



1
00:00:09,209 --> 00:00:07,019
good afternoon everyone this is our

2
00:00:11,909 --> 00:00:09,219
briefing to attempt to answer the

3
00:00:15,989 --> 00:00:11,919
question about why Mars excites and

4
00:00:18,900 --> 00:00:15,999
inspires us and here to give us some

5
00:00:20,880 --> 00:00:18,910
answers to that is Leland Melvin the

6
00:00:24,480 --> 00:00:20,890
NASA associate administrator for

7
00:00:28,010 --> 00:00:24,490
education Scott

8
00:00:30,540 --> 00:00:28,020
rather Clara MA a student at the

9
00:00:32,579 --> 00:00:30,550
Curiosity Shawnee Mission East High

10
00:00:37,500 --> 00:00:32,589
School she is the NASA contest winner

11
00:00:40,229 --> 00:00:37,510
for naming the Curiosity rover Scott

12
00:00:42,869 --> 00:00:40,239
Anderson teacher and science department

13
00:00:46,849 --> 00:00:42,879

chairman for the davinci high school for

14

00:00:50,209 --> 00:00:46,859

science and the arts in El Paso Texas

15

00:00:54,649 --> 00:00:50,219

Laura Lyons graduate student at Harvard

16

00:00:58,110 --> 00:00:54,659

University and a first robotics alumni

17

00:01:00,450 --> 00:00:58,120

and Veronica McGregor manager of the

18

00:01:02,969 --> 00:01:00,460

media relations office for NASA's Jet

19

00:01:05,520 --> 00:01:02,979

Propulsion Laboratory and we'll begin

20

00:01:07,470 --> 00:01:05,530

first with Leland Melvin thanks George

21

00:01:10,200 --> 00:01:07,480

it's very excited to be here today

22

00:01:12,720 --> 00:01:10,210

especially with you know educators with

23

00:01:15,600 --> 00:01:12,730

students with scientists and engineers

24

00:01:18,390 --> 00:01:15,610

that are helping build and ship off this

25

00:01:20,880 --> 00:01:18,400

wonderful rover Curiosity to Mars and I

26
00:01:22,380 --> 00:01:20,890
think about myself as a child what got

27
00:01:24,270 --> 00:01:22,390
me inspired and motivated become a

28
00:01:26,880 --> 00:01:24,280
scientist and engineer and eventually an

29
00:01:28,650 --> 00:01:26,890
astronaut it was building developing

30
00:01:30,900 --> 00:01:28,660
creating I mix these two dissimilar

31
00:01:34,230 --> 00:01:30,910
chemicals together and created the most

32
00:01:35,760 --> 00:01:34,240
amazing explosion and my mother's in my

33
00:01:38,070 --> 00:01:35,770
mother's living room and I actually put

34
00:01:40,350 --> 00:01:38,080
a hole in her rug but that fuel my

35
00:01:42,000 --> 00:01:40,360
curiosity right there and I think about

36
00:01:44,730 --> 00:01:42,010
as the associate administrator for

37
00:01:47,490 --> 00:01:44,740
education what are all the unique assets

38
00:01:49,740 --> 00:01:47,500

that NASA has that we can share with the

39

00:01:52,320 --> 00:01:49,750

general public with educators and with

40

00:01:54,240 --> 00:01:52,330

learners and so my job is to ensure that

41

00:01:57,870 --> 00:01:54,250

we have those types of things in place

42

00:02:01,620 --> 00:01:57,880

so that as curiosity heads off to Mars

43

00:02:04,290 --> 00:02:01,630

we'll have apps will have applications

44

00:02:05,940 --> 00:02:04,300

will have interventions on the website

45

00:02:08,130 --> 00:02:05,950

that people can go to to find out more

46

00:02:10,290 --> 00:02:08,140

about curiosity but actually when it

47

00:02:12,660 --> 00:02:10,300

gets there the types of things will help

48

00:02:13,830 --> 00:02:12,670

inspire and engage when I think about

49

00:02:16,710 --> 00:02:13,840

spirit

50

00:02:19,619 --> 00:02:16,720

opportunity those two Rovers led a very

51
00:02:21,869 --> 00:02:19,629
long life on the Martian surface and now

52
00:02:23,970 --> 00:02:21,879
with curiosity coming I think it's going

53
00:02:26,640 --> 00:02:23,980
to be even a much better opportunity for

54
00:02:30,990 --> 00:02:26,650
students and teachers to get inspired as

55
00:02:33,750 --> 00:02:31,000
I think about the future of our of our

56
00:02:35,930 --> 00:02:33,760
NASA organization I think that the

57
00:02:39,570 --> 00:02:35,940
future is very bright we're gonna have

58
00:02:41,640 --> 00:02:39,580
assets that will allow everyone on this

59
00:02:43,949 --> 00:02:41,650
table to think about the future and the

60
00:02:46,289 --> 00:02:43,959
next generation of explorers and so with

61
00:02:49,410 --> 00:02:46,299
that back to you George Thank You Lila

62
00:02:50,400 --> 00:02:49,420
and now - Clara MA from Shawnee Mission

63
00:02:52,830 --> 00:02:50,410

East High School

64

00:02:56,220 --> 00:02:52,840

she was the NASA contest winner for

65

00:02:59,309 --> 00:02:56,230

naming curiosity Clara hi I'm Clara and

66

00:03:00,990 --> 00:02:59,319

three years ago I was sitting in my 6th

67

00:03:05,640 --> 00:03:01,000

grade science class reading an article

68

00:03:08,220 --> 00:03:05,650

about NASA's - mars exploration rovers

69

00:03:10,819 --> 00:03:08,230

Spirit and Opportunity and also the

70

00:03:15,059 --> 00:03:10,829

contest to name NASA's next Mars rover

71

00:03:17,069 --> 00:03:15,069

the Mars Science Laboratory and sitting

72

00:03:20,640 --> 00:03:17,079

there in class I immediately began to

73

00:03:22,259 --> 00:03:20,650

think of names for the rover and the

74

00:03:25,830 --> 00:03:22,269

first name that came to my mind was

75

00:03:27,420 --> 00:03:25,840

curiosity and I actually I thought of a

76

00:03:31,319 --> 00:03:27,430

bunch of other names that were really

77

00:03:33,120 --> 00:03:31,329

cheesy and none of them really fit so I

78

00:03:37,110 --> 00:03:33,130

kept on coming back to curiosity because

79

00:03:41,339 --> 00:03:37,120

Mars is such a mysterious and wonderful

80

00:03:45,900 --> 00:03:41,349

planet and it it inspires so many

81

00:03:48,750 --> 00:03:45,910

questions in all of us and I think even

82

00:03:52,530 --> 00:03:48,760

though Mars is millions of kilometres

83

00:03:55,140 --> 00:03:52,540

away I believe that it manages to

84

00:03:58,440 --> 00:03:55,150

inspire all of us in one way or not

85

00:04:03,170 --> 00:03:58,450

another whether it's the color the

86

00:04:06,229 --> 00:04:03,180

vibrant red color or the craters the

87

00:04:11,940 --> 00:04:06,239

canyons in the mountains the volcanoes

88

00:04:16,409 --> 00:04:11,950

or the science and I think that I'm just

89

00:04:18,719 --> 00:04:16,419

I'm just so lucky to be here and I hope

90

00:04:19,789 --> 00:04:18,729

curiosity makes it there safely next

91

00:04:23,480 --> 00:04:19,799

August

92

00:04:25,460 --> 00:04:23,490

Thank You Clara now Scott Anderson a

93

00:04:27,770 --> 00:04:25,470

teacher and the science department

94

00:04:32,439 --> 00:04:27,780

chairman at da Vinci School for science

95

00:04:35,450 --> 00:04:32,449

and Arts at El Paso Scott thank you I

96

00:04:39,619 --> 00:04:35,460

was thinking back to what inspires me

97

00:04:41,990 --> 00:04:39,629

and I still remember back in the

98

00:04:44,779 --> 00:04:42,000

exciting days of the Mercury program

99

00:04:47,659 --> 00:04:44,789

when I was a little boy and my dad woke

100

00:04:49,909 --> 00:04:47,669

me up at a very early morning because we

101
00:04:52,939 --> 00:04:49,919
live in Arizona and a comfortable launch

102
00:04:56,120 --> 00:04:52,949
time in Florida was very early for us

103
00:04:58,909 --> 00:04:56,130
and he got me out of bed and we waited

104
00:05:01,070 --> 00:04:58,919
through all those t-minus so many

105
00:05:02,510 --> 00:05:01,080
minutes and holding and then it was the

106
00:05:05,360 --> 00:05:02,520
clock would run somewhere there would be

107
00:05:07,640 --> 00:05:05,370
two minus ten minutes and holding

108
00:05:11,480 --> 00:05:07,650
and we held that was the longest 18

109
00:05:13,640 --> 00:05:11,490
minutes in history but we were there for

110
00:05:16,939 --> 00:05:13,650
Alan Shepard and we were there for John

111
00:05:19,010 --> 00:05:16,949
Glenn and and all those boys we got him

112
00:05:21,640 --> 00:05:19,020
off and we gave him the moral support

113
00:05:25,040 --> 00:05:21,650

from Nogales Arizona from a hilltop

114

00:05:28,189 --> 00:05:25,050

about one kilometer inside of this

115

00:05:31,879 --> 00:05:28,199

nation right by our neighbors in Mexico

116

00:05:34,850 --> 00:05:31,889

and we were there for them and if dad

117

00:05:36,980 --> 00:05:34,860

hadn't gotten me out of bed and told me

118

00:05:39,980 --> 00:05:36,990

hey we're gonna watch the launch I don't

119

00:05:43,279 --> 00:05:39,990

know if I'd be the the Martian wanna be

120

00:05:44,870 --> 00:05:43,289

that I am today now I brought my

121

00:05:47,390 --> 00:05:44,880

granddaughter Nicole who's an eighth

122

00:05:49,279 --> 00:05:47,400

grader Nicole Harrison is here and she's

123

00:05:51,589 --> 00:05:49,289

with another group of students from

124

00:05:55,040 --> 00:05:51,599

Alabama touring the Space Center as we

125

00:05:58,450 --> 00:05:55,050

speak and she's the next generation of

126

00:06:02,080 --> 00:05:58,460

explorers and she wants to be one of the

127

00:06:05,330 --> 00:06:02,090

moving parts of this great endeavor and

128

00:06:07,939 --> 00:06:05,340

my Uncle Joe worked in aerospace and I

129

00:06:09,680 --> 00:06:07,949

tell my students that hardware he worked

130

00:06:11,959 --> 00:06:09,690

on is still sitting on the moon today

131

00:06:13,850 --> 00:06:11,969

and that means a lot to me and I think

132

00:06:16,339 --> 00:06:13,860

that wakes him up a little bit said yeah

133

00:06:18,379 --> 00:06:16,349

we week of course there's a myth that we

134

00:06:19,070 --> 00:06:18,389

never went there but I do bunk that

135

00:06:24,230 --> 00:06:19,080

right away

136

00:06:26,779 --> 00:06:24,240

and now I've I've been attending Mars

137

00:06:29,149 --> 00:06:26,789

education conferences over in Tempe

138

00:06:30,770 --> 00:06:29,159

Arizona for quite a few years now I'm a

139

00:06:34,970 --> 00:06:30,780

frequent flyer with them

140

00:06:37,630 --> 00:06:34,980

and they had me at the first go I got a

141

00:06:40,730 --> 00:06:37,640

little little note in my cubby at my

142

00:06:42,980 --> 00:06:40,740

workplace and Nogales and said come on

143

00:06:45,440 --> 00:06:42,990

up for an educator conference it'll cost

144

00:06:47,900 --> 00:06:45,450

you five bucks and I figured it's only a

145

00:06:49,940 --> 00:06:47,910

hundred eighty miles I can be there by 8

146

00:06:51,410 --> 00:06:49,950

o'clock and on a Saturday morning and

147

00:06:54,050 --> 00:06:51,420

sure enough they had me they gave me a

