



1
00:00:00,080 --> 00:00:31,029
foreign

2
00:00:35,350 --> 00:00:33,430
hi and welcome to nasa's johnson space

3
00:00:37,750 --> 00:00:35,360
center my name is patricia moore and i

4
00:00:40,069 --> 00:00:37,760
am with nasa's digital learning network

5
00:00:41,670 --> 00:00:40,079
or dln for short and the digital

6
00:00:43,990 --> 00:00:41,680
learning network connects students and

7
00:00:45,510 --> 00:00:44,000
educators utilizing video conferencing

8
00:00:47,830 --> 00:00:45,520
and webcast

9
00:00:50,950 --> 00:00:47,840
to scientists engineers astronauts and

10
00:00:52,389 --> 00:00:50,960
nasa specialists here at nasa and today

11
00:00:54,229 --> 00:00:52,399
the digital learning network and the

12
00:00:56,389 --> 00:00:54,239
public affairs office at johnson space

13
00:00:59,510 --> 00:00:56,399

center is collaborating on a very

14

00:01:01,189 --> 00:00:59,520

special event that takes together music

15

00:01:02,709 --> 00:01:01,199

and the culturals of the international

16

00:01:03,430 --> 00:01:02,719

space station

17

00:01:05,429 --> 00:01:03,440

so

18

00:01:06,870 --> 00:01:05,439

i'd like to welcome everybody here today

19

00:01:08,870 --> 00:01:06,880

and there are many guests on the stage

20

00:01:11,670 --> 00:01:08,880

with me that i'd like to introduce i'd

21

00:01:14,630 --> 00:01:11,680

like to begin by introducing our choir

22

00:01:15,910 --> 00:01:14,640

from pearl hall elementary in pasadena

23

00:01:18,310 --> 00:01:15,920

texas

24

00:01:19,990 --> 00:01:18,320

i'd also like to mention that

25

00:01:21,830 --> 00:01:20,000

pearl hall is a part of

26
00:01:24,149 --> 00:01:21,840
pasadena's independent school district

27
00:01:25,749 --> 00:01:24,159
and south houston high school is one of

28
00:01:27,429 --> 00:01:25,759
these high schools that has an

29
00:01:29,749 --> 00:01:27,439
experiment on the international space

30
00:01:32,950 --> 00:01:29,759
station and so thank you the choir for

31
00:01:35,830 --> 00:01:32,960
being here i'd also like to introduce

32
00:01:37,590 --> 00:01:35,840
jamie leupold who is their educator and

33
00:01:39,270 --> 00:01:37,600
pat surface who's the choir director

34
00:01:41,749 --> 00:01:39,280
who's behind the scenes

35
00:01:44,630 --> 00:01:41,759
i'd like to introduce our musicians we

36
00:01:46,149 --> 00:01:44,640
have sergey gofrin who is a part of the

37
00:01:47,429 --> 00:01:46,159
houston symphony and he's first

38
00:01:49,590 --> 00:01:47,439

violinist

39

00:01:53,030 --> 00:01:49,600

and kenji williams

40

00:01:55,910 --> 00:01:53,040

director and violinist of bella gaia

41

00:01:58,310 --> 00:01:55,920

and my co-host today astronaut katie

42

00:01:59,910 --> 00:01:58,320

coleman so thank you everyone for being

43

00:02:01,910 --> 00:01:59,920

here with us today

44

00:02:03,670 --> 00:02:01,920

now in addition to the folks here on the

45

00:02:06,069 --> 00:02:03,680

stage with us we have some virtual

46

00:02:08,309 --> 00:02:06,079

participants our first school i'd like

47

00:02:10,790 --> 00:02:08,319

to introduce is pearl hall elementary in

48

00:02:12,309 --> 00:02:10,800

pasadena texas so pearl hall would you

49

00:02:19,350 --> 00:02:12,319

please emit your microphone and say

50

00:02:23,589 --> 00:02:21,350

oh well thank you pearl hall all right

51
00:02:25,990 --> 00:02:23,599
so next i'd like to introduce our second

52
00:02:29,190 --> 00:02:26,000
participant it's henry university and

53
00:02:31,110 --> 00:02:29,200
henry university was crucial in allowing

54
00:02:33,350 --> 00:02:31,120
a special japanese instrument to be

55
00:02:35,430 --> 00:02:33,360
flown to the international space station

56
00:02:45,190 --> 00:02:35,440
so tinry university pleased them your

57
00:02:48,550 --> 00:02:46,869
all right all right so we'll connect

58
00:02:50,630 --> 00:02:48,560
back with henry in just a moment maybe

59
00:02:52,869 --> 00:02:50,640
they may have some audio difficulty

60
00:02:55,030 --> 00:02:52,879
all right so what i'd like to do to

61
00:02:56,630 --> 00:02:55,040
begin our program is invite katie to

62
00:02:58,309 --> 00:02:56,640
share with us a little bit about the

63
00:03:00,390 --> 00:02:58,319

international space station and the

64

00:03:01,990 --> 00:03:00,400

project

65

00:03:04,550 --> 00:03:02,000

well we're here today

66

00:03:05,509 --> 00:03:04,560

basically to play music all around the

67

00:03:07,190 --> 00:03:05,519

world

68

00:03:09,190 --> 00:03:07,200

so we're here in houston we have a

69

00:03:11,270 --> 00:03:09,200

school in japan we have a school in

70

00:03:13,030 --> 00:03:11,280

houston and we have musicians from

71

00:03:15,430 --> 00:03:13,040

everywhere and we're going to celebrate

72

00:03:18,149 --> 00:03:15,440

basically the international nature of

73

00:03:20,790 --> 00:03:18,159

the space station it's built by 16

74

00:03:23,030 --> 00:03:20,800

different countries and when we're up

75

00:03:24,390 --> 00:03:23,040

there as a crew of six

76
00:03:26,550 --> 00:03:24,400
sometimes we have you know some of the

77
00:03:28,789 --> 00:03:26,560
countries represented sometimes others

78
00:03:31,110 --> 00:03:28,799
and right now we have koichi wakata from

79
00:03:33,509 --> 00:03:31,120
japan on the station with two americans

80
00:03:35,350 --> 00:03:33,519
and his three russian crewmates and so

81
00:03:38,710 --> 00:03:35,360
we're going to celebrate the music of

82
00:03:40,550 --> 00:03:38,720
russia japan america and whatever else

83
00:03:42,789 --> 00:03:40,560
comes to mind we'll see

84
00:03:44,390 --> 00:03:42,799
the space station itself is i just i

85
00:03:46,229 --> 00:03:44,400
like to see pictures of it it looks to

86
00:03:48,630 --> 00:03:46,239
me like it's an animation like this was

87
00:03:51,110 --> 00:03:48,640
a cartoon but that's a real place i

88
00:03:52,550 --> 00:03:51,120

lived there for six months koichi wakata

89

00:03:54,149 --> 00:03:52,560

and his crewmates have been up there for

90

00:03:56,949 --> 00:03:54,159

almost six as well

91

00:03:59,350 --> 00:03:56,959

and it's an amazing amazing place people

92

00:04:01,589 --> 00:03:59,360

think they feel bad for us because going

93

00:04:03,190 --> 00:04:01,599

to space it's it's pretty small but

94

00:04:05,429 --> 00:04:03,200

actually when we're up on that space

95

00:04:07,270 --> 00:04:05,439

station it's giant and huge it's like

96

00:04:09,750 --> 00:04:07,280

that picture that you saw it's like 10

97

00:04:12,070 --> 00:04:09,760

train cars all together it's the size of

98

00:04:13,910 --> 00:04:12,080

a football field so it's like train cars

99

00:04:16,229 --> 00:04:13,920

without or buses without the seats in

100

00:04:18,550 --> 00:04:16,239

them and in that volume we can do

101
00:04:21,030 --> 00:04:18,560
science experiments we can we can do all

102
00:04:21,909 --> 00:04:21,040
sorts of things and we fly from place to

103
00:04:23,350 --> 00:04:21,919
place

104
00:04:25,110 --> 00:04:23,360
one of the things that

105
00:04:26,790 --> 00:04:25,120
i really like to talk about is the

106
00:04:29,350 --> 00:04:26,800
science that we do up on the space

107
00:04:31,510 --> 00:04:29,360
station and we've got a great picture of

108
00:04:33,909 --> 00:04:31,520
koichi that shows

109
00:04:36,550 --> 00:04:33,919
just why we do science we do experiments

110
00:04:39,430 --> 00:04:36,560
up there that we cannot do down here on

111
00:04:40,629 --> 00:04:39,440
the ground look at that ball of water

112
00:04:43,270 --> 00:04:40,639
down here on the ground it would be a

113
00:04:45,670 --> 00:04:43,280

puddle on the ground and and so up in

114

00:04:47,990 --> 00:04:45,680

space because it forms

115

00:04:50,950 --> 00:04:48,000

a sphere we get to see

116

00:04:53,670 --> 00:04:50,960

what does water really want to do

117

00:04:55,830 --> 00:04:53,680

we get to grow crystals where crystals

118

00:04:58,390 --> 00:04:55,840

are growing more perfectly we get to

119

00:05:00,629 --> 00:04:58,400

study combustion where we're looking at

120

00:05:03,350 --> 00:05:00,639

candle flames that don't look like this

121

00:05:05,990 --> 00:05:03,360

but actually are round and spherical and

122

00:05:08,790 --> 00:05:06,000

because of that it lets us study

123

00:05:11,270 --> 00:05:08,800

combustion and pollution and how things

124

00:05:13,670 --> 00:05:11,280

burn more efficiently up in space so the

125

00:05:15,189 --> 00:05:13,680

reason we do experiments up in space is

126
00:05:17,350 --> 00:05:15,199
because we can do things there that we

127
00:05:19,670 --> 00:05:17,360
can we can't do down here

128
00:05:21,749 --> 00:05:19,680
and because the things that we learn up

129
00:05:24,070 --> 00:05:21,759
there in space are things that come

130
00:05:26,230 --> 00:05:24,080
right back home down here to earth i've

131
00:05:27,430 --> 00:05:26,240
got a couple more pictures to show you

132
00:05:30,469 --> 00:05:27,440
there's one one of my favorite

133
00:05:33,270 --> 00:05:30,479
experiments it looks uh kind of like a

134
00:05:35,909 --> 00:05:33,280
it's really just a liquid in a container

135
00:05:38,390 --> 00:05:35,919
but again we're seeing what do liquids

136
00:05:40,710 --> 00:05:38,400
really want to do you're also seeing

137
00:05:43,029 --> 00:05:40,720
what does karen's hair want to do

138
00:05:44,870 --> 00:05:43,039

it's pretty wild

139

00:05:47,670 --> 00:05:44,880

i think it's pretty neat to see

140

00:05:49,670 --> 00:05:47,680

how these things act in microgravity and

141

00:05:51,510 --> 00:05:49,680

because the forces are so tiny down here

142

00:05:53,510 --> 00:05:51,520

on the earth they're hard to study but

143

00:05:54,629 --> 00:05:53,520

