



1  
00:00:06,150 --> 00:00:03,030  
hi thank you patricia

2  
00:00:08,870 --> 00:00:06,160  
hi uh we're talking with the fifth grade

3  
00:00:09,910 --> 00:00:08,880  
students of barrie elementary in houston

4  
00:00:11,910 --> 00:00:09,920  
texas

5  
00:00:13,509 --> 00:00:11,920  
hi kids welcome to the international

6  
00:00:14,789 --> 00:00:13,519  
space station flight control room i

7  
00:00:16,710 --> 00:00:14,799  
understand you guys have a lot of

8  
00:00:18,230 --> 00:00:16,720  
questions about flying in space and it's

9  
00:00:20,790 --> 00:00:18,240  
a good thing because today we have

10  
00:00:23,269 --> 00:00:20,800  
astronaut mike foreman here with us he

11  
00:00:26,790 --> 00:00:23,279  
is flown twice in space aboard the space

12  
00:00:28,470 --> 00:00:26,800  
shuttle on sts 123 and 129 welcome and

13  
00:00:30,710 --> 00:00:28,480

thank you for joining us great to be

14

00:00:44,869 --> 00:00:30,720

here miko great we're ready for your

15

00:00:49,190 --> 00:00:46,950

hello my name is nicholas and my

16

00:00:50,869 --> 00:00:49,200

question is how long do astronauts stay

17

00:00:52,950 --> 00:00:50,879

in space

18

00:00:54,630 --> 00:00:52,960

that's a good question nicholas we have

19

00:00:57,590 --> 00:00:54,640

astronauts on the space station now that

20

00:00:59,590 --> 00:00:57,600

will stay six months up there

21

00:01:00,549 --> 00:00:59,600

on my two space shuttle missions i

22

00:01:03,670 --> 00:01:00,559

stayed

23

00:01:06,390 --> 00:01:03,680

in space for 16 days on the first one

24

00:01:08,630 --> 00:01:06,400

and about 11 days on the second one so i

25

00:01:11,830 --> 00:01:08,640

wasn't at the space station for as long

26

00:01:13,750 --> 00:01:11,840

as our astronauts are today but we we

27

00:01:15,670 --> 00:01:13,760

train them to go up there and live and

28

00:01:17,990 --> 00:01:15,680

work for six months at a time so it's

29

00:01:22,469 --> 00:01:18,000

kind of a long time

30

00:01:29,109 --> 00:01:24,789

hello my name is laura my question is do

31

00:01:29,119 --> 00:01:32,310

can you say that again

32

00:01:37,670 --> 00:01:35,190

do you like your career it's interesting

33

00:01:39,429 --> 00:01:37,680

oh yes i i love my career i think i have

34

00:01:40,469 --> 00:01:39,439

the best job in the world because i get

35

00:01:45,190 --> 00:01:40,479

to

36

00:01:47,429 --> 00:01:45,200

and

37

00:01:49,350 --> 00:01:47,439

do space walks outside the space station

38

00:01:51,910 --> 00:01:49,360

and the space shuttle and look at the

39

00:01:54,710 --> 00:01:51,920

earth from 240 miles high it's pretty

40

00:01:57,030 --> 00:01:54,720

cool it's a great job and i get to talk

41

00:01:58,870 --> 00:01:57,040

to people like you i get to relay my

42

00:02:00,709 --> 00:01:58,880

stories back to people here on the

43

00:02:02,709 --> 00:02:00,719

ground and tell them about what i did so

44

00:02:04,870 --> 00:02:02,719

it's a lot of fun so he's got the best

45

00:02:10,710 --> 00:02:04,880

job in the world and off the world

46

00:02:15,510 --> 00:02:13,270

hello my name is eric my question is

47

00:02:18,390 --> 00:02:15,520

what's the most dangerous job in nasa

48

00:02:19,830 --> 00:02:18,400

and why do you do it

49

00:02:22,550 --> 00:02:19,840

uh eric i'm not sure what the most

50

00:02:24,309 --> 00:02:22,560

dangerous job at nasa is you know

51  
00:02:25,990 --> 00:02:24,319  
people some people might say that

52  
00:02:27,110 --> 00:02:26,000  
astronauts have a dangerous job and i

53  
00:02:29,670 --> 00:02:27,120  
think

54  
00:02:32,070 --> 00:02:29,680  
you know nasa does a really good job of

55  
00:02:33,110 --> 00:02:32,080  
making sure that our jobs are safe as

56  
00:02:34,150 --> 00:02:33,120  
possible

57  
00:02:36,630 --> 00:02:34,160  
so

58  
00:02:38,150 --> 00:02:36,640  
we do as much as we can when we were

59  
00:02:40,150 --> 00:02:38,160  
flying the space shuttle we did as much

60  
00:02:41,110 --> 00:02:40,160  
as we can to make those vehicles safe to

61  
00:02:42,869 --> 00:02:41,120  
fly

62  
00:02:44,470 --> 00:02:42,879  
and we did a great job i think at that

63  
00:02:46,070 --> 00:02:44,480

we have some really smart people here at

64

00:02:48,949 --> 00:02:46,080

nasa that take really good care of the

65

00:02:50,630 --> 00:02:48,959

astronauts so uh there's probably some

66

00:02:54,710 --> 00:02:50,640

more dangerous jobs at nasa than

67

00:02:58,869 --> 00:02:56,229

thank you

68

00:03:03,190 --> 00:02:58,879

hello my name is christian my my

69

00:03:05,830 --> 00:03:03,200

question is how does the spacesuit works

70

00:03:07,430 --> 00:03:05,840

how do the spaces work

71

00:03:09,589 --> 00:03:07,440

yes

72

00:03:11,910 --> 00:03:09,599

i'm not sure i follow

73

00:03:13,990 --> 00:03:11,920

oh space suits

74

00:03:15,830 --> 00:03:14,000

yes ah okay that's a good question

75

00:03:17,350 --> 00:03:15,840

christian okay we have a couple of

76

00:03:19,750 --> 00:03:17,360

different kinds of spacesuits that we

