



1
00:00:06,789 --> 00:00:02,230
station this is houston are you ready

2
00:00:12,310 --> 00:00:10,310
houston station is ready

3
00:00:14,150 --> 00:00:12,320
denver high school and aviation academy

4
00:00:18,070 --> 00:00:14,160
this is mission control houston please

5
00:00:21,830 --> 00:00:19,990
station this is dr aaron smith with

6
00:00:25,750 --> 00:00:21,840
denby high school in aviation academy do

7
00:00:31,589 --> 00:00:27,670
yes i hear you loud and clear denver

8
00:00:31,599 --> 00:00:37,910
welcome thanks for joining us today

9
00:00:42,950 --> 00:00:39,670
oh happy to be here welcome aboard the

10
00:00:45,590 --> 00:00:44,229
thank you i've got some students who

11
00:00:49,990 --> 00:00:45,600
want to ask you some questions and we'll

12
00:00:54,229 --> 00:00:52,310
yes i would like to ask how is the time

13
00:00:59,910 --> 00:00:54,239

you spent in space affected your

14

00:01:02,869 --> 00:01:01,270

oh that's a great question you know i

15

00:01:05,109 --> 00:01:02,879

tell you as we every time we look out

16

00:01:06,950 --> 00:01:05,119

the window we see something even more

17

00:01:08,310 --> 00:01:06,960

amazing and more beautiful than i could

18

00:01:09,990 --> 00:01:08,320

ever imagine

19

00:01:13,030 --> 00:01:10,000

one of the things i wish i did was study

20

00:01:14,789 --> 00:01:13,040

more geography and geology of course but

21

00:01:16,789 --> 00:01:14,799

i think when you look at the earth from

22

00:01:19,270 --> 00:01:16,799

this perspective you realize what a

23

00:01:26,310 --> 00:01:19,280

precious precious resource it is and

24

00:01:31,590 --> 00:01:29,510

what are your plans for involvement

25

00:01:36,789 --> 00:01:31,600

what are your plans on involvement on

26

00:01:41,670 --> 00:01:38,630

well as you know the space shuttle

27

00:01:43,749 --> 00:01:41,680

program just ended and now

28

00:01:45,270 --> 00:01:43,759

and nasa is in the process of building a

29

00:01:46,950 --> 00:01:45,280

new vehicle called orion and that

30

00:01:50,389 --> 00:01:46,960

vehicle will go on

31

00:01:52,230 --> 00:01:50,399

uh to uh asteroids or moon or mars or

32

00:01:54,310 --> 00:01:52,240

it's yet to determine places but it's

33

00:01:56,149 --> 00:01:54,320

going to go beyond low earth orbit so

34

00:01:58,230 --> 00:01:56,159

after this mission i'll go and work on

35

00:02:04,149 --> 00:01:58,240

that project and hopefully be able to

36

00:02:12,070 --> 00:02:06,550

why are you willing to wish to risk your

37

00:02:16,309 --> 00:02:14,309

yeah flying on rockets and living in

38

00:02:19,350 --> 00:02:16,319

space and doing spacewalks it's all very

39

00:02:21,350 --> 00:02:19,360

risky business but uh here at nasa we

40

00:02:23,270 --> 00:02:21,360

minimize the risks quite a bit you know

41

00:02:25,589 --> 00:02:23,280

i think the way i think of things is

42

00:02:28,150 --> 00:02:25,599

it's okay to accept a certain amount of

43

00:02:30,150 --> 00:02:28,160

risk if we do everything we can to

44

00:02:32,229 --> 00:02:30,160

mitigate those risks to lessen the risk

45

00:02:34,550 --> 00:02:32,239

it's like when you you guys ride your

46

00:02:36,550 --> 00:02:34,560

bicycles if you ride a motorbike or

47

00:02:38,949 --> 00:02:36,560

a skateboard or something it's risky but

48

00:02:40,949 --> 00:02:38,959

if you wear a helmet you reduce the risk

49

00:02:43,030 --> 00:02:40,959

of injury so same thing with what we do

50

00:02:44,710 --> 00:02:43,040

even though what we do is very risky we

51
00:02:50,710 --> 00:02:44,720
take a lot of precautions and we make

52
00:02:57,350 --> 00:02:52,550
are there any particular emergencies you

53
00:03:00,470 --> 00:02:58,949
oh yeah that's a great question a lot of

54
00:03:02,070 --> 00:03:00,480