up in space it's easier and so the

144

00:05:56,710 --> 00:05:54,639

things that we're learning from the

145

00:05:57,670 --> 00:05:56,720

experiment that karen was doing was for

146

00:05:59,590 --> 00:05:57,680

example

147

00:06:01,189 --> 00:05:59,600

when we're on our way to mars

148

00:06:03,510 --> 00:06:01,199

i personally would like to know how much

149

00:06:05,110 --> 00:06:03,520

gas we have in our tank and if the gas

150

00:06:07,110 --> 00:06:05,120

is all floating well how are we going to

151

00:06:08,790 --> 00:06:07,120

know that well in the experiment karen

152

00:06:11,590 --> 00:06:08,800

was doing when we changed the angle of

153

00:06:13,590 --> 00:06:11,600

the container just by like three degrees

154

00:06:15,670 --> 00:06:13,600

so small you can't even see it

155

00:06:16,790 --> 00:06:15,680

all of that liquid all of our fuel is

156

00:06:19,029 --> 00:06:16,800

going to be in one place in the

157

00:06:20,790 --> 00:06:19,039

container that's so important to learn

158

00:06:22,390 --> 00:06:20,800

about so we're learning all sorts of

159

00:06:24,230 --> 00:06:22,400

things that we can't hear find out down

160

00:06:26,950 --> 00:06:24,240

here on the ground and we're learning

161

00:06:29,430 --> 00:06:26,960

about ourselves about our bodies and how

162

00:06:31,430 --> 00:06:29,440

people live in space up on the space

163

00:06:34,550 --> 00:06:31,440

station it's our test bed for

164

00:06:37,749 --> 00:06:34,560

exploration because we are going back to

165

00:06:40,150 --> 00:06:37,759

the moon to asteroids and on to mars and

166

00:06:41,510 --> 00:06:40,160

we're not ready we are not ready yet and

167

00:06:43,110 --> 00:06:41,520

that's why we have the space station and

168

00:06:44,230 --> 00:06:43,120

we do these experiments one of the

169

00:06:46,309 --> 00:06:44,240

things we need to find out is what

170

00:06:48,390 --> 00:06:46,319

happens to people up there you know we

171

00:06:50,070 --> 00:06:48,400

don't walk around on our feet our brains

172

00:06:52,710 --> 00:06:50,080

don't get that message that they need to

173

00:06:54,790 --> 00:06:52,720

build bone and so we actually lose a lot

174

00:06:56,550 --> 00:06:54,800

of bone and muscle while we're up there

175

00:06:57,510 --> 00:06:56,560

um i think we have a picture of koichi

176
00:06:59,350 --> 00:06:57,520
on our

177
00:07:02,710 --> 00:06:59,360
exercise machine

178
00:07:04,950 --> 00:07:02,720
and by doing exercise up there it turns

179
00:07:06,710 --> 00:07:04,960
out that we don't actually lose as much

180
00:07:09,670 --> 00:07:06,720
bone and muscle and in fact i can speak

181
00:07:12,150 --> 00:07:09,680
for my own results i came back without

182
00:07:13,909 --> 00:07:12,160
losing i did lose some bone but i came

183
00:07:14,950 --> 00:07:13,919
back really with the same amount that i

184
00:07:17,029 --> 00:07:14,960
left with

185
00:07:19,909 --> 00:07:17,039
and here's the secret

186
00:07:22,629 --> 00:07:19,919
exercise yes exercise so we're learning

187
00:07:25,270 --> 00:07:22,639
all about how to keep to build strong

188
00:07:27,270 --> 00:07:25,280

bones for mars and at the same time we

189

00:07:29,830 --> 00:07:27,280

need strong bones down here too these

190

00:07:31,430 --> 00:07:29,840

kids need strong bones and it comes down

191

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

to exercise and other things so the

192

00:07:35,270 --> 00:07:33,199

experiments again that we do up there

193

00:07:35,990 --> 00:07:35,280

we're getting to understand how to do

194

00:07:37,830 --> 00:07:36,000

them

195

00:07:40,390 --> 00:07:37,840

we're understanding more about life down

196

00:07:42,309 --> 00:07:40,400

here and last but not least i'd just

197

00:07:43,749 --> 00:07:42,319

like to show a picture of koichi and his

198

00:07:45,510 --> 00:07:43,759

crew because we're going to meet koichi

199

00:07:48,950 --> 00:07:45,520

but the other folks are probably pretty

200

00:07:50,950 --> 00:07:48,960

busy doing uh science experiments but um

201
00:07:52,790 --> 00:07:50,960
let's see uh so we've got koichi there

202
00:07:54,469 --> 00:07:52,800
you see the six of them we go up in

203
00:07:57,029 --> 00:07:54,479
groups of three

204
00:07:59,110 --> 00:07:57,039
and then when we get up there they'll

205
00:08:02,390 --> 00:07:59,120
already be three people up there

206
00:08:05,909 --> 00:08:02,400
so koichi is going to come home with his

207
00:08:08,150 --> 00:08:05,919
two russian cosmonaut crewmates and when

208
00:08:09,990 --> 00:08:08,160
after he lands another three-person crew

209
00:08:12,390 --> 00:08:10,000
will go up and we'll be a six-person

210
00:08:16,070 --> 00:08:12,400
crew again so at any one moment there

211
00:08:18,550 --> 00:08:16,080
are always six people doing science

212
00:08:20,230 --> 00:08:18,560
making amazing things happen and being

213
00:08:22,230 --> 00:08:20,240

just plain old people and doing things

214

00:08:24,070 --> 00:08:22,240

like playing music on the space station

215

00:08:26,150 --> 00:08:24,080

great thank you katie

216

00:08:28,150 --> 00:08:26,160

so now i want to um kind of talk about

217

00:08:30,390 --> 00:08:28,160

what brought us all here together today

218

00:08:32,310 --> 00:08:30,400

and that individual is jamie leupold and

219

00:08:34,070 --> 00:08:32,320

she has a very special program at pearl

220

00:08:36,550 --> 00:08:34,080

hall elementary called building cultural

221

00:08:38,310 --> 00:08:36,560

bridges so jamie why don't you share

222

00:08:40,550 --> 00:08:38,320

with us a little bit about your project

223

00:08:43,670 --> 00:08:40,560

okay it is called building cultural

224

00:08:46,230 --> 00:08:43,680

bridges and this whole idea started

225

00:08:47,990 --> 00:08:46,240

whenever my teaching partner

226
00:08:49,750 --> 00:08:48,000
who is my mom

227
00:08:51,670 --> 00:08:49,760
we started talking about how can we make

228
00:08:53,509 --> 00:08:51,680
the music education

229
00:08:56,070 --> 00:08:53,519
requirements for texas more relevant to

230
00:08:58,310 --> 00:08:56,080
kids in our community and so we thought

231
00:08:59,750 --> 00:08:58,320
well if we have these musicians come to

232
00:09:01,509 --> 00:08:59,760
the school and people from these

233
00:09:03,910 --> 00:09:01,519
international countries this would be

234
00:09:05,590 --> 00:09:03,920
really fabulous so we approached nasa we

235
00:09:07,110 --> 00:09:05,600
approached the houston symphony other

236
00:09:09,350 --> 00:09:07,120
arts organizations who had an

237
00:09:11,509 --> 00:09:09,360
international presence in houston and

238
00:09:14,710 --> 00:09:11,519

they all agreed to give this a try about

239

00:09:16,790 --> 00:09:14,720

16 years ago to bring one or two guests

240

00:09:18,470 --> 00:09:16,800

to the school per year to see about

241

00:09:20,829 --> 00:09:18,480

letting kids interview them about their

242

00:09:23,430 --> 00:09:20,839

careers their culture and their

243

00:09:24,710 --> 00:09:23,440

literature and folk music because those

244

00:09:27,590 --> 00:09:24,720

are things that people from all

245

00:09:30,389 --> 00:09:27,600

countries have in common and now here we

246

00:09:32,790 --> 00:09:30,399

are 16 years later and about 75 guests

247

00:09:35,430 --> 00:09:32,800

from 27 countries have come to the

248

00:09:36,470 --> 00:09:35,440

school and is and they are interviewed

249

00:09:38,949 --> 00:09:36,480

by children

250

00:09:40,710 --> 00:09:38,959

uh teams of third or fourth graders

251

00:09:43,030 --> 00:09:40,720

right there and you're seeing w st

252

00:09:45,350 --> 00:09:43,040

jacques from from this canadian space

253

00:09:47,990 --> 00:09:45,360

agency who was just at our school this

254

00:09:50,389 --> 00:09:48,000

year and astronauts from every major

255

00:09:52,790 --> 00:09:50,399

space agency of the international space

256

00:09:54,389 --> 00:09:52,800

station partners has been to the school

257

00:09:57,269 --> 00:09:54,399

and the children learned their folk

258

00:09:59,430 --> 00:09:57,279

songs and koichi was one of the ones who

259

00:10:01,829 --> 00:09:59,440

came to our school he's been there twice

260

00:10:04,470 --> 00:10:01,839

and on his first visit

261

00:10:06,230 --> 00:10:04,480

they he brought his culture to us for

262

00:10:08,790 --> 00:10:06,240

the first time for kids in texas to

263

00:10:11,110 --> 00:10:08,800

experience a deep traditional japanese

264

00:10:12,470 --> 00:10:11,120

culture and he brought

265

00:10:15,829 --> 00:10:12,480

his book

266

00:10:17,509 --> 00:10:15,839

chris hadfield found it in japan and so

267

00:10:19,190 --> 00:10:17,519

today we're very excited to celebrate

268

00:10:20,870 --> 00:10:19,200

that with those of you who are in in

269

00:10:22,949 --> 00:10:20,880

japan today joining us at tenure

270

00:10:25,509 --> 00:10:22,959

university um to have this unique

271

00:10:28,389 --> 00:10:25,519

instrument um bringing to life the

272

00:10:29,990 --> 00:10:28,399

cultures and sharing it across the world

273

00:10:33,509 --> 00:10:30,000

through the curriculum we study at

274

00:10:35,430 --> 00:10:33,519

school and it brings such richness to

275

00:10:37,910 --> 00:10:35,440

our school and so the books they shared

276

00:10:39,910 --> 00:10:37,920

we also have the the copies of them in

277

00:10:42,069 --> 00:10:39,920

our school and so this is koichi's

278

00:10:44,310 --> 00:10:42,079

favorite but from his childhood that we

279

00:10:46,949 --> 00:10:44,320

have at the school for kids to look at

280

00:10:49,030 --> 00:10:46,959