77

00:03:21,910 --> 00:03:19,760

wear when we launch

78

00:03:24,229 --> 00:03:21,920

whether it be on the space shuttle or

79

00:03:26,470 --> 00:03:24,239

the soyuz capsule launching from russia

80

00:03:28,949 --> 00:03:26,480

to the space station our astronauts wear

81

00:03:32,149 --> 00:03:28,959

a suit that protects them in case we

82

00:03:33,430 --> 00:03:32,159

lose the pressure inside the space

83

00:03:34,630 --> 00:03:33,440

capsule or

84

00:03:37,030 --> 00:03:34,640

space shuttle

85

00:03:39,990 --> 00:03:37,040

so those suits are are to protect us

86

00:03:42,149 --> 00:03:40,000

while we launch and when we come back

87

00:03:44,070 --> 00:03:42,159

now if we go outside the space station

88

00:03:46,390 --> 00:03:44,080

and the space shuttle on a space walk

89

00:03:49,270 --> 00:03:46,400

then we wear a completely different suit

90

00:03:52,070 --> 00:03:49,280

and that's uh what we call an emu which

91

00:03:54,309 --> 00:03:52,080

stands for extra vehicular mobility unit

92

00:03:56,789 --> 00:03:54,319

big long word for a spacesuit

93

00:03:59,270 --> 00:03:56,799

but that suit is like a one-person

94

00:04:01,589 --> 00:03:59,280

spaceship because you get in that suit

95

00:04:04,070 --> 00:04:01,599

and you go outside the spaceship that

96

00:04:06,470 --> 00:04:04,080

your it came up in and it gives you

97

00:04:07,990 --> 00:04:06,480

oxygen and it keeps you cool and it

98

00:04:10,390 --> 00:04:08,000

protects you from the environment

99

00:04:12,390 --> 00:04:10,400

outside the spaceship so that's how the

100

00:04:15,030 --> 00:04:12,400

space that's the a little bit about the

101

00:04:22,310 --> 00:04:15,040

spacesuits that we wear

102

00:04:29,110 --> 00:04:24,950

hi my name is garemo my question is do

103

00:04:29,990 --> 00:04:29,120

you need to exercise a lot in space

104

00:04:32,230 --> 00:04:30,000

we do

105

00:04:34,390 --> 00:04:32,240

exercise a lot both down here on earth

106

00:04:36,070 --> 00:04:34,400

when we're preparing to to go to space

107

00:04:37,909 --> 00:04:36,080

and while we're in space

108

00:04:40,150 --> 00:04:37,919

and the reason that we exercise a lot in

109

00:04:41,749 --> 00:04:40,160

space is because

110

00:04:43,590 --> 00:04:41,759

because we're living in a weightless

111

00:04:45,510 --> 00:04:43,600

environment up there which means you

112

00:04:47,189 --> 00:04:45,520

know there's no gravity

113

00:04:49,270 --> 00:04:47,199

we don't get the same

114

00:04:50,790 --> 00:04:49,280

our bones don't get the same workout

115

00:04:52,390 --> 00:04:50,800

that they do down here on earth when

116

00:04:53,430 --> 00:04:52,400

we're walking around

117

00:04:54,870 --> 00:04:53,440

today

118

00:04:56,790 --> 00:04:54,880

our bones are getting a little bit of a

119

00:04:57,990 --> 00:04:56,800

workout because they have to support our

120

00:05:00,150 --> 00:04:58,000

body weight

121

00:05:02,390 --> 00:05:00,160

because of the gravity but in space we

122

00:05:06,150 --> 00:05:02,400

don't have that gravity so we need to

123

00:05:08,550 --> 00:05:06,160

exercise our muscles to keep our bones

124

00:05:10,150 --> 00:05:08,560

rebuilding themselves and make sure the

125

00:05:12,230 --> 00:05:10,160

bones stay as strong as they were when

126

00:05:14,310 --> 00:05:12,240

we left for space because we don't come

127

00:05:15,830 --> 00:05:14,320

back and have weaker bones so

128

00:05:18,310 --> 00:05:15,840

astronauts spend about two and a half

129

00:05:21,830 --> 00:05:18,320

days two and a half hours a day while

130

00:05:23,270 --> 00:05:21,840

they're in space exercising every day

131

00:05:24,710 --> 00:05:23,280

and they have several

132

00:05:26,310 --> 00:05:24,720

ways to do that exercise there are

133

00:05:28,150 --> 00:05:26,320

several different pieces of equipment in

134

00:05:30,070 --> 00:05:28,160

that space gym you want to talk about

135

00:05:32,070 --> 00:05:30,080

that yeah they actually have a couple of

136

00:05:34,390 --> 00:05:32,080

different ways to exercise they have a

137

00:05:36,629 --> 00:05:34,400

treadmill which is kind of funny because

138

00:05:38,950 --> 00:05:36,639

the treadmill you have to run on a

139

00:05:40,710 --> 00:05:38,960

treadmill but if there's no gravity you

140

00:05:42,469 --> 00:05:40,720

just float off of the treadmill but they

141

00:05:43,830 --> 00:05:42,479

have a harness that connects them down

142

00:05:45,350 --> 00:05:43,840

to the treadmill so that they don't

143

00:05:46,150 --> 00:05:45,360

float away from it while they're running

144

00:05:47,909 --> 00:05:46,160

on it

145

00:05:50,710 --> 00:05:47,919

they have an exercise bike so they can

146

00:05:53,749 --> 00:05:50,720

exercise that way and they also have

147

00:05:56,230 --> 00:05:53,759

resistive exercise device which

148

00:05:58,150 --> 00:05:56,240

is like lifting weights so they they

149

00:05:59,670 --> 00:05:58,160

can't lift weights in space because the

150

00:06:01,270 --> 00:05:59,680