our training is practicing for

55
00:03:04,309 --> 00:03:02,080
emergencies and preparing for those

56
00:03:05,910 --> 00:03:04,319
emergencies in case they happen here on

57
00:03:07,509 --> 00:03:05,920
board space station some of the bigger

58
00:03:09,910 --> 00:03:07,519
emergencies that we're always prepared

59
00:03:11,070 --> 00:03:09,920
for and that we train for constantly are

60
00:03:13,750 --> 00:03:11,080
fire

61
00:03:16,309 --> 00:03:13,760
depressurization or a toxic spill some

62
00:03:18,309 --> 00:03:16,319
kind of poison in the air if you will

63
00:03:20,229 --> 00:03:18,319

and we train on the ground quite a bit

64

00:03:26,869 --> 00:03:20,239

as a crew and then we even do some

65

00:03:31,509 --> 00:03:29,910

how much effort does it take to do tasks

66

00:03:33,750 --> 00:03:31,519

on the

67

00:03:37,430 --> 00:03:33,760

international space station compared to

68

00:03:41,589 --> 00:03:39,030

well hey that's a good question you know

69

00:03:44,229 --> 00:03:41,599

here on board space station there is no

70

00:03:45,830 --> 00:03:44,239

up or down so things can be uh done in

71

00:03:48,390 --> 00:03:45,840

any different kind of attitude i'll let

72

00:03:50,630 --> 00:03:48,400

mike help explain

73

00:03:52,070 --> 00:03:50,640

yeah you know sometimes the microgravity

74

00:03:55,270 --> 00:03:52,080

environment can make things a little

75

00:03:57,750 --> 00:03:55,280

harder so if i don't have myself secured

76

00:03:59,990 --> 00:03:57,760

and i'm trying to turn this knob all i

77

00:04:02,309 --> 00:04:00,000

end up doing is turning on the other

78

00:04:04,149 --> 00:04:02,319

hand as as rick just said there is no up

79

00:04:05,910 --> 00:04:04,159

or down and so you can put yourself in

80

00:04:07,830 --> 00:04:05,920

an orientation that's best for the job

81

00:04:09,270 --> 00:04:07,840

at hand so if i was working on something

82

00:04:10,789 --> 00:04:09,280

down here and it was better to be in

83

00:04:12,869 --> 00:04:10,799

this orientation

84

00:04:14,470 --> 00:04:12,879

i could do it whereas

85

00:04:16,069 --> 00:04:14,480

rick was working on something above his

86

00:04:21,189 --> 00:04:16,079

head maybe that's a better orientation

87

00:04:25,270 --> 00:04:23,749

what is your favorite part about

88

00:04:30,950 --> 00:04:25,280

space and what got you interested in

89

00:04:34,629 --> 00:04:32,950

oh boy there's uh you know probably the

90

00:04:36,230 --> 00:04:34,639

most enjoyable thing up here is looking

91

00:04:38,790 --> 00:04:36,240

out the window looking back at the earth

92

00:04:41,350 --> 00:04:38,800

of course uh being able to float and

93

00:04:46,710 --> 00:04:41,360

move heavy objects around is also uh is

94

00:04:50,070 --> 00:04:48,310

how many backflips have you done in

95

00:04:56,070 --> 00:04:50,080

space and

96

00:04:59,749 --> 00:04:58,310

yeah so i've done a few backflips i

97

00:05:00,950 --> 00:04:59,759

haven't really counted them so i'm not

98

00:05:02,790 --> 00:05:00,960

quite sure

99

00:05:04,070 --> 00:05:02,800

um and then you know other tricks it's

100

00:05:06,469 --> 00:05:04,080

it's kind of neat uh because you're

101
00:05:09,029 --> 00:05:06,479
floating all the time so just going from

102
00:05:10,469 --> 00:05:09,039
one module to another you end up trying

103
00:05:12,070 --> 00:05:10,479
it in a different way a different

104
00:05:13,830 --> 00:05:12,080
orientation

105
00:05:15,510 --> 00:05:13,840
you see if you can get through a whole

106
00:05:16,629 --> 00:05:15,520
module without touching anything so

107
00:05:17,749 --> 00:05:16,639
there's all kinds of little things that

108
00:05:18,950 --> 00:05:17,759
you just do

109
00:05:25,510 --> 00:05:18,960
every day

110
00:05:31,909 --> 00:05:28,230
