



1  
00:00:05,749 --> 00:00:02,470  
station this is houston are you ready

2  
00:00:10,790 --> 00:00:08,710  
we are ready for the event

3  
00:00:13,030 --> 00:00:10,800  
lbj library this is mission control

4  
00:00:23,910 --> 00:00:13,040  
houston please call station for a voice

5  
00:00:30,470 --> 00:00:25,830  
station this is lbj library in austin

6  
00:00:34,630 --> 00:00:32,630  
we have you loud and clear how do you

7  
00:00:36,870 --> 00:00:34,640  
hear us

8  
00:00:37,990 --> 00:00:36,880  
we hear you wonderfully thank you so

9  
00:00:39,590 --> 00:00:38,000  
much

10  
00:00:43,270 --> 00:00:39,600  
all right i have our first student here

11  
00:00:48,709 --> 00:00:45,910  
uh what are you doing during the

12  
00:00:54,150 --> 00:00:48,719  
year-long mission in the international

13  
00:00:58,389 --> 00:00:56,229

well you know we do a lot up here we

14

00:01:01,510 --> 00:00:58,399

have uh about

15

00:01:03,590 --> 00:01:01,520

400 different uh scientific experiments

16

00:01:04,869 --> 00:01:03,600

throughout the time that misha and i are

17

00:01:07,350 --> 00:01:04,879

here and those are

18

00:01:09,190 --> 00:01:07,360

in all different types of uh scientific

19

00:01:11,350 --> 00:01:09,200

disciplines we also do

20

00:01:13,990 --> 00:01:11,360

maintenance on the space station and we

21

00:01:15,429 --> 00:01:14,000

uh do certain activities to improve it

22

00:01:17,270 --> 00:01:15,439

we're doing uh

23

00:01:19,030 --> 00:01:17,280

a shell ingredient one of the other

24

00:01:20,710 --> 00:01:19,040

astronauts and i are doing a spacewalk

25

00:01:23,749 --> 00:01:20,720

next week to do that

26

00:01:26,469 --> 00:01:23,759

but the stuff that's specific to this

27

00:01:28,550 --> 00:01:26,479

flight the one-year flight

28

00:01:31,350 --> 00:01:28,560

has to do with understanding you know

29

00:01:34,069 --> 00:01:31,360

how our physiology

30

00:01:36,550 --> 00:01:34,079

changes throughout the uh you know a

31

00:01:38,149 --> 00:01:36,560

longer time in space and how

32

00:01:39,830 --> 00:01:38,159

we are going to

33

00:01:41,830 --> 00:01:39,840

you know prevent those changes

34

00:01:46,389 --> 00:01:41,840

understand them so we can go on to mars

35

00:02:04,389 --> 00:01:48,310

can you tell us more about the russian

36

00:02:09,270 --> 00:02:07,590

well the russian soyuz vehicle is a very

37

00:02:11,510 --> 00:02:09,280

reliable

38

00:02:13,670 --> 00:02:11,520

spacecraft that has been flying for over

39

00:02:17,750 --> 00:02:13,680

50 years

40

00:02:19,750 --> 00:02:17,760

it is our rescue vehicle and at the same

41

00:02:21,910 --> 00:02:19,760

time it's

42

00:02:23,830 --> 00:02:21,920

our vehicle that drives us to the

43

00:02:25,990 --> 00:02:23,840

station we like this vehicle very much

44

00:02:29,830 --> 00:02:26,000

and i hope our colleagues like it as

45

00:02:33,110 --> 00:02:29,840

well so far it is the only vehicle

46

00:02:35,030 --> 00:02:33,120

flying to the station and a rescue

47

00:02:37,509 --> 00:02:35,040

vehicle that we're using

48

00:02:39,990 --> 00:02:37,519

it is a vehicle that has been upgraded

49

00:02:41,910 --> 00:02:40,000

it's not the same that has been flying

50

00:02:43,990 --> 00:02:41,920

20 years ago and i would like to

51  
00:02:47,030 --> 00:02:44,000  
emphasize again it is a very reliable

52  
00:02:50,790 --> 00:02:48,949  
this is a question for scott what makes

