



1
00:00:36,460 --> 00:01:20,660

you

2
00:01:24,660 --> 00:01:22,830

well just on behalf of the crew we'd

3
00:01:26,100 --> 00:01:24,670

like to take this opportunity while

4
00:01:28,140 --> 00:01:26,110

we're all together I'll awake at once

5
00:01:29,970 --> 00:01:28,150

and as a thank you to the thousands of

6
00:01:31,910 --> 00:01:29,980

people in Vegas five possible study at

7
00:01:34,560 --> 00:01:31,920

KSC when they made the historic

8
00:01:37,020 --> 00:01:34,570

turnaround in record-breaking time and

9
00:01:39,000 --> 00:01:37,030

then the flight itself which has just

10
00:01:41,940 --> 00:01:39,010

been flawless Columbia has performed

11
00:01:44,610 --> 00:01:41,950

absolutely flawless flawless bleep worse

12
00:01:46,110 --> 00:01:44,620

at the days have gone by without having

13
00:01:47,910 --> 00:01:46,120

to do an air laundry set which is our

14

00:01:50,670 --> 00:01:47,920

way of Santa just have been no problems

15

00:01:51,570 --> 00:01:50,680

whatsoever the people at Mission Control

16

00:01:54,170 --> 00:01:51,580

have been looking over my shoulder

17

00:01:57,090 --> 00:01:54,180

coming up though with the daily plan and

18

00:01:58,499 --> 00:01:57,100

we were talking to elevate them it has

19

00:01:59,999 --> 00:01:58,509

been so smooth that we simply haven't

20

00:02:02,370 --> 00:02:00,009

had to talk to the ground the whole rod

21

00:02:03,690 --> 00:02:02,380

to Mission Control which makes it seem

22

00:02:05,100 --> 00:02:03,700

like there's nothing going on but it

23

00:02:07,499 --> 00:02:05,110

really means is that the pilot they come

24

00:02:08,850 --> 00:02:07,509

up with every day we executed and we

25

00:02:10,290 --> 00:02:08,860

don't have a lot of questions a lot of

26
00:02:14,160 --> 00:02:10,300
problems with us so we can press forth

27
00:02:17,550 --> 00:02:14,170
so overall flavor for this flight is in

28
00:02:19,620 --> 00:02:17,560
it it has done what 83 had set out to do

29
00:02:20,940 --> 00:02:19,630
we have completed our tans just about

30
00:02:23,250 --> 00:02:20,950
him will be ready to come home on

31
00:02:28,680 --> 00:02:23,260
Thursday sonam well we're more than

32
00:02:30,590 --> 00:02:28,690
happy to imitating a question hi this is

33
00:02:32,759 --> 00:02:30,600
nedra Pickler from the Houston Chronicle

34
00:02:34,500 --> 00:02:32,769
anyone can jump in on this one maybe you

35
00:02:36,900 --> 00:02:34,510
commander house call so now that you

36
00:02:38,460 --> 00:02:36,910
you're beginning flight day 15 can you

37
00:02:40,620 --> 00:02:38,470
talk about any problems that have come

38
00:02:42,120 --> 00:02:40,630

up with such a long mission as NASA

39

00:02:44,130 --> 00:02:42,130

prepares for longer missions with the

40

00:02:46,170 --> 00:02:44,140

space station talk about how you have

41

00:02:51,780 --> 00:02:46,180

been affected physically and mentally by

42

00:02:54,660 --> 00:02:51,790

being in space for two weeks over 16

43

00:02:56,100 --> 00:02:54,670

days the physically what you notice is

44

00:02:58,170 --> 00:02:56,110

that you do need to continue exercising

45

00:02:59,640 --> 00:02:58,180

we have an odometer which allows us to

46

00:03:02,520 --> 00:02:59,650

exercise and we try to get about 30

47

00:03:04,170 --> 00:03:02,530

minutes per person per day and we have

48

00:03:05,850 --> 00:03:04,180

learned already in the program but

49

00:03:07,920 --> 00:03:05,860

that's an important thing for a sure it

50

00:03:09,360 --> 00:03:07,930

also do it really helps your riad apt