made um will people be ever be sent to

111
00:05:35,990 --> 00:05:34,150
oh i think yes absolutely we will go to

112
00:05:38,310 --> 00:05:36,000
mars someday

113
00:05:39,830 --> 00:05:38,320

it's not a question of uh

114

00:05:41,830 --> 00:05:39,840

if we will go to mars i think the real

115

00:05:43,510 --> 00:05:41,840

question is when we will go to mars when

116

00:05:46,230 --> 00:05:43,520

will we go to mars

117

00:05:48,629 --> 00:05:46,240

and uh you know it may take 10 20 30

118

00:05:50,629 --> 00:05:48,639

years but eventually we will go there

119

00:05:52,310 --> 00:05:50,639

the economy has to be right the timing

120

00:05:57,990 --> 00:05:52,320

has to be right the motivation has to be

121

00:06:02,710 --> 00:06:00,469

um i was wondering is it easier to tell

122

00:06:07,430 --> 00:06:02,720

which constellation of stars is which in

123

00:06:11,350 --> 00:06:09,590

yeah you know the stars uh we don't see

124

00:06:13,029 --> 00:06:11,360

quite as much up here because most of

125

00:06:15,350 --> 00:06:13,039

our windows actually are are looking

126

00:06:16,870 --> 00:06:15,360

down at the earth and so from a

127

00:06:18,390 --> 00:06:16,880

constellation standpoint we don't see

128

00:06:21,270 --> 00:06:18,400

them quite as often

129

00:06:22,550 --> 00:06:21,280

as as you might down on earth so um you

130

00:06:24,390 --> 00:06:22,560

know on the other hand they're going to

131

00:06:26,070 --> 00:06:24,400

appear pretty much the same if if

132

00:06:27,430 --> 00:06:26,080

they're viewable to us

133

00:06:32,309 --> 00:06:27,440

they would appear pretty much the same

134

00:06:35,189 --> 00:06:33,830

how long does it take to become an

135

00:06:39,749 --> 00:06:35,199

astronaut and what are the

136

00:06:42,710 --> 00:06:41,270

yeah well everybody's different you know

137

00:06:44,550 --> 00:06:42,720

we have astronauts from all different

138

00:06:47,510 --> 00:06:44,560

backgrounds we have scientists we have

139

00:06:50,309 --> 00:06:47,520

doctors we have engineers we have pilots

140

00:06:51,830 --> 00:06:50,319

we have school teachers we have

141

00:06:53,430 --> 00:06:51,840

astronauts from many many different

142

00:06:55,430 --> 00:06:53,440

areas

143

00:06:57,430 --> 00:06:55,440

in my particular case i applied to

144

00:06:59,589 --> 00:06:57,440

become an astronaut

145

00:07:01,670 --> 00:06:59,599

for the first time and then by time i

146

00:07:03,510 --> 00:07:01,680

did get selected it took nine years of

147

00:07:04,710 --> 00:07:03,520

applications to get selected in three

148

00:07:06,230 --> 00:07:04,720

interviews

149

00:07:08,230 --> 00:07:06,240

that's probably a little bit on the long

150

00:07:09,749 --> 00:07:08,240

side but some folks apply and only takes

151
00:07:11,110 --> 00:07:09,759
a couple of years

152
00:07:13,110 --> 00:07:11,120
from the time they apply at the time it

153
00:07:15,510 --> 00:07:13,120
gets selected and of course you really

154
00:07:17,430 --> 00:07:15,520
can't apply until you have a college

155
00:07:18,950 --> 00:07:17,440
degree and even an advanced degree and

156
00:07:21,029 --> 00:07:18,960
some work experience so most of the

157
00:07:29,110 --> 00:07:21,039
folks that get selected are probably in

158
00:07:36,870 --> 00:07:31,270
and how do you record data from

159
00:07:43,189 --> 00:07:38,309
i'm sorry we didn't understand that one

160
00:07:49,909 --> 00:07:45,270
what is your question routine in how you

161
00:07:53,670 --> 00:07:51,430
okay that's a great question daily

162
00:07:55,189 --> 00:07:53,680
routine uh well we do a lot of things

163
00:07:56,390 --> 00:07:55,199

just like you guys when we wake up in

164

00:07:57,830 --> 00:07:56,400

the morning

165

00:07:59,589 --> 00:07:57,840

because we're going to uh brush our