53  
00:02:56,630 --> 00:02:50,800  
your year-long mission different from a

54  
00:02:59,990 --> 00:02:58,470  
well you know there's the obvious things

55  
00:03:01,830 --> 00:03:00,000  
and you know i

56  
00:03:04,550 --> 00:03:01,840  
it's part of the question

57  
00:03:06,070 --> 00:03:04,560  
you know it's much longer but that also

58  
00:03:07,589 --> 00:03:06,080  
means it's uh

59  
00:03:10,149 --> 00:03:07,599  
you know it's harder

60  
00:03:11,670 --> 00:03:10,159  
in uh you know that you're isolated uh

61  
00:03:13,589 --> 00:03:11,680  
you know for a longer period of time i

62  
00:03:14,949 --> 00:03:13,599  
think it's you know it's twice as long i

63  
00:03:17,270 --> 00:03:14,959

think it's more than twice as hard

64

00:03:19,830 --> 00:03:17,280

though um

65

00:03:23,110 --> 00:03:19,840

and what comes with that that that

66

00:03:25,190 --> 00:03:23,120

duration is extra training um

67

00:03:26,470 --> 00:03:25,200

you know we're gonna do more activities

68

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

while we're up here we're gonna do more

69

00:03:32,229 --> 00:03:28,959

science we're gonna do uh you know have

70

00:03:34,309 --> 00:03:32,239

a larger variety of of types of things

71

00:03:35,750 --> 00:03:34,319

we need to be responsible and accomplish

72

00:03:38,869 --> 00:03:35,760

so the training

73

00:03:40,949 --> 00:03:38,879

is uh more difficult we're here with uh

74

00:03:43,030 --> 00:03:40,959

misha and i are here with uh

75

00:03:45,030 --> 00:03:43,040

you know 12

76

00:03:47,110 --> 00:03:45,040

actually i'll be here with 13 other crew

77

00:03:48,470 --> 00:03:47,120

members including

78

00:03:49,270 --> 00:03:48,480

misha

79

00:03:50,070 --> 00:03:49,280

and

80

00:03:52,630 --> 00:03:50,080

so

81

00:03:54,149 --> 00:03:52,640

you know we just have to get

82

00:03:55,429 --> 00:03:54,159

you know comfortable working with

83

00:03:56,309 --> 00:03:55,439

different people

84

00:03:58,630 --> 00:03:56,319

and

85

00:04:00,390 --> 00:03:58,640

it just makes for a

86

00:04:03,030 --> 00:04:00,400

you know more complicated

87

00:04:06,309 --> 00:04:03,040

but at the same time a more rewarding

88

00:04:23,830 --> 00:04:08,149

question from michael what does the

89

00:04:27,430 --> 00:04:25,030

launch is

90

00:04:30,390 --> 00:04:27,440

a very impressive event

91

00:04:33,590 --> 00:04:30,400

it was my second launch i have

92

00:04:35,909 --> 00:04:33,600

more experience than most but it's

93

00:04:38,870 --> 00:04:35,919

always an unforgettable very exciting

94

00:04:42,070 --> 00:04:38,880

experience but also it's

95

00:04:44,790 --> 00:04:42,080

an activity at work that requires a lot

96

00:04:47,189 --> 00:04:44,800

of responsibility

97

00:04:49,350 --> 00:04:47,199

these are the most important stages of

98

00:04:50,629 --> 00:04:49,360

the flight in space exploration the

99

00:04:51,990 --> 00:04:50,639

entire

100

00:04:54,150 --> 00:04:52,000

mission

101  
00:04:55,189 --> 00:04:54,160  
accomplishment and success depends on

102  
00:04:59,909 --> 00:04:55,199  
that

103  
00:05:05,350 --> 00:05:02,550  
this is a surprise question from

104  
00:05:07,590 --> 00:05:05,360  
scott from mark your brother

105  
00:05:09,350 --> 00:05:07,600  
with so much conflict around the world

106  
00:05:11,990 --> 00:05:09,360  
involving energy

107  
00:05:15,670 --> 00:05:12,000  
what if anything is being done