51
00:03:11,190 --> 00:03:09,370
asian to one's you when you come back

52
00:03:12,509 --> 00:03:11,200
home and that's merely by what the

53
00:03:14,970 --> 00:03:12,519
Russians have learned they put even more

54
00:03:16,680 --> 00:03:14,980
emphasis on exercise every day i read

55
00:03:18,330 --> 00:03:16,690
that they were doing up to two hours per

56
00:03:20,880 --> 00:03:18,340
day on the bike expecially prior to

57
00:03:22,410 --> 00:03:20,890
career a maelstrom Earth's atmosphere at

58
00:03:24,120 --> 00:03:22,420
the end of the nation so that's I think

59
00:03:26,340 --> 00:03:24,130
that's the one thing you need to

60
00:03:28,229 --> 00:03:26,350
concentrate on we know we know that you

61
00:03:29,850 --> 00:03:28,239
get dehydrated up here so we try to pay

62
00:03:31,470 --> 00:03:29,860
attention to drinking enough liquids

63
00:03:32,990 --> 00:03:31,480

every day to make sure that we keep the

64

00:03:37,229 --> 00:03:33,000

blood volume up

65

00:03:39,720 --> 00:03:37,239

over the long term you lose bone calcium

66

00:03:40,979 --> 00:03:39,730

and some other long term effective which

67

00:03:44,100 --> 00:03:40,989

we really don't have to worry about so

68

00:03:45,960 --> 00:03:44,110

much on a on a 16-day fly but one thing

69

00:03:47,640 --> 00:03:45,970

I have been happy about very happy about

70

00:03:49,470 --> 00:03:47,650

on this cruise we've all stayed healthy

71

00:03:51,059 --> 00:03:49,480

we've had no cold as you can imagine

72

00:03:52,559 --> 00:03:51,069

being cooped up in a small space like

73

00:03:55,290 --> 00:03:52,569

this if one person comes down with the

74

00:03:56,970 --> 00:03:55,300

flu or the cold or virus it's quite

75

00:03:59,070 --> 00:03:56,980

possible for it to sweep among the whole

76
00:04:01,320 --> 00:03:59,080
crew we just have not had that everybody

77
00:04:05,910 --> 00:04:01,330
a state very very healthy and that has

78
00:04:08,039 --> 00:04:05,920
made this right very pleasurable for

79
00:04:10,559 --> 00:04:08,049
Janice can you talk about how you see

80
00:04:16,080 --> 00:04:10,569
this mission helping in future space

81
00:04:17,729 --> 00:04:16,090
exploration the primary focuses this

82
00:04:19,319 --> 00:04:17,739
mission of course is to bring research

83
00:04:21,599 --> 00:04:19,329
results back for people to use on the

84
00:04:24,180 --> 00:04:21,609
ground some of those results can also be

85
00:04:26,280 --> 00:04:24,190
used in space in particular we have many

86
00:04:28,290 --> 00:04:26,290
experiments on this flight the Express

87
00:04:29,940 --> 00:04:28,300
rack for example that are targeted

88
00:04:32,730 --> 00:04:29,950

towards the International Space Station

89

00:04:35,159 --> 00:04:32,740

we're using them this flight as a test

90

00:04:36,420 --> 00:04:35,169

bed to 10 some of these out early on is

91

00:04:38,670 --> 00:04:36,430

we're still building the hardware for

92

00:04:40,920 --> 00:04:38,680

Space Station the combustion module that

93

00:04:43,830 --> 00:04:40,930

we just are in the process of finishing

94

00:04:46,560 --> 00:04:43,840

Apple to go after runs on today and

95

00:04:48,779 --> 00:04:46,570

tomorrow is a kind of space station

96

00:04:51,210 --> 00:04:48,789

experiment where you can stage the

97

00:04:52,980 --> 00:04:51,220

hardware during the flight and we're

98

00:04:54,629 --> 00:04:52,990

allowed to change experiment as we go on

99

00:04:55,860 --> 00:04:54,639

an evolution of space station that's

100

00:04:58,800 --> 00:04:55,870

