00:08:42,630 --> 00:08:40,080

uh you know at that time you're in the

228

00:08:44,070 --> 00:08:42,640

the hands of of the laws of physics and

229

00:08:45,910 --> 00:08:44,080

there's not much you can do about it

230

00:08:47,430 --> 00:08:45,920

particularly on the re-entry

231

00:08:49,990 --> 00:08:47,440

uh the uh

232

00:08:52,230 --> 00:08:50,000

liftoff is much more dynamic shaking

233

00:08:53,110 --> 00:08:52,240

rocking and rolling on your way up very

234

00:08:55,509 --> 00:08:53,120

loud

235

00:08:56,790 --> 00:08:55,519

whereas re-entry can be quite

236

00:08:58,550 --> 00:08:56,800

at least on the shuttle it was fairly

237

00:09:00,470 --> 00:08:58,560

quiet it was very interesting though to

238

00:09:03,269 --> 00:09:00,480

feel the on rush of air and to feel the

239

00:09:05,430 --> 00:09:03,279

the g's come on as you uh got into the

240

00:09:08,230 --> 00:09:05,440

denser part of the atmosphere i hear the

241

00:09:10,389 --> 00:09:08,240

soyuz landing is much more of a wild

242

00:09:11,910 --> 00:09:10,399

ride as you come under the parachutes

243

00:09:14,310 --> 00:09:11,920

after re-entering the atmosphere so i'm

244

00:09:16,150 --> 00:09:14,320

very much looking forward to that

245

00:09:17,910 --> 00:09:16,160

better you than me tom although i wish i

246

00:09:23,590 --> 00:09:17,920

could do it thank you so much for taking

247

00:09:28,630 --> 00:09:26,470

thank you great talking to you

248

00:09:31,430 --> 00:09:28,640

as stationed this is houston acr that

249

00:09:33,110 --> 00:09:31,440

concludes the wfmy portion of the event

250

00:10:06,630 --> 00:09:33,120

please stand by for a voice check from

251
00:10:11,110 --> 00:10:08,630
and station this houston acr stand by

252
00:10:15,509 --> 00:10:11,120
just one second for wcnc

253
00:10:15,519 --> 00:10:28,870
another man going through

254
00:10:31,910 --> 00:10:30,389
this is the space station i read

255
00:10:33,750 --> 00:10:31,920
somebody loud and clear how do you read

256
00:10:42,470 --> 00:10:33,760
me

257
00:10:42,480 --> 00:10:51,750
good to hear your voice

258
00:10:57,990 --> 00:10:53,910
are we rolling are we ready to go here

259
00:11:01,990 --> 00:10:58,790
okay

260
00:11:07,590 --> 00:11:04,870
cruising at about 14 000 miles an hour

261
00:11:09,430 --> 00:11:07,600
about 240 miles above us dr tom

262
00:11:15,190 --> 00:11:09,440
marshburn from statesville north

263
00:11:22,710 --> 00:11:16,949

hey thanks very much i appreciate it

264

00:11:27,910 --> 00:11:25,990

you are cruising about the 14 000 miles

265

00:11:30,069 --> 00:11:27,920

above 14 000 miles an hour hey what

266

00:11:31,910 --> 00:11:30,079

would you like to say to your friends

267

00:11:37,350 --> 00:11:31,920

and family down here in this area this

268

00:11:41,670 --> 00:11:39,750

always just uh

269

00:11:43,509 --> 00:11:41,680

have all of you here in my heart with me

270

00:11:46,069 --> 00:11:43,519

up here in space it's a beautiful place

271

00:11:47,430 --> 00:11:46,079

a wonderful thing i wish i could see you

272

00:11:48,949 --> 00:11:47,440

it's been a little bit cloudy here

273

00:11:51,110 --> 00:11:48,959

recently when i've had a chance to look

274

00:11:52,790 --> 00:11:51,120

down but i'm hoping at some point in the

275

00:11:54,829 --> 00:11:52,800

next five months i'll have a chance to

276

00:11:56,550 --> 00:11:54,839

look down and wave and say

277

00:11:58,230 --> 00:11:56,560

hello

278

00:12:00,949 --> 00:11:58,240

you've been up there for a couple weeks