weights wouldn't weigh anything either

151  
00:06:03,270 --> 00:06:01,280  
but they have

152  
00:06:05,909 --> 00:06:03,280  
an exercise device that's sort of like

153  
00:06:07,350 --> 00:06:05,919  
rubber bands almost you push against it

154  
00:06:09,350 --> 00:06:07,360  
and the rubber bands

155  
00:06:11,670 --> 00:06:09,360  
provide the resistance that exercise

156  
00:06:14,950 --> 00:06:11,680  
your muscles

157  
00:06:14,960 --> 00:06:20,710  
yeah thanks

158  
00:06:24,629 --> 00:06:22,710  
hello my name is guadalupe and my

159  
00:06:26,469 --> 00:06:24,639  
question is how do you control the

160  
00:06:29,909 --> 00:06:26,479  
spaceship with all the buttons to go at

161  
00:06:30,710 --> 00:06:29,919  
the right distance to the right place

162  
00:06:32,629 --> 00:06:30,720  
ah

163  
00:06:34,309 --> 00:06:32,639

well we have really smart people at nasa

164

00:06:35,909 --> 00:06:34,319

that figure out where we need to go in

165

00:06:38,390 --> 00:06:35,919

our spaceship to get to the space

166

00:06:40,710 --> 00:06:38,400

station so they figure that all out and

167

00:06:43,110 --> 00:06:40,720

they put it into the computer and the

168

00:06:44,790 --> 00:06:43,120

computer kind of knows how we get there

169

00:06:46,870 --> 00:06:44,800

and when we get close enough when we can

170

00:06:49,350 --> 00:06:46,880

see the space station then we can take

171

00:06:52,469 --> 00:06:49,360

over and fly the spaceship in to a

172

00:06:55,670 --> 00:06:53,990

and a lot of those smart people are here

173

00:06:56,870 --> 00:06:55,680

in this room right now this is again the

174

00:06:58,870 --> 00:06:56,880

international space station flight

175

00:07:00,550 --> 00:06:58,880

control room where the team is

176

00:07:03,749 --> 00:07:00,560

monitoring the systems avoid the space

177

00:07:09,909 --> 00:07:03,759

station on a daily basis 24 7. next

178

00:07:14,150 --> 00:07:12,150

hi my name is amber my question is how

179

00:07:16,550 --> 00:07:14,160

do you keep track of the space shuttles

180

00:07:19,990 --> 00:07:16,560

while they're in space

181

00:07:21,990 --> 00:07:20,000

how do we keep track of them well

182

00:07:24,710 --> 00:07:22,000

we have those smart people at nasa that

183

00:07:25,749 --> 00:07:24,720

keep track of where they are so

184

00:07:28,070 --> 00:07:25,759

it's

185

00:07:29,990 --> 00:07:28,080

we couldn't get lost in space because we

186

00:07:31,430 --> 00:07:30,000

have smart people down here at nasa that

187

00:07:33,189 --> 00:07:31,440

are taking care of us and making sure

188

00:07:35,430 --> 00:07:33,199

we're going in the right direction and

189

00:07:36,870 --> 00:07:35,440

we're getting to where we need to go

190

00:07:38,550 --> 00:07:36,880

and the people here in this mission

191

00:07:40,070 --> 00:07:38,560

control room are controlling the space

192

00:07:42,230 --> 00:07:40,080

station right now that's going around

193

00:07:44,550 --> 00:07:42,240

the earth every 90 minutes so they're

194

00:07:46,869 --> 00:07:44,560

making sure that the space station stays

195

00:07:48,469 --> 00:07:46,879

at the right altitude keeping it up as

196

00:07:50,869 --> 00:07:48,479

high as it needs to be to stay in that

197

00:07:52,790 --> 00:07:50,879

orbit and keeping uh

198

00:07:54,230 --> 00:07:52,800

going in the right direction

199

00:07:56,550 --> 00:07:54,240

and if you look just behind us you can

200

00:07:58,070 --> 00:07:56,560

see a map that is the the map where we

201  
00:08:00,390 --> 00:07:58,080  
can keep track of where that space

202  
00:08:03,670 --> 00:08:00,400  
station is at any given time next

203  
00:08:07,110 --> 00:08:05,749  
hi my name is jose gonzalez my question

204  
00:08:08,790 --> 00:08:07,120  
is how do you live in space if

205  
00:08:10,950 --> 00:08:08,800  
everything floats

206  
00:08:13,270 --> 00:08:10,960  
how do we eat in space well

207  
00:08:15,430 --> 00:08:13,280  
you have to be careful we we have really

208  
00:08:18,309 --> 00:08:15,440  
good food that they send along with us

209  
00:08:20,070 --> 00:08:18,319  
to to space so it's a a good thing when

210  
00:08:22,309 --> 00:08:20,080  
we get to eat

211  
00:08:23,909 --> 00:08:22,319  
we open the packages very carefully so

212  
00:08:25,430 --> 00:08:23,919  
that we don't shake the food and it

213  
00:08:27,189 --> 00:08:25,440

float out so

214

00:08:29,350 --> 00:08:27,199

but mostly it stays in the package

215

00:08:31,430 --> 00:08:29,360

pretty well if you don't uh

216

00:08:34,070 --> 00:08:31,440

shake it around and then you can use a

217

00:08:36,949 --> 00:08:34,080

fork or a spoon to reach in and get a

218

00:08:39,750 --> 00:08:36,959

bite at a time and eat it that way

219

00:08:41,829 --> 00:08:39,760

i know on my first space shuttle mission

220

00:08:43,990 --> 00:08:41,839

i had some granola and you know what

221

00:08:46,790 --> 00:08:44,000

granola is granola is kind of crumbly

222

00:08:49,269 --> 00:08:46,800

and it's makes little uh little chunks

223