and as well as learning the folk songs

281

00:10:51,269 --> 00:10:49,040

and so we partnered with houston

282

00:10:53,110 --> 00:10:51,279

symphony and um

283

00:10:55,269 --> 00:10:53,120

this brought our first experience with

284

00:10:57,750 --> 00:10:55,279

russian culture to our kids and sergey

285

00:10:59,350 --> 00:10:57,760

galperin who is a russian violinist a

286

00:11:01,750 --> 00:10:59,360

russian-born violinist for the houston

287

00:11:03,910 --> 00:11:01,760

symphony came and performed music for

288

00:11:06,470 --> 00:11:03,920

our students and shared

289

00:11:08,230 --> 00:11:06,480

the music of his culture and we've done

290

00:11:10,710 --> 00:11:08,240

many many performances

291

00:11:12,630 --> 00:11:10,720

blending the arts and sciences of our

292

00:11:15,430 --> 00:11:12,640

curriculum in our schools and blending

293

00:11:18,230 --> 00:11:15,440

the arts and sciences of music moving

294

00:11:20,470 --> 00:11:18,240

from stem to bringing in the arts and

295

00:11:21,509 --> 00:11:20,480

moving that into steam which i know

296

00:11:23,110 --> 00:11:21,519

something we're hearing a little bit

297

00:11:25,190 --> 00:11:23,120

more coming from headquarters at nasa

298

00:11:26,389 --> 00:11:25,200

about in the education program very

299

00:11:28,470 --> 00:11:26,399

exciting

300

00:11:29,990 --> 00:11:28,480

so i'm going to ask sergey if he would

301
00:11:32,150 --> 00:11:30,000
please talk a little bit about his

302
00:11:33,829 --> 00:11:32,160
experiences with our programs at school

303
00:11:35,590 --> 00:11:33,839
with the houston symphony and the the

304
00:11:38,389 --> 00:11:35,600
partnerships they've had for

305
00:11:40,389 --> 00:11:38,399
a long time with nasa

306
00:11:42,470 --> 00:11:40,399
well i little did i know what i got

307
00:11:45,430 --> 00:11:42,480
myself into

308
00:11:47,430 --> 00:11:45,440
when jamie invited me to play for school

309
00:11:50,069 --> 00:11:47,440
but it's a terrific project i'm very

310
00:11:51,110 --> 00:11:50,079
proud to be part of it i was born in

311
00:11:53,430 --> 00:11:51,120
moscow

312
00:11:55,190 --> 00:11:53,440
i went to move to new york city and went

313
00:11:57,590 --> 00:11:55,200

to juilliard school

314

00:11:58,790 --> 00:11:57,600

and joined the houston symphony 17 years

315

00:11:59,910 --> 00:11:58,800

ago

316

00:12:02,470 --> 00:11:59,920

and

317

00:12:05,030 --> 00:12:02,480

this sort of trifecta that we are doing

318

00:12:08,389 --> 00:12:05,040

with the houston symphony nasa and

319

00:12:10,550 --> 00:12:08,399

cultural bridges is really

320

00:12:14,150 --> 00:12:10,560

a fantastic project

321

00:12:16,470 --> 00:12:14,160

so the houston symphony and nasa has had

322

00:12:19,350 --> 00:12:16,480

a long history of commitment

323

00:12:22,230 --> 00:12:19,360

uh uh where the technology means that

324

00:12:26,550 --> 00:12:22,240

meets the arts last year we went

325

00:12:28,870 --> 00:12:26,560

to uh great britain and performed the hd

326

00:12:29,910 --> 00:12:28,880

odyssey all over

327

00:12:31,590 --> 00:12:29,920

um

328

00:12:33,829 --> 00:12:31,600

that great nation to

329

00:12:36,949 --> 00:12:33,839

to such a success

330

00:12:38,870 --> 00:12:36,959

that folks in cleveland in sydney

331

00:12:41,509 --> 00:12:38,880

in rotterdam all over the world want to

332

00:12:43,269 --> 00:12:41,519

see that dvd they want to see what nasa

333

00:12:46,150 --> 00:12:43,279

does they want to see how houston

334

00:12:47,030 --> 00:12:46,160

symphony does and so we are

335

00:12:49,430 --> 00:12:47,040

i think

336

00:12:52,150 --> 00:12:49,440

going forward with more projects between

337

00:12:53,750 --> 00:12:52,160

the houston symphony and nasa especially

338

00:12:55,190 --> 00:12:53,760

during our centennial season with the

339

00:12:57,750 --> 00:12:55,200

houston symphony

340

00:12:59,350 --> 00:12:57,760

so that's those are the two links that

341

00:13:01,509 --> 00:12:59,360

are very important we're close we're

342

00:13:03,829 --> 00:13:01,519

only an hour away from the hall to the

343

00:13:06,470 --> 00:13:03,839

to the command center here and then the

344

00:13:09,350 --> 00:13:06,480

culture bridges that third aspect of

345

00:13:11,990 --> 00:13:09,360

this collaboration is is terrific i mean

346

00:13:13,590 --> 00:13:12,000

this young lady over here deserves a

347

00:13:14,470 --> 00:13:13,600

medal of honor i mean she brings these

348

00:13:16,790 --> 00:13:14,480

kids

349

00:13:19,030 --> 00:13:16,800

uh who would have otherwise never have

350

00:13:21,030 --> 00:13:19,040

seen

351

00:13:23,269 --> 00:13:21,040

all of you and and have been able to

352

00:13:26,550 --> 00:13:23,279

participate in such a magnificent

353

00:13:29,030 --> 00:13:26,560

collaboration and so if a nobel prize or

354

00:13:31,670 --> 00:13:29,040

a composer or an astronaut will come

355

00:13:33,350 --> 00:13:31,680

from her institution this is the person

356

00:13:35,910 --> 00:13:33,360

to send the uh

357

00:13:37,030 --> 00:13:35,920

the the the congrats ladders too

358

00:13:38,790 --> 00:13:37,040

so

359

00:13:41,990 --> 00:13:38,800

well thank you yeah the collaborations

360

00:13:43,030 --> 00:13:42,000

have been wonderful and it's been a

361

00:13:44,870 --> 00:13:43,040

triple

362

00:13:47,030 --> 00:13:44,880

whammy here for us having three music

363

00:13:48,710 --> 00:13:47,040

educators i know that our seth fuel is

364

00:13:51,269 --> 00:13:48,720

running the show back at pearl hall

365

00:13:53,269 --> 00:13:51,279

elementary and we're very excited to

366

00:13:56,069 --> 00:13:53,279

share students here and students at our

367

00:13:58,389 --> 00:13:56,079

school with the world and with nasa and

368

00:14:00,150 --> 00:13:58,399

the symphony well that's a perfect segue

369

00:14:03,030 --> 00:14:00,160

why don't we go ahead and prepare for

370

00:14:04,629 --> 00:14:03,040

our first song so squire if you're ready

371

00:14:06,550 --> 00:14:04,639

and sergey perhaps you would like to

372

00:14:08,949 --> 00:14:06,560

share with us about our first song

373

00:14:13,509 --> 00:14:08,959

kalinka

374

00:14:15,110 --> 00:14:13,519

is a very very very russian song and for

375

00:14:23,110 --> 00:14:15,120

those on the space

376

00:14:27,670 --> 00:14:24,949

that was not bad words that just

377

00:14:28,870 --> 00:14:27,680

welcomed them into our discussion

378

00:14:34,230 --> 00:14:28,880

and

379

00:14:36,949 --> 00:14:34,240

think the gentleman who wrote it

380

00:14:39,030 --> 00:14:36,959

uh as often it happens had the idea that

381

00:14:42,470 --> 00:14:39,040

what he wrote as an entertainment fong

382

00:14:45,509 --> 00:14:42,480

song folk song became a standard

383

00:14:47,509 --> 00:14:45,519

uh for the for for the russian people up

384

00:14:49,430 --> 00:14:47,519

to this date so we're going to play for

385

00:14:51,110 --> 00:14:49,440

you probably the most famous russian

386

00:14:52,069 --> 00:14:51,120

song that you've heard

387

00:14:58,790 --> 00:14:52,079

uh

388

00:15:00,629 --> 00:14:58,800

ballerinas or or or figure skaters dance

389

00:15:01,750 --> 00:15:00,639

you've heard it during uh

390

00:15:04,150 --> 00:15:01,760

uh

391

00:15:06,550 --> 00:15:04,160

trips to russia when russian bear dances

392

00:15:07,670 --> 00:15:06,560

i mean it is the quintessential russian

393

00:15:24,790 --> 00:15:07,680

song

394

00:16:13,590 --> 00:15:33,030

hey

395

00:16:13,600 --> 00:16:43,430

oh

396

00:16:43,440 --> 00:17:14,470

jesus

397

00:17:14,480 --> 00:17:29,909

my

398

00:17:34,150 --> 00:17:32,390

beautiful excellent that was wonderful

399

00:17:36,150 --> 00:17:34,160

thank you so much

400

00:17:38,950 --> 00:17:36,160

excellent job choir yeah

401
00:17:40,710 --> 00:17:38,960
all right so in a few minutes we're

402
00:17:42,710 --> 00:17:40,720
going to have a very special opportunity

403
00:17:44,789 --> 00:17:42,720
to speak with commander koichu akata on

404
00:17:46,870 --> 00:17:44,799
the international space station so while

405
00:17:49,750 --> 00:17:46,880
we're waiting for that to occur i'd like

406
00:17:52,150 --> 00:17:49,760
to give students at pearl hall and also

407
00:17:53,830 --> 00:17:52,160
at henry university a chance to ask

408
00:17:56,390 --> 00:17:53,840
katie a few questions about her

409
00:17:59,029 --> 00:17:56,400
experiences in flight so we are going to

410
00:18:01,110 --> 00:17:59,039
begin with our first school so pearl

411
00:18:05,990 --> 00:18:01,120
hall if you could please your microphone

412
00:18:10,549 --> 00:18:06,789
hi

413
00:18:13,029 --> 00:18:10,559

my name is laura and my question is

414

00:18:16,710 --> 00:18:13,039

what is the best adventure you've

415

00:18:19,510 --> 00:18:16,720

experienced as an astronaut

416

00:18:21,750 --> 00:18:19,520

well laura some people think that launch

417

00:18:23,590 --> 00:18:21,760

is the is the is the most important

418

00:18:26,470 --> 00:18:23,600

thing that we do and it is actually like

419

00:18:28,470 --> 00:18:26,480

really really really exciting

420

00:18:30,870 --> 00:18:28,480

but i will tell you that living on the

421

00:18:32,150 --> 00:18:30,880

international space station for almost

422

00:18:33,909 --> 00:18:32,160

six months

423

00:18:36,070 --> 00:18:33,919

i loved it up there and if i could have

424

00:18:38,630 --> 00:18:36,080

brought my family with me i have a son

425

00:18:39,909 --> 00:18:38,640

who's about 13 he was 10 when i went if

426

00:18:41,909 --> 00:18:39,919

i could have bought brought him and my

427

00:18:43,830 --> 00:18:41,919