108  
00:05:21,670 --> 00:05:15,680  
on the iss to solve the global energy

109  
00:05:25,270 --> 00:05:23,590  
well that's a good question i didn't

110  
00:05:28,710 --> 00:05:25,280  
know i was going to get questions from

111  
00:05:34,310 --> 00:05:31,189  
this facility

112  
00:05:35,990 --> 00:05:34,320  
and this orbiting laboratory is a

113  
00:05:39,590 --> 00:05:36,000

you know a very

114

00:05:41,110 --> 00:05:39,600

energy efficient uh environment we use

115

00:05:43,590 --> 00:05:41,120

solar energy

116

00:05:45,430 --> 00:05:43,600

uh it's been powering our human presence

117

00:05:47,350 --> 00:05:45,440

here for the last 15 years we've had

118

00:05:49,909 --> 00:05:47,360

people living here completely on

119

00:05:50,830 --> 00:05:49,919

on solar energy

120

00:05:52,550 --> 00:05:50,840

we

121

00:05:53,990 --> 00:05:52,560

recycle

122

00:05:56,230 --> 00:05:54,000

our water

123

00:05:57,510 --> 00:05:56,240

we basically take our urine and turn it

124

00:05:59,510 --> 00:05:57,520

into water

125

00:06:00,230 --> 00:05:59,520

and we can drink that

126  
00:06:02,950 --> 00:06:00,240  
and

127  
00:06:04,950 --> 00:06:02,960  
you know from that water we also

128  
00:06:07,990 --> 00:06:04,960  
through a process of electrolysis we

129  
00:06:12,710 --> 00:06:09,990  
we scrub our atmosphere of carbon

130  
00:06:17,029 --> 00:06:12,720  
dioxide and

131  
00:06:19,110 --> 00:06:17,039  
you know which is which is co2 and

132  
00:06:22,070 --> 00:06:19,120  
you know from the oxygen

133  
00:06:23,749 --> 00:06:22,080  
we get out of that co2 and the uh

134  
00:06:25,749 --> 00:06:23,759  
the hydrogen we get out of making

135  
00:06:27,909 --> 00:06:25,759  
electricity out of our water we also can

136  
00:06:29,110 --> 00:06:27,919  
make more water so it's kind of this

137  
00:06:31,350 --> 00:06:29,120  
closed-loop

138  
00:06:33,590 --> 00:06:31,360

environmental control system

139

00:06:37,270 --> 00:06:33,600

and uh energy system i guess you could

140

00:06:40,629 --> 00:06:37,280

say that really just uses the sun

141

00:06:42,070 --> 00:06:40,639

to to make it all happen and

142

00:06:44,390 --> 00:06:42,080

you know it's a state-of-the-art system

143

00:06:45,590 --> 00:06:44,400

it allows us to i think understand how

144

00:06:48,870 --> 00:06:45,600

we can

145

00:06:50,790 --> 00:06:48,880

uh you know use uh renewable energy in a

146

00:06:51,670 --> 00:06:50,800

much uh

147

00:06:53,110 --> 00:06:51,680

more

148

00:06:55,510 --> 00:06:53,120

complete way

149

00:06:57,110 --> 00:06:55,520

um we also do other kinds of scientific

150

00:06:59,670 --> 00:06:57,120

experiments for instance we're standing

151

00:07:02,550 --> 00:06:59,680

right near next to this uh combustion

152

00:07:04,150 --> 00:07:02,560

integrated rack which is very you can't

153

00:07:06,870 --> 00:07:04,160

see it because the door is closed but

154

00:07:08,550 --> 00:07:06,880

it's very complicated uh furnace

155

00:07:10,230 --> 00:07:08,560

scientific furnace that

156

00:07:12,950 --> 00:07:10,240

allows us to uh

157

00:07:15,430 --> 00:07:12,960

do experiments to understand uh the

158

00:07:18,790 --> 00:07:15,440

process of combustion better how to make

159

00:07:18,800 --> 00:07:23,189

you know combustion uh reactions

160

00:07:26,390 --> 00:07:24,550

we also have this

161

00:07:28,790 --> 00:07:26,400

japanese experiment going on now called