148

00:06:57,980 --> 00:06:54,060

topo map of Mars from the laser

149

00:06:59,840 --> 00:06:57,990

altimeter of the mola instrument and I

150

00:07:01,910 --> 00:06:59,850

got to meet a principal investigator for

151

00:07:04,610 --> 00:07:01,920

one of the instruments there and and

152

00:07:08,450 --> 00:07:04,620

they had me if they get go so I've been

153

00:07:10,280 --> 00:07:08,460

a frequent flyer but what I've brought

154

00:07:12,260 --> 00:07:10,290

back from those conferences and I

155

00:07:16,010 --> 00:07:12,270

recommend to any teachers that that can

156

00:07:19,220 --> 00:07:16,020

obtain those materials and we all can to

157

00:07:22,970 --> 00:07:19,230

use some of those there's Mars uncovered

158

00:07:26,300 --> 00:07:22,980

is a wonderful way to study basic

159

00:07:30,890 --> 00:07:26,310

geological processes and those those

160

00:07:33,380 --> 00:07:30,900

laws of nature are the same both planets

161

00:07:35,690 --> 00:07:33,390

and we study comparative aging

162

00:07:37,670 --> 00:07:35,700

techniques and it brings it home so we

163

00:07:39,500 --> 00:07:37,680

can do it both ways we can use earth to

164

00:07:41,180 --> 00:07:39,510

study Mars we're gonna study how things

165

00:07:43,760 --> 00:07:41,190

work here and figure out what's going on

166

00:07:46,580 --> 00:07:43,770

there and then we can use Mars to study

167

00:07:50,570 --> 00:07:46,590

earth and say what went wrong with their

168

00:07:52,430 --> 00:07:50,580

climate it's uh it's not as nice as we'd

169

00:07:54,260 --> 00:07:52,440

like it's not like the Ray Bradbury

170

00:07:55,640 --> 00:07:54,270

novels that I read the Martian

171

00:07:58,130 --> 00:07:55,650

Chronicles it was a shirtsleeves

172

00:08:01,240 --> 00:07:58,140

environment in those stories there's not

173

00:08:05,300 --> 00:08:01,250

quite that user-friendly now but

174

00:08:07,400 --> 00:08:05,310

definitely we've had some very good

175

00:08:09,500 --> 00:08:07,410

student enthusiasm by bringing those

176

00:08:11,870 --> 00:08:09,510

real materials and say these things are

177

00:08:14,690 --> 00:08:11,880

real it's a real place and it has as

178

00:08:18,500 --> 00:08:14,700

much dry land as Earth okay

179

00:08:21,170 --> 00:08:18,510

no water ocean but there's water there

180

00:08:24,350 --> 00:08:21,180

we have natural resources there there's

181

00:08:28,040 --> 00:08:24,360

carbon there's oxygen there's water and

182

00:08:32,029 --> 00:08:28,050

iron there's sunshine there's an

183

00:08:33,620 --> 00:08:32,039

atmosphere what really might one of my

184

00:08:36,560 --> 00:08:33,630

teacher friends was teasing me the other

185

00:08:39,829 --> 00:08:36,570

day so he said Scott so one of your big

186

00:08:43,130 --> 00:08:39,839

problems in life one of the things that

187

00:08:44,300 --> 00:08:43,140

really gets you down is that Mars has no

188

00:08:47,290 --> 00:08:44,310

good meg

189

00:08:50,000 --> 00:08:47,300

netic field I said that's right any

190

00:08:52,310 --> 00:08:50,010

that's so I'll take the problems I have

191

00:08:54,080 --> 00:08:52,320

instead of some that I don't but let me

192

00:08:57,560 --> 00:08:54,090

tell you just a little bit about some of

193

00:09:01,690 --> 00:08:57,570

the projects that I've done we could I

194

00:09:04,790 --> 00:09:01,700

have a slide we did a grade level wide

195

00:09:08,030 --> 00:09:04,800

project we have a capstone project at da

196

00:09:10,430 --> 00:09:08,040

Vinci School in in El Paso and we've

197

00:09:11,780 --> 00:09:10,440

wrap up the school year with a themed

198

00:09:14,540 --> 00:09:11,790

project and the different grade levels

199

00:09:16,550 --> 00:09:14,550

do different things and last year was

200

00:09:19,160 --> 00:09:16,560

about bridges and some design bridges

201
00:09:23,300 --> 00:09:19,170
and built bridges and mine I managed to

202
00:09:25,670 --> 00:09:23,310
work in our NASA affiliation with the

203
00:09:28,280 --> 00:09:25,680
bridge to the future to our next home

204
00:09:30,200 --> 00:09:28,290
now earth is my favorite planet that

205
00:09:31,850 --> 00:09:30,210
Mars is my second favorite and I hope

206
00:09:34,310 --> 00:09:31,860
that we'll be living there and have

207
00:09:36,079 --> 00:09:34,320
community there soon I sure want to see

208
00:09:40,340 --> 00:09:36,089
that I want to see some boots with red

209
00:09:42,530 --> 00:09:40,350
dust on them so let's get let's get with

210
00:09:47,570 --> 00:09:42,540
the program and curiosity is our next

211
00:09:50,810 --> 00:09:47,580
step along that road the bridge to the

212
00:09:53,260 --> 00:09:50,820
future so they made this little example

213
00:09:57,500 --> 00:09:53,270

to start that could have the next slide

214

00:09:59,480 --> 00:09:57,510

we did research and the students here

215

00:10:02,000 --> 00:09:59,490

are looking up basic information and

216

00:10:08,150 --> 00:10:02,010

preparing notes there at the computer

217

00:10:10,490 --> 00:10:08,160

lab next please and this is about

218

00:10:12,410 --> 00:10:10,500

community we decided to study the

219

00:10:15,410 --> 00:10:12,420

community we live in and see what we

220

00:10:17,870 --> 00:10:15,420

value about it what are the positive

221

00:10:21,170 --> 00:10:17,880

aspects what are negative aspects that

222

00:10:24,740 --> 00:10:21,180

we could deal with or or try to

223

00:10:27,350 --> 00:10:24,750

eliminate in in a future setting and so

224

00:10:30,760 --> 00:10:27,360

they came up with with human values and

225

00:10:32,210 --> 00:10:30,770

the assistance to one another and so on

226

00:10:36,380 --> 00:10:32,220

next please

227

00:10:39,920 --> 00:10:36,390

then we we got into designing specifics

228

00:10:42,199 --> 00:10:39,930

about our proposed community and they

229

00:10:47,510 --> 00:10:42,209

came up with an with a name for it of

230

00:10:51,140 --> 00:10:47,520

dot-com the dot stands for Mars and the

231

00:10:54,380 --> 00:10:51,150

comm is community on Mars okay so that's

232

00:10:55,780 --> 00:10:54,390

and then they had the specific location

233

00:10:58,269 --> 00:10:55,790

where the first

234

00:11:01,509 --> 00:10:58,279

dwelling would be they call that marzo

235

00:11:05,110 --> 00:11:01,519

Nia and we developed our own flag our

236

00:11:09,790 --> 00:11:05,120

own Creed of coexistence and mutual

237

00:11:14,280 --> 00:11:09,800

support so that that kept the the kids

238

00:11:16,900 --> 00:11:14,290

very very positively occupied and

239

00:11:20,110 --> 00:11:16,910

broaden their horizons quite a bit

240

00:11:22,030 --> 00:11:20,120

next please so this is them working on

241

00:11:25,300 --> 00:11:22,040

some of the oh they had the patch the

242

00:11:27,910 --> 00:11:25,310

mission patch to go on up there and we

243

00:11:31,290 --> 00:11:27,920

they design proposed patches and then

244

00:11:33,730 --> 00:11:31,300

voted on the winning patch next please

245

00:11:35,860 --> 00:11:33,740

these are some of the artworks that

246

00:11:39,100 --> 00:11:35,870

related to his little green Martian

247

00:11:43,420 --> 00:11:39,110

there and the bridge to Mars and so on

248

00:11:46,840 --> 00:11:43,430

but they were able to while painting and

249

00:11:48,939 --> 00:11:46,850

modeling clay let their imaginations

250

00:11:50,980 --> 00:11:48,949

expand - yes this is a real possibility

251

00:11:55,210 --> 00:11:50,990

and I know I'm not just a kid

252

00:11:58,300 --> 00:11:55,220

now but there's a possibility for me in

253

00:12:01,180 --> 00:11:58,310

this positive future environment next

254

00:12:05,470 --> 00:12:01,190

please just a couple of future Martians

255

00:12:07,210 --> 00:12:05,480

there and working displaying one of

256

00:12:11,139 --> 00:12:07,220

their little models they made model

257

00:12:15,460 --> 00:12:11,149

Rovers and and spacecraft and such and

258

00:12:18,610 --> 00:12:15,470

the last slide shows there they're

259

00:12:22,059 --> 00:12:18,620

putting together a mock-up of some

260

00:12:27,370 --> 00:12:22,069

vehicles there so this this was very

261

00:12:28,840 --> 00:12:27,380

positive and the NASA program lesson

262

00:12:30,970 --> 00:12:28,850

plans were quite detailed and specific

263

00:12:34,569 --> 00:12:30,980

and very user-friendly for teachers and

264

00:12:37,900 --> 00:12:34,579

kids okay I'd like to mention another

265

00:12:40,090 --> 00:12:37,910

one I mentioned Mars uncovered one that

266

00:12:42,460 --> 00:12:40,100

I want to participate in this year is

267

00:12:45,280 --> 00:12:42,470

the Mars student imaging project where

268

00:12:48,340 --> 00:12:45,290

the students can actually task an

269

00:12:50,379 --> 00:12:48,350

orbiting spacecraft around Mars to take

270

00:12:53,259 --> 00:12:50,389

a picture of a specific site they feel

271

00:12:58,150 --> 00:12:53,269

might be of interest and then do science

272

00:13:00,009 --> 00:12:58,160

analysis of that image and they really

273

00:13:01,540 --> 00:13:00,019

are scientists at that point of course

274

00:13:03,280 --> 00:13:01,550

all kids are born scientists you know

275

00:13:05,769 --> 00:13:03,290

they are all exploring their world and

276

00:13:10,460 --> 00:13:05,779

analyzing what why did I fall down

277

00:13:17,610 --> 00:13:14,850

the STEM fields are all dealt with very

278

00:13:19,940 --> 00:13:17,620

nicely and in the projects that have

279

00:13:24,000 --> 00:13:19,950

been recommended through the education

280

00:13:25,980 --> 00:13:24,010

conferences my school is very involved

281

00:13:29,699 --> 00:13:25,990

with engineering and we're partnering

282

00:13:31,740 --> 00:13:29,709

with NASA partners both in Houston and

283

00:13:38,130 --> 00:13:31,750

also at the University of Alabama in

284

00:13:41,579 --> 00:13:38,140

Huntsville to create a mock-up and full

285

00:13:43,530 --> 00:13:41,589

process for a package to be included on

286

00:13:47,100 --> 00:13:43,540

a mission to mercury we'll be doing that

287

00:13:49,220 --> 00:13:47,110

this spring so they allow us the full

288

00:13:52,079 --> 00:13:49,230

range what's your question how will you

289

00:13:54,720 --> 00:13:52,089

attempt to answer it what what is the

290

00:13:56,670 --> 00:13:54,730

process and then they'll their project

291

00:13:58,590 --> 00:13:56,680

will be judged as to whether it's worthy

292