166

00:08:01,430 --> 00:07:59,599

teeth shave do that kind of stuff clean

167

00:08:02,309 --> 00:08:01,440

up i tend to work out first thing in the

168

00:08:04,230 --> 00:08:02,319

morning

169

00:08:06,629 --> 00:08:04,240

then we have breakfast and and then we

170

00:08:08,629 --> 00:08:06,639

get into our work day and our work day

171

00:08:10,070 --> 00:08:08,639

starts with a morning meeting that we

172

00:08:11,909 --> 00:08:10,080

have with all of the ground centers

173

00:08:13,589 --> 00:08:11,919

around the world we kind of just touch

174

00:08:15,270 --> 00:08:13,599

base with them uh there's any big

175

00:08:16,790 --> 00:08:15,280

questions for the day's activities and

176

00:08:18,390 --> 00:08:16,800

then we get right into it and during the

177

00:08:20,070 --> 00:08:18,400

day we might be doing maintenance we

178

00:08:22,070 --> 00:08:20,080

might be doing science

179

00:08:23,589 --> 00:08:22,080

and uh and then there's also exercise

180

00:08:24,309 --> 00:08:23,599

that happens during that time period and

181

00:08:25,749 --> 00:08:24,319

so

182

00:08:27,909 --> 00:08:25,759

everything you know that's one neat

183

00:08:29,430 --> 00:08:27,919

thing about up here is no day's the same

184

00:08:30,629 --> 00:08:29,440

and then that work day ends with another

185

00:08:32,790 --> 00:08:30,639

conference with all of the ground

186

00:08:34,630 --> 00:08:32,800

centers and then again we have uh our

187

00:08:36,949 --> 00:08:34,640

dinner and and then just a little bit of

188

00:08:38,630 --> 00:08:36,959

time to relax in the evening in terms of

189

00:08:40,149 --> 00:08:38,640

collecting data from our experiments

190

00:08:41,589 --> 00:08:40,159

there's a wide range of ways that we

191

00:08:43,350 --> 00:08:41,599

collect that data

192

00:08:45,509 --> 00:08:43,360

some of that data comes from us and so

193

00:08:48,070 --> 00:08:45,519

that might be our blood or our urine

194

00:08:49,829 --> 00:08:48,080

some of that data is uh is transmitted

195

00:08:51,750 --> 00:08:49,839

to the ground some of it's done through

196

00:08:53,269 --> 00:08:51,760

video just like what you're seeing right

197

00:08:57,430 --> 00:08:53,279

now so there's a wide range of ways that

198

00:08:57,440 --> 00:09:06,230

why do you want to study space in life

199

00:09:06,240 --> 00:09:11,829

i'm sorry say again

200

00:09:18,710 --> 00:09:13,910

why do you want to study space and the

201

00:09:23,110 --> 00:09:20,389

why did i want to study space in the

202

00:09:25,670 --> 00:09:23,120

earth well uh i tell you when i was uh

203

00:09:27,670 --> 00:09:25,680

in grade school in sixth seventh grade i

204

00:09:29,750 --> 00:09:27,680

really started to enjoy science i really

205

00:09:32,070 --> 00:09:29,760

started to enjoy my teacher talking

206

00:09:33,590 --> 00:09:32,080

about space uh talking about the

207

00:09:34,870 --> 00:09:33,600

astronauts about the space program

208

00:09:37,269 --> 00:09:34,880

things like that it was just something

209

00:09:38,790 --> 00:09:37,279

that really intrigued me i can't explain

210

00:09:40,389 --> 00:09:38,800

why but it was always very interesting

211

00:09:42,389 --> 00:09:40,399

to me i always thought it was cool to be

212

00:09:44,949 --> 00:09:42,399

able to leave the planet in a rocket

213

00:09:46,790 --> 00:09:44,959

ship of some kind and to live in space

214

00:09:49,030 --> 00:09:46,800

and that's kind of led me down the path

215

00:09:51,030 --> 00:09:49,040

that i uh that i've chosen of course i

216

00:09:52,550 --> 00:09:51,040

started out being an engineer and then

217

00:09:54,230 --> 00:09:52,560

went to work for nasa and eventually

218

00:09:55,829 --> 00:09:54,240

became an astronaut and it's just things