example of things that are directly

101
00:05:01,140 --> 00:04:58,810
targeted towards space future programs

102
00:05:03,000 --> 00:05:01,150
but most of this ninety percent work up

103
00:05:07,110 --> 00:05:03,010
here is targeted towards improving

104
00:05:08,700 --> 00:05:07,120
systems on earth your flight is is

105
00:05:10,350 --> 00:05:08,710
certainly very similar to what I think a

106
00:05:12,629 --> 00:05:10,360
lot of us can expect when space station

107
00:05:14,219 --> 00:05:12,639
operations began in a few years and it's

108
00:05:16,320 --> 00:05:14,229
certainly been as big a success and it's

109
00:05:18,719 --> 00:05:16,330
right in terms of goals accomplished as

110
00:05:21,450 --> 00:05:18,729
the Mars Pathfinder for example yet

111
00:05:23,490 --> 00:05:21,460
pathfinder has certainly generated much

112
00:05:25,529 --> 00:05:23,500
more public interest and I'm curious if

113
00:05:27,390 --> 00:05:25,539

if any of you would have any thoughts

114

00:05:29,159 --> 00:05:27,400

about this is that a problem for space

115

00:05:31,200 --> 00:05:29,169

station down the road is it difficult to

116

00:05:32,760 --> 00:05:31,210

sell the kind of science that you're

117

00:05:34,860 --> 00:05:32,770

going to be doing on the station versus

118

00:05:36,330 --> 00:05:34,870

the high drama missions like a Mars

119

00:05:39,480 --> 00:05:36,340

Pathfinder or one of the planetary

120

00:05:44,670 --> 00:05:42,059

I don't think so i think in the short

121

00:05:47,159 --> 00:05:44,680

term to think about the mars pathfinder

122

00:05:48,809 --> 00:05:47,169

which are truly great achievements

123

00:05:50,129 --> 00:05:48,819

really sparked the public interest and

124

00:05:53,040 --> 00:05:50,139

that's really good for the space program

125

00:05:54,450 --> 00:05:53,050

in general as we start building the

126

00:05:57,360 --> 00:05:54,460

space station i think you'll see a lot

127

00:05:59,700 --> 00:05:57,370

of public interest and then as the

128

00:06:01,469 --> 00:05:59,710

science results start feeding back into

129

00:06:03,300 --> 00:06:01,479

society on earth and really improving

130

00:06:05,010 --> 00:06:03,310

the quality of life i think people will

131

00:06:07,050 --> 00:06:05,020

really come to appreciate just exactly

132

00:06:08,460 --> 00:06:07,060

what we're doing in space and what a

133

00:06:10,950 --> 00:06:08,470

fine investment in the future of the

134

00:06:12,930 --> 00:06:10,960

country in the world that it is just

135

00:06:15,390 --> 00:06:12,940

looking back at the at this flight which

136

00:06:17,279 --> 00:06:15,400

has been obviously a major success i

137

00:06:19,409 --> 00:06:17,289

guess for you guys in terms of your of

138

00:06:20,999 --> 00:06:19,419

your goals what is the significance of

139

00:06:22,710 --> 00:06:21,009

it long term i realize you don't have

140

00:06:24,809 --> 00:06:22,720

results yet but i'm thinking in terms of

141

00:06:26,040 --> 00:06:24,819

is this an incremental step forward and

142

00:06:28,110 --> 00:06:26,050

the kind of research you're doing are

143

00:06:29,399 --> 00:06:28,120

you making major steps forward I'm how

144

00:06:34,499 --> 00:06:29,409

would you how would you describe the

145

00:06:36,300 --> 00:06:34,509

scientific significance of it Thanks the

146

00:06:38,370 --> 00:06:36,310

nature of research in general not just

147

00:06:40,379 --> 00:06:38,380

in this program but and all over the

148

00:06:42,390 --> 00:06:40,389