162

00:07:31,430 --> 00:07:28,800

plant gravity sensing it's a follow-on

163

00:07:34,469 --> 00:07:31,440

to a previous experiment but it's the

164

00:07:37,270 --> 00:07:34,479

idea is if we understand how

165

00:07:39,990 --> 00:07:37,280

uh plants um

166

00:07:41,270 --> 00:07:40,000

you know how they their genetics are

167

00:07:44,629 --> 00:07:41,280

such that they

168

00:07:46,469 --> 00:07:44,639

go towards gravity versus water

169

00:07:48,230 --> 00:07:46,479

if you could genetically engineer a

170

00:07:50,790 --> 00:07:48,240

plant that would be more prone for the

171

00:07:52,150 --> 00:07:50,800

roots to to travel towards water you

172

00:07:54,869 --> 00:07:52,160

could use

173

00:07:57,670 --> 00:07:54,879

theoretically use less water to uh to

174

00:08:00,070 --> 00:07:57,680

grow them and you know water is also

175

00:08:03,270 --> 00:08:00,080

a you know national security issue or

176

00:08:04,950 --> 00:08:03,280

will be for for some countries so

177

00:08:06,869 --> 00:08:04,960

uh you know understanding those kind of

178

00:08:08,390 --> 00:08:06,879

processes the

179

00:08:10,790 --> 00:08:08,400

renewable energy

180

00:08:13,990 --> 00:08:10,800

uh how to better use water to grow our

181

00:08:16,550 --> 00:08:14,000

food is uh you know very important for

182

00:08:17,510 --> 00:08:16,560

you know the planet uh down below that

183

00:08:19,510 --> 00:08:17,520

we're looking at right through our

184

00:08:25,110 --> 00:08:19,520

window down there

185

00:08:25,120 --> 00:08:37,509

what can you see from the space station

186

00:08:41,509 --> 00:08:38,949

it depends

187

00:08:44,870 --> 00:08:41,519

which one place we are flying off

188

00:08:49,269 --> 00:08:47,590

for example now i see a

189

00:08:51,670 --> 00:08:49,279

pacific ocean

190

00:08:53,990 --> 00:08:51,680

if i don't mind

191

00:08:55,590 --> 00:08:54,000

and in

192

00:08:59,910 --> 00:08:55,600

in several minutes

193

00:09:04,710 --> 00:09:03,269

under the india south america

194

00:09:05,590 --> 00:09:04,720

south america

195

00:09:06,550 --> 00:09:05,600

yes

196

00:09:09,030 --> 00:09:06,560

and

197

00:09:11,350 --> 00:09:09,040

all circle around the earth it's 90

198

00:09:13,750 --> 00:09:11,360

minutes and we can observe

199

00:09:16,389 --> 00:09:13,760

practically

200

00:09:18,310 --> 00:09:16,399

90 percent of of earth

201  
00:09:19,350 --> 00:09:18,320  
it's very impressive

202  
00:09:21,670 --> 00:09:19,360  
yeah

203  
00:09:23,670 --> 00:09:21,680  
and and to just add to that i think

204  
00:09:26,070 --> 00:09:23,680  
maybe what you're getting at is maybe

205  
00:09:27,590 --> 00:09:26,080  
what uh what can you see

206  
00:09:30,150 --> 00:09:27,600  
that is uh

207  
00:09:32,710 --> 00:09:30,160  
you know made by by people

208  
00:09:35,190 --> 00:09:32,720  
and uh you know there's this common

209  
00:09:37,910 --> 00:09:35,200  
misconception that we can see the great

210  
00:09:40,870 --> 00:09:37,920  
wall of china for instance

211  
00:09:41,910 --> 00:09:40,880  
but you can't because it's not that

212  
00:09:43,670 --> 00:09:41,920  
large

213  
00:09:46,310 --> 00:09:43,680

but also because it's generally made

214

00:09:48,470 --> 00:09:46,320

with the materials that are surrounding

215

00:09:51,750 --> 00:09:48,480

it so it's somewhat camouflaged but we

216

00:09:52,870 --> 00:09:51,760