279

00:12:02,870 --> 00:12:00,959

now blasted off with a with a russian

280

00:12:08,069 --> 00:12:02,880

and a canadian how what was that

281

00:12:12,230 --> 00:12:09,910

oh it's wonderful you know i launched on

282

00:12:14,629 --> 00:12:12,240

the shuttle the space shuttle uh on a

283

00:12:16,550 --> 00:12:14,639

mission three years ago and uh the

284

00:12:18,230 --> 00:12:16,560

launch you know when you're sitting on a

285

00:12:20,069 --> 00:12:18,240

whole big pile of propellant and it

286

00:12:22,389 --> 00:12:20,079

explodes under you it feels about the

287

00:12:23,910 --> 00:12:22,399

same no matter what vehicle you're in uh

288

00:12:25,430 --> 00:12:23,920

the staging was quite a bit different

289

00:12:27,350 --> 00:12:25,440

though in the soyuz when you go from

290

00:12:28,629 --> 00:12:27,360

your third stage to your second stage a

291

00:12:31,030 --> 00:12:28,639

lot more kicks

292

00:12:32,790 --> 00:12:31,040

uh as the stage is light uh to keep

293

00:12:35,110 --> 00:12:32,800

pushing you up uh through the atmosphere

294

00:12:36,949 --> 00:12:35,120

and into space but the soyuz is a good

295

00:12:39,910 --> 00:12:36,959

bit smaller than the shuttle it's like a

296

00:12:42,389 --> 00:12:39,920

little sports car so it was really very

297

00:12:44,230 --> 00:12:42,399

exciting to be in that spacecraft and

298

00:12:46,389 --> 00:12:44,240

the way it maneuvers is completely

299

00:12:49,430 --> 00:12:46,399

different so we had a good time

300

00:12:51,350 --> 00:12:49,440

amazing experience uh you know when we

301
00:12:52,790 --> 00:12:51,360
down here on earth think about the where

302
00:12:54,710 --> 00:12:52,800
you are the international space station

303
00:12:57,030 --> 00:12:54,720
i've heard it described as like a

304
00:13:02,230 --> 00:12:57,040
three-bedroom house how would you

305
00:13:05,829 --> 00:13:03,829
well in terms of the size it's grown to

306
00:13:07,910 --> 00:13:05,839
about a five-bedroom house but what you

307
00:13:09,670 --> 00:13:07,920
see right now is it looks like a

308
00:13:12,790 --> 00:13:09,680
laboratory and that's exactly what it's

309
00:13:15,190 --> 00:13:12,800
like uh we live and we we live where we

310
00:13:16,710 --> 00:13:15,200
work we live inside of a laboratory and

311
00:13:19,430 --> 00:13:16,720
so there's a whole bunch of modules the

312
00:13:21,990 --> 00:13:19,440
whole russian segment behind us

313
00:13:24,389 --> 00:13:22,000

so it's it's very roomy i don't feel too

314

00:13:26,310 --> 00:13:24,399

confined at all there is

315

00:13:27,829 --> 00:13:26,320

some beautiful windows that we can look

316

00:13:29,590 --> 00:13:27,839

out of when we have a few minutes of

317

00:13:32,389 --> 00:13:29,600

time so we can look at the earth going

318

00:13:34,069 --> 00:13:32,399

by below us so that's very nice one of

319

00:13:36,470 --> 00:13:34,079

the the biggest differences though from

320

00:13:38,230 --> 00:13:36,480

a regular home is as you can see

321

00:13:40,310 --> 00:13:38,240

we're doing experiments on the ceiling

322

00:13:42,389 --> 00:13:40,320

on the walls and on the floor it's all

323

00:13:44,310 --> 00:13:42,399

around us as a matter of fact right here

324

00:13:45,670 --> 00:13:44,320

i've got my uh

325

00:13:47,509 --> 00:13:45,680

i've got my dinner right here in an

326

00:13:49,269 --> 00:13:47,519

envelope let's see i'm going to have a

327

00:13:50,150 --> 00:13:49,279

grilled pork chop tonight

328