00:14:01,079 --> 00:13:58,600

or not to be included they have a

293

00:14:03,900 --> 00:14:01,089

certain constraints mass-energy and so

294

00:14:06,259 --> 00:14:03,910

on all these constraints what'd I tell

295

00:14:08,610 --> 00:14:06,269

you what I just had to bring my little

296

00:14:09,949 --> 00:14:08,620

rocket scientist down here to show her

297

00:14:13,260 --> 00:14:09,959

in person

298

00:14:16,440 --> 00:14:13,270

what humankind can do when we work

299

00:14:20,100 --> 00:14:16,450

together and I think this place is a

300

00:14:24,120 --> 00:14:20,110

fabulous example of that and thank you

301
00:14:26,490 --> 00:14:24,130
thanks God now to Lauren Lyons graduate

302
00:14:29,130 --> 00:14:26,500
student at Harvard University and a

303
00:14:33,540 --> 00:14:29,140
first robotics alumni Lauren thanks

304
00:14:37,019 --> 00:14:33,550
George yeah I remember growing up as a

305
00:14:37,949 --> 00:14:37,029
kid in Compton California and you know I

306
00:14:39,240 --> 00:14:37,959
didn't know what I wanted to be when I

307
00:14:41,490 --> 00:14:39,250
grew up I didn't know what an engineer

308
00:14:43,380 --> 00:14:41,500
was I know any of that stuff was but my

309
00:14:45,449 --> 00:14:43,390
high school got this first robotics

310
00:14:47,250 --> 00:14:45,459
program and my initial interest was

311
00:14:48,840 --> 00:14:47,260
based on the fact that the championship

312
00:14:51,000 --> 00:14:48,850
at the time was held in Florida in

313
00:14:52,740 --> 00:14:51,010

Orlando and that meant a trip to Disney

314

00:14:54,800 --> 00:14:52,750

World all expenses paid and sorry that

315

00:14:58,470 --> 00:14:54,810

hey I got it I got to sign up for this

316

00:14:59,910 --> 00:14:58,480

well it was interesting is JPL was right

317

00:15:02,340 --> 00:14:59,920

around the corner so they sent their

318

00:15:04,380 --> 00:15:02,350

engineers out to help mentor us and then

319

00:15:06,269 --> 00:15:04,390

I started thinking what a second does

320

00:15:08,100 --> 00:15:06,279

robotic stuff is pretty cool I can

321

00:15:10,560 --> 00:15:08,110

actually do this I've never been one to

322

00:15:13,019 --> 00:15:10,570

be incredibly interested in math and

323

00:15:14,639 --> 00:15:13,029

science before and it was for no fault

324

00:15:17,220 --> 00:15:14,649

of my own or anyone else's it just hadn't

325

00:15:19,769 --> 00:15:17,230

been exposed to me and so you know after

326

00:15:22,470 --> 00:15:19,779

I believe three years of FIRST Robotics

327

00:15:23,699 --> 00:15:22,480

I decided you know I'm gonna do this

328

00:15:25,530 --> 00:15:23,709

we took some trips to Kennedy Space

329

00:15:27,920 --> 00:15:25,540

Center every time we were here being

330

00:15:30,840 --> 00:15:27,930

able to see just the Space Shuttle

331

00:15:33,030 --> 00:15:30,850

buildings and looking at all the museums

332

00:15:35,069 --> 00:15:33,040

and just learning about the history of

333

00:15:36,509 --> 00:15:35,079

space just really inspired me

334

00:15:38,370 --> 00:15:36,519

tremendously and they're going Space

335

00:15:41,220 --> 00:15:38,380

Camp said I'm gonna be an astronaut now

336

00:15:42,629 --> 00:15:41,230

apply to engineering school for some

337

00:15:45,750 --> 00:15:42,639

reason they let me in there I think it

338

00:15:47,069 --> 00:15:45,760

had to do with first and studied

339

00:15:49,050 --> 00:15:47,079

mechanical interest in aerospace

340

00:15:52,710 --> 00:15:49,060

engineering and continue to mentor first

341

00:15:54,240 --> 00:15:52,720

teams while I was in school luckily for

342

00:15:56,189 --> 00:15:54,250

me due to some wonderful mentors

343

00:15:58,680 --> 00:15:56,199

involved in first I got an opportunity

344

00:16:01,290 --> 00:15:58,690

to intern at JPL for three summers

345

00:16:02,790 --> 00:16:01,300

working on the Mars program and just

346

00:16:05,460 --> 00:16:02,800

being able to look at the clean room and

347

00:16:07,470 --> 00:16:05,470

see spirit in there before it launched

348

00:16:09,960 --> 00:16:07,480

and just feeling like I'm a part of that

349

00:16:11,730 --> 00:16:09,970

even though I had a tiny tiny role as an

350

00:16:13,740 --> 00:16:11,740

intern over the summer for three months

351

00:16:15,750 --> 00:16:13,750

just knowing that a little bit of

352

00:16:18,329 --> 00:16:15,760

something I did is involved in this

353

00:16:20,610 --> 00:16:18,339

massive feat of mankind sending this

354

00:16:24,629 --> 00:16:20,620

beautiful machine space is just

355

00:16:26,100 --> 00:16:24,639

incredible after my time at JPL I went

356

00:16:28,439 --> 00:16:26,110

to work as an engineer for a few years

357

00:16:31,170 --> 00:16:28,449

for years actually in the biomedical

358

00:16:33,120 --> 00:16:31,180

sciences and I'm as George mentioned I'm

359

00:16:35,280 --> 00:16:33,130

now at Harvard universities that in

360

00:16:39,000 --> 00:16:35,290

public policy specifically Science and

361

00:16:41,670 --> 00:16:39,010

Technology Policy and for me this is so

362

00:16:43,920 --> 00:16:41,680

important you know I hope people say you

363

00:16:46,290 --> 00:16:43,930

know what's so important about space no

364

00:16:48,900 --> 00:16:46,300

one denies that it's cool but what is

365

00:16:51,150 --> 00:16:48,910

the real value in spending money on this

366

00:16:53,519 --> 00:16:51,160

and this totally excites me to be able

367

00:16:55,350 --> 00:16:53,529

to talk about the importance of

368

00:16:57,870 --> 00:16:55,360

innovation to pull through that comes

369

00:17:00,540 --> 00:16:57,880

from Space Studies and the spin-off

370

00:17:03,150 --> 00:17:00,550

technology and for me the biggest thing

371

00:17:06,000 --> 00:17:03,160

is how this inspires young people how it

372

00:17:08,069 --> 00:17:06,010

inspired me inspires us to think of

373

00:17:09,929 --> 00:17:08,079

something bigger than ourselves to think

374

00:17:12,569 --> 00:17:09,939

about becoming a scientist or an

375

00:17:16,500 --> 00:17:12,579

engineer and exploring things outside of

376

00:17:19,110 --> 00:17:16,510

the easy the typical and I think that

377

00:17:21,210 --> 00:17:19,120

you know having this education is going

378

00:17:22,949 --> 00:17:21,220

to empower me to continue to spread the

379

00:17:24,689 --> 00:17:22,959

word about how cool Mars is how cool

380

00:17:27,210 --> 00:17:24,699

science is how cool technology is

381

00:17:29,549 --> 00:17:27,220

especially with girls and women yes

382

00:17:31,649 --> 00:17:29,559

getting them out there and having them

383

00:17:34,590 --> 00:17:31,659

understand that you know you can do this

384

00:17:35,100 --> 00:17:34,600

too in fact you can do it very very very

385

00:17:38,450 --> 00:17:35,110

well

386

00:17:42,450 --> 00:17:38,460

and I feel like I'm living proof of that

387

00:17:44,250 --> 00:17:42,460

Thank You Lauren now Veronica McGregor

388

00:17:46,220 --> 00:17:44,260

the manager for the Media Relations

389

00:17:48,960 --> 00:17:46,230

office at the Jet Propulsion Laboratory

390

00:17:50,340 --> 00:17:48,970

Veronica thank you I'm here to tell you

391

00:17:51,840 --> 00:17:50,350

that if you are already out of school

392

00:17:53,399 --> 00:17:51,850

it's not too late

393

00:17:55,350 --> 00:17:53,409

there are still lots of ways that you

394

00:17:57,810 --> 00:17:55,360

can come become involved with the NASA

395

00:18:00,539 --> 00:17:57,820

missions and we are very fortunate at

396

00:18:02,580 --> 00:18:00,549

JPL we're exposed to Mars every day at

397

00:18:04,080 --> 00:18:02,590

work we get to see Rovers being built in

398

00:18:05,970 --> 00:18:04,090

our cleanroom and I think every one of

399

00:18:07,830 --> 00:18:05,980

us who has ever worked there thought if

400

00:18:09,539 --> 00:18:07,840

only we could bring everybody else in

401

00:18:11,250 --> 00:18:09,549

here if only they could see what we

402

00:18:13,259 --> 00:18:11,260

could see we could change everybody and

403

00:18:15,149 --> 00:18:13,269

they could become interested in this so

404

00:18:17,430 --> 00:18:15,159

in the last few years since we landed on

405

00:18:19,950 --> 00:18:17,440

Mars in 2008 with Phoenix we also landed

406

00:18:21,690 --> 00:18:19,960

in social media and we ended up on

407

00:18:23,700 --> 00:18:21,700

Twitter and Facebook and we've used many

408

00:18:26,759 --> 00:18:23,710

different venues to try to bring the

409

00:18:28,139 --> 00:18:26,769

public in and have more one-on-one

410

00:18:30,060 --> 00:18:28,149

experience with what we are doing

411

00:18:32,009 --> 00:18:30,070

whether it's talking to a scientist over

412

00:18:34,049 --> 00:18:32,019

Twitter or doing a chat over Ustream

413

00:18:35,759 --> 00:18:34,059

we've looked for more and more ways and

414

00:18:38,250 --> 00:18:35,769

one of them was to do in NASA Tweetup we

415

00:18:40,259 --> 00:18:38,260

started this at JPL in 2009 right after

416

00:18:42,240 --> 00:18:40,269

the Phoenix mission ended because it was

417

00:18:43,590 --> 00:18:42,250

such a tremendous interest in Mars right

418

00:18:46,200 --> 00:18:43,600

when that ended and we wanted to keep

419

00:18:49,860 --> 00:18:46,210

that momentum going and we thought let's

420

00:18:51,269 --> 00:18:49,870

bring in 120 people to JPL and let them

421

00:18:52,710 --> 00:18:51,279

sit down with the scientists and

422

00:18:54,570 --> 00:18:52,720

engineers who worked on that mission and

423

00:18:57,450 --> 00:18:54,580

let's show them this rover that's being

424

00:18:59,759 --> 00:18:57,460

built right now curiosity when it was

425

00:19:01,649 --> 00:18:59,769

just a box let's show it to them so they

426

00:19:03,210 --> 00:19:01,659

can see what it's like and they'll be

427

00:19:05,820 --> 00:19:03,220

able to follow this mission through its

428

00:19:07,769 --> 00:19:05,830

lifetime and we didn't realize how

429

00:19:09,480 --> 00:19:07,779

successful this event would be until

430

00:19:11,430 --> 00:19:09,490

people from around the country and

431

00:19:14,580 --> 00:19:11,440

around the world in fact applied to come

432

00:19:16,529 --> 00:19:14,590

and spend two hours at JPL talking face

433

00:19:18,779 --> 00:19:16,539

to face with a mission team with the

434

00:19:22,110 --> 00:19:18,789

scientists and engineers and since that

435

00:19:23,519 --> 00:19:22,120

time we've held now 31 NASA Tweetup s'