219

00:09:57,350 --> 00:09:55,839

that always uh you know everybody has

220

00:09:58,949 --> 00:09:57,360

things that somehow you're attracted to

221

00:10:03,750 --> 00:09:58,959

those things and i was just attracted to

222

00:10:11,269 --> 00:10:05,670

what is your favorite thing to do in

223

00:10:15,030 --> 00:10:12,790

yeah for me that's that's an easy

224

00:10:17,430 --> 00:10:15,040

question i i love to float it's there's

225

00:10:19,430 --> 00:10:17,440

just something magical about uh about

226

00:10:21,670 --> 00:10:19,440

being to come into any module in any

227

00:10:24,470 --> 00:10:21,680

orientation that you want and and it's

228

00:10:26,310 --> 00:10:24,480

interesting you you forget about up or

229

00:10:27,509 --> 00:10:26,320

down up here and it's quite interesting

230

00:10:29,030 --> 00:10:27,519

you'll come in and you'll just start

231

00:10:31,190 --> 00:10:29,040

working on a task

232

00:10:33,190 --> 00:10:31,200

and you'll be working on a rack like

233

00:10:35,030 --> 00:10:33,200

this and the next thing you realize is

234

00:10:36,949 --> 00:10:35,040

you're standing on the wall instead of

235

00:10:39,190 --> 00:10:36,959

standing on the deck where we are right

236

00:10:40,870 --> 00:10:39,200

now and so that's just an incredible

237

00:10:42,069 --> 00:10:40,880

experience incredible feeling and that's

238

00:10:48,389 --> 00:10:42,079

something i don't think i'll ever get

239

00:10:48,399 --> 00:10:55,030

what is it like to space walk

240

00:10:58,870 --> 00:10:57,110

well a space walk is

241

00:11:01,430 --> 00:10:58,880

it's the best seat in the house i always

242

00:11:03,030 --> 00:11:01,440

say the views are incredible the views

243

00:11:04,470 --> 00:11:03,040

of the earth you know like mike said we

244

00:11:06,310 --> 00:11:04,480

do have windows here on the space

245

00:11:08,230 --> 00:11:06,320

station but they're uh they don't give

246

00:11:10,310 --> 00:11:08,240

you quite the view of a uh just being

247

00:11:12,310 --> 00:11:10,320

out there on a spacewalk with looking at

248

00:11:14,310 --> 00:11:12,320

it uh the year through your visor

249

00:11:15,509 --> 00:11:14,320

uh so the the views are incredible but

250

00:11:16,389 --> 00:11:15,519

it's also

251

00:11:18,470 --> 00:11:16,399

uh

252

00:11:20,630 --> 00:11:18,480

it's also incredible to be out there and

253

00:11:21,829 --> 00:11:20,640

be so free and just to think that you're

254

00:11:23,670 --> 00:11:21,839

you're basically your own little

255

00:11:25,509 --> 00:11:23,680

spacesuit your own little spaceship if

256

00:11:28,310 --> 00:11:25,519

you will out there doing a task to help

257

00:11:29,910 --> 00:11:28,320

build the space station or to replace it

258

00:11:32,310 --> 00:11:29,920

it's a lot of pressure to perform

259

00:11:34,470 --> 00:11:32,320

there's a lot of people watching you but

260

00:11:36,150 --> 00:11:34,480

the individual tasks are really not that

261

00:11:38,310 --> 00:11:36,160

hard it's basically turning bolts

262

00:11:40,069 --> 00:11:38,320

installing uh installing some kind of

263

00:11:41,750 --> 00:11:40,079

box mating electrical connectors or

264

00:11:48,310 --> 00:11:41,760

fluid connectors but

265

00:11:53,990 --> 00:11:49,750

how do you stay in shape if there's

266

00:11:57,430 --> 00:11:55,910

yeah that's a fantastic question and

267

00:11:59,670 --> 00:11:57,440

that's something that we emphasize quite

268

00:12:01,190 --> 00:11:59,680

a bit in fact we end up working out

269

00:12:02,870 --> 00:12:01,200

probably a couple hours a day and we

270

00:12:05,269 --> 00:12:02,880

have three primary pieces of equipment

271

00:12:07,030 --> 00:12:05,279

that we use one of them is called arad

272