00:13:51,509 --> 00:13:50,160

so

329

00:13:52,629 --> 00:13:51,519

everything you have at home that you

330

00:13:54,710 --> 00:13:52,639

live with is right here in the

331

00:13:56,949 --> 00:13:54,720

laboratory with us

332

00:13:58,550 --> 00:13:56,959

that has to be i mean meals ready to eat

333

00:14:00,629 --> 00:13:58,560

i guess you that's how you describe that

334

00:14:03,030 --> 00:14:00,639

so everything is

335

00:14:07,590 --> 00:14:03,040

sealed and ready for consumption do you

336

00:14:11,189 --> 00:14:08,949

there's a little oven about the size of

337

00:14:12,870 --> 00:14:11,199

a suitcase we just warm it up and then

338

00:14:14,470 --> 00:14:12,880

right behind me again on the ceiling is

339

00:14:16,069 --> 00:14:14,480

a little refrigerator and the water

340

00:14:17,189 --> 00:14:16,079

fountain so we can rehydrate things if

341

00:14:19,670 --> 00:14:17,199

we need to

342

00:14:21,910 --> 00:14:19,680

but the food's really good i've i've had

343

00:14:23,509 --> 00:14:21,920

meals ready to eat before and those are

344

00:14:25,430 --> 00:14:23,519

pretty good but the food up here is

345

00:14:27,590 --> 00:14:25,440

excellent

346

00:14:30,710 --> 00:14:27,600

no you know when we think think about

347

00:14:31,990 --> 00:14:30,720

your time up there you were a physician

348

00:14:33,670 --> 00:14:32,000

and what are some of your

349

00:14:35,030 --> 00:14:33,680

responsibilities there i know there's a

350

00:14:39,990 --> 00:14:35,040

lot of research that's being done

351
00:14:43,430 --> 00:14:42,069
well that's right yeah about 130

352
00:14:45,670 --> 00:14:43,440
experiments going on right now and we've

353
00:14:48,470 --> 00:14:45,680
we're all signed up for doing all the

354
00:14:50,150 --> 00:14:48,480
experiments i did

355
00:14:52,230 --> 00:14:50,160
i was looking forward to very much

356
00:14:53,670 --> 00:14:52,240
through the life sciences life sciences

357
00:14:55,910 --> 00:14:53,680
experiments i'm

358
00:14:57,590 --> 00:14:55,920
involved in quite a number of those

359
00:14:59,110 --> 00:14:57,600
you always have two crew medical

360
00:15:01,030 --> 00:14:59,120
officers on board and since i'm a

361
00:15:03,350 --> 00:15:01,040
physician naturally i became one of the

362
00:15:05,110 --> 00:15:03,360
medical officers but one of my crewmates

363
00:15:07,430 --> 00:15:05,120

is also one because you know the doctor

364

00:15:09,430 --> 00:15:07,440

could get sick too so we always have two

365

00:15:11,269 --> 00:15:09,440

on board

366

00:15:12,790 --> 00:15:11,279

everyone that i talked to when i

367

00:15:13,910 --> 00:15:12,800

mentioned i was going to be speaking to

368

00:15:16,310 --> 00:15:13,920

you they said

369

00:15:18,870 --> 00:15:16,320

this one of the questions is well you

370

00:15:20,870 --> 00:15:18,880

know when you're up there uh where does

371

00:15:22,629 --> 00:15:20,880

the water supply come from is it

372

00:15:26,550 --> 00:15:22,639

recycled and

373

00:15:32,389 --> 00:15:26,560

how is it actually using the restroom at

374

00:15:37,670 --> 00:15:35,110

that's a great question it's actually

375

00:15:39,509 --> 00:15:37,680

i think it's a very exciting aspect of

376

00:15:41,269 --> 00:15:39,519

this space station and the technology on

377

00:15:44,790 --> 00:15:41,279

board of it right now we're at zero

378

00:15:47,430 --> 00:15:44,800

water balance that is um we are re

379

00:15:49,749 --> 00:15:47,440

creating all the water that we drink and

380