436

00:19:25,649 --> 00:19:23,529

at different areas around the country

437

00:19:27,060 --> 00:19:25,659

and there is one taking place right now

438

00:19:28,830 --> 00:19:27,070

down the hill from us in the big white

439

00:19:31,799 --> 00:19:28,840

tent where we have a hundred and fifty

440

00:19:33,690 --> 00:19:31,809

people they represent 37 states and ten

441

00:19:35,539 --> 00:19:33,700

countries that have flown here on their

442

00:19:37,860 --> 00:19:35,549

own dime and staying in their own dime

443

00:19:39,539 --> 00:19:37,870

for the opportunity spend a few hours

444

00:19:42,480 --> 00:19:39,549

with some of our scientists and

445

00:19:45,149 --> 00:19:42,490

engineers and and even the administrator

446

00:19:46,649 --> 00:19:45,159

of NASA tomorrow we'll talk to them this

447

00:19:48,630 --> 00:19:46,659

is bringing people in and letting them

448

00:19:51,270 --> 00:19:48,640

finally have that really direct

449

00:19:53,730 --> 00:19:51,280

opportunity to be involved in a mission

450

00:19:55,500 --> 00:19:53,740

and and ask us questions and we don't

451
00:19:56,850 --> 00:19:55,510
screen we get asked every kind of

452
00:19:58,230 --> 00:19:56,860
question but let me show you a little

453
00:19:59,610 --> 00:19:58,240
bit about what a Tweetup looks like I

454
00:20:01,140 --> 00:19:59,620
can talk about it all day but I've got

455
00:20:02,880 --> 00:20:01,150
to show you a little bit of it in fact

456
00:20:04,680 --> 00:20:02,890
and their own words as well if you want

457
00:20:06,420 --> 00:20:04,690
to roll the first video I'll give you an

458
00:20:08,550 --> 00:20:06,430
idea of this is the tent this is

459
00:20:11,250 --> 00:20:08,560
actually from August we held a Tweetup

460
00:20:13,230 --> 00:20:11,260
there also for the Juno launch this is

461
00:20:15,750 --> 00:20:13,240
what it looks like it's 150 people with

462
00:20:17,160 --> 00:20:15,760
all of their electronic devices laid out

463
00:20:18,630 --> 00:20:17,170

on the table you'd think it was sort of

464

00:20:20,610 --> 00:20:18,640

like a press room but this is sort of

465

00:20:23,670 --> 00:20:20,620

the citizen journalists room and now

466

00:20:25,380 --> 00:20:23,680

they are posting messages to Twitter and

467

00:20:28,500 --> 00:20:25,390

Facebook their blogs they're taking

468

00:20:30,440 --> 00:20:28,510

pictures putting them on again on Flickr

469

00:20:32,850 --> 00:20:30,450

and all the photo sharing sites and

470

00:20:34,500 --> 00:20:32,860

anyone the reason we do this is a

471

00:20:37,020 --> 00:20:34,510

hundred and fifty people are here but

472

00:20:39,600 --> 00:20:37,030

anybody can follow what they are seeing

473

00:20:41,250 --> 00:20:39,610

and what what they are learning by going

474

00:20:44,010 --> 00:20:41,260

to Twitter and I'll give you a URL if

475

00:20:47,180 --> 00:20:44,020

anyone wants to bring this up on their

476

00:20:52,320 --> 00:20:47,190

computer it's very simple it is ww

477

00:20:54,720 --> 00:20:52,330

twitter.com slash search slash NASA

478

00:20:56,640 --> 00:20:54,730

Tweetup if you go to that page you will

479

00:20:59,430 --> 00:20:56,650

see right now all the posts that are

480

00:21:01,050 --> 00:20:59,440

being put on Twitter in relation to this

481

00:21:03,120 --> 00:21:01,060

tweet up taking place today and I've

482

00:21:04,860 --> 00:21:03,130

asked previous attendees at our tweet

483

00:21:07,170 --> 00:21:04,870

ups to please post something that they

484

00:21:09,360 --> 00:21:07,180

learned during the time that they spent

485

00:21:11,010 --> 00:21:09,370

with us or some action they took after

486

00:21:13,500 --> 00:21:11,020

they left because we have seen that they

487

00:21:15,510 --> 00:21:13,510

go on to do amazing things they go on to

488

00:21:16,920 --> 00:21:15,520

organize public launch parties in their

489

00:21:19,200 --> 00:21:16,930

communities they go on to talk to

490

00:21:21,270 --> 00:21:19,210

schools and children and they want to

491

00:21:22,680 --> 00:21:21,280

share the knowledge that they get from

492

00:21:24,960 --> 00:21:22,690

us in the short time that they're with

493

00:21:27,540 --> 00:21:24,970

us the tweet ups can last anywhere from

494

00:21:29,130 --> 00:21:27,550

two hours to two days the ones taking

495

00:21:31,380 --> 00:21:29,140

place at Kennedy Space Center right now

496

00:21:33,120 --> 00:21:31,390

is a two day tweet up they'll actually

497

00:21:35,970 --> 00:21:33,130

be able to go out to the launch pad in a

498

00:21:38,190 --> 00:21:35,980

little while and see the rocket and in

499

00:21:40,200 --> 00:21:38,200

tomorrow they will be here at one of the

500

00:21:43,110 --> 00:21:40,210

best locations that anyone can be to

501
00:21:44,480 --> 00:21:43,120
watch the to watch the rocket launch let

502
00:21:47,520 --> 00:21:44,490
me show you a little photo album of

503
00:21:51,510 --> 00:21:47,530
pictures that previous attendees have

504
00:21:52,770 --> 00:21:51,520
put taken and put together this is some

505
00:21:55,190 --> 00:21:52,780
of the different things they get to do

506
00:21:57,510 --> 00:21:55,200
talking face-to-face with astronauts

507
00:21:59,340 --> 00:21:57,520
going to Wallops to see some of the

508
00:22:02,130 --> 00:21:59,350
rockets face to face with some of the

509
00:22:04,590 --> 00:22:02,140
rover drivers learning about missions

510
00:22:06,480 --> 00:22:04,600
to Jupiter talking again with the

511
00:22:09,390 --> 00:22:06,490
administrator and really giving him some

512
00:22:12,660 --> 00:22:09,400
some good tough questions hands-on with

513
00:22:14,640 --> 00:22:12,670

some very cool products for space 3d

514

00:22:16,770 --> 00:22:14,650

imagery and visualizations that help

515

00:22:18,510 --> 00:22:16,780

people see what we are seeing in space

516

00:22:20,730 --> 00:22:18,520

and then seeing curiosity being built in

517

00:22:23,490 --> 00:22:20,740

our clean room and all the time posting

518

00:22:25,200 --> 00:22:23,500

that information for others to know what

519

00:22:27,060 --> 00:22:25,210

they're seeing and learning they've gone

520

00:22:29,760 --> 00:22:27,070

to control room to the Johnson Space

521

00:22:31,350 --> 00:22:29,770

Center this was the juno tweet up out

522

00:22:33,300 --> 00:22:31,360

there at the launch pad watching that

523

00:22:35,070 --> 00:22:33,310

rocket in the next day watching that

524

00:22:37,350 --> 00:22:35,080

rocket launch these are the things that

525

00:22:38,970 --> 00:22:37,360

we want to make available to the public

526
00:22:41,160 --> 00:22:38,980
and I encourage everyone to follow NASA

527
00:22:42,120 --> 00:22:41,170
on Twitter to be able to know when we

528
00:22:43,590 --> 00:22:42,130
are announcing one of these

529
00:22:45,300 --> 00:22:43,600
opportunities when we announce the

530
00:22:47,250 --> 00:22:45,310
opportunity there'll be a registration

531
00:22:48,900 --> 00:22:47,260
period we get thousands of people

532
00:22:51,990 --> 00:22:48,910
registering and it's a random selection

533
00:22:54,720 --> 00:22:52,000
of 150 people in most cases to come to

534
00:22:57,510 --> 00:22:54,730
the center and do this now not everybody

535
00:22:59,070 --> 00:22:57,520
can maybe pack up and leave and go to a

536
00:23:00,930 --> 00:22:59,080
NASA center to see this but I want to

537
00:23:02,700 --> 00:23:00,940
tell you there are other ways you can

538
00:23:04,110 --> 00:23:02,710

get involved and get some more

539

00:23:06,870 --> 00:23:04,120

first-hand experience with these

540

00:23:08,340 --> 00:23:06,880

missions for this particular mission we

541

00:23:11,220 --> 00:23:08,350

actually put a camera in our cleanroom

542

00:23:13,440 --> 00:23:11,230

and for nine months we broadcast what we

543

00:23:14,910 --> 00:23:13,450

called curiosity cam and there's a we

544

00:23:17,600 --> 00:23:14,920

didn't want to show you every day but we

545

00:23:20,130 --> 00:23:17,610

sped up three or four days very quickly

546

00:23:22,350 --> 00:23:20,140

people could come and sit and watch not

547

00:23:24,930 --> 00:23:22,360

only the rover being built there but we

548

00:23:26,310 --> 00:23:24,940

also maintained a chat box for three

549

00:23:28,470 --> 00:23:26,320

hours every day Monday through Friday

550

00:23:30,600 --> 00:23:28,480

for nine months where people could come

551
00:23:32,070 --> 00:23:30,610
in and watch it being built and then ask

552
00:23:34,170 --> 00:23:32,080
us what they were seeing and ask us

553
00:23:36,150 --> 00:23:34,180
questions about the engineering and the

554
00:23:37,560 --> 00:23:36,160
science and we often had team members

555
00:23:39,900 --> 00:23:37,570
come in and also help answer some of

556
00:23:41,250 --> 00:23:39,910
those questions so more and more we're

557
00:23:42,660 --> 00:23:41,260
looking for ways that we can reach out

558
00:23:44,460 --> 00:23:42,670
to you but we want you to reach back

559
00:23:46,260 --> 00:23:44,470
into us as well and so we really hope

560
00:23:48,720 --> 00:23:46,270
that more people will sign up for the

561
00:23:51,840 --> 00:23:48,730
next future NASA Tweetup and as I said

562
00:23:53,820 --> 00:23:51,850