00:12:08,629 --> 00:12:07,040

that's the adaptive resistive exercise

273

00:12:09,910 --> 00:12:08,639

device and that's our weight machine but

274

00:12:11,350 --> 00:12:09,920

it looks quite a bit different than

275

00:12:13,590 --> 00:12:11,360

weights you guys might see in the gym

276
00:12:15,829 --> 00:12:13,600
down on earth we actually pull against a

277
00:12:17,910 --> 00:12:15,839
vacuum to to get that load to simulate

278
00:12:19,030 --> 00:12:17,920
the the weights then we also have a

279
00:12:23,750 --> 00:12:19,040
treadmill

280
00:12:26,069 --> 00:12:23,760
except we have to wear a harness and

281
00:12:28,150 --> 00:12:26,079
strap ourselves down to it in order to

282
00:12:30,150 --> 00:12:28,160
be in order to have that load on our

283
00:12:32,150 --> 00:12:30,160
feet and on our bodies as we're running

284
00:12:33,509 --> 00:12:32,160
and then finally right here to our right

285
00:12:36,069 --> 00:12:33,519
i don't think you can see it but it's

286
00:12:37,670 --> 00:12:36,079
our exercise bike and again we lift

287
00:12:39,190 --> 00:12:37,680
weights every day and we're either

288
00:12:45,350 --> 00:12:39,200

running on the treadmill or we're using

289

00:12:55,110 --> 00:12:47,190

what recommendations do you have for

290

00:12:59,350 --> 00:12:57,269

yeah for future astronauts my advice i

291

00:13:01,430 --> 00:12:59,360

guess would be obviously study hard in

292

00:13:02,710 --> 00:13:01,440

school find a subject that you really

293

00:13:05,829 --> 00:13:02,720

enjoy

294

00:13:08,629 --> 00:13:05,839

and study it thoroughly go get your your

295

00:13:11,350 --> 00:13:08,639

college degree get your master's degree

296

00:13:13,350 --> 00:13:11,360

maybe even a phd degree or an md if

297

00:13:16,710 --> 00:13:13,360

that's something you're interested in

298

00:13:18,790 --> 00:13:16,720

uh and then apply to nasa or any space

299

00:13:20,949 --> 00:13:18,800

agency if you're uh you know if you live

300

00:13:23,269 --> 00:13:20,959

over in europe or apply to the european

301
00:13:24,870 --> 00:13:23,279
space agency but there's space agencies

302
00:13:26,949 --> 00:13:24,880
around the world

303
00:13:28,710 --> 00:13:26,959
and once you get a job at for example if

304
00:13:31,030 --> 00:13:28,720
you get a job at nasa it may not even be

305
00:13:33,190 --> 00:13:31,040
as an astronaut maybe as a scientist or

306
00:13:35,430 --> 00:13:33,200
as an engineer and there's and those are

307
00:13:37,750 --> 00:13:35,440
great jobs and very interesting jobs and

308
00:13:39,430 --> 00:13:37,760
i started doing uh my career i started

309
00:13:41,110 --> 00:13:39,440
with doing that and then once you're

310
00:13:43,189 --> 00:13:41,120
there at nasa you could then apply as an

311
00:13:44,790 --> 00:13:43,199
astronaut and maybe get selected someday

312
00:13:53,110 --> 00:13:44,800
and get a chance to go to the moon or go

313
00:13:58,069 --> 00:13:55,990

what is the at what is the average gpa

314

00:14:04,150 --> 00:13:58,079

you need to become an astronaut and do

315

00:14:09,269 --> 00:14:06,550

yeah that's uh that's a hard question

316

00:14:11,269 --> 00:14:09,279

because uh we're really we don't see uh

317

00:14:13,189 --> 00:14:11,279

you know the the gpas of all the other

318

00:14:14,150 --> 00:14:13,199

astronauts or anything like that i guess

319

00:14:16,389 --> 00:14:14,160

maybe if you're on the selection

320

00:14:19,110 --> 00:14:16,399

committee you do so my guess is that the

321

00:14:22,629 --> 00:14:19,120

gpas are pretty high but uh you know i'm

322

00:14:24,949 --> 00:14:22,639

i'm sure not everybody has a perfect gpa

323

00:14:26,710 --> 00:14:24,959

and in terms of recommendations i i

324

00:14:28,470 --> 00:14:26,720

think rick's kind of hit on it before