00:08:51,750 --> 00:08:49,279

of of

224

00:08:52,630 --> 00:08:51,760

bran and things like that that

225

00:09:06,070 --> 00:08:52,640

i

226

00:09:06,080 --> 00:09:16,550

thank you

227

00:09:20,230 --> 00:09:18,710

hi my name is and my question is how do

228

00:09:21,750 --> 00:09:20,240

you keep your food and supplies from

229

00:09:23,750 --> 00:09:21,760

going back without a refrigerator or

230

00:09:26,550 --> 00:09:23,760

cooking it

231

00:09:28,710 --> 00:09:26,560

well we we do cook it we have an oven uh

232

00:09:31,430 --> 00:09:28,720

we don't have a refrigerator so it has

233

00:09:33,430 --> 00:09:31,440

to be food that won't

234

00:09:35,670 --> 00:09:33,440

go bad in space

235

00:09:37,350 --> 00:09:35,680

some of it is dehydrated so the

236

00:09:40,150 --> 00:09:37,360

dehydrated food

237

00:09:41,910 --> 00:09:40,160

we keep dry in the package until we are

238

00:09:44,470 --> 00:09:41,920

ready to eat it and then we would add

239

00:09:45,350 --> 00:09:44,480

water and if we needed to heat it up say

240

00:09:48,389 --> 00:09:45,360

it was

241

00:09:50,389 --> 00:09:48,399

oatmeal you add water to

242

00:09:52,870 --> 00:09:50,399

make it oatmeal and then you heat it up

243

00:09:55,430 --> 00:09:52,880

so that it's warm like you're used to

244

00:09:56,230 --> 00:09:55,440

eating oatmeal and then we would eat it

245

00:09:59,350 --> 00:09:56,240

but

246

00:10:02,870 --> 00:09:59,360

some food uh that we take is

247

00:10:04,630 --> 00:10:02,880

we call shelf stable which means it's uh

248

00:10:06,470 --> 00:10:04,640

has

249

00:10:08,870 --> 00:10:06,480

preservatives that keep it from going

250

00:10:10,710 --> 00:10:08,880

bad inside the package and some of it is

251  
00:10:13,509 --> 00:10:10,720  
like the food that our troops eat in

252  
00:10:14,949 --> 00:10:13,519  
afghanistan and iraq and we call those

253  
00:10:17,350 --> 00:10:14,959  
meals ready to eat that's what the

254  
00:10:19,190 --> 00:10:17,360  
soldiers carry and we would

255  
00:10:21,030 --> 00:10:19,200  
eat the same kind of food that they eat

256  
00:10:22,630 --> 00:10:21,040  
which is also really good

257  
00:10:24,310 --> 00:10:22,640  
typically we would just put it in the

258  
00:10:37,670 --> 00:10:24,320  
oven for a while to heat it up and then

259  
00:10:41,430 --> 00:10:39,829  
hello my name is rebecca and my question

260  
00:10:44,230 --> 00:10:41,440  
is how do you feel after a long trip in

261  
00:10:46,710 --> 00:10:44,240  
space when you return to ed

262  
00:10:48,790 --> 00:10:46,720  
well after a trip in space i think long

263  
00:10:50,310 --> 00:10:48,800

or short you're always happy to get back

264

00:10:51,829 --> 00:10:50,320

to earth because

265

00:10:54,230 --> 00:10:51,839

there are some things that you miss in

266

00:10:56,389 --> 00:10:54,240

space like we don't get to take a shower

267

00:10:59,110 --> 00:10:56,399

in space so when you come back from

268

00:11:00,790 --> 00:10:59,120

space you're ready to take a shower and

269

00:11:02,550 --> 00:11:00,800

we don't have we have good food but we

270

00:11:04,150 --> 00:11:02,560

don't have things like hamburgers or

271

00:11:06,550 --> 00:11:04,160

pizza so

272

00:11:08,150 --> 00:11:06,560

you know you you want to have some

273

00:11:11,030 --> 00:11:08,160

regular food again you want to have a

274

00:11:13,590 --> 00:11:11,040

hamburger or pizza so it's always good

275

00:11:14,870 --> 00:11:13,600

to be back so everybody's happy to be

276

00:11:19,430 --> 00:11:14,880

back

277

00:11:21,350 --> 00:11:19,440

at first because you're used to living

278

00:11:23,670 --> 00:11:21,360

with no gravity up in space when you

279

00:11:25,190 --> 00:11:23,680

come back you first feel very heavy

280

00:11:27,509 --> 00:11:25,200

because your body's getting used to the

281

00:11:30,630 --> 00:11:27,519

gravity down here on earth again

282

00:11:32,630 --> 00:11:30,640

but that goes away pretty fast

283

00:11:34,630 --> 00:11:32,640

what doesn't go away as fast is your

284

00:11:35,829 --> 00:11:34,640

sense of balance because

285

00:11:37,310 --> 00:11:35,839

we have a

286

00:11:39,670 --> 00:11:37,320

thing in our inner ear called a

287

00:11:41,670 --> 00:11:39,680

neurovestibular system and that's what

288

00:11:43,750 --> 00:11:41,680

tells us you know right now that i'm

289

00:11:45,430 --> 00:11:43,760

tipping over because there's a little

290

00:11:47,430 --> 00:11:45,440

sensor in there that sends a signal to

291

00:11:49,990 --> 00:11:47,440

my brain and tells it you know i'm i'm

292

00:11:52,310 --> 00:11:50,000

tilted but in space since there's no

293

00:11:54,629 --> 00:11:52,320

gravity for that sensor to use to tell

294

00:11:56,470 --> 00:11:54,639

it where it's where it is

295

00:11:58,870 --> 00:11:56,480

our brains don't get that signal for a

296

00:12:01,030 --> 00:11:58,880

while and we come back and then um that

297

00:12:02,790 --> 00:12:01,040

that neural vestibular system sort of

298

00:12:05,269 --> 00:12:02,800