follow us at on NASA on Twitter and

563
00:23:56,670 --> 00:23:53,830

you'll be able to learn all about them

564

00:23:59,130 --> 00:23:56,680

thank you Thank You Veronica and we're

565

00:24:01,020 --> 00:23:59,140

ready now to take questions so please

566

00:24:05,000 --> 00:24:01,030

give your name and affiliation when the

567

00:24:07,380 --> 00:24:05,010

microphone comes to you okay right here

568

00:24:09,600 --> 00:24:07,390

question for Leland Melvin I'm mark

569

00:24:11,790 --> 00:24:09,610

radarman with talking space do you think

570

00:24:14,880 --> 00:24:11,800

the NASA Tweetup experience will help

571

00:24:15,900 --> 00:24:14,890

increase a focus and emphasis on stem in

572

00:24:19,410 --> 00:24:15,910

the short term or what

573

00:24:21,900 --> 00:24:19,420

take a while I think I really think that

574

00:24:23,280 --> 00:24:21,910

the the Tweep says we call them as they

575

00:24:24,840 --> 00:24:23,290

get this message out into the

576

00:24:27,030 --> 00:24:24,850

Twitterverse on science technology

577

00:24:29,010 --> 00:24:27,040

engineering mathematics will help in the

578

00:24:31,770 --> 00:24:29,020

short and the long term I have seen

579

00:24:34,950 --> 00:24:31,780

where I've done tweet ups before and

580

00:24:37,080 --> 00:24:34,960

people have contacted me on my my my

581

00:24:38,520 --> 00:24:37,090

astro flow account and say you know what

582

00:24:40,590 --> 00:24:38,530

how inspiring that was how impactful

583

00:24:42,570 --> 00:24:40,600

that was and they're also going to

584

00:24:44,220 --> 00:24:42,580

spread the message to other people when

585

00:24:45,720 --> 00:24:44,230

we were at the World Science Festival in

586

00:24:47,580 --> 00:24:45,730

New York I guess a couple of years ago

587

00:24:49,980 --> 00:24:47,590

sandy Magnus and I were doing a tweet up

588

00:24:51,330 --> 00:24:49,990

there and people were seeking me out to

589

00:24:52,920 --> 00:24:51,340

tell me that hey I'm gonna go into

590

00:24:55,290 --> 00:24:52,930

teaching now so I want to take this

591

00:24:56,490 --> 00:24:55,300

message forward to help others and help

592

00:24:58,860 --> 00:24:56,500

inspire that next generation of

593

00:25:01,080 --> 00:24:58,870

explorers so I think when we think about

594

00:25:03,540 --> 00:25:01,090

Mars going to I mean curiosity going to

595

00:25:06,060 --> 00:25:03,550

Mars I think this eight-month period

596

00:25:08,100 --> 00:25:06,070

between launch tomorrow and when it

597

00:25:09,930 --> 00:25:08,110

lands will be an opportunity for us to

598

00:25:11,610 --> 00:25:09,940

even do more with the social media to

599

00:25:13,050 --> 00:25:11,620

help more people get involved and to

600

00:25:18,420 --> 00:25:13,060

understand what it takes to send a rover

601
00:25:21,300 --> 00:25:18,430
to the Martian surface oh yeah hi Mike

602
00:25:24,900 --> 00:25:21,310
wall from space comm this is this is for

603
00:25:26,730 --> 00:25:24,910
Clara so so yeah like you mentioned

604
00:25:27,810 --> 00:25:26,740
curiosity was the first one that popped

605
00:25:29,600 --> 00:25:27,820
into your head but there was some other

606
00:25:31,890 --> 00:25:29,610
cheesy ones floating around in there too

607
00:25:35,790 --> 00:25:31,900
what were some of those I mean you

608
00:25:38,730 --> 00:25:35,800
remember it was like inspiration and

609
00:25:42,230 --> 00:25:38,740
like stuff like that um but I thought

610
00:25:46,290 --> 00:25:42,240
curiosity was just the best fit that

611
00:25:49,920 --> 00:25:46,300
because like Mars is just so inspiring

612
00:25:52,320 --> 00:25:49,930
in and inspires curiosity and questions

613
00:25:54,240 --> 00:25:52,330

and I thought it was just the idea of

614

00:25:59,010 --> 00:25:54,250

curiosity like roving up there on Mars

615

00:26:01,200 --> 00:25:59,020

that was just perfect to me hi Robert

616

00:26:02,910 --> 00:26:01,210

Perlman with collect space comm and if I

617

00:26:06,360 --> 00:26:02,920

can follow up on that question for Clara

618

00:26:10,460 --> 00:26:06,370

what has been the impact of to your life

619

00:26:17,430 --> 00:26:13,230

well my friends think it's really cool

620

00:26:19,410 --> 00:26:17,440

and I've gotten to go to so many places

621

00:26:23,910 --> 00:26:19,420

I went to the NASA headquarters in

622

00:26:27,500 --> 00:26:23,920

Washington DC and met the may and then

623

00:26:29,620 --> 00:26:27,510

the year that I named the rover and I

624

00:26:32,320 --> 00:26:29,630

I'm here

625

00:26:37,300 --> 00:26:32,330

and I won I also went to Disney World

626

00:26:39,670 --> 00:26:37,310

which was really fun and I've just

627

00:26:42,490 --> 00:26:39,680

gotten to do so many cool things and be

628

00:26:45,420 --> 00:26:42,500

a part of all of this and I kind of feel

629

00:26:48,490 --> 00:26:45,430

like I'm kind of part of the family now

630

00:26:51,370 --> 00:26:48,500

and it's it's just been an amazing

631

00:26:57,130 --> 00:26:51,380

experience I'm so honored to have been a

632

00:26:59,740 --> 00:26:57,140

part of it for Leland you mentioned at

633

00:27:02,440 --> 00:26:59,750

the beginning apps and so is there a

634

00:27:04,420 --> 00:27:02,450

Mars Curiosity app in the making that

635

00:27:06,100 --> 00:27:04,430

NASA's going to release yes I think

636

00:27:08,530 --> 00:27:06,110

there are two apps and I don't have the

637

00:27:11,950 --> 00:27:08,540

website yet but we will get that out to

638

00:27:16,680 --> 00:27:11,960

the masses very soon yeah I think we

639

00:27:21,610 --> 00:27:18,910

Shema Cauca with talking space for

640

00:27:23,470 --> 00:27:21,620

Veronica I'm being a veteran of a few of

641

00:27:25,930 --> 00:27:23,480

these tweet ups myself I'm just

642

00:27:28,150 --> 00:27:25,940

wondering - have there been any studies

643

00:27:30,760 --> 00:27:28,160

as far as the impact that they have had

644

00:27:32,530 --> 00:27:30,770

thus far anything formals I'll I'll be

645

00:27:35,410 --> 00:27:32,540

blunt the organization that myself and

646

00:27:38,320 --> 00:27:35,420

my colleague mark here was born out of

647

00:27:40,870 --> 00:27:38,330

one of the NASA Tweetup s-- so I'm was

648

00:27:43,210 --> 00:27:40,880

just curious if there was any informal

649

00:27:45,820 --> 00:27:43,220

impact study as far as what ads was come

650

00:27:47,260 --> 00:27:45,830

out of them it's a really good question

651
00:27:49,570 --> 00:27:47,270
you know one of the reasons we use

652
00:27:51,670 --> 00:27:49,580
Twitter is because most of those pages

653
00:27:53,830 --> 00:27:51,680
are public and we it's very easy for us

654
00:27:55,510 --> 00:27:53,840
to go in and see how many messages went

655
00:27:57,610 --> 00:27:55,520
out into at what size audience it's

656
00:27:59,530 --> 00:27:57,620
easier than other social media venues

657
00:28:02,050 --> 00:27:59,540
where people keep their accounts private

658
00:28:04,720 --> 00:28:02,060
for very good or even's reason so I can

659
00:28:07,090 --> 00:28:04,730
give you an example for the Juno launch

660
00:28:10,330 --> 00:28:07,100
we know that we went back and analyzed

661
00:28:12,070 --> 00:28:10,340
how many messages were disseminated

662
00:28:14,740 --> 00:28:12,080
about the Juno mission and the Juno

663
00:28:16,690 --> 00:28:14,750

launch overall through Twitter during

664

00:28:18,220 --> 00:28:16,700

the week of that launch and overall

665

00:28:21,340 --> 00:28:18,230

through Twitter they're about 90 million

666

00:28:23,080 --> 00:28:21,350

messages that went out around the

667

00:28:24,790 --> 00:28:23,090

Twitterverse or you know and being

668

00:28:27,220 --> 00:28:24,800

picked up in blogs that talked about the

669

00:28:29,050 --> 00:28:27,230

Juno launch and then we isolated to see

670

00:28:32,350 --> 00:28:29,060

how many of those were NASA Tweetup

671

00:28:35,260 --> 00:28:32,360

related tweets and those accounted for

672

00:28:37,810 --> 00:28:35,270

about 30 million so when we look at that

673

00:28:40,750 --> 00:28:37,820

and say a hundred and fifty people can

674

00:28:42,550 --> 00:28:40,760

and usually talking to friends and

675

00:28:43,169 --> 00:28:42,560

neighbors and and you know they don't

676
00:28:45,669 --> 00:28:43,179
have

677
00:28:47,140 --> 00:28:45,679
accounts in the millions like some news

678
00:28:49,060 --> 00:28:47,150
media might have but these are just

679
00:28:51,340 --> 00:28:49,070
regular folks sending out those tweets

680
00:28:53,230 --> 00:28:51,350
and hitting 30 million people and the

681
00:28:55,299 --> 00:28:53,240
rest of the world got the other 60

682
00:28:56,650 --> 00:28:55,309
million I mean it's a huge amount 30% of

683
00:28:58,570 --> 00:28:56,660
all those messages we came out of the

684
00:29:00,159 --> 00:28:58,580
tweet up so those sorts of things really

685
00:29:01,710 --> 00:29:00,169
inspire us and then all the stories we

686
00:29:03,880 --> 00:29:01,720
get back the most amazing stories

687
00:29:05,500 --> 00:29:03,890
exactly like your is that people go on

688
00:29:06,400 --> 00:29:05,510

and and realize that there's something

689

00:29:08,470 --> 00:29:06,410

they can do you don't have to work for

690