325

00:14:30,069 --> 00:14:28,480

astronauts come from all walks of life

326

00:14:31,670 --> 00:14:30,079

and the thing to do is find something

327

00:14:34,550 --> 00:14:31,680

that you're passionate about

328

00:14:36,310 --> 00:14:34,560

and then that way if the astronaut

329

00:14:40,069 --> 00:14:36,320

doesn't work out you're doing something

330

00:14:44,230 --> 00:14:41,990

okay i'm asking this for one other

331

00:14:53,269 --> 00:14:44,240

student who is not here today what type

332

00:14:56,470 --> 00:14:54,870

hey we both want to answer that question

333

00:14:57,990 --> 00:14:56,480

we do a lot of different experiments up

334

00:15:00,310 --> 00:14:58,000

here you know mike and i we talk about

335

00:15:02,870 --> 00:15:00,320

this a lot we kind of categorize it into

336

00:15:05,509 --> 00:15:02,880

three different areas uh one the first

337

00:15:07,269 --> 00:15:05,519

category is where we are the subject we

338

00:15:09,350 --> 00:15:07,279

are the experiment this is where there

339

00:15:10,389 --> 00:15:09,360

are there they're drawing blood from us

340

00:15:12,550 --> 00:15:10,399

or they're

341

00:15:14,870 --> 00:15:12,560

using ultrasound to measure our eyeballs

342

00:15:17,030 --> 00:15:14,880

or measure our spine and take take data

343

00:15:18,470 --> 00:15:17,040

from us second type of experiments are

344

00:15:20,389 --> 00:15:18,480

where we have these racks all over the

345

00:15:22,150 --> 00:15:20,399

place as you can see and these are full

346

00:15:23,990 --> 00:15:22,160

of equipment where scientists on the

347

00:15:25,910 --> 00:15:24,000

ground are performing experiments but we

348

00:15:28,629 --> 00:15:25,920

are up here as the operators we're

349

00:15:31,030 --> 00:15:28,639

inserting uh samples into the experiment

350

00:15:33,030 --> 00:15:31,040

we're taking data we're

351

00:15:35,350 --> 00:15:33,040

just basically controlling the

352

00:15:37,670 --> 00:15:35,360

experiment for them and the third type

353

00:15:39,590 --> 00:15:37,680

of experiment or category i'll say is

354

00:15:42,310 --> 00:15:39,600

our experiments up here we really have

355

00:15:44,870 --> 00:15:42,320

very little to do maybe we just support

356

00:15:47,430 --> 00:15:44,880

the systems that support the experiment

357

00:15:48,870 --> 00:15:47,440

for example we have a uh we have systems

358

00:15:51,189 --> 00:15:48,880

outside the space station that are

359

00:15:52,710 --> 00:15:51,199

measuring uh and trying to detect dark

360

00:15:54,389 --> 00:15:52,720

matter for example we have really

361

00:15:56,389 --> 00:15:54,399

nothing to do with that but by us

362

00:15:58,550 --> 00:15:56,399

maintaining the space station providing

363

00:16:01,749 --> 00:15:58,560

power and cooling those those

364

00:16:02,790 --> 00:16:01,759

experiments can of course be performed

365

00:16:05,590 --> 00:16:02,800

because they

366

00:16:07,269 --> 00:16:05,600

are uh they rely on that stuff from the

367

00:16:09,509 --> 00:16:07,279

international space station so there's a

368

00:16:12,150 --> 00:16:09,519

wide range of experiments from trying to

369

00:16:14,550 --> 00:16:12,160

detect dark matter to trying to come up

370

00:16:16,949 --> 00:16:14,560

with new vaccines to seeing how people

371

00:16:18,550 --> 00:16:16,959

adapt to space to developing new

372

00:16:20,870 --> 00:16:18,560

technologies

373

00:16:47,990 --> 00:16:20,880

for for for use on the planet earth and

374

00:16:48,000 --> 00:16:55,509

do you guys lose weight in space

375

00:16:55,519 --> 00:17:01,189

i'm sorry can you say that one more time

376

00:17:01,199 --> 00:17:06,630

do you guys lose weight in space

377

00:17:11,189 --> 00:17:09,669

yeah that's that's a great question

378