husband with me i wouldn't have wanted

428

00:18:47,190 --> 00:18:43,840

to come home it was the best adventure

429

00:18:48,710 --> 00:18:47,200

ever and i can't wait to go back

430

00:18:50,710 --> 00:18:48,720

all right thank you portal hall let's go

431

00:18:58,230 --> 00:18:50,720

to tinry university please emit your

432

00:19:04,710 --> 00:19:01,430

it is said that staying space

433

00:19:06,870 --> 00:19:04,720

can be raised to a chance of all for

434

00:19:10,630 --> 00:19:06,880

certain individuals

435

00:19:14,710 --> 00:19:10,640

did you feel did you feel any spiritual

436

00:19:20,390 --> 00:19:18,789

any spiritual or religious uh feeling

437

00:19:22,870 --> 00:19:20,400

you know it's gonna be different for

438

00:19:24,789 --> 00:19:22,880

every single person i you can plan what

439

00:19:26,310 --> 00:19:24,799

you'll feel like you can think you know

440

00:19:27,669 --> 00:19:26,320

what it might feel like but then when

441

00:19:30,870 --> 00:19:27,679

you're actually

442

00:19:32,230 --> 00:19:30,880

in a space station orbiting the earth

443

00:19:34,789 --> 00:19:32,240

looking down

444

00:19:37,110 --> 00:19:34,799

seeing your country and in fact i

445

00:19:39,110 --> 00:19:37,120

studied very often in japan for my

446

00:19:41,190 --> 00:19:39,120

mission so it's very very happy to look

447

00:19:43,270 --> 00:19:41,200

down and see japan when you look down

448

00:19:44,950 --> 00:19:43,280

and you realize that everyone you know

449

00:19:46,870 --> 00:19:44,960

is down there

450

00:19:49,350 --> 00:19:46,880

it's wonderful to be up in space and at

451

00:19:52,070 --> 00:19:49,360

the same time it's it's um

452

00:19:54,870 --> 00:19:52,080

i i felt so so privileged to have that

453

00:19:56,950 --> 00:19:54,880

viewpoint and actually to realize that

454

00:19:58,870 --> 00:19:56,960

i don't actually come from a country i

455

00:20:00,950 --> 00:19:58,880

come from the earth and that our earth

456

00:20:03,430 --> 00:20:00,960

is in the neighborhood of space

457

00:20:05,430 --> 00:20:03,440

and it's a wonderful place

458

00:20:10,149 --> 00:20:05,440

thank you all right pearl hall you're up

459

00:20:15,270 --> 00:20:13,590

hi i am daisy and my question is

460

00:20:17,190 --> 00:20:15,280

we have rules we have to follow at

461

00:20:20,870 --> 00:20:17,200

school what roles do you have to follow

462

00:20:22,230 --> 00:20:20,880

while you're living on the iss

463

00:20:25,110 --> 00:20:22,240

rules well you know we don't we don't

464

00:20:26,710 --> 00:20:25,120

actually have to follow any rules at all

465

00:20:29,110 --> 00:20:26,720

not true you know we have to follow

466

00:20:31,270 --> 00:20:29,120

rules just like you do and

467

00:20:33,110 --> 00:20:31,280

up there it it's really clear that

468

00:20:34,710 --> 00:20:33,120

safety is the most important thing

469

00:20:37,909 --> 00:20:34,720

because we're in kind of a dangerous

470

00:20:42,470 --> 00:20:40,630

it makes me realize that being being

471

00:20:44,070 --> 00:20:42,480

following rules there's a reason for

472

00:20:47,510 --> 00:20:44,080

them and even though i actually don't

473

00:20:49,430 --> 00:20:47,520

always feel like following the rules

474

00:20:51,270 --> 00:20:49,440

it's plain old important and it just has

475

00:20:53,190 --> 00:20:51,280

to be done and you just follow the rules

476

00:20:54,950 --> 00:20:53,200

and get that part done and get on with

477

00:20:56,870 --> 00:20:54,960

whatever work you're trying to do there

478

00:20:58,950 --> 00:20:56,880

so we have lots of rules up there as

479

00:21:01,350 --> 00:20:58,960

well and pretty much we have to do what

480

00:21:03,190 --> 00:21:01,360

we're told even commander wakata i think

481

00:21:05,669 --> 00:21:03,200

will tell you that

482

00:21:06,310 --> 00:21:05,679

all right tender university please tell

483

00:21:09,430 --> 00:21:06,320

us

484

00:21:13,990 --> 00:21:10,870

hi

485

00:21:16,950 --> 00:21:14,000

my name is megami

486

00:21:19,510 --> 00:21:16,960

and my question is

487

00:21:23,350 --> 00:21:19,520

is there anything that

488

00:21:25,110 --> 00:21:23,360

you thought was an advantage or

489

00:21:26,070 --> 00:21:25,120

disadvantage

490

00:21:28,830 --> 00:21:26,080

about

491

00:21:30,390 --> 00:21:28,840

being a female

492

00:21:31,830 --> 00:21:30,400

external

493

00:21:35,029 --> 00:21:31,840

so

494

00:21:36,470 --> 00:21:35,039

being being a woman astronaut up there

495

00:21:38,230 --> 00:21:36,480

it's just nice to have lots of different

496

00:21:39,430 --> 00:21:38,240

kinds of people up there i will say in

497

00:21:40,710 --> 00:21:39,440

general

498

00:21:43,510 --> 00:21:40,720

we can be

499

00:21:45,110 --> 00:21:43,520

smaller than some of the guys and down

500

00:21:46,789 --> 00:21:45,120

here that can be a disadvantage where

501
00:21:49,190 --> 00:21:46,799
i'm always having to stand on a step to

502
00:21:51,350 --> 00:21:49,200
be tall enough right

503
00:21:53,669 --> 00:21:51,360
but then up in space i'm tall enough so

504
00:21:55,510 --> 00:21:53,679
there's advantages and disadvantages but

505
00:21:57,350 --> 00:21:55,520
what i find is sometimes the equipment

506
00:22:00,390 --> 00:21:57,360
is actually made for people who are

507
00:22:01,909 --> 00:22:00,400
bigger than i am or i'm left-handed and

508
00:22:03,750 --> 00:22:01,919
i find the equipment is made for people

509
00:22:06,310 --> 00:22:03,760
who use their right hand more

510
00:22:09,590 --> 00:22:06,320
and what i think is important is having

511
00:22:11,430 --> 00:22:09,600
lots of women and minorities

512
00:22:13,990 --> 00:22:11,440
going to school getting the tools that

513
00:22:16,470 --> 00:22:14,000

they need to be the engineers to design

514

00:22:18,630 --> 00:22:16,480

that space station and to design the

515

00:22:21,750 --> 00:22:18,640

rockets that we'll bring to mars and the

516

00:22:23,669 --> 00:22:21,760

place will live on mars i want women and

517

00:22:25,990 --> 00:22:23,679

other minorities minorities to design

518

00:22:28,149 --> 00:22:26,000

those things so that when they get there

519

00:22:29,590 --> 00:22:28,159

everything will fit them

520

00:22:31,350 --> 00:22:29,600

all right great all right we're going to

521

00:22:33,270 --> 00:22:31,360

take another question from pearl hall

522

00:22:39,430 --> 00:22:33,280

elementary what's your next question for

523

00:22:44,390 --> 00:22:42,549

my name is myra and my question is if

524

00:22:48,149 --> 00:22:44,400

you could be the first person on mars

525

00:22:51,830 --> 00:22:49,909

well you know i started to think well

526

00:22:52,870 --> 00:22:51,840

okay there would be my son and my

527

00:22:54,390 --> 00:22:52,880

husband

528

00:22:56,549 --> 00:22:54,400

but chances are they're going to be too

529

00:22:58,070 --> 00:22:56,559

heavy and i can't bring those things

530

00:23:00,549 --> 00:22:58,080

you know i'd love to say i'd bring my

531

00:23:01,590 --> 00:23:00,559

flute you know which i have here or that

532

00:23:03,190 --> 00:23:01,600

i would

533

00:23:04,710 --> 00:23:03,200

bring some things like that that i just

534

00:23:07,590 --> 00:23:04,720

love but first we're going to bring the

535

00:23:10,630 --> 00:23:07,600

equipment that we need to explore mars

536

00:23:13,510 --> 00:23:10,640

to live there safely and to be able to

537

00:23:14,950 --> 00:23:13,520

return home and to send data home so

538

00:23:16,950 --> 00:23:14,960

that everyone back on earth can

539

00:23:19,590 --> 00:23:16,960

understand what it's like on mars so

540

00:23:21,830 --> 00:23:19,600

that we can then send more people safely

541

00:23:24,549 --> 00:23:21,840

and then go to places even beyond mars

542

00:23:26,070 --> 00:23:24,559

so i bring the things that we need

543

00:23:27,510 --> 00:23:26,080

good all right well we have a few

544

00:23:29,590 --> 00:23:27,520

minutes before we're going to be

545

00:23:31,590 --> 00:23:29,600

connected with koichi so i actually have

546

00:23:34,230 --> 00:23:31,600

a question for you when you were on the

547

00:23:35,909 --> 00:23:34,240

international space station did you make

548

00:23:38,789 --> 00:23:35,919

a new discovery or does someone within

549

00:23:39,909 --> 00:23:38,799

your team make a new discovery in space

550

00:23:42,310 --> 00:23:39,919

well

551
00:23:44,230 --> 00:23:42,320
here's something i think unexpected

552
00:23:46,630 --> 00:23:44,240
about new discoveries is

553
00:23:48,630 --> 00:23:46,640
we we see tv programs we think that one

554
00:23:50,950 --> 00:23:48,640
person makes a discovery

555
00:23:52,789 --> 00:23:50,960
people make discoveries together

556
00:23:55,029 --> 00:23:52,799
when they work together and so we

557
00:23:57,750 --> 00:23:55,039
actually did have a pretty exciting

558
00:24:00,230 --> 00:23:57,760
discovery when i was on board in terms

559
00:24:03,029 --> 00:24:00,240
of fluids and figuring out what do

560
00:24:05,110 --> 00:24:03,039
liquids really want to to do and i

561
00:24:06,630 --> 00:24:05,120
mentioned it earlier understanding

562
00:24:08,789 --> 00:24:06,640
more things about how to design that

563
00:24:10,390 --> 00:24:08,799

zero g fuel tank so that we have enough

564

00:24:14,710 --> 00:24:10,400

fuel to get to mars so we know how much

565

00:24:17,750 --> 00:24:15,750

all right it looks like we're going to

566

00:24:19,110 --> 00:24:17,760

begin our event so let's stand by just a

567

00:24:21,029 --> 00:24:19,120

few seconds and we're going to be joined

568

00:24:23,029 --> 00:24:21,039

with commander koichi wakata on the

569

00:24:24,950 --> 00:24:23,039