could see airports uh stand out

217

00:09:55,509 --> 00:09:52,880

um

218

00:09:57,030 --> 00:09:55,519

you could see fields that are you know

219

00:09:58,550 --> 00:09:57,040

for for uh

220

00:09:59,990 --> 00:09:58,560

you know farmers fields that are in

221

00:10:02,630 --> 00:10:00,000

certain shapes

222

00:10:04,069 --> 00:10:02,640

um you can definitely see cities

223

00:10:05,910 --> 00:10:04,079

especially at night but you can see

224

00:10:08,069 --> 00:10:05,920

cities and tell if that's something that

225

00:10:09,750 --> 00:10:08,079

is man-made the other thing that's

226

00:10:12,470 --> 00:10:09,760

really easy to see

227

00:10:14,790 --> 00:10:12,480

that is uh as a result of you know

228

00:10:18,389 --> 00:10:14,800

human

229

00:10:19,829 --> 00:10:18,399

you know our life on earth is pollution

230

00:10:22,150 --> 00:10:19,839

you can definitely tell that there's

231

00:10:23,910 --> 00:10:22,160

certain areas of the world that are

232

00:10:25,910 --> 00:10:23,920

much more polluted than others because

233

00:10:27,509 --> 00:10:25,920

you generally don't see

234

00:10:28,710 --> 00:10:27,519

see those cities

235

00:10:35,190 --> 00:10:28,720

and see

236

00:10:40,550 --> 00:10:37,910

right i have two questions

237

00:10:50,550 --> 00:10:40,560

my first one is how long do you have to

238

00:10:55,990 --> 00:10:53,670

yes so um you know i think

239

00:10:58,230 --> 00:10:56,000

generally for a long duration space

240

00:10:59,750 --> 00:10:58,240

flight we train from you know two to

241

00:11:01,750 --> 00:10:59,760

three years

242

00:11:05,030 --> 00:11:01,760

but uh you know that's after you're

243

00:11:06,069 --> 00:11:05,040

already a an astronaut and or cosmonaut

244

00:11:07,750 --> 00:11:06,079

and have been

245

00:11:08,630 --> 00:11:07,760

you know training

246

00:11:10,310 --> 00:11:08,640

um

247

00:11:12,230 --> 00:11:10,320

you know since you started there which

248

00:11:14,389 --> 00:11:12,240

is usually the basic training i think

249

00:11:15,190 --> 00:11:14,399

for both of our programs is on the order

250

00:11:17,190 --> 00:11:15,200

of

251

00:11:18,389 --> 00:11:17,200

you know two to three years

252

00:11:20,389 --> 00:11:18,399

and

253

00:11:22,150 --> 00:11:20,399

so from the time you know you get

254

00:11:24,230 --> 00:11:22,160

selected as an astronaut probably the

255

00:11:26,150 --> 00:11:24,240

minimum minimum amount of time you would

256

00:11:28,870 --> 00:11:26,160

wind up training these days

257

00:11:29,670 --> 00:11:28,880

is from you know five to six years for a

258

00:11:31,190 --> 00:11:29,680

uh

259

00:11:33,509 --> 00:11:31,200

for a flight but

260

00:11:37,030 --> 00:11:33,519

you know this uh you know this facility

261

00:11:39,670 --> 00:11:37,040

is so complicated the work we do here uh

262

00:11:41,269 --> 00:11:39,680

you know is tough in a lot of ways that

263

00:11:43,590 --> 00:11:41,279

you know i think there are skills that i

264

00:11:45,990 --> 00:11:43,600

learned in uh you know as when i was

265

00:11:48,389 --> 00:11:46,000

your age that are you know serving me

266

00:11:50,949 --> 00:11:48,399

well up here so i look at it as more of

267

00:11:53,269 --> 00:11:50,959

a lifelong you know training process to

268

00:11:59,030 --> 00:11:53,279

get here versus you know any particular

269

00:12:02,949 --> 00:12:00,550

this one for scott

270

00:12:08,629 --> 00:12:02,959