00:15:52,310 --> 00:15:49,759

part of that's reusing what we put out

381

00:15:54,389 --> 00:15:52,320

so yesterday's coffee becomes tomorrow's

382

00:15:56,470 --> 00:15:54,399

coffee sometimes but

383

00:15:58,389 --> 00:15:56,480

the system works wonderfully we spend a

384

00:16:00,550 --> 00:15:58,399

little bit of time and water processing

385

00:16:02,069 --> 00:16:00,560

up here just to manage under the

386

00:16:04,389 --> 00:16:02,079

direction of mission control manage the

387

00:16:06,710 --> 00:16:04,399

water balance up here

388

00:16:09,829 --> 00:16:06,720

and in terms of the using the the

389

00:16:11,350 --> 00:16:09,839

bathroom well it's uh you got four walls

390

00:16:13,590 --> 00:16:11,360

you don't have an open window where we

391

00:16:15,910 --> 00:16:13,600

are so other than the zero gravity

392

00:16:17,990 --> 00:16:15,920

aspect of it which is actually pretty

393

00:16:20,230 --> 00:16:18,000

significant um

394

00:16:25,030 --> 00:16:20,240

and your body getting used to that

395

00:16:30,150 --> 00:16:27,110

one of our final questions is what yeah

396

00:16:32,470 --> 00:16:30,160

i mean if you were to describe uh the

397

00:16:34,150 --> 00:16:32,480

biggest challenge that you have

398

00:16:35,749 --> 00:16:34,160

on the international space station for

399

00:16:40,550 --> 00:16:35,759

the for the next six months what would

400

00:16:43,509 --> 00:16:41,829

well i think it's going to be uh

401
00:16:45,269 --> 00:16:43,519
completing the work program it's it's

402
00:16:47,269 --> 00:16:45,279
aggressive um

403
00:16:49,430 --> 00:16:47,279
but it's it's exciting where

404
00:16:51,189 --> 00:16:49,440
we really want to get it all done

405
00:16:53,590 --> 00:16:51,199
and you know the hardware needs to

406
00:16:55,509 --> 00:16:53,600
cooperate with us and so we're going to

407
00:16:57,350 --> 00:16:55,519
be using everything we've ever learned

408
00:16:58,710 --> 00:16:57,360
as well as once you come up here you

409
00:17:01,430 --> 00:16:58,720
realize this is a different world that

410
00:17:02,949 --> 00:17:01,440
cannot be recreated on earth at all

411
00:17:04,949 --> 00:17:02,959
it's why we're using it as a laboratory

412
00:17:06,630 --> 00:17:04,959
but also gives us lots of challenges to

413
00:17:09,029 --> 00:17:06,640

get things done because things float

414

00:17:10,949 --> 00:17:09,039

away we lose them we we lose our our

415

00:17:13,510 --> 00:17:10,959

footing you have to learn how to stand

416

00:17:15,829 --> 00:17:13,520

walk eat and just function in space so

417

00:17:17,510 --> 00:17:15,839

fulfilling that to uh to a full degree

418

00:17:20,309 --> 00:17:17,520

that's going to be the biggest challenge

419

00:17:25,029 --> 00:17:22,309

dr tom marshwood thank you so much for

420

00:17:26,549 --> 00:17:25,039

taking the time to speak to us and and

421

00:17:28,390 --> 00:17:26,559

we being here in the charlotte area the

422

00:17:29,830 --> 00:17:28,400

states here we're really proud of of

423

00:17:31,110 --> 00:17:29,840

what you have done and the whole crew

424

00:17:36,150 --> 00:17:31,120

and look forward to seeing you back on

425

00:17:41,909 --> 00:17:37,669

it's great to hear your voice say hello

426

00:17:46,310 --> 00:17:43,510

station this is houston acr that

427

00:17:48,110 --> 00:17:46,320

concludes the event thank you

428

00:17:51,590 --> 00:17:48,120

and thank you

429

00:17:53,909 --> 00:17:51,600

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