international space station

570

00:24:26,789 --> 00:24:24,960

all right well commander kawada koichi

571

00:24:30,149 --> 00:24:26,799

wakata is on the international space

572

00:24:32,390 --> 00:24:30,159

station traveling at 17 500 miles per

573

00:24:35,430 --> 00:24:32,400

hour the experience a sunrise or a

574

00:24:37,510 --> 00:24:35,440

sunset every 45 minutes and so it's a

575

00:24:39,750 --> 00:24:37,520

beautiful beautiful experience for the

576

00:24:41,669 --> 00:24:39,760

astronauts and we're very fortunate to

577

00:24:43,590 --> 00:24:41,679

have him join us today it's not every

578

00:24:45,269 --> 00:24:43,600

day you get to speak to an astronaut on

579

00:24:54,950 --> 00:24:45,279

the international space station so we're

580

00:24:57,990 --> 00:24:56,950

can we hear koichi up

581

00:24:59,669 --> 00:24:58,000

all right

582

00:25:01,430 --> 00:24:59,679

we're waiting we're standing by we're

583

00:25:05,110 --> 00:25:01,440

waiting this is houston are you ready

584

00:25:10,630 --> 00:25:08,870

houston station i am ready for the event

585

00:25:12,310 --> 00:25:10,640

music and space participants this is

586

00:25:15,190 --> 00:25:12,320

mission control houston please call

587

00:25:17,430 --> 00:25:15,200

station 4 voice check all right iss

588

00:25:19,350 --> 00:25:17,440

commander koichi wakata this is patricia

589

00:25:22,870 --> 00:25:19,360

moore at johnson space center how do you

590

00:25:26,789 --> 00:25:24,549

patricia

591

00:25:28,870 --> 00:25:26,799

i have you loud and clear i'm glad to

592

00:25:30,310 --> 00:25:28,880

join you for this event

593

00:25:32,789 --> 00:25:30,320

great

594

00:25:36,070 --> 00:25:32,799

thank you koichi here at the johnson

595

00:25:37,750 --> 00:25:36,080

space center we have several folks on on

596

00:25:41,269 --> 00:25:37,760

stage with us we've got the students

597

00:25:43,909 --> 00:25:41,279

here at pearl hall elementary we have

598

00:25:46,870 --> 00:25:43,919

katie at coleman here we have their

599

00:25:49,510 --> 00:25:46,880

educator jamie leupold we have sergey

600

00:25:51,190 --> 00:25:49,520

galperin and we also have kenji williams

601
00:25:53,190 --> 00:25:51,200
and so i wanted to let you know everyone

602
00:25:55,110 --> 00:25:53,200
we have and i'd like to give you a

603
00:25:56,390 --> 00:25:55,120
chance to share with us what's going on

604
00:25:58,470 --> 00:25:56,400
on the space station

605
00:26:00,710 --> 00:25:58,480
a little bit about the special show

606
00:26:02,070 --> 00:26:00,720
instrument you have on the international

607
00:26:08,710 --> 00:26:02,080
space station and then i hear you're

608
00:26:13,590 --> 00:26:11,990
yes thank you very much for helping out

609
00:26:16,070 --> 00:26:13,600
and uh

610
00:26:18,950 --> 00:26:16,080
yeah this is the uh

611
00:26:20,310 --> 00:26:18,960
show

612
00:26:22,870 --> 00:26:20,320
and uh

613
00:26:24,549 --> 00:26:22,880

this was launched on the space x3 uh

614

00:26:27,110 --> 00:26:24,559

dragon spacecraft

615

00:26:29,269 --> 00:26:27,120

actually until i got to space i never

616

00:26:31,750 --> 00:26:29,279

saw a touch this instrument so it's

617

00:26:36,710 --> 00:26:31,760

quite an honor to be able to see this

618

00:26:41,430 --> 00:26:39,110

well thank you koichi so i'd like to

619

00:26:43,750 --> 00:26:41,440

give kenji an opportunity to to talk

620

00:26:45,750 --> 00:26:43,760

with you a little bit um you're going um

621

00:26:47,590 --> 00:26:45,760

to to play a special duet for us so

622

00:26:49,669 --> 00:26:47,600

maybe you want to start off by talking a

623

00:26:52,390 --> 00:26:49,679

little bit about the instrument and then

624

00:26:55,909 --> 00:26:52,400

maybe kenji can jump in and you guys can

625

00:27:01,350 --> 00:26:59,190

yeah kenji uh nice to talk with you and

626
00:27:03,669 --> 00:27:01,360
this musical instrument show

627
00:27:05,669 --> 00:27:03,679
actually this is designed to

628
00:27:07,590 --> 00:27:05,679
look like a mythical

629
00:27:09,789 --> 00:27:07,600
bird a phoenix

630
00:27:13,110 --> 00:27:09,799
as it rests with its

631
00:27:15,110 --> 00:27:13,120
360 wings folded

632
00:27:18,070 --> 00:27:15,120
the instrument shaw

633
00:27:19,110 --> 00:27:18,080
shaw was first introduced to japan from

634
00:27:21,190 --> 00:27:19,120
china

635
00:27:22,470 --> 00:27:21,200
back in the 8th century

636
00:27:26,230 --> 00:27:22,480
and then

637
00:27:29,190 --> 00:27:26,240
actually the sound making uh

638
00:27:31,830 --> 00:27:29,200

mechanism of show is pretty much the

639

00:27:33,029 --> 00:27:31,840

same as that of a harmonica

640

00:27:35,750 --> 00:27:33,039

and the

641

00:27:38,230 --> 00:27:35,760

the spirit of uh show

642

00:27:41,190 --> 00:27:38,240

represents the uh the spirit of fire

643

00:27:42,470 --> 00:27:41,200

rising from the uh ground from the earth

644

00:27:45,750 --> 00:27:42,480

to space

645

00:27:48,149 --> 00:27:45,760

so uh i am so glad that i am going to be

646

00:27:53,190 --> 00:27:48,159

able to play this musical instrument

647

00:27:58,230 --> 00:27:56,630

well koichi i'm extremely honored to

648

00:27:59,190 --> 00:27:58,240

perform with you and collaborate with

649

00:28:05,350 --> 00:27:59,200

you

650

00:28:09,510 --> 00:28:07,269

before we get started is it possible

651
00:28:14,070 --> 00:28:09,520
maybe that you could just test the tone

652
00:28:44,070 --> 00:28:14,830
okay

653
00:28:49,590 --> 00:28:48,230
were you able to hear the uh the tone

654
00:28:51,510 --> 00:28:49,600
amazing very good

655
00:28:55,830 --> 00:28:51,520
koichi how do you feel when you play

656
00:29:03,350 --> 00:29:00,149
it's a very soothing uh sound and uh

657
00:29:06,149 --> 00:29:03,360
it's really a comfortable tone and it

658
00:29:08,789 --> 00:29:06,159
really fits this microgravity floating

659
00:29:10,710 --> 00:29:08,799
in the microgravity

660
00:29:13,110 --> 00:29:10,720
all right great can see what you like

661
00:29:15,430 --> 00:29:13,120
yes so um coach

662
00:29:17,350 --> 00:29:15,440
i would like to perform with you and

663
00:29:21,830 --> 00:29:17,360

just a note about the toning of this i

664

00:29:23,990 --> 00:29:21,840

had to tune my violin down to 430 hertz

665

00:29:26,950 --> 00:29:24,000

to match the tuning of the show which is

666

00:29:29,190 --> 00:29:26,960

a very particular tuning and given that

667

00:29:31,590 --> 00:29:29,200

the show is an instrument to tune the

668

00:29:33,510 --> 00:29:31,600

cosmos traditionally

669

00:29:35,830 --> 00:29:33,520

i would like to dedicate this

670

00:29:38,470 --> 00:29:35,840

collaboration and performance as a

671

00:29:42,230 --> 00:29:38,480

prayer for our planet earth for our

672

00:29:43,430 --> 00:29:42,240

family and our uh loved ones in healing

673

00:29:47,750 --> 00:29:43,440

uh

674

00:29:48,549 --> 00:29:47,760

and our planet earth so

675

00:29:53,990 --> 00:29:48,559

um

676
00:29:54,000 --> 00:30:55,430
i am

677
00:31:35,669 --> 00:31:07,029
so

678
00:31:35,679 --> 00:32:00,230
ah

679
00:32:00,240 --> 00:32:15,190
so

680
00:32:15,200 --> 00:32:55,430
me

681
00:32:55,440 --> 00:33:13,029
my

682
00:33:17,430 --> 00:33:15,750
absolutely beautiful wow that was

683
00:33:19,750 --> 00:33:17,440
marvelous thank you koichi that was

684
00:33:20,789 --> 00:33:19,760
amazing uh wow

685
00:33:25,509 --> 00:33:20,799
thank you

686
00:33:29,110 --> 00:33:27,110
we have several schools connected we

687
00:33:30,710 --> 00:33:29,120
have pearl hall and henry university who

688
00:33:32,870 --> 00:33:30,720

would like an opportunity to speak with

689

00:33:35,590 --> 00:33:32,880

you and ask you a few questions i'd like

690

00:33:37,509 --> 00:33:35,600

to first go to pearl hall please um your

691

00:33:43,190 --> 00:33:37,519

microphone and ask kenji your first two

692

00:33:48,389 --> 00:33:46,630

hi my name is denise rodriguez and my

693

00:33:49,190 --> 00:33:48,399

question is

694

00:34:01,190 --> 00:33:49,200

how

695

00:34:03,190 --> 00:34:01,200

in

696

00:34:06,230 --> 00:34:03,200

order to play

697

00:34:07,909 --> 00:34:06,240

on the iss what are the differences

698

00:34:13,589 --> 00:34:07,919

between playing

699

00:34:17,750 --> 00:34:16,230

well that's a very good question

700

00:34:21,430 --> 00:34:17,760

here onboard the international space

701
00:34:24,950 --> 00:34:21,440
station we have air and the the pressure

702
00:34:27,190 --> 00:34:24,960
of the air is pretty much same as the

703
00:34:30,230 --> 00:34:27,200
the pressure on the ground

704
00:34:32,550 --> 00:34:30,240
so the uh the acoustic characteristics

705
00:34:34,790 --> 00:34:32,560
of the air that we breathe here inside

706
00:34:35,909 --> 00:34:34,800
of the space station is the same as on

707
00:34:37,589 --> 00:34:35,919
the ground

708
00:34:39,349 --> 00:34:37,599
as a result

709
00:34:41,669 --> 00:34:39,359
sound of

710
00:34:44,230 --> 00:34:41,679
our voice you know transmits very

711
00:34:47,349 --> 00:34:44,240
similar that's why we do not need to

712
00:34:49,510 --> 00:34:47,359
make any special adjustment of any

713
00:34:50,629 --> 00:34:49,520

musical instruments that we have

714

00:34:51,829 --> 00:34:50,639

and then

715

00:34:54,310 --> 00:34:51,839

so

716

00:34:56,310 --> 00:34:54,320

we can play it and listen to the musical

717

00:35:11,030 --> 00:34:56,320

instruments like on the ground here

718

00:35:15,349 --> 00:35:13,510

hi my name is eric and my question is do

719

00:35:16,390 --> 00:35:15,359

you believe that the existence of

720

00:35:18,950 --> 00:35:16,400

instruments

721

00:35:20,310 --> 00:35:18,960