has to turn back on

299

00:12:16,870 --> 00:12:05,279

and um takes a couple of days before our

300

00:12:24,310 --> 00:12:20,230

hello my name is ariella my question is

301  
00:12:26,710 --> 00:12:24,320  
how can you repair equipment in space

302  
00:12:28,790 --> 00:12:26,720  
well we train uh quite a bit here at

303  
00:12:29,829 --> 00:12:28,800  
nasa to be able to repair equipment in

304  
00:12:32,069 --> 00:12:29,839  
space

305  
00:12:34,629 --> 00:12:32,079  
and we know things are going to break

306  
00:12:36,870 --> 00:12:34,639  
and so we we

307  
00:12:38,949 --> 00:12:36,880  
take spare parts up to the space station

308  
00:12:40,629 --> 00:12:38,959  
to have them ready in case something

309  
00:12:42,629 --> 00:12:40,639  
breaks and then

310  
00:12:44,949 --> 00:12:42,639  
when something does break our astronauts

311  
00:12:46,310 --> 00:12:44,959  
can get a little refresher course from

312  
00:12:48,710 --> 00:12:46,320  
the ground people here in mission

313  
00:12:50,710 --> 00:12:48,720

control will tell them how to repair

314

00:12:51,670 --> 00:12:50,720

what's broken and then they can fix

315

00:12:54,069 --> 00:12:51,680

things

316

00:12:55,590 --> 00:12:54,079

and we did a lot of that in my missions

317

00:12:57,110 --> 00:12:55,600

to the space shuttle on the space

318

00:12:58,949 --> 00:12:57,120

shuttle to the space station we went

319

00:12:59,590 --> 00:12:58,959

outside and repaired the space station

320

00:13:00,870 --> 00:12:59,600

and

321

00:13:04,069 --> 00:13:00,880

actually helped to build the space

322

00:13:04,079 --> 00:13:11,670

thank you

323

00:13:16,310 --> 00:13:13,910

hello my name is irma my question is do

324

00:13:19,190 --> 00:13:16,320

you have to go to college and what do

325

00:13:23,350 --> 00:13:21,430

uh to become an astronaut you do need to

326

00:13:24,790 --> 00:13:23,360

have a bachelor's degree at least from

327

00:13:26,710 --> 00:13:24,800

college

328

00:13:28,150 --> 00:13:26,720

it's even better if you have advanced

329

00:13:29,110 --> 00:13:28,160

college degrees

330

00:13:31,030 --> 00:13:29,120

so

331

00:13:33,269 --> 00:13:31,040

i went to the u.s naval academy and i

332

00:13:34,870 --> 00:13:33,279

studied aerospace engineering as an

333

00:13:37,910 --> 00:13:34,880

undergraduate and got a bachelor of

334

00:13:40,150 --> 00:13:37,920

science in that and then i went to

335

00:13:42,629 --> 00:13:40,160

further school and got a master's degree

336

00:13:44,230 --> 00:13:42,639

in aeronautical engineering and i'm also

337

00:13:47,269 --> 00:13:44,240

a test pilot

338

00:13:48,949 --> 00:13:47,279

from the navy so i've been to a lot of

339

00:13:51,509 --> 00:13:48,959

college and

340

00:13:54,629 --> 00:13:51,519

most astronauts you'll find have

341

00:13:56,629 --> 00:13:54,639

a lot of college

342

00:13:58,550 --> 00:13:56,639

in their background this takes a lot of

343

00:14:00,870 --> 00:13:58,560

training and so many people want to be

344

00:14:02,949 --> 00:14:00,880

astronauts that it's very competitive to

345

00:14:05,910 --> 00:14:02,959

become an astronaut so

346

00:14:07,750 --> 00:14:05,920

people with more education more training

347

00:14:21,189 --> 00:14:07,760

usually have a little bit of a leg up on

348

00:14:25,829 --> 00:14:23,189

well i like to look outside the window

349

00:14:27,910 --> 00:14:25,839

and see the earth down below us it's

350

00:14:29,829 --> 00:14:27,920

amazing to see the earth from that high

351

00:14:31,829 --> 00:14:29,839

up and we're going around the earth

352

00:14:34,790 --> 00:14:31,839

every 90 minutes so we're really going

353

00:14:37,269 --> 00:14:34,800

fast around the earth we're going 17 500

354

00:14:38,870 --> 00:14:37,279

miles an hour so the earth goes by

355

00:14:40,949 --> 00:14:38,880

really fast and you get to see a lot of

356

00:14:43,670 --> 00:14:40,959

different parts of the world

357

00:14:47,110 --> 00:14:43,680

just from a short look out the window

358

00:14:49,670 --> 00:14:47,120

so that's a lot of fun and of course

359

00:14:51,189 --> 00:14:49,680

since we're floating up there we can do

360

00:14:53,350 --> 00:14:51,199

somersaults and

361

00:14:56,150 --> 00:14:53,360

we can play kind of games with

362

00:14:57,910 --> 00:14:56,160

m m's and things like that so we work

363

00:14:59,910 --> 00:14:57,920

pretty hard up there but occasionally we

364

00:15:02,230 --> 00:14:59,920

have a little bit of time to

365

00:15:10,870 --> 00:15:02,240

look out the window and take a break and

366

00:15:16,310 --> 00:15:13,829

hi my name is jesus my question is is it

367

00:15:19,350 --> 00:15:16,320

true that there will in 2030 there will

368

00:15:24,470 --> 00:15:19,360

be a one-way trip to mars

369

00:15:28,230 --> 00:15:25,590

let's see

370

00:15:30,150 --> 00:15:28,240

you guys will be about uh

371

00:15:33,350 --> 00:15:30,160

probably what

372

00:15:35,990 --> 00:15:33,360

29 30 years old by then um we're hoping

373

00:15:38,550 --> 00:15:36,000