research programs everywhere is an

149

00:06:43,860 --> 00:06:42,400

evolutionary process you build on the

150

00:06:46,230 --> 00:06:43,870

research that came after you and you

151
00:06:47,760 --> 00:06:46,240
seem to do that came before you and you

152
00:06:49,770 --> 00:06:47,770
see do the research that comes after you

153
00:06:51,570 --> 00:06:49,780
and this flight is a perfect example of

154
00:06:53,430 --> 00:06:51,580
all those various ranges the combustion

155
00:06:55,320 --> 00:06:53,440
experiments by a large on this flight

156
00:06:56,969 --> 00:06:55,330
are first-time Flyers are doing very

157
00:06:59,550 --> 00:06:56,979
basic research that's never been done

158
00:07:01,020 --> 00:06:59,560
anywhere else before some of the

159
00:07:03,689 --> 00:07:01,030
experiments like the protein crystal

160
00:07:05,189 --> 00:07:03,699
growth experiments of one of a long

161
00:07:06,480 --> 00:07:05,199
series that started way back in the

162
00:07:08,070 --> 00:07:06,490
early days of the space program and

163
00:07:09,540 --> 00:07:08,080

built on ground based research and

164

00:07:11,879 --> 00:07:09,550

continues to build a new ground based

165

00:07:13,680 --> 00:07:11,889

research we expect that to become a big

166

00:07:15,360 --> 00:07:13,690

player and future space programs but

167

00:07:17,520 --> 00:07:15,370

it's in the middle of its evolution and

168

00:07:19,200 --> 00:07:17,530

you can't point to this flight as being

169

00:07:21,330 --> 00:07:19,210

particularly significant some of the

170

00:07:23,399 --> 00:07:21,340

other experiments like the space station

171

00:07:25,469 --> 00:07:23,409

as we talked about earlier a part of a

172

00:07:27,089 --> 00:07:25,479

design process so there's a big range of

173

00:07:28,920 --> 00:07:27,099

things here like know that we'll be able

174

00:07:31,260 --> 00:07:28,930

to point to any single experiment and

175

00:07:32,670 --> 00:07:31,270

say this one was really a pathfinder but

176

00:07:35,399 --> 00:07:32,680

I think you'll find that the suite of

177

00:07:36,779 --> 00:07:35,409

experiments we have on board as has been

178

00:07:39,499 --> 00:07:36,789

true of all the space on missions in the

179

00:07:41,459 --> 00:07:39,509

past and hopefully in the future all

180

00:07:42,870 --> 00:07:41,469

contributing good science and good

181

00:07:44,829 --> 00:07:42,880

results to help improve all those

182

00:07:48,019 --> 00:07:44,839

programs

183

00:07:50,119 --> 00:07:48,029

kasumi we have a little bit of what

184

00:07:52,219 --> 00:07:50,129

we've been doing over over the dough

185

00:07:56,299 --> 00:07:52,229

today and they will follow it up with a

186

00:07:58,129 --> 00:07:56,309

couple of live internet questions okay

187

00:08:00,169 --> 00:07:58,139

we've already told you about asset opt

188

00:08:01,519 --> 00:08:00,179

VA that it's a plant growth experiment

189

00:08:03,559 --> 00:08:01,529

what we want to show you today at that

190

00:08:05,929 --> 00:08:03,569

is in fact we do have some growth during

191

00:08:09,139 --> 00:08:05,939

their last two weeks concentrate on the

192

00:08:12,319 --> 00:08:09,149

center top of the screen the large broad

193

00:08:14,629 --> 00:08:12,329

leaf plant there and see how it changes

194

00:08:17,329 --> 00:08:14,639

here as we flick over that's about that

195

00:08:19,189 --> 00:08:17,339

that's about 12 days worth of growth in

196

00:08:22,009 --> 00:08:19,199

space you'll see some of the plants are

197

00:08:23,779 --> 00:08:22,019