00:17:12,710 --> 00:17:11,199

we have lost weight and that's one of

379

00:17:14,390 --> 00:17:12,720

the things we're very concerned about

380

00:17:16,949 --> 00:17:14,400

because along with the weight loss you

381

00:17:18,309 --> 00:17:16,959

could have much muscle atrophy and your

382

00:17:19,510 --> 00:17:18,319

bones can get weaker and we certainly

383

00:17:21,510 --> 00:17:19,520

don't want that

384

00:17:23,350 --> 00:17:21,520

because when we come back to earth that

385

00:17:25,909 --> 00:17:23,360

that can be or make our recovery that

386

00:17:28,309 --> 00:17:25,919

much harder and so we're constantly

387

00:17:30,310 --> 00:17:28,319

trying to get food in our mouths to to

388

00:17:32,710 --> 00:17:30,320

try and maintain our weight as of right

389

00:17:34,789 --> 00:17:32,720

now i've lost probably about

390

00:17:36,630 --> 00:17:34,799

seven to seven to ten pounds and that's

391

00:17:42,630 --> 00:17:36,640

that's a little much i need to i need to

392

00:17:45,909 --> 00:17:44,549

what is it like on the space walk

393

00:17:54,630 --> 00:17:45,919

knowing that i missed that could be

394

00:17:58,230 --> 00:17:56,549

yeah that's that's a great question and

395

00:17:59,029 --> 00:17:58,240

um

396

00:18:00,870 --> 00:17:59,039

it's

397

00:18:02,549 --> 00:18:00,880

you know we just had two spacewalks in

398

00:18:04,789 --> 00:18:02,559

december and that that was the first for

399

00:18:06,870 --> 00:18:04,799

me rick rick has had quite a few uh

400

00:18:09,270 --> 00:18:06,880

prior to that as well and and i will say

401
00:18:11,270 --> 00:18:09,280
that the the spacewalk uh was one of the

402
00:18:12,950 --> 00:18:11,280
most intense things i've ever done you

403
00:18:14,390 --> 00:18:12,960
know rick talked about these incredible

404
00:18:15,750 --> 00:18:14,400
views that that you're seeing when

405
00:18:17,750 --> 00:18:15,760
you're out there because you're not

406
00:18:18,549 --> 00:18:17,760
obstructed by windows or anything like

407
00:18:23,270 --> 00:18:18,559
that

408
00:18:25,190 --> 00:18:23,280
time you're constantly thinking about do

409
00:18:26,710 --> 00:18:25,200
i have my tools ready that means am i

410
00:18:28,630 --> 00:18:26,720
connected to my tools are they not going

411
00:18:30,470 --> 00:18:28,640
to float off am i connected to the space

412
00:18:32,470 --> 00:18:30,480
station and so your mind never stops

413
00:18:34,230 --> 00:18:32,480

thinking about those types of things

414

00:18:36,070 --> 00:18:34,240

when you're outside the outside the

415

00:18:39,029 --> 00:18:36,080

hatch outside the station

416

00:18:41,430 --> 00:18:39,039

and and so it's it's an amazing

417

00:18:42,390 --> 00:18:41,440

experience it's an amazing uh it's a lot

418

00:18:44,630 --> 00:18:42,400

of fun

419

00:18:45,990 --> 00:18:44,640

but it's also very intense and and you

420

00:18:47,909 --> 00:18:46,000

never want to lose focus while you're

421

00:18:49,990 --> 00:18:47,919

out there at the same time mistakes

422

00:18:51,590 --> 00:18:50,000

happen and the important thing is when

423

00:18:53,909 --> 00:18:51,600

those mistakes happen that you just go

424

00:18:59,909 --> 00:18:53,919

on move on and keep going and and

425

00:19:03,830 --> 00:19:02,470

gentlemen we appreciate your time

426

00:19:05,510 --> 00:19:03,840

our audience

427

00:19:07,029 --> 00:19:05,520

students and staff and guests if we

428

00:19:21,029 --> 00:19:07,039

could give our astronauts a round of

429

00:19:24,310 --> 00:19:22,950

we appreciate

430

00:19:28,390 --> 00:19:24,320

appreciate it

431

00:19:37,270 --> 00:19:32,070

thank you

432

00:19:38,870 --> 00:19:37,280

that concludes the event

433

00:19:40,789 --> 00:19:38,880

thank you denby high school and aviation