and music on the iss increases the

722

00:35:21,750 --> 00:35:20,320

longevity

723

00:35:22,630 --> 00:35:21,760

and

724

00:35:28,390 --> 00:35:22,640

health

725

00:35:33,349 --> 00:35:30,150

yeah that's a that's really a good

726

00:35:34,470 --> 00:35:33,359

question then yes i uh strongly believe

727

00:35:35,589 --> 00:35:34,480

that the

728

00:35:39,190 --> 00:35:35,599

music

729

00:35:42,230 --> 00:35:39,200

uh gives us a sensation of relaxation

730

00:35:44,710 --> 00:35:42,240

um in space as well as on the ground

731

00:35:46,870 --> 00:35:44,720

and then listening to music playing

732

00:35:48,950 --> 00:35:46,880

music on board the space station will

733

00:35:50,470 --> 00:35:48,960

make our life on board the space station

734

00:35:53,349 --> 00:35:50,480

more enjoyable

735

00:35:55,990 --> 00:35:53,359

and it's the same on the ground and here

736

00:35:58,390 --> 00:35:56,000

uh in the very uh

737

00:36:01,030 --> 00:35:58,400

secluded area of the space station where

738

00:36:04,390 --> 00:36:01,040

we have only six crew members and the

739

00:36:19,270 --> 00:36:04,400

music is a really good psychological

740

00:36:24,870 --> 00:36:22,150

all right so henry university

741

00:36:27,750 --> 00:36:24,880

their first question is how will 3d

742

00:36:32,870 --> 00:36:27,760

printing support future human missions

743

00:36:37,670 --> 00:36:34,790

yeah

744

00:36:38,550 --> 00:36:37,680

3d print printing technology

745

00:36:41,750 --> 00:36:38,560

will

746

00:36:43,109 --> 00:36:41,760

enable us to have very efficient

747

00:36:44,069 --> 00:36:43,119

production of

748

00:36:45,430 --> 00:36:44,079

parts

749

00:36:48,790 --> 00:36:45,440

that are used

750

00:36:50,550 --> 00:36:48,800

for rockets and human spacecraft

751
00:36:52,230 --> 00:36:50,560
and right now onboard the space station

752
00:36:54,069 --> 00:36:52,240
we don't have 3d

753
00:36:56,710 --> 00:36:54,079
printing machines but there are a lot of

754
00:36:58,470 --> 00:36:56,720
parts that are already used in uh in the

755
00:37:00,550 --> 00:36:58,480
space station program that came from

756
00:37:04,790 --> 00:37:00,560
this 3d printing

757
00:37:08,710 --> 00:37:04,800
production and maybe when we go to mars

758
00:37:11,510 --> 00:37:08,720
or asteroid probably mars uh astronauts

759
00:37:13,829 --> 00:37:11,520
may be making our own parts that are

760
00:37:15,990 --> 00:37:13,839
needed to continue the space flight and

761
00:37:20,310 --> 00:37:16,000
the activities on mars using the

762
00:37:22,150 --> 00:37:20,320
technology of 3d printing productions

763
00:37:23,990 --> 00:37:22,160

here henry let's give you guys another

764

00:37:49,430 --> 00:37:24,000

shot please emu your microphone and ask

765

00:37:49,440 --> 00:38:05,109

foreign

766

00:38:10,710 --> 00:38:08,150

hi my name is shizuo jaxa has an

767

00:38:12,310 --> 00:38:10,720

experiment on the space station that is

768

00:38:15,589 --> 00:38:12,320

look at

769

00:38:18,630 --> 00:38:15,599

how semiconductor materials grow and

770

00:38:21,349 --> 00:38:18,640

crystallize in microgravity will this

771

00:38:28,630 --> 00:38:21,359

research help improve technology on

772

00:38:28,640 --> 00:39:17,750

station there are a visual

773

00:39:22,870 --> 00:39:19,510

yeah definitely uh we have been

774

00:39:24,470 --> 00:39:22,880

conducting experiments of producing or

775

00:39:26,870 --> 00:39:24,480

developing the technology of

776

00:39:29,109 --> 00:39:26,880

semiconductor materials and

777

00:39:32,069 --> 00:39:29,119

onboard the space station utilizing the

778

00:39:33,990 --> 00:39:32,079

very unique microgravity uh environment

779

00:39:35,270 --> 00:39:34,000

on the space station

780

00:39:37,510 --> 00:39:35,280

and uh

781

00:39:42,150 --> 00:39:37,520

by utilizing this microgravity

782

00:39:45,150 --> 00:39:42,160

environment we can make a very good high

783

00:39:48,390 --> 00:39:45,160

quality homogeneous materials of

784

00:39:50,870 --> 00:39:48,400

semiconductors and that will benefit the

785

00:39:53,589 --> 00:39:50,880

the enhancement of the technology of

786

00:39:56,230 --> 00:39:53,599

semiconductor development or production

787

00:39:57,589 --> 00:39:56,240

on the ground and uh until recently we

788

00:40:00,710 --> 00:39:57,599

have been conducting an experiment

789

00:40:02,950 --> 00:40:00,720

called hikari experiment that we

790

00:40:04,950 --> 00:40:02,960

tested or experimented the the

791

00:40:08,470 --> 00:40:04,960

semiconductor materials

792

00:40:10,630 --> 00:40:08,480

using silicon and germanium and that's

793

00:40:13,349 --> 00:40:10,640

done in this keyboard module just next

794

00:40:23,589 --> 00:40:15,670

pearl hall you're up next please ask

795

00:40:28,550 --> 00:40:26,710

hi i'm viviana southeastern

796

00:40:31,750 --> 00:40:28,560

southeastern high school which is in our

797

00:40:32,870 --> 00:40:31,760

hometown has has an experiment on space

798

00:40:36,309 --> 00:40:32,880

station

799

00:40:38,630 --> 00:40:36,319

that is researching the reaction

800

00:40:41,510 --> 00:40:38,640

of the polymer polymers

801

00:40:43,750 --> 00:40:41,520

that becomes a hard sticky foam

802

00:40:49,510 --> 00:40:43,760

how could astronauts use this type of

803

00:40:53,910 --> 00:40:51,430

yeah thank you for the question that's

804

00:40:55,750 --> 00:40:53,920

uh that's one of the uh the nanoracks

805

00:40:57,349 --> 00:40:55,760

experiments that we have been conducting

806

00:40:59,670 --> 00:40:57,359

on both the international space station

807

00:41:01,190 --> 00:40:59,680

that is a very neat technology

808

00:41:04,069 --> 00:41:01,200

and i i think

809

00:41:06,790 --> 00:41:04,079

by using that uh polymer technology we

810

00:41:09,829 --> 00:41:06,800

will be able to fix the for example

811

00:41:12,309 --> 00:41:09,839

damage and the cracks that occurs on the

812

00:41:14,710 --> 00:41:12,319

parts or the structures of the space

813

00:41:17,910 --> 00:41:14,720

station so definitely that will be

814

00:41:20,470 --> 00:41:17,920

utilized you know for future uh space

815

00:41:23,190 --> 00:41:20,480

activities on both the space space

816

00:41:26,870 --> 00:41:23,200

station and maybe on a different

817

00:42:51,109 --> 00:41:29,670

at henry university your final question

818

00:42:55,430 --> 00:42:52,870

this is a very similar questions that i

819

00:42:57,750 --> 00:42:55,440

received earlier but the uh

820

00:43:00,390 --> 00:42:57,760

we already have a variety of

821

00:43:02,710 --> 00:43:00,400

parts that are made from the 3d printing

822

00:43:05,190 --> 00:43:02,720

technologies that are right now used

823

00:43:07,670 --> 00:43:05,200

on the space station and other parts of

824

00:43:10,150 --> 00:43:07,680

the space development and i'm hoping and

825

00:43:12,230 --> 00:43:10,160

i believe that in the future when we go

826
00:43:14,630 --> 00:43:12,240
beyond north orbit

827
00:43:16,710 --> 00:43:14,640
for example to mars

828
00:43:17,670 --> 00:43:16,720
astronauts will be able to make new

829
00:43:20,230 --> 00:43:17,680
parts

830
00:43:21,829 --> 00:43:20,240
utilizing the 3d printing technology

831
00:43:23,910 --> 00:43:21,839
that are needed for repair and

832
00:43:26,630 --> 00:43:23,920
maintenance of a spacecraft or space

833
00:43:29,750 --> 00:43:26,640
structure that we will have on board

834
00:43:31,990 --> 00:43:29,760
on mars surface so it's a very unique

835
00:43:35,430 --> 00:43:32,000
and very

836
00:43:36,630 --> 00:43:35,440
technology

837
00:43:40,630 --> 00:43:36,640
thank you

838
00:43:46,710 --> 00:43:40,640

last quick question from pearl hall

839

00:43:51,270 --> 00:43:49,109

hi my name is german and my question is

840

00:43:53,349 --> 00:43:51,280

what have you or your crew members learn

841

00:43:55,270 --> 00:43:53,359

about living in space for longer times

842

00:44:00,550 --> 00:43:55,280

that will help scott kelly when he gets

843

00:44:06,870 --> 00:44:03,349

yeah that's a very good question

844

00:44:09,190 --> 00:44:06,880

i think we are gaining a lot of

845

00:44:10,950 --> 00:44:09,200

experience in the uh the counter

846

00:44:13,829 --> 00:44:10,960

measures to cope with a situation where

847

00:44:16,630 --> 00:44:13,839

we lose bone density and muscle strength

848

00:44:17,589 --> 00:44:16,640

and exercise is very important we're

849

00:44:20,710 --> 00:44:17,599

gaining

850

00:44:23,270 --> 00:44:20,720

a lot of experience of very efficient

851

00:44:26,150 --> 00:44:23,280

way to conduct exercise during the

852

00:44:28,870 --> 00:44:26,160

flight and that kind of data will uh

853

00:44:31,510 --> 00:44:28,880

help develop uh

854

00:44:33,430 --> 00:44:31,520

exercise protocol that will be used for

855

00:44:35,510 --> 00:44:33,440

long duration long graduation space

856

00:44:38,309 --> 00:44:35,520

flight like scott kelly's

857

00:44:41,270 --> 00:44:38,319

and the misha konyenko's one year flight

858

00:44:42,950 --> 00:44:41,280

so this kind of experiment experience

859

00:44:45,430 --> 00:44:42,960

and also

860

00:44:47,750 --> 00:44:45,440

we know how important food is and then

861

00:44:48,470 --> 00:44:47,760

some other psychological support tools

862

00:44:50,870 --> 00:44:48,480

are

863

00:44:52,630 --> 00:44:50,880

for a long flight so this kind of

864

00:44:54,309 --> 00:44:52,640

operational experience that we are

865

00:44:56,710 --> 00:44:54,319

having now onboard the international

866

00:45:00,230 --> 00:44:56,720

space station will benefit

867

00:45:01,990 --> 00:45:00,240

for the longer duration space flight

868

00:45:03,829 --> 00:45:02,000