bigger with more leaves on it also this

198

00:08:25,879 --> 00:08:23,789

plan is designed or this experiment is

199

00:08:27,619 --> 00:08:25,889

designed just to understand basic plant

200

00:08:31,850 --> 00:08:27,629

growth and how it differs in zero

201
00:08:33,679 --> 00:08:31,860
gravity another major facilities that we

202
00:08:35,929 --> 00:08:33,689
have back in the space that modules call

203
00:08:37,850 --> 00:08:35,939
the express rack this is actually a

204
00:08:40,549 --> 00:08:37,860
piece of the international space station

205
00:08:42,949 --> 00:08:40,559
will be launching in very short few

206
00:08:44,749 --> 00:08:42,959
months here this rack is designed to

207
00:08:46,220 --> 00:08:44,759
accommodate mid-deck Locker type

208
00:08:48,650 --> 00:08:46,230
experiment so that we'll be able to

209
00:08:50,689 --> 00:08:48,660
launch experiments in the shuttle in the

210
00:08:52,160 --> 00:08:50,699
mid deck area and then transfer them

211
00:08:53,960 --> 00:08:52,170
over to the space station where they'll

212
00:08:56,660 --> 00:08:53,970
be mounted in the Express rats operate

213
00:08:58,490 --> 00:08:56,670

there and part of this mission what we

214

00:08:59,840 --> 00:08:58,500

did on day two was take an experiment

215

00:09:01,819 --> 00:08:59,850

that was mounted in the mid deck for

216

00:09:04,189 --> 00:09:01,829

launch we transferred back to the space

217

00:09:05,600 --> 00:09:04,199

lab module and today we were

218

00:09:08,960 --> 00:09:05,610

transferring that back in the mid deck

219

00:09:10,309 --> 00:09:08,970

to get ready for landing we unbolted we

220

00:09:11,449 --> 00:09:10,319

transferred through the tunnel and here

221

00:09:15,139 --> 00:09:11,459

we're reinserting it down in the

222

00:09:17,240 --> 00:09:15,149

mid-deck the locker position weary

223

00:09:19,519 --> 00:09:17,250

bolted in there and we're ready to come

224

00:09:20,780 --> 00:09:19,529

home and power it on like I said this is

225

00:09:24,199 --> 00:09:20,790

actually a piece of the space station

226

00:09:26,329 --> 00:09:24,209

were flying today and worked this great

227

00:09:30,319 --> 00:09:26,339

it was a superb way to start the space

228

00:09:32,299 --> 00:09:30,329

station era this combustion module one

229

00:09:34,579 --> 00:09:32,309

experiment is also a precursor to space

230

00:09:36,610 --> 00:09:34,589

station operations operational equipment

231

00:09:39,980 --> 00:09:36,620

the idea here is that we have separate

232

00:09:42,249 --> 00:09:39,990

experiment modules that can be inserted

233

00:09:45,170 --> 00:09:42,259

into the combustion chamber as necessary

234

00:09:47,540 --> 00:09:45,180

fortunately on our chart mission so far

235

00:09:49,009 --> 00:09:47,550

we've been able to get so much done in

236

00:09:51,920 --> 00:09:49,019

the time available because of the great

237

00:09:54,199 --> 00:09:51,930

planning from the cloud tip then were

238

00:09:55,639 --> 00:09:54,209

able to put this module back in and do

239

00:09:56,530 --> 00:09:55,649

some more experiments with it it was

240

00:09:58,360 --> 00:09:56,540

already in

241

00:10:00,550 --> 00:09:58,370

the first half of the mission this is a

242

00:10:03,730 --> 00:10:00,560

laminar sub processes experiment and the

243

00:10:05,530 --> 00:10:03,740

purpose is to study stard formation what

244

00:10:06,940 --> 00:10:05,540

question it comes up again to the essay

245

00:10:08,650 --> 00:10:06,950

is what where do we burn these little

246