00:29:10,539 --> 00:29:08,480

NASA there's something you can do in the

691

00:29:13,659 --> 00:29:10,549

field you can or you can go and do

692

00:29:15,580 --> 00:29:13,669

public programs and it's really people

693

00:29:17,470 --> 00:29:15,590

tell us it is life-changing for them and

694

00:29:19,419 --> 00:29:17,480

that's um it's amazing for us I think

695

00:29:20,980 --> 00:29:19,429

early in my career we always used to

696

00:29:22,630 --> 00:29:20,990

think if we knew that we had changed one

697

00:29:24,580 --> 00:29:22,640

person into having interest in space

698

00:29:26,169 --> 00:29:24,590

science we'd feel like we'd accomplished

699

00:29:27,640 --> 00:29:26,179

something and we don't have to think

700

00:29:29,380 --> 00:29:27,650

about one person anymore we can think

701
00:29:33,640 --> 00:29:29,390
about you know tens of thousands and

702
00:29:37,419 --> 00:29:33,650
millions that's very exciting Thanks any

703
00:29:39,399 --> 00:29:37,429
further questions over here Jason Ron

704
00:29:41,830 --> 00:29:39,409
for America space comm this goes out to

705
00:29:43,180 --> 00:29:41,840
Clara if I had to like pick out two

706
00:29:46,980 --> 00:29:43,190
looks that I've seen across your face

707
00:29:49,840 --> 00:29:46,990
into the press conference it's shock and

708
00:29:51,760 --> 00:29:49,850
thrill you just look so happy to be here

709
00:29:53,260 --> 00:29:51,770
and so surprised that all the attention

710
00:29:54,370 --> 00:29:53,270
you've gotten I was hoping you could

711
00:29:55,779 --> 00:29:54,380
probably give us a little bit of a

712
00:29:58,570 --> 00:29:55,789
background of like what your life was

713
00:30:00,220 --> 00:29:58,580

before you named curiosity and what it's

714

00:30:01,779 --> 00:30:00,230

like now and perhaps what your goals are

715

00:30:06,039 --> 00:30:01,789

like now as opposed to what they were

716

00:30:12,029 --> 00:30:06,049

before before I named the rover I was

717

00:30:23,919 --> 00:30:20,980

actually but naming the rover has been

718

00:30:26,350 --> 00:30:23,929

an awesome experience I've learned so

719

00:30:29,350 --> 00:30:26,360

much from it I've learned a lot about

720

00:30:30,990 --> 00:30:29,360

Mars but I've always I think I've I've

721

00:30:36,070 --> 00:30:31,000

always been interested in space and

722

00:30:38,529 --> 00:30:36,080

space exploration and getting to name

723

00:30:45,909 --> 00:30:38,539

the rover just made it so much cooler

724

00:30:49,240 --> 00:30:45,919

and I like after naming the rover it's

725

00:30:51,850 --> 00:30:49,250

just I've been following Mars and like

726

00:30:55,600 --> 00:30:51,860

curiosity and on Twitter and on Facebook

727

00:30:56,890 --> 00:30:55,610

and it's I've learned it's just been so

728

00:30:59,920 --> 00:30:56,900

rewarding for me

729

00:31:02,530 --> 00:30:59,930

and after after naming the rover as I

730

00:31:03,940 --> 00:31:02,540

mentioned before I I got to go to a

731

00:31:09,040 --> 00:31:03,950

bunch of places and meet a bunch of

732

00:31:15,070 --> 00:31:09,050

people like we wind here he's really

733

00:31:18,270 --> 00:31:15,080

cool I didn't pay her yeah it's just

734

00:31:22,530 --> 00:31:18,280

been such a great experience for me

735

00:31:27,240 --> 00:31:24,760

mark radarman from talking space a

736

00:31:30,280 --> 00:31:27,250

question for Laura

737

00:31:32,169 --> 00:31:30,290

as far as excites and inspires can you

738

00:31:34,840 --> 00:31:32,179

think of something from your studies and

739

00:31:37,390 --> 00:31:34,850

public and space policy that when you've

740

00:31:39,010 --> 00:31:37,400

learned that and discovered it that it

741

00:31:41,950 --> 00:31:39,020

was something that that had you

742

00:31:45,250 --> 00:31:41,960

surprised and and excited in a positive

743

00:31:48,040 --> 00:31:45,260

way yeah I'm taking a course right now

744

00:31:50,950 --> 00:31:48,050

about technology innovation and economic

745

00:31:55,330 --> 00:31:50,960

growth and just seeing the correlation

746

00:31:58,090 --> 00:31:55,340

between money spent on R&D domestically

747

00:32:00,130 --> 00:31:58,100

spent on NASA when those budgets are

748

00:32:01,299 --> 00:32:00,140

sort of aligned just sort of the pull

749

00:32:04,560 --> 00:32:01,309

through that comes through with the

750

00:32:06,880 --> 00:32:04,570

economy and just looking at economic

751
00:32:09,820 --> 00:32:06,890
rationales for promoting science and

752
00:32:11,590 --> 00:32:09,830
technology in the past you know I feel

753
00:32:13,570 --> 00:32:11,600
like I didn't have those tools and so I

754
00:32:16,000 --> 00:32:13,580
just say it's cool and nobody can deny

755
00:32:17,650 --> 00:32:16,010
it's cool but to be able to say no it's

756
00:32:18,970 --> 00:32:17,660
more than just cool in fact it's really

757
00:32:22,000 --> 00:32:18,980
good for this country it's good for the

758
00:32:23,650 --> 00:32:22,010
world and to make the economic arguments

759
00:32:26,020 --> 00:32:23,660
like things that are just pretty black

760
00:32:28,090 --> 00:32:26,030
and white and show the history from you

761
00:32:30,940 --> 00:32:28,100
know the Industrial Revolution till

762
00:32:32,890 --> 00:32:30,950
today I feel really empowered by that

763
00:32:35,080 --> 00:32:32,900

and inspired by that so it's not just me

764

00:32:37,180 --> 00:32:35,090

being a cheerleader now I can say okay

765

00:32:38,560 --> 00:32:37,190

I'll cheer but I also have like a little

766

00:32:44,410 --> 00:32:38,570

document here which tells you why it's

767

00:32:46,510 --> 00:32:44,420

the truth you certainly may I'd like to

768

00:32:49,330 --> 00:32:46,520

follow up on that I couldn't agree more

769

00:32:51,160 --> 00:32:49,340

and one of my fifth-grade students the

770

00:32:52,870 --> 00:32:51,170

other day I said well isn't that a lot

771

00:32:56,440 --> 00:32:52,880

of money for gas to send something up

772

00:32:59,080 --> 00:32:56,450

there and yeah there's gas and there's

773

00:33:01,930 --> 00:32:59,090

more expense to but I explained to him

774

00:33:03,700 --> 00:33:01,940

that we don't send the money there we

775

00:33:06,370 --> 00:33:03,710

spend the money here in places like

776

00:33:10,570 --> 00:33:06,380

California and Texas and New York and

777

00:33:13,540 --> 00:33:10,580

Florida and Ohio and all of those places

778

00:33:16,090 --> 00:33:13,550

we also develop what has created a

779

00:33:18,430 --> 00:33:16,100

wonderfully great country we develop

780

00:33:20,560 --> 00:33:18,440

science and technology and that if we

781

00:33:23,350 --> 00:33:20,570

stop developing those things and let

782

00:33:26,080 --> 00:33:23,360

other nations take the lead that we're

783

00:33:28,390 --> 00:33:26,090

just going to be dropping farther behind

784

00:33:30,340 --> 00:33:28,400

all the time and so we might as well

785

00:33:37,290 --> 00:33:30,350

spend the money here and get the bang

786

00:33:41,890 --> 00:33:39,790

Roger Eckert the arcade I have a

787

00:33:43,270 --> 00:33:41,900

question for Clara can we look forward

788

00:33:47,700 --> 00:33:43,280

to seeing you here in the future as a

789

00:33:50,590 --> 00:33:47,710

scientist I hope so I'm so interested in

790

00:33:52,210 --> 00:33:50,600

astrophysics and space and that's

791

00:33:55,470 --> 00:33:52,220

definitely something I would like to try

792

00:34:02,380 --> 00:33:55,480

maybe and I hope I can come here and

793

00:34:05,440 --> 00:34:02,390

work yeah or go to Mars yeah it's

794

00:34:09,400 --> 00:34:05,450

definitely definitely done for Italian

795

00:34:11,800 --> 00:34:09,410

radio and TV and also as an educator I

796

00:34:13,690 --> 00:34:11,810

was wondering the other day I was

797

00:34:16,210 --> 00:34:13,700

listening to the radio and I heard that

798

00:34:18,490 --> 00:34:16,220

30% of the foreign students in this

799

00:34:22,900 --> 00:34:18,500

country obviously at college level or

800

00:34:24,880 --> 00:34:22,910

graduate level are from China about 15%

801
00:34:26,970 --> 00:34:24,890
are from India

802
00:34:30,630 --> 00:34:26,980
it looks like compared to this country

803
00:34:33,120 --> 00:34:30,640
which seems to have almost lost the

804
00:34:35,050 --> 00:34:33,130
excitement about the enthusiasm

805
00:34:37,050 --> 00:34:35,060
concerning research and space

806
00:34:39,970 --> 00:34:37,060
exploration just because possibly

807
00:34:42,070 --> 00:34:39,980
America has already been to the moon

808
00:34:43,600 --> 00:34:42,080
other countries consider this a lot more

809
00:34:46,650 --> 00:34:43,610
important than the United States and

810
00:34:50,080 --> 00:34:46,660
they seem to be you know running and

811
00:34:51,310 --> 00:34:50,090
bouncing leaps ahead eventually of the

812
00:35:01,730 --> 00:34:51,320
United States and I'm wondering what

813
00:35:08,160 --> 00:35:06,150

I met at Harvard and I take courses at

814

00:35:11,160 --> 00:35:08,170

MIT as well and I see this firsthand

815

00:35:13,410 --> 00:35:11,170

what you're describing I do think right

816

00:35:15,750 --> 00:35:13,420

now there's a bit of a shift going on

817

00:35:17,370 --> 00:35:15,760