that we'll have uh a trip to mars

374

00:15:40,150 --> 00:15:38,560

planned and that will uh send people to

375

00:15:42,790 --> 00:15:40,160

mars and

376

00:15:45,749 --> 00:15:42,800

bring them back and actually start to

377

00:15:47,430 --> 00:15:45,759

explore mars have humans go there so

378

00:15:49,030 --> 00:15:47,440

maybe somebody in the room there will be

379

00:16:03,350 --> 00:15:49,040

one of the first people to go to mars

380

00:16:07,430 --> 00:16:05,269

my question is how many space shuttles

381

00:16:09,670 --> 00:16:07,440

does nasa have and how many people can

382

00:16:11,350 --> 00:16:09,680

fit

383

00:16:13,030 --> 00:16:11,360

i heard the first part is how many space

384

00:16:14,790 --> 00:16:13,040

shuttles does nasa have what was the

385

00:16:17,670 --> 00:16:14,800

second part

386

00:16:22,550 --> 00:16:17,680

how many people can fit inside one

387

00:16:24,310 --> 00:16:22,560

right now nasa has three space shuttles

388

00:16:26,710 --> 00:16:24,320

that actually went to space and then we

389

00:16:29,910 --> 00:16:26,720

have a fourth space shuttle enterprise

390

00:16:31,829 --> 00:16:29,920

that we use to um practice

391

00:16:33,910 --> 00:16:31,839

landings when we first designed the

392

00:16:35,350 --> 00:16:33,920

space shuttle they weren't sure exactly

393

00:16:36,389 --> 00:16:35,360

how it was going to come back and land

394

00:16:39,110 --> 00:16:36,399

on earth

395

00:16:41,430 --> 00:16:39,120

so they they built enterprise and that's

396

00:16:42,949 --> 00:16:41,440

what they did the practice landings in

397

00:16:43,910 --> 00:16:42,959

way back when

398

00:16:46,629 --> 00:16:43,920

so

399

00:16:48,069 --> 00:16:46,639

right now yesterday they delivered the

400

00:16:51,110 --> 00:16:48,079

space shuttle discovery to the

401  
00:16:52,790 --> 00:16:51,120  
smithsonian institution in washington dc

402  
00:16:54,949 --> 00:16:52,800  
so if you take a field trip or a

403  
00:16:57,509 --> 00:16:54,959  
vacation to washington dc

404  
00:16:59,350 --> 00:16:57,519  
you can actually go to the smithsonian

405  
00:17:01,350 --> 00:16:59,360  
museum and see the space shuttle

406  
00:17:04,150 --> 00:17:01,360  
discovery

407  
00:17:06,710 --> 00:17:04,160  
the space shuttle enterprise which was

408  
00:17:08,390 --> 00:17:06,720  
at the smithsonian is on its way to new

409  
00:17:10,949 --> 00:17:08,400  
york so if you ever take a trip to new

410  
00:17:13,029 --> 00:17:10,959  
york you'll be able to see enterprise up

411  
00:17:14,870 --> 00:17:13,039  
in new york in new york city

412  
00:17:17,110 --> 00:17:14,880  
and eventually

413  
00:17:19,669 --> 00:17:17,120

the space shuttle endeavor which is the

414

00:17:21,350 --> 00:17:19,679

first one that i flew on will be uh

415

00:17:23,829 --> 00:17:21,360

transferred out to los angeles

416

00:17:24,870 --> 00:17:23,839

california to a museum out there

417

00:17:26,710 --> 00:17:24,880

so

418

00:17:27,750 --> 00:17:26,720

if your travels take you to los angeles

419

00:17:29,750 --> 00:17:27,760

eventually you'll be able to see

420

00:17:32,230 --> 00:17:29,760

endeavor which would be pretty cool for

421

00:17:35,110 --> 00:17:32,240

me because since i flew in space on that

422

00:17:37,510 --> 00:17:35,120

space shuttle i'd like to see it again

423

00:17:39,669 --> 00:17:37,520

and then finally the fourth one atlantis

424

00:17:41,750 --> 00:17:39,679

atlantis was the space shuttle i flew my

425

00:17:43,350 --> 00:17:41,760

second mission on and that space shuttle

426

00:17:45,590 --> 00:17:43,360

is going to stay down in florida at the

427

00:17:47,190 --> 00:17:45,600

kennedy space center so if you ever go

428

00:17:48,710 --> 00:17:47,200

to florida to visit the kennedy space

429

00:17:51,110 --> 00:17:48,720

center you'll be able to see atlantis

430

00:17:52,310 --> 00:17:51,120

down there so this uh

431

00:17:54,150 --> 00:17:52,320

since we're not flying these space

432

00:17:55,830 --> 00:17:54,160

shuttles anymore it's great that we're

433

00:17:57,590 --> 00:17:55,840

putting them in museums around the

434

00:18:00,070 --> 00:17:57,600

country so a lot of people will be able

435

00:18:03,590 --> 00:18:00,080

to see them and and appreciate what a

436

00:18:15,909 --> 00:18:03,600

space shuttle looks like up close

437

00:18:21,270 --> 00:18:19,190

hello my name is angel

438

00:18:26,950 --> 00:18:21,280

and my question is

439

00:18:34,950 --> 00:18:30,390

how old do you need to be

440

00:18:39,350 --> 00:18:37,350

well uh there's no minimum age for going

441

00:18:40,310 --> 00:18:39,360

to space but uh

442

00:18:43,190 --> 00:18:40,320

for

443

00:18:45,430 --> 00:18:43,200

our astronaut program typically people

444

00:18:47,190 --> 00:18:45,440

are in their 30s when they get selected

445

00:18:48,789 --> 00:18:47,200

to be an astronaut because of all the

446

00:18:50,150 --> 00:18:48,799

training that we talked about in the

447

00:18:52,470 --> 00:18:50,160

earlier question