00:10:11,800 --> 00:10:08,660

fires and this is one of the combustion

247

00:10:15,880 --> 00:10:11,810

chambers in which we might the little

248

00:10:18,610 --> 00:10:15,890

flyers for study there's a lot that goes

249

00:10:20,620 --> 00:10:18,620

over this and then another panel also so

250

00:10:22,990 --> 00:10:20,630

it's all filled up very certainly from

251

00:10:27,850 --> 00:10:23,000

the chain of the module where we're

252

00:10:29,800 --> 00:10:27,860

working and thought McCroskey from

253

00:10:32,410 --> 00:10:29,810

summers Michigan wants to know what

254

00:10:33,970 --> 00:10:32,420

types of computers to fly on board well

255

00:10:36,640 --> 00:10:33,980

the general-purpose computers that

256

00:10:39,100 --> 00:10:36,650

actually took all the shadowless keep

257

00:10:42,820 --> 00:10:39,110

all the systems of the truck shuttle or

258

00:10:47,440 --> 00:10:42,830

the control over 580 101 we also carry

259

00:10:49,630 --> 00:10:47,450

two 386 and 946 big pads and one

260

00:10:54,240 --> 00:10:49,640

Panasonic for the commander and pilots

261

00:10:58,120 --> 00:10:56,710

Richard from Albany Georgia wants to

262

00:11:00,010 --> 00:10:58,130

know how we sleep and if it's

263

00:11:02,950 --> 00:11:00,020

comfortable so this is a sleep station

264

00:11:05,380 --> 00:11:02,960

we're taking a large inside where the

265

00:11:07,690 --> 00:11:05,390

space shuttle Columbia sleep stations we

266

00:11:10,690 --> 00:11:07,700

have sleeping bags the compartments not

267

00:11:13,360 --> 00:11:10,700

very large this is Roger clouds he's

268

00:11:16,270 --> 00:11:13,370

climbing in to go to sleep with evening

269

00:11:18,940 --> 00:11:16,280

he climbs into the sweetest bag fix it

270

00:11:21,550 --> 00:11:18,950

up he stops himself down both across his

271

00:11:25,380 --> 00:11:21,560

chest and across his head and closes the

272

00:11:28,330 --> 00:11:25,390

door it's very quiet and dark inside I

273

00:11:30,580 --> 00:11:28,340

find it very comfortable I do not shut

274

00:11:31,900 --> 00:11:30,590

myself down I float around inside all

275

00:11:34,270 --> 00:11:31,910

night so sometimes it can be difficult

276

00:11:41,650 --> 00:11:34,280

finding the door in the morning because

277

00:11:46,730 --> 00:11:44,510

back on the flight deck and I think this

278

00:11:49,160 --> 00:11:46,740

might be our final crew choice down lake

279

00:11:52,100 --> 00:11:49,170

for the mission and we wanted to thank

280

00:11:53,780 --> 00:11:52,110

everybody thank you especially all those

281

00:11:56,300 --> 00:11:53,790

people at Mission Control that have been

282

00:11:58,940 --> 00:11:56,310

with us all along for all these numbers

283

00:12:02,330 --> 00:11:58,950

of days and we hope to a clean up pack

284

00:12:09,440 --> 00:12:02,340

up and bring home a healthy clean happy

285

00:12:11,480 --> 00:12:09,450

they sell Columbia med Papa Doc Columbia

286

00:12:14,060 --> 00:12:11,490

Houston we copy all and I especially

287

00:12:15,890 --> 00:12:14,070

appreciate a very healthy Columbia and

288

00:12:17,480 --> 00:12:15,900

also for the rest of the team we

289

00:12:19,790 --> 00:12:17,490

appreciate all the great downlink you've

290

00:12:28,760 --> 00:12:19,800

given us if we feel like we've been on

291

00:12:36,410 --> 00:12:28,770

board right with you hello does Dan

292

00:12:41,310 --> 00:12:39,180

good morning I think it is mr. golden no

293

00:12:43,800 --> 00:12:41,320

good afternoon sorry good afternoon mr.