culturally this is just my intuition

818

00:35:20,100 --> 00:35:17,380

here I don't know for a fact but

819

00:35:21,290 --> 00:35:20,110

enabling communication whether it be

820

00:35:23,520 --> 00:35:21,300

through Twitter through Facebook

821

00:35:25,860 --> 00:35:23,530

reaching out to people and making this

822

00:35:27,870 --> 00:35:25,870

more accessible I think is a huge part

823

00:35:30,800 --> 00:35:27,880

of it and you know when I was looking

824

00:35:33,030 --> 00:35:30,810

for jobs graduating from college in 2005

825

00:35:34,530 --> 00:35:33,040

you go through the career fair and this

826

00:35:36,960 --> 00:35:34,540

is no fault of my university this is

827

00:35:39,150 --> 00:35:36,970

pretty much kind of standard I saw every

828

00:35:41,100 --> 00:35:39,160

investment bank I can imagine and I'm

829

00:35:42,750 --> 00:35:41,110

just like where's the JPL booth where's

830

00:35:44,910 --> 00:35:42,760

the NASA booth you know where's the

831

00:35:47,310 --> 00:35:44,920

engineers Without Borders booth and I

832

00:35:49,350 --> 00:35:47,320

couldn't find them and I think that I

833

00:35:50,930 --> 00:35:49,360

mean obviously with what's kind of going

834

00:35:54,060 --> 00:35:50,940

on in the economy but I think in general

835

00:35:56,910 --> 00:35:54,070

there is a shift happening and I think

836

00:35:59,970 --> 00:35:56,920

that you know that's no longer just the

837

00:36:02,640 --> 00:35:59,980

safe route when you finish school I

838

00:36:03,660 --> 00:36:02,650

think a lot of work needs to be done and

839

00:36:04,800 --> 00:36:03,670

there's a lot of there's a lot of

840

00:36:06,030 --> 00:36:04,810

research out there that shows you know

841

00:36:07,890 --> 00:36:06,040

you have a lot of people coming into

842

00:36:09,450 --> 00:36:07,900

college saying I want to study math

843

00:36:11,790 --> 00:36:09,460

science and engineering and then they

844

00:36:13,830 --> 00:36:11,800

drop out that and go do something else I

845

00:36:15,960 --> 00:36:13,840

think there's huge opportunity there to

846

00:36:17,610 --> 00:36:15,970

inspire these students can continue on

847

00:36:19,560 --> 00:36:17,620

and this is through evolution in

848

00:36:20,970 --> 00:36:19,570

engineering education through science

849

00:36:22,770 --> 00:36:20,980

education there's a lot of stuff

850

00:36:25,380 --> 00:36:22,780

happening in education to sort of change

851
00:36:27,420 --> 00:36:25,390
the way we teach these things so I'm not

852
00:36:28,890 --> 00:36:27,430
an expert on this but just these are

853
00:36:30,240 --> 00:36:28,900
just some things that I see changing in

854
00:36:33,810 --> 00:36:30,250
the world right now and I think that it

855
00:36:35,790 --> 00:36:33,820
only helps the STEM cause I just like to

856
00:36:38,070 --> 00:36:35,800
add another piece you know if we start

857
00:36:39,360 --> 00:36:38,080
in the middle school I think we we lose

858
00:36:41,820 --> 00:36:39,370
a lot of students in the middle school

859
00:36:43,530 --> 00:36:41,830
age range and if you don't have

860
00:36:45,870 --> 00:36:43,540
something that's inspiring and

861
00:36:48,270 --> 00:36:45,880
motivating for them to latch onto then

862
00:36:50,220 --> 00:36:48,280
they're going to not even turn towards

863
00:36:52,260 --> 00:36:50,230

science and engineering we have Scott

864

00:36:54,720 --> 00:36:52,270

here who's an educator and I talked to

865

00:36:57,150 --> 00:36:54,730

about 70 educators this morning and I

866

00:36:59,910 --> 00:36:57,160

said that you know you can only inspire

867

00:37:01,560 --> 00:36:59,920

someone if you're inspired yourself and

868

00:37:04,110 --> 00:37:01,570

so one of the things that we're doing in

869

00:37:06,300 --> 00:37:04,120

NASA education is to ensure that the

870

00:37:08,220 --> 00:37:06,310

unique assets that we have to offer from

871

00:37:10,180 --> 00:37:08,230

NASA whether it's you know curiosity

872

00:37:12,280 --> 00:37:10,190

whether it's flying k12

873

00:37:13,840 --> 00:37:12,290

teachers on a zero-g flight at JSC to

874

00:37:16,000 --> 00:37:13,850

let them know what it's like to be

875

00:37:19,180 --> 00:37:16,010

flying and floating for 25 seconds in

876
00:37:21,070 --> 00:37:19,190
microgravity 33 times we give them that

877
00:37:23,680 --> 00:37:21,080
inspiration in that excitement and that

878
00:37:25,450 --> 00:37:23,690
will help fuel this this interest in

879
00:37:28,930 --> 00:37:25,460
stem and they can take that back into

880
00:37:31,180 --> 00:37:28,940
their classrooms but I definitely agree

881
00:37:32,800 --> 00:37:31,190
with everything that Laura said you know

882
00:37:34,840 --> 00:37:32,810
when I was in graduate school there were

883
00:37:36,610 --> 00:37:34,850
a lot of foreign students there a lot of

884
00:37:39,160 --> 00:37:36,620
those students to go back to their back

885
00:37:41,860 --> 00:37:39,170
to their countries but we have to let

886
00:37:44,140 --> 00:37:41,870
our students and in the u.s. understand

887
00:37:45,940 --> 00:37:44,150
that these even though the shuttle

888
00:37:48,610 --> 00:37:45,950

program is over we still have a very

889

00:37:50,380 --> 00:37:48,620

vibrant space program the International

890

00:37:52,090 --> 00:37:50,390

Space Station has been on orbit for many

891

00:37:54,880 --> 00:37:52,100

many years and is continuing to flourish

892

00:37:57,400 --> 00:37:54,890

and we have someone living there 24/7 so

893

00:38:00,190 --> 00:37:57,410

making these making these opportunities

894

00:38:01,390 --> 00:38:00,200

and assets aware to the general public

895

00:38:03,760 --> 00:38:01,400

through Twitter through Facebook through

896

00:38:05,290 --> 00:38:03,770

these social media networks and ensuring

897

00:38:07,420 --> 00:38:05,300

that the media you guys that are sitting

898

00:38:09,040 --> 00:38:07,430

out there let people know that the space

899

00:38:10,780 --> 00:38:09,050

program is not over just because the

900

00:38:14,800 --> 00:38:10,790

shuttle retired so those are some of the

901
00:38:17,740 --> 00:38:14,810
things we need to make sure we do as a

902
00:38:19,150 --> 00:38:17,750
parent I wish schools would celebrate

903
00:38:21,160 --> 00:38:19,160
their first robotics team as much as

904
00:38:23,710 --> 00:38:21,170
they do their football team I think as a

905
00:38:24,970 --> 00:38:23,720
culture we don't celebrate our kids when

906
00:38:27,160 --> 00:38:24,980
they're doing really extraordinary

907
00:38:28,870 --> 00:38:27,170
things and science and technology and

908
00:38:31,210 --> 00:38:28,880
they see the other areas where they are

909
00:38:32,920 --> 00:38:31,220
celebrated so I think as a culture it

910
00:38:35,080 --> 00:38:32,930
would be nice to see people turn more

911
00:38:36,760 --> 00:38:35,090
please celebrate the kids that are doing

912
00:38:38,890 --> 00:38:36,770
the robotics celebrate the kids that are

913
00:38:41,140 --> 00:38:38,900

doing you know after school engineering

914

00:38:43,560 --> 00:38:41,150

programs just as much as we do everyone

915

00:38:44,740 --> 00:38:43,570

else for football or any other sport

916

00:38:46,810 --> 00:38:44,750

okay

917

00:38:50,020 --> 00:38:46,820

Stefano you have one more follow-up and

918

00:38:52,180 --> 00:38:50,030

then we'll come over here side yes a

919

00:38:55,810 --> 00:38:52,190

quick follow-up it looks like to me it

920

00:38:58,480 --> 00:38:55,820

on almost the human mind turns you know

921

00:39:01,330 --> 00:38:58,490

kind of a it is people become paws a

922

00:39:04,360 --> 00:39:01,340

pretty quick it happened seemed to me

923

00:39:07,390 --> 00:39:04,370

with the space shuttle and by Apollo 16

924

00:39:08,020 --> 00:39:07,400

or 17 interest already had gone down

925

00:39:09,700 --> 00:39:08,030

quite a bit

926

00:39:11,350 --> 00:39:09,710

it looks like as long as something is

927

00:39:13,780 --> 00:39:11,360

new there's a lot of interest and then

928

00:39:16,000 --> 00:39:13,790

at one point it Peters out I don't know

929

00:39:18,820 --> 00:39:16,010

obviously you're not a psycho

930

00:39:21,340 --> 00:39:18,830

psychologist I don't think so I'm just

931

00:39:22,810 --> 00:39:21,350

trying to throw this out for people to

932

00:39:23,800 --> 00:39:22,820

debate and think about because I think

933

00:39:30,850 --> 00:39:23,810

it's an

934

00:39:33,400 --> 00:39:30,860

point i'd like to say that early on an

935

00:39:36,850 --> 00:39:33,410

education is a great time to get kids

936

00:39:39,400 --> 00:39:36,860

young humans inspired and then we tend

937

00:39:43,150 --> 00:39:39,410

to lose them as we go along and then we

938

00:39:45,880 --> 00:39:43,160

have a whole entry cadre going into

939

00:39:49,000 --> 00:39:45,890

college and it seems like the mindset

940

00:39:49,470 --> 00:39:49,010

and a lot of colleges is to weed them

941

00:39:52,420 --> 00:39:49,480

out

942

00:39:54,130 --> 00:39:52,430

whereas we need to inspire them to take

943

00:39:56,230 --> 00:39:54,140

that next leap and yes you're gonna have

944

00:39:58,360 --> 00:39:56,240

to take some hard math classes but

945

00:39:59,970 --> 00:39:58,370