thank you koichi and thank you for

869

00:45:05,910 --> 00:45:03,839

joining us today would you like to say

870

00:45:09,670 --> 00:45:05,920

goodbye to all of our friends here on

871

00:45:13,829 --> 00:45:11,829

yeah thank you very much everyone

872

00:45:15,510 --> 00:45:13,839

it was truly a pleasure

873

00:45:17,750 --> 00:45:15,520

to be able to play this musical

874

00:45:18,870 --> 00:45:17,760

instrument and answering your wonderful

875

00:45:20,950 --> 00:45:18,880

questions

876

00:45:23,750 --> 00:45:20,960

and i look forward to having more

877

00:45:25,510 --> 00:45:23,760

opportunity to be able to to to join you

878

00:45:27,270 --> 00:45:25,520

in the future and talk about the

879

00:45:29,190 --> 00:45:27,280

experience that i had on board

880

00:45:36,630 --> 00:45:29,200

international space station

881

00:45:36,640 --> 00:45:40,309

bye bye

882

00:45:44,829 --> 00:45:43,030

station this is houston acr thank you

883

00:45:47,829 --> 00:45:44,839

that concludes our

884

00:45:50,230 --> 00:45:47,839

event all right that was wonderful what

885

00:45:51,750 --> 00:45:50,240

an amazing experience getting to talk to

886

00:45:53,190 --> 00:45:51,760

koichi on the international space

887

00:45:55,829 --> 00:45:53,200

station and thank you kenji for that

888

00:45:57,670 --> 00:45:55,839

beautiful music thank you it's an honor

889

00:45:59,510 --> 00:45:57,680

all right well we have a very special

890

00:46:01,910 --> 00:45:59,520

opportunity to kind of sing a song on

891

00:46:04,470 --> 00:46:01,920

behalf of koichi um jamie why don't you

892

00:46:06,069 --> 00:46:04,480

share with us about our next song yes

893

00:46:07,750 --> 00:46:06,079

one of the things that our guests for

894

00:46:09,829 --> 00:46:07,760

the building cultural bridges program do

895

00:46:13,109 --> 00:46:09,839

is to bring their culture to us through

896

00:46:15,030 --> 00:46:13,119

music and so when cuichi came his song

897

00:46:17,349 --> 00:46:15,040

that he shared was his favorite piece of

898

00:46:20,470 --> 00:46:17,359

music from his childhood called usagi

899

00:46:23,349 --> 00:46:20,480

usagi translated into english is rabbit

900

00:46:25,190 --> 00:46:23,359

rabbit and so we it's about the moon

901
00:46:27,829 --> 00:46:25,200
which is a big important part of what

902
00:46:51,750 --> 00:46:27,839
we're studying here at nasa so we'll

903
00:47:34,309 --> 00:47:09,829
oh

904
00:47:34,319 --> 00:48:00,470
is

905
00:48:04,790 --> 00:48:02,710
thank you so much

906
00:48:07,030 --> 00:48:04,800
obviously music is a really important

907
00:48:08,390 --> 00:48:07,040
part of our life here on earth and of

908
00:48:10,230 --> 00:48:08,400
course on the international space

909
00:48:12,230 --> 00:48:10,240
station and katie i would really like

910
00:48:13,510 --> 00:48:12,240
for you to share with us some of the

911
00:48:14,950 --> 00:48:13,520
instruments that have been onboard the

912
00:48:16,870 --> 00:48:14,960
space station and maybe some of your

913
00:48:18,710 --> 00:48:16,880

personal experiences

914

00:48:20,630 --> 00:48:18,720

well i think some of you know that i

915

00:48:22,549 --> 00:48:20,640

play the flute and you know i've done

916

00:48:24,309 --> 00:48:22,559

that since i was a kid

917

00:48:26,150 --> 00:48:24,319

but i wasn't a professional flute player

918

00:48:28,230 --> 00:48:26,160

i just like to play and i like to play

919

00:48:30,069 --> 00:48:28,240

with people when i went up to the space

920

00:48:32,309 --> 00:48:30,079

station i had a little room to bring a

921

00:48:35,430 --> 00:48:32,319

few things i did bring my flute in fact

922

00:48:38,950 --> 00:48:35,440

it's actually um this one right here and

923

00:48:40,950 --> 00:48:38,960

it's been uh 93 million miles i think

924

00:48:42,630 --> 00:48:40,960

something like that it went around quite

925

00:48:44,309 --> 00:48:42,640

and in fact i brought several other

926
00:48:46,069 --> 00:48:44,319
flutes up to the space station as well

927
00:48:48,710 --> 00:48:46,079
because it was important to me to share

928
00:48:50,390 --> 00:48:48,720
my space station experience in that way

929
00:48:53,030 --> 00:48:50,400
um i think we've got some neat video of

930
00:48:54,630 --> 00:48:53,040
just my instruments and other and other

931
00:48:56,630 --> 00:48:54,640
folks and i i'll just kind of talk

932
00:48:57,430 --> 00:48:56,640
through it while we watch

933
00:48:59,990 --> 00:48:57,440
this

934
00:49:01,910 --> 00:49:00,000
i love just showing people that it's a

935
00:49:03,990 --> 00:49:01,920
different world up there and when you

936
00:49:06,470 --> 00:49:04,000
saw koichi tossing the show back and

937
00:49:08,549 --> 00:49:06,480
forth and just kind of tumbling around

938
00:49:10,790 --> 00:49:08,559

this is a duet that i played with mr ian

939

00:49:12,549 --> 00:49:10,800

anderson of the musical group jethro

940

00:49:15,109 --> 00:49:12,559

tull he was the person that brought the

941

00:49:17,030 --> 00:49:15,119

flute to rock music and so we played a

942

00:49:20,150 --> 00:49:17,040

duet and it was actually the first duet

943

00:49:23,030 --> 00:49:20,160

between earth and space so i don't mean

944

00:49:24,630 --> 00:49:23,040

to show you up kenji

945

00:49:26,710 --> 00:49:24,640

but we've had a number of people bring

946

00:49:28,309 --> 00:49:26,720

instruments up and even just you know

947

00:49:29,829 --> 00:49:28,319

listening to music having fun together

948

00:49:31,990 --> 00:49:29,839

having fun with your friends on the

949

00:49:34,870 --> 00:49:32,000

ground this is part of a music video

950

00:49:37,510 --> 00:49:34,880

called world by 5 5 for fighting where

951
00:49:38,870 --> 00:49:37,520
it said what kind of world do you want

952
00:49:40,309 --> 00:49:38,880
and and that's just something that's

953
00:49:41,990 --> 00:49:40,319
really important for all of us to think

954
00:49:43,670 --> 00:49:42,000
about and i think

955
00:49:46,549 --> 00:49:43,680
when we get together and we play music

956
00:49:48,150 --> 00:49:46,559
this is myself uh and the chieftains a

957
00:49:50,630 --> 00:49:48,160
group called the chieftains i brought a

958
00:49:52,710 --> 00:49:50,640
penny whistle and a 150 year old flute

959
00:49:54,630 --> 00:49:52,720
up to the space station uh for that

960
00:49:56,309 --> 00:49:54,640
group and we're playing with the houston

961
00:49:58,549 --> 00:49:56,319
symphony

962
00:50:01,430 --> 00:49:58,559
and it to me it was just it was

963
00:50:03,109 --> 00:50:01,440

important to play together um the fact

964

00:50:04,710 --> 00:50:03,119

that i i played their instruments up in

965

00:50:06,870 --> 00:50:04,720

space and then i brought them home and i

966

00:50:08,309 --> 00:50:06,880

got to talk with them and play with them

967

00:50:10,549 --> 00:50:08,319

and if you see me right here i'm playing

968

00:50:12,710 --> 00:50:10,559

a duet with mr matt malloy and i will

969

00:50:14,630 --> 00:50:12,720

tell you that i'm very nervous

970

00:50:16,710 --> 00:50:14,640

and and and i think it's really

971

00:50:19,190 --> 00:50:16,720

important for our students here

972

00:50:20,549 --> 00:50:19,200

and for people who play instruments to

973

00:50:21,910 --> 00:50:20,559

realize that

974

00:50:23,349 --> 00:50:21,920

you don't have to be the best in the

975

00:50:25,670 --> 00:50:23,359

whole world you just have to want to

976
00:50:27,829 --> 00:50:25,680
share and then it takes a certain amount

977
00:50:29,829 --> 00:50:27,839
of being brave you know here's chris

978
00:50:31,670 --> 00:50:29,839
hadfield playing the guitar you know

979
00:50:33,910 --> 00:50:31,680
he's a wonderful guitar player and

980
00:50:35,670 --> 00:50:33,920
singer songwriter um is he the best in

981
00:50:38,470 --> 00:50:35,680
the world well probably not but was he

982
00:50:39,910 --> 00:50:38,480
willing to be brave and share he was and

983
00:50:41,349 --> 00:50:39,920
in fact here we are playing it's our

984
00:50:43,670 --> 00:50:41,359
group that we play together with chris

985
00:50:45,910 --> 00:50:43,680
on the ground bandela we're playing with

986
00:50:47,990 --> 00:50:45,920
the houston symphony with the chieftains

987
00:50:50,230 --> 00:50:48,000
and we're playing moon dance and so

988
00:50:52,790 --> 00:50:50,240

chris was on the space station we were

989

00:50:56,150 --> 00:50:52,800

in symphony hall right here in houston

990

00:51:00,069 --> 00:50:56,160

and together we played music together

991

00:51:02,470 --> 00:51:00,079

just just like koichi and kenji just did

992

00:51:05,829 --> 00:51:02,480

and one of the earlier questions that we

993

00:51:09,030 --> 00:51:05,839

had was about whether there's something

994

00:51:10,790 --> 00:51:09,040

spiritual or just a sense of awe that

995

00:51:12,390 --> 00:51:10,800

you would have in in being up on the

996

00:51:13,910 --> 00:51:12,400

space station and

997

00:51:15,910 --> 00:51:13,920

i don't think it's just because i've

998

00:51:18,470 --> 00:51:15,920

been there but when kenji and koichi

999

00:51:21,430 --> 00:51:18,480

played and we watched the video of

1000

00:51:23,750 --> 00:51:21,440

sailing over the earth and in video

1001
00:51:26,230 --> 00:51:23,760
inside the space station and koichi

1002
00:51:28,309 --> 00:51:26,240
floating around and i think cuishi was

1003
00:51:29,990 --> 00:51:28,319
actually entranced when he played that

1004
00:51:31,510 --> 00:51:30,000
instrument

1005
00:51:34,069 --> 00:51:31,520
i mean i think he's getting into it you

1006
00:51:35,990 --> 00:51:34,079
know i i think it just there's something

1007
00:51:39,670 --> 00:51:36,000