294

00:12:45,750 --> 00:12:43,810

go count commander Janet's boss and a

295

00:12:47,550 --> 00:12:45,760

specialist Roger crouch and this is

296

00:12:50,040 --> 00:12:47,560

specialist Mike there had a ready to

297

00:12:52,740 --> 00:12:50,050

talk to you and looking for a good Roger

298

00:12:59,580 --> 00:12:52,750

is upside down again or is he right side

299

00:13:01,500 --> 00:12:59,590

up salome our perspective sir well let

300

00:13:03,150 --> 00:13:01,510

me turn it over to the senator you're

301
00:13:07,800 --> 00:13:03,160
his constituent and I think he'd like to

302
00:13:10,080 --> 00:13:07,810
talk to you Roger good talk to you again

303
00:13:12,870 --> 00:13:10,090
I'll tell you it seems like yesterday

304
00:13:14,790 --> 00:13:12,880
that we were talking to the students at

305
00:13:16,710 --> 00:13:14,800
the john sevier middle middle school in

306
00:13:18,660 --> 00:13:16,720
Kingsport and they were asking you

307
00:13:20,670 --> 00:13:18,670
asking you what it's like to be

308
00:13:22,980 --> 00:13:20,680
weightless and looking at you upside

309
00:13:25,080 --> 00:13:22,990
down I'll have to ask that question once

310
00:13:29,820 --> 00:13:25,090
again for them what's it feel like to be

311
00:13:32,310 --> 00:13:29,830
talking upside down that's pretty

312
00:13:34,260 --> 00:13:32,320
awesome actually it's there's no

313
00:13:36,780 --> 00:13:34,270

perception of upside in my brain right

314

00:13:38,610 --> 00:13:36,790

now as I looked in the length of the

315

00:13:40,920 --> 00:13:38,620

Spacelab thinks this is I can light it

316

00:13:43,440 --> 00:13:40,930

all in an airplane or something like

317

00:13:45,960 --> 00:13:43,450

that so it's just a matter of

318

00:13:47,640 --> 00:13:45,970

perspective as i said earlier but it's

319

00:13:50,130 --> 00:13:47,650

really a great feeling to be up here I

320

00:13:52,080 --> 00:13:50,140

wish it I could describe it so that it

321

00:13:54,930 --> 00:13:52,090

could people could relate today that

322

00:13:57,360 --> 00:13:54,940

it's incredible right I need to do two

323

00:14:00,120 --> 00:13:57,370

things I talked to your mother about 30

324

00:14:02,010 --> 00:14:00,130

minutes ago in Pinterest County and she

325

00:14:04,290 --> 00:14:02,020

said that she talked to you last week

326

00:14:06,690 --> 00:14:04,300

but as you were flying over Africa you

327

00:14:08,460 --> 00:14:06,700

went so fast she didn't get a chance to

328

00:14:10,860 --> 00:14:08,470

say i love you so i'm going to pass that

329

00:14:12,270 --> 00:14:10,870

on and if she's counting the hours till

330

00:14:16,260 --> 00:14:12,280

you get back home so i'm going to get

331

00:14:17,970 --> 00:14:16,270

that in real quick real quick I really

332

00:14:20,190 --> 00:14:17,980

appreciate that moms really been

333

00:14:21,870 --> 00:14:20,200

tracking this thing so I'm sure she's

334

00:14:25,830 --> 00:14:21,880

keeping everybody straight back there in

335

00:14:27,840 --> 00:14:25,840

Tennessee oh great Roger listen uh I did

336

00:14:30,660 --> 00:14:27,850

to also talk to one of the students that

337

00:14:32,610 --> 00:14:30,670

you and I talked by video conferencing

338

00:14:35,370 --> 00:14:32,620

when you were in my office and we talked

339

00:14:37,830 --> 00:14:35,380

back to Tennessee and I called Terry

340

00:14:40,860 --> 00:14:37,840

Taylor who is 13 years old in the eighth

341

00:14:44,160 --> 00:14:40,870

grade there and she says two questions

342

00:14:46,440 --> 00:14:44,170

one question as an astronaut in space do

343

00:14:49,320 --> 00:14:46,450

you think we'll ever be able to live out

344

00:14:50,130 --> 00:14:49,330

in space and even on other planets I'll

345

00:14:54,570 --> 00:14:50,140

let you answer that

346

00:14:57,420 --> 00:14:54,580

first I think certainly will be able to

347

00:15:00,450 --> 00:14:57,430

live in n-space incredible how the body

348

00:15:03,120 --> 00:15:00,460

can adapt you as a softer know that the

349

00:15:04,920 --> 00:15:03,130

drop in two bodies an incredible miracle

350

00:15:07,320 --> 00:15:04,930

almost every day the way that it copes

351

00:15:09,180 --> 00:15:07,330