what effects does the space flight have

271

00:12:14,069 --> 00:12:10,949

yeah there's a bunch of effects from uh

272

00:12:15,990 --> 00:12:14,079

living in microgravity um

273

00:12:18,949 --> 00:12:16,000

you know some of them those overwhelming

274

00:12:19,670 --> 00:12:18,959

like the uh you know loss of bone mass

275

00:12:29,829 --> 00:12:19,680

and

276

00:12:32,150 --> 00:12:29,839

diet

277

00:12:34,550 --> 00:12:32,160

uh there's also a recent thing we've

278

00:12:35,910 --> 00:12:34,560

discovered a few years ago is effect

279

00:12:37,430 --> 00:12:35,920

effects on the

280

00:12:41,509 --> 00:12:37,440

structure of our

281

00:12:45,030 --> 00:12:41,519

our eyes and uh optic nerve and

282

00:12:46,470 --> 00:12:45,040

and uh an impact on our our vision

283

00:12:50,150 --> 00:12:46,480

and uh

284

00:12:51,670 --> 00:12:50,160

knowing how to prevent that is going to

285

00:12:53,350 --> 00:12:51,680

be important for

286

00:12:54,710 --> 00:12:53,360

you know any future trip to trips to

287

00:12:57,350 --> 00:12:54,720

mars we also have the effects of

288

00:12:58,710 --> 00:12:57,360

radiation

289

00:13:01,030 --> 00:12:58,720

which

290

00:13:03,030 --> 00:13:01,040

you know can affect us uh you know in

291

00:13:05,670 --> 00:13:03,040

varying ways and some of those ways you

292

00:13:06,870 --> 00:13:05,680

may never even find out but we do get we

293

00:13:09,590 --> 00:13:06,880

do get a

294

00:13:11,430 --> 00:13:09,600

pretty healthy dose of radiation up here

295

00:13:12,710 --> 00:13:11,440

and that's uh you know that's kind of a

296

00:13:14,550 --> 00:13:12,720

negative effect

297

00:13:16,069 --> 00:13:14,560

the uh

298

00:13:18,550 --> 00:13:16,079

there's also an effect on our immune

299

00:13:22,150 --> 00:13:18,560

system our immune system is somewhat

300

00:13:24,069 --> 00:13:22,160

degraded while we're in space

301

00:13:26,470 --> 00:13:24,079

but there are a lot of positive effects

302

00:13:29,030 --> 00:13:26,480

of living up here

303

00:13:31,750 --> 00:13:29,040

you know you get a unique uh perspective

304

00:13:34,389 --> 00:13:31,760

on our planet that is uh

305

00:13:36,629 --> 00:13:34,399

is uh you know really hard to to

306

00:13:37,990 --> 00:13:36,639

describe sometimes but you know seeing

307

00:13:39,509 --> 00:13:38,000

the earth down there and understanding

308

00:13:41,509 --> 00:13:39,519

that all the people

309

00:13:43,670 --> 00:13:41,519

you know that we you know know and love

310

00:13:45,110 --> 00:13:43,680

and things we care about are all right

311

00:13:48,230 --> 00:13:45,120

right down there

312

00:13:50,710 --> 00:13:48,240

and uh you know see how you know the

313

00:13:52,710 --> 00:13:50,720

earth looks more like you know uh

314

00:13:53,990 --> 00:13:52,720

one country than just a bunch of

315

00:13:55,350 --> 00:13:54,000

different countries it looks like we're

316

00:13:57,670 --> 00:13:55,360

kind of all in this

317

00:13:58,870 --> 00:13:57,680

situation down there together

318

00:14:00,949 --> 00:13:58,880

um

319

00:14:02,310 --> 00:14:00,959

and then you know the other positive

320

00:14:04,389 --> 00:14:02,320

thing is you get to work on something

321

00:14:05,990 --> 00:14:04,399

that we we think is very important you

322

00:14:07,910 --> 00:14:06,000

know something we feel very strongly

323

00:14:09,910 --> 00:14:07,920

about and uh