there's a reason for that and if we

946

00:40:04,720 --> 00:39:59,980

started off with more problem-based

947

00:40:07,750 --> 00:40:04,730

education or that they had an end goal

948

00:40:10,690 --> 00:40:07,760

in mind such as some of the projects

949

00:40:14,470 --> 00:40:10,700

i've seen that the school of Earth and

950

00:40:17,860 --> 00:40:14,480

space exploration at ASU is that they

951

00:40:19,930 --> 00:40:17,870

start out as a group go out and study

952

00:40:21,670 --> 00:40:19,940

their various specialties and then come

953

00:40:24,940 --> 00:40:21,680

back together as a group and they have

954

00:40:27,100 --> 00:40:24,950

that four year block laid out for

955

00:40:29,860 --> 00:40:27,110

themselves I think a lot of colleges

956

00:40:32,800 --> 00:40:29,870

could take that in mind say instead of

957

00:40:34,710 --> 00:40:32,810

taking all the dry stuff and the first

958

00:40:37,660 --> 00:40:34,720

two years and losing most of your kids

959

00:40:40,720 --> 00:40:37,670

let's get some project-based education

960

00:40:43,480 --> 00:40:40,730

going on early on and really turn them

961

00:40:47,140 --> 00:40:43,490

on and those switches and those lights

962

00:40:50,620 --> 00:40:47,150

will come on and say yes this is cool

963

00:40:52,900 --> 00:40:50,630

okay and we have we have an end in mind

964

00:40:55,510 --> 00:40:52,910

and I can I can be part of that career

965

00:40:57,720 --> 00:40:55,520

and yes I'm willing to slog through that

966

00:41:03,100 --> 00:40:57,730

calculus class and make sure that I can

967

00:41:04,390 --> 00:41:03,110

continue yes Greta who'll be from our

968

00:41:07,810 --> 00:41:04,400

dear arts with a three astronauts

969

00:41:09,850 --> 00:41:07,820

project I was responding very closely

970

00:41:12,640 --> 00:41:09,860

with what Scott showed us on the video

971

00:41:16,090 --> 00:41:12,650

which is kids involved with the arts as

972

00:41:17,470 --> 00:41:16,100

a way into science and I think that

973

00:41:20,560 --> 00:41:17,480

that's very important we keep talking

974

00:41:23,080 --> 00:41:20,570

about Twitter and Facebook and social

975

00:41:25,930 --> 00:41:23,090

media as a way to engage people but the

976
00:41:28,300 --> 00:41:25,940
arts have always engaged people and not

977
00:41:31,500 --> 00:41:28,310
only that but the arts in all sorts of

978
00:41:34,510 --> 00:41:31,510
ways as far as entertainment music are

979
00:41:35,810 --> 00:41:34,520
in all sorts of ways reach millions of

980
00:41:39,170 --> 00:41:35,820
people and

981
00:41:42,080 --> 00:41:39,180
that's a way to inspire our generations

982
00:41:44,330 --> 00:41:42,090
I also you're taking courses at MIT I

983
00:41:46,820 --> 00:41:44,340
actually went to MIT and one of the

984
00:41:49,640 --> 00:41:46,830
things that so inspired me at MIT was

985
00:41:52,250 --> 00:41:49,650
that it was like the arts and the arts

986
00:41:54,410 --> 00:41:52,260
held an equal position with the sciences

987
00:41:56,300 --> 00:41:54,420
and you'd come into your classes and the

988
00:41:58,580 --> 00:41:56,310

professors would be coming out having

989

00:42:00,530 --> 00:41:58,590

worked on the solar panel of the you

990

00:42:03,170 --> 00:42:00,540

know and it was just extraordinary and I

991

00:42:05,390 --> 00:42:03,180

think as Scott was just saying we have

992

00:42:09,080 --> 00:42:05,400

to have that excitement in our

993

00:42:10,760 --> 00:42:09,090

educational system the problem with most

994

00:42:13,520 --> 00:42:10,770

science the way is taught is that it's

995

00:42:16,100 --> 00:42:13,530

so dry and so by-the-book

996

00:42:18,140 --> 00:42:16,110

and I and I feel as though in we keep

997

00:42:20,480 --> 00:42:18,150

saying stem but I feel as though if we

998

00:42:23,660 --> 00:42:20,490

can start saying steam and put the a ooh

999

00:42:29,200 --> 00:42:23,670

the educational the arts is an

1000

00:42:32,270 --> 00:42:29,210

extraordinarily fertile place to ignite

1001
00:42:34,610 --> 00:42:32,280
creativity which is what we need for the

1002
00:42:36,560 --> 00:42:34,620
sciences we can't just learn the

1003
00:42:41,030 --> 00:42:36,570
sciences we have to approach it from a

1004
00:42:42,470 --> 00:42:41,040
creative well and I really feel as

1005
00:42:43,490 --> 00:42:42,480
though we should be saying steam here

1006
00:42:48,140 --> 00:42:43,500
and we'd find a lot more people

1007
00:42:49,700 --> 00:42:48,150
interested in science Greta what one of

1008
00:42:52,730 --> 00:42:49,710
the things that we're trying to do in

1009
00:42:55,310 --> 00:42:52,740
education is to partner with people like

1010
00:42:58,100 --> 00:42:55,320
minded people we met with the Lincoln

1011
00:43:00,470 --> 00:42:58,110
Center Institute just about two or three

1012
00:43:03,170 --> 00:43:00,480
weeks ago to talk just about how we can

1013
00:43:05,060 --> 00:43:03,180

motivate students in the arts to see

1014

00:43:07,430 --> 00:43:05,070

that there is science technology

1015

00:43:10,460 --> 00:43:07,440

engineering and math in everything that

1016

00:43:13,100 --> 00:43:10,470

we do and when I flew in space for my my

1017

00:43:15,590 --> 00:43:13,110

first flight I took up Quincy Jones is

1018

00:43:16,960 --> 00:43:15,600

one of his CDs and when we when he

1019

00:43:21,200 --> 00:43:16,970

interviewed me while I was in space

1020

00:43:23,570 --> 00:43:21,210

Quincy so eloquently said there is math

1021

00:43:25,340 --> 00:43:23,580

and music for both of those two things

1022

00:43:28,040 --> 00:43:25,350

it uses both the right and left side of

1023

00:43:29,300 --> 00:43:28,050

the brain so if you know math you know

1024

00:43:31,640 --> 00:43:29,310

music and if you know music you know

1025

00:43:33,020 --> 00:43:31,650

math but we don't show that in the

1026

00:43:35,330 --> 00:43:33,030

classrooms there's a there's a big

1027

00:43:37,460 --> 00:43:35,340

divide you go to art class and then you

1028

00:43:39,830 --> 00:43:37,470

got a math class and they're not

1029

00:43:42,500 --> 00:43:39,840

connected so if we can start showing how

1030

00:43:44,960 --> 00:43:42,510

these two what seems like the similar

1031

00:43:47,630 --> 00:43:44,970

things are connected more students will

1032

00:43:48,950 --> 00:43:47,640

then have this more of a Renaissance lan

1033

00:43:51,710 --> 00:43:48,960

type flavor in their edge

1034

00:43:54,920 --> 00:43:51,720

and they will look at you know music and

1035

00:43:57,500 --> 00:43:54,930

arts and sciences a combined thing not

1036

00:43:58,910 --> 00:43:57,510

just separate pieces that's another

1037

00:44:00,559 --> 00:43:58,920

thing we're trying to do is to bring in

1038

00:44:04,099 --> 00:44:00,569

entertainers I've worked with mary j

1039

00:44:07,339 --> 00:44:04,109

blige will.i.am who's put a lot of his

1040

00:44:09,859 --> 00:44:07,349

resources into FIRST Robotics and an ABC

1041

00:44:11,450 --> 00:44:09,869

special because the technology part of

1042

00:44:13,700 --> 00:44:11,460

it is so important he wants to celebrate

1043

00:44:16,430 --> 00:44:13,710

he's coming here to help celebrate this

1044

00:44:19,099 --> 00:44:16,440

with us tomorrow after after curiosity

1045

00:44:21,349 --> 00:44:19,109

launches but using musicians using ball

1046

00:44:22,640 --> 00:44:21,359

players the physics of football were

1047

00:44:24,650 --> 00:44:22,650

taught within two donovan mcNabb

1048

00:44:26,900 --> 00:44:24,660

football camp so we were coming in on

1049

00:44:28,819 --> 00:44:26,910

the back end teaching kids that if you

1050

00:44:30,140 --> 00:44:28,829

know physics you know when you drop down

1051
00:44:31,730 --> 00:44:30,150
in your center directly center of

1052
00:44:33,950 --> 00:44:31,740
gravity gets lower you're gonna be a

1053
00:44:35,900 --> 00:44:33,960
better ball player so how do we use all

1054
00:44:38,059 --> 00:44:35,910
of these different ambassadors these

1055
00:44:40,730 --> 00:44:38,069
trust agents that students look up to

1056
00:44:43,730 --> 00:44:40,740
ballplayers and rappers and musicians to

1057
00:44:45,589 --> 00:44:43,740
help them sell the stem message and I

1058
00:44:47,630 --> 00:44:45,599
know you say steam I know the arts is in

1059
00:44:50,030 --> 00:44:47,640
there but what stem isn't everything

1060
00:44:54,370 --> 00:44:50,040
it's in everything we do and it's very

1061
00:44:57,770 --> 00:44:56,420
follow-up is that you have that

1062
00:44:59,059 --> 00:44:57,780
extraordinary NASA has that

1063
00:45:00,620 --> 00:44:59,069

extraordinary program now with

1064

00:45:01,760 --> 00:45:00,630

non-traditional partnerships and

1065

00:45:03,559 --> 00:45:01,770

certainly we've been working on our

1066

00:45:07,910 --> 00:45:03,569

proposal but I think that that's a very

1067

00:45:09,890 --> 00:45:07,920

exciting new direction all right that

1068

00:45:11,930 --> 00:45:09,900

will conclude this briefing this is our

1069

00:45:14,270 --> 00:45:11,940

last of our briefings that we've had

1070

00:45:17,270 --> 00:45:14,280

throughout this week on the Mars Science

1071

00:45:19,400 --> 00:45:17,280

Laboratory so our next activity is going