with things them into space is not a

352

00:15:12,810 --> 00:15:09,190

problem the only problem is the shock of

353

00:15:15,120 --> 00:15:12,820

going into and out of a real severely

354

00:15:17,490 --> 00:15:15,130

different environment like 1g and low G

355

00:15:19,470 --> 00:15:17,500

so but when you're here it's just it's

356

00:15:21,840 --> 00:15:19,480

just a great feeling a great place to be

357

00:15:24,180 --> 00:15:21,850

other planets I think will be the same

358

00:15:25,650 --> 00:15:24,190

issue that there will be the travel to

359

00:15:27,660 --> 00:15:25,660

that planet where your body will

360

00:15:29,850 --> 00:15:27,670

acclimate to space and then or low

361

00:15:32,400 --> 00:15:29,860

gravity environment and then acclimating

362

00:15:34,560 --> 00:15:32,410

to the T level on that planet will be a

363

00:15:38,430 --> 00:15:34,570

shot for the body but the body will

364

00:15:40,470 --> 00:15:38,440

adapt quickly I think well that is great

365

00:15:42,270 --> 00:15:40,480

an hour hopefully she's watching this

366

00:15:44,580 --> 00:15:42,280

right now and I'll pass that on to her

367

00:15:46,500 --> 00:15:44,590

she's going to be going to space camp in

368

00:15:48,390 --> 00:15:46,510

Huntsville later this month and she

369

00:15:50,400 --> 00:15:48,400

asked me to ask you if you feel that

370

00:15:52,920 --> 00:15:50,410

this was a good learning experience for

371

00:15:57,690 --> 00:15:52,930

kids to learn what astronauts do that is

372

00:15:59,760 --> 00:15:57,700

going to space camp oh well that cannon

373

00:16:01,110 --> 00:15:59,770

spots answer that chief familiar with

374

00:16:06,660 --> 00:16:01,120

the Space Camp I think it's a great

375

00:16:08,370 --> 00:16:06,670

opportunity but Janice so I get that

376

00:16:10,080 --> 00:16:08,380

question a lot from the children that I

377

00:16:12,390 --> 00:16:10,090

talk to the various public speaking

378

00:16:14,490 --> 00:16:12,400

things that we do and I've never been to

379

00:16:16,530 --> 00:16:14,500

space camp it false because that program

380

00:16:18,660 --> 00:16:16,540

came into effect after I was passed that

381

00:16:21,210 --> 00:16:18,670

time frame but i have talked with many

382

00:16:22,500 --> 00:16:21,220

many children and parents semester that

383

00:16:24,150 --> 00:16:22,510

programs have been through the program

384

00:16:27,090 --> 00:16:24,160

several times and they all come back

385

00:16:28,470 --> 00:16:27,100

very excited and if I might have a much

386

00:16:30,360 --> 00:16:28,480

better appreciation for what we do up

387

00:16:33,410 --> 00:16:30,370

here it's a very well run program and

388

00:16:35,430 --> 00:16:33,420

it's good to go through a get out of it

389

00:16:37,620 --> 00:16:35,440

fortunately they say that we need to

390

00:16:40,350 --> 00:16:37,630

terminate our conversation but I'll tell

391

00:16:42,090 --> 00:16:40,360

you Mike and Janice and Roger it is a

392

00:16:44,490 --> 00:16:42,100

real privilege and a real pleasure for

393

00:16:46,590 --> 00:16:44,500

me as a scientist as someone who admires

394

00:16:48,360 --> 00:16:46,600

so much what you're doing to be able to

395

00:16:49,740 --> 00:16:48,370

talk to you directly you're an

396

00:16:51,270 --> 00:16:49,750

inspiration for the country and

397

00:16:53,490 --> 00:16:51,280

inspiration for students who are

398

00:16:57,000 --> 00:16:53,500

studying science and an inspiration for

399

00:16:58,350 --> 00:16:57,010

all of us well thank you very much

400

00:17:00,360 --> 00:16:58,360

senator and I really appreciate you

401
00:17:02,050 --> 00:17:00,370
taking time out of your busy schedule to

402
00:17:03,880 --> 00:17:02,060
call us today we

403
00:17:06,100 --> 00:17:03,890
that you're a very interested person in

404
00:17:07,720 --> 00:17:06,110
education in the country and one of the

405
00:17:09,430 --> 00:17:07,730
things that we're real interested in is

406
00:17:11,350 --> 00:17:09,440
contacting the children and getting them

407
00:17:13,510 --> 00:17:11,360
interested in science and education and

408
00:17:16,309 --> 00:17:13,520
we think the space program has a real