324

00:14:12,470 --> 00:14:09,920

and you know work with a great group of

325

00:14:12,480 --> 00:14:28,829

poor mikhail what do cosmonauts do when

326  
00:14:33,110 --> 00:14:30,470  
um

327  
00:14:35,269 --> 00:14:33,120  
there is such a time

328  
00:14:37,750 --> 00:14:35,279  
stage that both that includes

329  
00:14:39,350 --> 00:14:37,760  
post-flight rehabilitation

330  
00:14:41,750 --> 00:14:39,360  
we're going to have a year of

331  
00:14:45,670 --> 00:14:41,760  
rehabilitation scott and myself after

332  
00:14:47,670 --> 00:14:45,680  
our long duration mission

333  
00:14:49,430 --> 00:14:47,680  
then we're going to have the medical

334  
00:14:52,150 --> 00:14:49,440  
examination

335  
00:14:53,269 --> 00:14:52,160  
that will clear us for subsequent

336  
00:14:54,790 --> 00:14:53,279  
training

337  
00:14:57,430 --> 00:14:54,800  
then you

338  
00:14:59,990 --> 00:14:57,440

are assigned a new flight and then

339

00:15:02,310 --> 00:15:00,000

you're going to go through a two and a

340

00:15:05,350 --> 00:15:02,320

half or three year long training for the

341

00:15:08,310 --> 00:15:05,360

next flight that is a brief description

342

00:15:16,710 --> 00:15:10,230

this is a question for scott what kind

343

00:15:19,750 --> 00:15:18,150

yeah so we have

344

00:15:22,310 --> 00:15:19,760

here we have all different kinds of food

345

00:15:23,990 --> 00:15:22,320

most of it is

346

00:15:27,509 --> 00:15:24,000

this

347

00:15:28,310 --> 00:15:27,519

food that's called radiated um so it's

348

00:15:30,790 --> 00:15:28,320

uh

349

00:15:33,189 --> 00:15:30,800

hit with some radiation to kill any

350

00:15:35,350 --> 00:15:33,199

bacteria or germs it might have

351  
00:15:36,389 --> 00:15:35,360  
those are kind of like you know military

352  
00:15:38,790 --> 00:15:36,399  
style

353  
00:15:39,670 --> 00:15:38,800  
what are called mres or meals ready to

354  
00:15:42,230 --> 00:15:39,680  
eat

355  
00:15:43,990 --> 00:15:42,240  
you know food in a bag

356  
00:15:47,189 --> 00:15:44,000  
and then we have i don't know if we have

357  
00:15:49,030 --> 00:15:47,199  
any around here but we have some

358  
00:15:52,710 --> 00:15:49,040  
rehydratable food it's kind of like

359  
00:15:54,870 --> 00:15:52,720  
camping food that you add water to

360  
00:15:56,710 --> 00:15:54,880  
it's expensive to fly stuff to orbit so

361  
00:15:58,470 --> 00:15:56,720  
if you can you know launch

362  
00:15:59,430 --> 00:15:58,480  
food that doesn't have the weight of the

363  
00:16:00,470 --> 00:15:59,440

water

364

00:16:02,550 --> 00:16:00,480

and the

365

00:16:05,269 --> 00:16:02,560

you know the volume that that then takes

366

00:16:06,629 --> 00:16:05,279

up it's more cost effective

367

00:16:09,430 --> 00:16:06,639

and it's you know

368

00:16:11,590 --> 00:16:09,440

stays fresh longer so we have a lot of

369

00:16:12,710 --> 00:16:11,600

rehydratable food we have some food

370

00:16:14,150 --> 00:16:12,720

that's uh

371

00:16:16,710 --> 00:16:14,160

you know you can buy in the grocery

372

00:16:17,670 --> 00:16:16,720

store stuff that is what we call off the

373

00:16:19,670 --> 00:16:17,680

shelf

374

00:16:22,069 --> 00:16:19,680

and uh you know that our people that

375

00:16:24,069 --> 00:16:22,079

manage our food system like a you know

376

00:16:26,629 --> 00:16:24,079

package of tuna fish for instance things

377

00:16:28,470 --> 00:16:26,639