448

00:18:54,230 --> 00:18:52,480

about college requirements

449

00:18:55,990 --> 00:18:54,240

usually people that become astronauts

450

00:18:59,110 --> 00:18:56,000

are in their 30s already and then they

451

00:19:01,190 --> 00:18:59,120

come to nasa and they might train for

452

00:19:04,150 --> 00:19:01,200

two to five years before they go to

453

00:19:06,549 --> 00:19:04,160

space so um typically astronauts that go

454

00:19:08,950 --> 00:19:06,559

to space are in their mid to late 30s

455

00:19:11,510 --> 00:19:08,960

for the first time so

456

00:19:14,470 --> 00:19:11,520

you guys have a little bit of time to

457

00:19:16,390 --> 00:19:14,480

get all of your school done and go to

458

00:19:21,350 --> 00:19:16,400

college and get some experience before

459

00:19:21,360 --> 00:19:27,350

thank you

460

00:19:31,510 --> 00:19:29,669

hello my name is crystal my question is

461

00:19:33,510 --> 00:19:31,520

why are kids not able to travel to the

462

00:19:35,270 --> 00:19:33,520

moon

463

00:19:37,110 --> 00:19:35,280

why are kids not able to travel to the

464

00:19:38,390 --> 00:19:37,120

moon crystal

465

00:19:41,270 --> 00:19:38,400

yeah

466

00:19:44,710 --> 00:19:41,280

well uh traveling in space is still

467

00:19:47,430 --> 00:19:44,720

dangerous um maybe sometime in the

468

00:19:49,430 --> 00:19:47,440

future it'll be so safe and it'll be so

469

00:19:51,190 --> 00:19:49,440

routine it'll be like getting on an

470

00:19:53,110 --> 00:19:51,200

airliner and flying from here to

471

00:19:56,789 --> 00:19:53,120

california but

472

00:20:00,230 --> 00:19:56,799

right now it's still considered fairly

473

00:20:02,549 --> 00:20:00,240

dangerous so we wouldn't

474

00:20:04,870 --> 00:20:02,559

be very uh good parents if we let our

475

00:20:07,270 --> 00:20:04,880

kids fly on a space shuttle to the moon

476  
00:20:08,950 --> 00:20:07,280  
or spaceship to the moon or to anywhere

477  
00:20:11,190 --> 00:20:08,960  
in space so

478  
00:20:13,909 --> 00:20:11,200  
uh that's that's the reason primary

479  
00:20:16,789 --> 00:20:13,919  
reason and since we can only launch a

480  
00:20:19,590 --> 00:20:16,799  
certain number of people into space

481  
00:20:21,669 --> 00:20:19,600  
we we try to get people that know how to

482  
00:20:24,470 --> 00:20:21,679  
work all the experiments and have a lot

483  
00:20:26,310 --> 00:20:24,480  
of training first so um

484  
00:20:28,630 --> 00:20:26,320  
it'll be a while before we probably

485  
00:20:30,310 --> 00:20:28,640  
start sending kids to space

486  
00:20:32,070 --> 00:20:30,320  
and i've got another answer for that and

487  
00:20:33,750 --> 00:20:32,080  
it is because kids need to stay in

488  
00:20:41,590 --> 00:20:33,760

school and if you stay in school that'll

489

00:20:45,110 --> 00:20:43,029

hello my name is

490

00:20:45,990 --> 00:20:45,120

tanya my question is who was the first

491

00:20:46,830 --> 00:20:46,000

man

492

00:20:51,430 --> 00:20:46,840

on the

493

00:20:54,549 --> 00:20:51,440

neil armstrong you know where neil

494

00:20:57,350 --> 00:20:54,559

armstrong grew up in ohio and you know

495

00:20:59,830 --> 00:20:57,360

where i grew up i grew up in ohio

496

00:21:01,909 --> 00:20:59,840

so neil armstrong was one of my

497

00:21:03,830 --> 00:21:01,919

neil armstrong was one of my heroes when

498

00:21:15,190 --> 00:21:03,840

i was a kid growing up in ohio that's

499

00:21:15,200 --> 00:21:37,350

hello my name is

500

00:21:42,830 --> 00:21:40,230

hi this is patricia at um in the digital

501  
00:21:44,789 --> 00:21:42,840  
learning network can you guys hear me

502  
00:21:46,789 --> 00:21:44,799  
yeah

503  
00:21:48,710 --> 00:21:46,799  
okay

504  
00:21:50,950 --> 00:21:48,720  
all right looks like we lost the audio

505  
00:21:52,549 --> 00:21:50,960  
we lost the the picture from from

506  
00:21:54,950 --> 00:21:52,559  
mission control

507  
00:21:58,710 --> 00:21:56,950  
all right so it looks appears as though

508  
00:22:00,149 --> 00:21:58,720  
they may have to cut out a little early

509  
00:22:17,510 --> 00:22:00,159  
hold on just a second and i'm gonna see

510  
00:22:23,190 --> 00:22:18,630  
hi kids

511  
00:22:24,710 --> 00:22:23,200  
public affairs officer with astronaut

512  
00:22:26,390 --> 00:22:24,720  
mike foreman in the international space

513  
00:22:27,990 --> 00:22:26,400

station flight control room can you hear

514

00:22:29,669 --> 00:22:28,000

us

515

00:22:31,190 --> 00:22:29,679

yes

516

00:22:32,870 --> 00:22:31,200

here we go okay do we have another

517

00:22:40,630 --> 00:22:32,880

question

518

00:22:42,950 --> 00:22:40,640

what do you study at nasa and what kinds

519

00:22:45,110 --> 00:22:42,960

of things do you do there

520

00:22:48,149 --> 00:22:45,120

what what do i do

521

00:22:50,149 --> 00:22:48,159

in my job here at nasa

522

00:22:53,190 --> 00:22:50,159

yes

523

00:22:56,310 --> 00:22:53,200

well uh aside from training to fly to

524

00:22:58,549 --> 00:22:56,320

space i also have a job here on the

525