special that happened you know that

1008
00:51:42,470 --> 00:51:39,680
moment live together even though he was

1009
00:51:44,470 --> 00:51:42,480
on the space station going 17 500 miles

1010
00:51:47,349 --> 00:51:44,480
an hour even if you can't be physically

1011
00:51:49,750 --> 00:51:47,359
close you can be together in spirit

1012
00:51:51,589 --> 00:51:49,760
and as we travel further and further

1013
00:51:53,030 --> 00:51:51,599

i think that that's really more and more

1014

00:51:55,670 --> 00:51:53,040

important and and one of the ways

1015

00:51:56,549 --> 00:51:55,680

actually just for me in any way um not

1016

00:51:59,430 --> 00:51:56,559

to be

1017

00:52:01,109 --> 00:51:59,440

you know lonely was to put on music that

1018

00:52:03,030 --> 00:52:01,119

my group would play when we played

1019

00:52:04,710 --> 00:52:03,040

together that mandela would play i would

1020

00:52:07,190 --> 00:52:04,720

put that music on and i would go up to

1021

00:52:09,510 --> 00:52:07,200

the cupola which is in the middle of our

1022

00:52:11,109 --> 00:52:09,520

space station so

1023

00:52:12,950 --> 00:52:11,119

people are sleeping on either end of the

1024

00:52:14,710 --> 00:52:12,960

space station that means that the cupola

1025

00:52:16,069 --> 00:52:14,720

is is a reasonable place to play you're

1026
00:52:18,549 --> 00:52:16,079
not going to wake anybody up it was

1027
00:52:20,150 --> 00:52:18,559
usually nighttime and i would open the

1028
00:52:21,750 --> 00:52:20,160
window shutters

1029
00:52:23,910 --> 00:52:21,760
look at the earth

1030
00:52:26,549 --> 00:52:23,920
listen to my my friends back on earth

1031
00:52:28,150 --> 00:52:26,559
playing music and play along and we were

1032
00:52:30,069 --> 00:52:28,160
together in spirit

1033
00:52:32,470 --> 00:52:30,079
and i just think it happens every time

1034
00:52:34,630 --> 00:52:32,480
you get brave and you play

1035
00:52:36,710 --> 00:52:34,640
and all of us that play i think are you

1036
00:52:39,510 --> 00:52:36,720
know have to be a little brave to play

1037
00:52:40,790 --> 00:52:39,520
and i i very much congratulate our choir

1038
00:52:42,470 --> 00:52:40,800

today for

1039

00:52:44,069 --> 00:52:42,480

being brave and

1040

00:52:46,950 --> 00:52:44,079

standing up in front of everyone and

1041

00:52:48,630 --> 00:52:46,960

saying i'm proud just to share so i just

1042

00:52:50,630 --> 00:52:48,640

music is special and it's it's certainly

1043

00:52:52,230 --> 00:52:50,640

special on the space station it is and

1044

00:52:53,589 --> 00:52:52,240

um i know there's been several musical

1045

00:52:54,870 --> 00:52:53,599

instruments on the space station you

1046

00:52:56,309 --> 00:52:54,880

mentioned your flute and what and the

1047

00:52:57,750 --> 00:52:56,319

instruments you brought um can you think

1048

00:52:59,349 --> 00:52:57,760

of any others that have been in space

1049

00:53:00,870 --> 00:52:59,359

well we've had a keyboard you saw luca

1050

00:53:02,309 --> 00:53:00,880

with the keyboard i wanted to find it

1051
00:53:05,589 --> 00:53:02,319
before the shuttle mission came up

1052
00:53:07,430 --> 00:53:05,599
because greg johnson from sts-134 plays

1053
00:53:09,670 --> 00:53:07,440
the keyboards so i looked on the

1054
00:53:11,510 --> 00:53:09,680
inventory management system for keyboard

1055
00:53:13,910 --> 00:53:11,520
of course like hundreds of keyboards

1056
00:53:16,549 --> 00:53:13,920
showed up like 60 not hundreds but 60

1057
00:53:18,309 --> 00:53:16,559
because every computer has a keyboard

1058
00:53:19,670 --> 00:53:18,319
but then i looked at the locations and

1059
00:53:21,589 --> 00:53:19,680
there was one that was stored in a

1060
00:53:24,069 --> 00:53:21,599
really big place and sure enough you

1061
00:53:27,349 --> 00:53:24,079
know behind this big rack was the

1062
00:53:29,670 --> 00:53:27,359
keyboard uh don pettit made a degree do

1063
00:53:32,069 --> 00:53:29,680

we've had several guitars

1064

00:53:33,670 --> 00:53:32,079

there's been a trumpet in fact frank

1065

00:53:35,109 --> 00:53:33,680

culbertson i think played taps

1066

00:53:36,870 --> 00:53:35,119

unfortunately after

1067

00:53:38,950 --> 00:53:36,880

nine on

1068

00:53:40,549 --> 00:53:38,960

9 11.

1069

00:53:42,630 --> 00:53:40,559

there are special ways to express

1070

00:53:45,349 --> 00:53:42,640

yourself and even if we don't bring

1071

00:53:47,510 --> 00:53:45,359

musical instruments there will be music

1072

00:53:50,309 --> 00:53:47,520

on that space station that's right thank

1073

00:53:52,230 --> 00:53:50,319

you well we have one final piece and to

1074

00:53:54,309 --> 00:53:52,240

share with you today so jamie why don't

1075

00:53:57,109 --> 00:53:54,319

you share with us about our next song oh

1076

00:53:59,430 --> 00:53:57,119

susanna yes oh susanna was brought to

1077

00:54:02,790 --> 00:53:59,440

our building cultural bridges program by

1078

00:54:04,950 --> 00:54:02,800

astronaut commander dan burbank and dan

1079

00:54:07,030 --> 00:54:04,960

shared with our students that he felt

1080

00:54:08,549 --> 00:54:07,040

that music and literature were two of

1081

00:54:10,950 --> 00:54:08,559

the most important things we have

1082

00:54:12,950 --> 00:54:10,960

because they tell others about us and i

1083

00:54:15,349 --> 00:54:12,960

think that's one thing that that music

1084

00:54:17,510 --> 00:54:15,359

is doing in connecting us with other

1085

00:54:20,549 --> 00:54:17,520

cultures of the space station program

1086

00:54:23,270 --> 00:54:20,559

and connects also with for our students

1087

00:54:25,750 --> 00:54:23,280

or students in any school in any country

1088

00:54:27,589 --> 00:54:25,760

to connect an integrated curriculum and

1089

00:54:30,309 --> 00:54:27,599

to better make it an artful way to

1090

00:54:32,390 --> 00:54:30,319

present information and connect us to

1091

00:54:34,230 --> 00:54:32,400

each other to our curriculum which is

1092

00:54:36,789 --> 00:54:34,240

what this entire program today has been

1093

00:54:38,630 --> 00:54:36,799

doing so we would like to share

1094

00:54:41,109 --> 00:54:38,640

james taylor's version which was taught

1095

00:54:43,030 --> 00:54:41,119

to us by dan burbank um

1096

00:54:45,430 --> 00:54:43,040

of oh susannah katie is going to play

1097

00:54:48,390 --> 00:54:45,440

some jazz flute part around with the

1098

00:55:09,430 --> 00:54:48,400

interlude so without further ado here's

1099

00:55:16,390 --> 00:55:12,870

well i come from alabama

1100

00:55:26,710 --> 00:55:16,400

with his banjo on my knee

1101

00:55:33,470 --> 00:55:29,829

the weather was born dry

1102

00:55:37,750 --> 00:55:33,480

the sun was so hot i froze myself

1103

00:55:41,990 --> 00:55:37,760

suzanna don't you go on and cry

1104

00:55:45,430 --> 00:55:42,000

i said oh susannah

1105

00:55:48,710 --> 00:55:45,440

now don't you cry for me

1106

00:55:52,390 --> 00:55:48,720

cause i come from alabama

1107

00:55:55,109 --> 00:55:52,400

with his banjo on my knee

1108

00:55:58,789 --> 00:55:55,119

well i had myself a dream the other

1109

00:56:15,349 --> 00:55:58,799

night when everything was still

1110

00:56:22,710 --> 00:56:18,549

don't you go on and cry

1111

00:56:26,150 --> 00:56:22,720

i said oh suzannah

1112

00:56:29,510 --> 00:56:26,160

now don't you cry for me

1113

00:56:46,710 --> 00:56:29,520

cause i come from alabama

1114

00:56:46,720 --> 00:57:06,309

foreign

1115

00:57:06,319 --> 00:57:15,670

i

1116

00:57:22,150 --> 00:57:18,789

don't you cry for me

1117

00:57:32,630 --> 00:57:22,160

cause i come from alabama

1118

00:57:36,950 --> 00:57:34,870

thank you so much this has been such a

1119

00:57:39,030 --> 00:57:36,960

wonderful experience for us all and i'm

1120

00:57:41,030 --> 00:57:39,040

really happy that we were able to join

1121

00:57:43,589 --> 00:57:41,040

so many people together to put together

1122

00:57:45,829 --> 00:57:43,599

the music and space event today so i'd

1123

00:57:47,829 --> 00:57:45,839

like to begin by thanking all the folks

1124

00:57:49,510 --> 00:57:47,839

behind the scenes here at johnson space

1125

00:57:52,789 --> 00:57:49,520

center who helped produce the event for

1126

00:57:56,789 --> 00:57:52,799

us today and i'd like to thank kenji

1127

00:57:58,390 --> 00:57:56,799

and katie and jamie and sergey and

1128

00:57:59,910 --> 00:57:58,400

our choir director pat surface who's

1129

00:58:02,230 --> 00:57:59,920

behind the scenes still

1130

00:58:04,069 --> 00:58:02,240

for being a part of the program and of

1131

00:58:06,710 --> 00:58:04,079

course the students at pearl hall

1132

00:58:09,750 --> 00:58:06,720

elementary are virtual participants and

1133

00:58:11,670 --> 00:58:09,760

then tenure university for for helping

1134

00:58:13,349 --> 00:58:11,680

uh get the show to the international

1135

00:58:15,990 --> 00:58:13,359

space station we really appreciate all

1136

00:58:18,390 --> 00:58:16,000

of your support and a big thanks to our

1137

00:58:20,069 --> 00:58:18,400

amazing choir

1138

00:58:23,589 --> 00:58:20,079

wonderful

1139

00:58:25,349 --> 00:58:23,599

thank you so much and uh if any of you

1140

00:58:27,349 --> 00:58:25,359

are interested in being a part of a

1141

00:58:29,750 --> 00:58:27,359

digital learning network event i

1142

00:58:32,230 --> 00:58:29,760

encourage you to visit our website at

1143

00:58:34,470 --> 00:58:32,240

dln.nasa.gov

1144

00:58:37,030 --> 00:58:34,480

and to all of you watching on the dll

1145

00:58:39,270 --> 00:58:37,040

info channel and on nasa television on

1146

00:58:42,789 --> 00:58:39,280

behalf of everyone thank you for joining