like that cosmonauts food's different we

378

00:16:30,230 --> 00:16:28,480

share a lot of the stuff a lot of their

379

00:16:33,269 --> 00:16:30,240

stuff comes in cans

380

00:16:42,870 --> 00:16:33,279

but it's good and it's great to have a a

381

00:16:59,430 --> 00:16:44,629

what do you do for fun and do you get to

382

00:17:05,110 --> 00:17:02,629

oh you practically answered the question

383

00:17:08,150 --> 00:17:05,120

um we do watch tv

384

00:17:11,270 --> 00:17:08,160

there is a tv channel here but it

385

00:17:14,309 --> 00:17:11,280

has a short band and we also have a

386

00:17:15,990 --> 00:17:14,319

library we can watch movies we can read

387

00:17:17,990 --> 00:17:16,000

books we can call

388

00:17:18,870 --> 00:17:18,000

over the regular phone

389

00:17:23,829 --> 00:17:18,880

to

390

00:17:25,669 --> 00:17:23,839

internet access

391

00:17:28,549 --> 00:17:25,679

on saturdays and sundays we have video

392

00:17:30,710 --> 00:17:28,559

conferences with families so it is a

393

00:17:32,710 --> 00:17:30,720

variety of

394

00:17:34,870 --> 00:17:32,720

psychological support that is available

395

00:17:41,190 --> 00:17:34,880

to the crew and it is very good it does

396

00:17:45,190 --> 00:17:43,110

so this is a question for scott are you

397

00:17:51,590 --> 00:17:45,200

able to contact your family or use any

398

00:17:54,789 --> 00:17:53,510

yeah like uh you know misha was just

399

00:17:56,470 --> 00:17:54,799

saying we have

400

00:17:59,029 --> 00:17:56,480

the ability to communicate with friends

401  
00:18:00,630 --> 00:17:59,039  
and family via via a

402  
00:18:02,549 --> 00:18:00,640  
telephone

403  
00:18:03,430 --> 00:18:02,559  
it's kind of like a skype

404  
00:18:07,350 --> 00:18:03,440  
type

405  
00:18:09,909 --> 00:18:07,360  
capability voice over ip is

406  
00:18:12,710 --> 00:18:09,919  
how it's generally referred to so you

407  
00:18:14,470 --> 00:18:12,720  
know a call over the internet

408  
00:18:17,750 --> 00:18:14,480  
probably about 50 minutes out of every

409  
00:18:19,270 --> 00:18:17,760  
hour we have enough coverage to do that

410  
00:18:21,350 --> 00:18:19,280  
we have the ability to do a video

411  
00:18:23,190 --> 00:18:21,360  
conference obviously like what we're

412  
00:18:24,230 --> 00:18:23,200  
doing here right now so we can do that

413  
00:18:26,070 --> 00:18:24,240

with our

414

00:18:29,669 --> 00:18:26,080

our families

415

00:18:31,029 --> 00:18:29,679

generally once a week we have email and

416

00:18:33,350 --> 00:18:31,039

uh

417

00:18:34,549 --> 00:18:33,360

we also have the capability to get on

418

00:18:35,750 --> 00:18:34,559

the internet

419

00:18:36,710 --> 00:18:35,760

and

420

00:18:38,310 --> 00:18:36,720

you know

421

00:18:40,630 --> 00:18:38,320

on different websites although it's

422

00:18:42,870 --> 00:18:40,640

somewhat slow it's still

423

00:18:45,029 --> 00:18:42,880

better than nothing so we have a lot of

424

00:18:58,150 --> 00:18:45,039

a lot of capability to stay in contact

425

00:19:11,510 --> 00:19:00,070

this one raquel what is the most

426

00:19:14,070 --> 00:19:12,470

all right

427

00:19:15,669 --> 00:19:14,080

i've heard that that's our last question

428

00:19:22,230 --> 00:19:15,679

thank you guys so much for joining us

429

00:19:29,510 --> 00:19:24,710

well it was uh it was our pleasure and

430

00:19:38,630 --> 00:19:32,230

station this is houston acr