00:23:00,470 --> 00:22:58,559

ground when i'm not training

526  
00:23:02,789 --> 00:23:00,480  
and right now i'll just give you a

527  
00:23:05,270 --> 00:23:02,799  
little bit of background nasa is working

528  
00:23:07,669 --> 00:23:05,280  
with some companies in the united states

529  
00:23:09,190 --> 00:23:07,679  
to help them build the next rocket that

530  
00:23:11,590 --> 00:23:09,200  
is going to take our astronauts to the

531  
00:23:13,029 --> 00:23:11,600  
space station because right now the guys

532  
00:23:13,830 --> 00:23:13,039  
that are up on the space station got

533  
00:23:15,830 --> 00:23:13,840  
there

534  
00:23:17,590 --> 00:23:15,840  
on a russian rocket and russia is the

535  
00:23:20,310 --> 00:23:17,600  
only country that has a rocket that can

536  
00:23:22,070 --> 00:23:20,320  
take our astronauts to the space station

537  
00:23:24,230 --> 00:23:22,080  
and we would like to have a rocket from

538  
00:23:26,390 --> 00:23:24,240

the united states to do that job as well

539

00:23:28,710 --> 00:23:26,400

so we're working with companies in the

540

00:23:30,470 --> 00:23:28,720

united states to help them build a new

541

00:23:32,870 --> 00:23:30,480

rocket and

542

00:23:35,110 --> 00:23:32,880

i work with a company called boeing

543

00:23:38,230 --> 00:23:35,120

boeing is one of the competitors that

544

00:23:40,470 --> 00:23:38,240

was working on a new rocket and so i

545

00:23:42,230 --> 00:23:40,480

helped boeing by providing them some of

546

00:23:44,630 --> 00:23:42,240

my background and experience here at

547

00:23:46,230 --> 00:23:44,640

nasa to help them build the next rocket

548

00:23:48,789 --> 00:23:46,240

to take our astronauts to the space

549

00:23:51,830 --> 00:23:48,799

station so even that is a really cool

550

00:23:53,029 --> 00:23:51,840

job i really like that i enjoy spending

551  
00:23:55,669 --> 00:23:53,039  
time with

552  
00:23:58,149 --> 00:23:55,679  
all the smart people at boeing and

553  
00:23:59,909 --> 00:23:58,159  
listening to them as they work to design

554  
00:24:03,350 --> 00:23:59,919  
the next rocket to take our astronauts

555  
00:24:03,360 --> 00:24:12,070  
thank you

556  
00:24:15,990 --> 00:24:13,990  
all right that is all of our planned

557  
00:24:17,510 --> 00:24:16,000  
questions i know one other student did

558  
00:24:19,350 --> 00:24:17,520  
have a question that you would like to

559  
00:24:27,750 --> 00:24:19,360  
ask is that okay

560  
00:24:35,430 --> 00:24:32,230  
my name is eliza my question is um

561  
00:24:37,350 --> 00:24:35,440  
have you ever been in a meteor shower

562  
00:24:41,029 --> 00:24:37,360  
well uh

563  
00:24:43,909 --> 00:24:41,039

sort of uh in space um

564

00:24:46,070 --> 00:24:43,919

sometimes you see more meteors coming

565

00:24:48,149 --> 00:24:46,080

through our atmosphere upper atmosphere

566

00:24:50,470 --> 00:24:48,159

it seems like then then when we're down

567

00:24:52,070 --> 00:24:50,480

here on earth maybe because we're up

568

00:24:55,110 --> 00:24:52,080

there and we're looking out the window

569

00:24:57,269 --> 00:24:55,120

more and we see uh we see them

570

00:24:58,630 --> 00:24:57,279

but i can also tell you that

571

00:25:00,950 --> 00:24:58,640

since i've been outside the space

572

00:25:03,510 --> 00:25:00,960

station doing space walks and the space

573

00:25:05,830 --> 00:25:03,520

station is mostly made of metal

574

00:25:07,830 --> 00:25:05,840

you see a lot of little little uh pit

575

00:25:09,430 --> 00:25:07,840

marks little little dents in the outside

576  
00:25:11,110 --> 00:25:09,440  
of the space station from where micro

577  
00:25:11,830 --> 00:25:11,120  
meteorites have hit

578  
00:25:14,470 --> 00:25:11,840  
so

579  
00:25:16,390 --> 00:25:14,480  
we know that there's a lot of things up

580  
00:25:18,390 --> 00:25:16,400  
there that come back and actually hit

581  
00:25:19,990 --> 00:25:18,400  
the space station on the outside they're

582  
00:25:22,310 --> 00:25:20,000  
they're really tiny but they're going

583  
00:25:23,909 --> 00:25:22,320  
really fast so they make a little mark

584  
00:25:26,710 --> 00:25:23,919  
so

585  
00:25:28,470 --> 00:25:26,720  
yes i've been inside a meteor shower i

586  
00:25:31,269 --> 00:25:28,480  
guess by living in the space station for

587  
00:25:35,830 --> 00:25:33,269  
good questions and i think that is all

588  
00:25:37,669 --> 00:25:35,840

the time we have today we really

589

00:25:38,870 --> 00:25:37,679

appreciate you guys we're glad you were

590

00:25:40,149 --> 00:25:38,880

able to come and join us here in the

591

00:25:41,909 --> 00:25:40,159

international space station flight

592

00:25:44,230 --> 00:25:41,919

control room again thank you mike for

593

00:25:46,950 --> 00:25:44,240

coming you heard it here this the best

594

00:25:49,110 --> 00:25:46,960

job in the world and off the world so

595

00:25:51,029 --> 00:25:49,120

study hard thank you teachers and eat

596

00:25:52,149 --> 00:25:51,039

your veggies this is mission control