



1
00:00:07,040 --> 00:00:10,629
this week at nasa

2
00:00:16,310 --> 00:00:13,270
nasa's mars rover opportunity has

3
00:00:18,710 --> 00:00:16,320
reached its next destination three years

4
00:00:20,790 --> 00:00:18,720
after climbing out of victoria crater

5
00:00:23,349 --> 00:00:20,800
opportunity has reached the rim of

6
00:00:26,150 --> 00:00:23,359
endeavour crater at a spot informally

7
00:00:27,910 --> 00:00:26,160
named spirit point after the rovers

8
00:00:31,029 --> 00:00:27,920
decommissioned twin

9
00:00:33,510 --> 00:00:31,039
at 14 miles in diameter endeavour is an

10
00:00:35,670 --> 00:00:33,520
inviting work site for opportunity

11
00:00:39,030 --> 00:00:35,680
orbital observations indicate that the

12
00:00:41,830 --> 00:00:39,040
ridges along its western rim expose rock

13
00:00:45,110 --> 00:00:41,840

outcrops older than any opportunity has

14

00:00:47,910 --> 00:00:45,120

seen so far you see in its rim evidence

15

00:00:49,750 --> 00:00:47,920

of clay minerals and clay minerals are

16

00:00:52,310 --> 00:00:49,760

class of minerals that form in neutral

17

00:00:54,869 --> 00:00:52,320

ph water so this is very exciting from

18

00:00:57,510 --> 00:00:54,879

the possibility of mars at one time

19

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

being a habitable planet opportunity and

20

00:01:02,869 --> 00:00:59,520

spirit completed their three-month prime

21

00:01:05,509 --> 00:01:02,879

missions on mars in april 2004

22

00:01:07,830 --> 00:01:05,519

both rovers continued for years of bonus

23

00:01:09,750 --> 00:01:07,840

extended missions making important

24

00:01:11,670 --> 00:01:09,760

discoveries about wet environments on

25

00:01:16,149 --> 00:01:11,680

ancient mars that may have been

26

00:01:21,190 --> 00:01:18,870

the 21st century will be won

27

00:01:23,590 --> 00:01:21,200

by those who innovate by those who seek

28

00:01:25,350 --> 00:01:23,600

breakthroughs by those who create that

29

00:01:26,390 --> 00:01:25,360

future and i'm here to tell you today

30

00:01:28,469 --> 00:01:26,400

that nasa

31

00:01:30,630 --> 00:01:28,479

is doing that chief technologist bobby

32

00:01:33,590 --> 00:01:30,640

braun headed a group of agency officials

33

00:01:35,749 --> 00:01:33,600

speaking at the latest nasa future forum

34

00:01:37,830 --> 00:01:35,759

held at the university of maryland the

35

00:01:38,950 --> 00:01:37,840

day-long future forum brought together

36

00:01:41,270 --> 00:01:38,960

technology

37

00:01:43,429 --> 00:01:41,280

scientists and engineers along with

38

00:01:45,030 --> 00:01:43,439

local business science technology and

39

00:01:46,870 --> 00:01:45,040

education leaders

40

00:01:48,710 --> 00:01:46,880

panel discussions addressed nasa's

41

00:01:51,109 --> 00:01:48,720

future role in advancing american

42

00:01:53,510 --> 00:01:51,119

innovation technology science

43

00:01:55,429 --> 00:01:53,520

engineering education and economic

44

00:01:57,270 --> 00:01:55,439

growth we are very optimistic about the

45

00:01:59,429 --> 00:01:57,280

future we're very optimistic about what

46

00:02:00,870 --> 00:01:59,439

can be done we go from dreams to

47

00:02:02,230 --> 00:02:00,880

aspiration

48

00:02:03,749 --> 00:02:02,240

to pursuit

49

00:02:04,950 --> 00:02:03,759

to achievement

50

00:02:07,030 --> 00:02:04,960

and i believe

51
00:02:09,910 --> 00:02:07,040
that sequence has been borne out time

52
00:02:12,070 --> 00:02:09,920
and time again at nasa in the past

53
00:02:14,710 --> 00:02:12,080
is being born out in the present and

54
00:02:16,470 --> 00:02:14,720
will be borne out in the future we must

55
00:02:18,710 --> 00:02:16,480
take on audacious challenges as a

56
00:02:20,869 --> 00:02:18,720
country in order to continue to drive

57
00:02:22,710 --> 00:02:20,879
forward and prosper math science

58
00:02:25,030 --> 00:02:22,720
engineering technology these are all the

59
00:02:26,150 --> 00:02:25,040
things that nasa is trying to do to

60
00:02:28,309 --> 00:02:26,160
ensure

61
00:02:29,750 --> 00:02:28,319
that kids have the right tools to move

62
00:02:32,309 --> 00:02:29,760
forward but also the teachers have the

63
00:02:34,229 --> 00:02:32,319

same thing nasa future forums are

64

00:02:40,550 --> 00:02:34,239

planned for other university campuses

65

00:02:44,630 --> 00:02:42,550

shuttle's endeavor and discovery have

66

00:02:45,509 --> 00:02:44,640

switched locations at the kennedy space

67

00:02:47,589 --> 00:02:45,519

center

68

00:02:49,990 --> 00:02:47,599

technicians move discovery out of the

69

00:02:55,589 --> 00:02:50,000

vehicle assembly building and endeavour

70

00:03:00,470 --> 00:02:57,990

the two spacecraft were paused briefly

71

00:03:02,790 --> 00:03:00,480

to allow a nose-to-nose photo

72

00:03:06,390 --> 00:03:02,800

opportunity before discovery was moved

73

00:03:08,550 --> 00:03:06,400

into opf-1 and endeavour into the vab

74

00:03:10,790 --> 00:03:08,560

discovery is being prepped for public

75

00:03:12,949 --> 00:03:10,800

display at the smithsonian national air

76
00:03:15,670 --> 00:03:12,959
and space museum's udvar housing center

77
00:03:17,750 --> 00:03:15,680
in virginia beginning next spring

78
00:03:19,830 --> 00:03:17,760
while endeavour is ready for its

79
00:03:21,589 --> 00:03:19,840
scheduled unveiling at the california

80
00:03:24,390 --> 00:03:21,599
science center in los angeles next

81
00:03:24,400 --> 00:03:37,509
and now centerpieces

82
00:03:41,350 --> 00:03:39,509
this is one of three successful drop

83
00:03:43,110 --> 00:03:41,360
tests of nasa's next deep space

84
00:03:45,030 --> 00:03:43,120
exploration vehicle conducted this

85
00:03:47,589 --> 00:03:45,040
summer at the langley research center's

86
00:03:53,990 --> 00:03:47,599
new 1.7 million dollar hydro impact

87
00:03:56,470 --> 00:03:55,190
three

88
00:03:57,990 --> 00:03:56,480

two

89

00:04:01,589 --> 00:03:58,000

one

90

00:04:04,630 --> 00:04:03,110

nasa langley held an official

91

00:04:06,309 --> 00:04:04,640

ribbon-cutting ceremony for the new

92

00:04:08,630 --> 00:04:06,319

facility that expands the center's

93

00:04:11,190 --> 00:04:08,640

capabilities to test and certify future

94

00:04:13,670 --> 00:04:11,200

spacecraft for water landings the lander

95

00:04:15,750 --> 00:04:13,680

facility and the vast experience of its

96

00:04:17,909 --> 00:04:15,760

langley staff provide a perfect

97

00:04:19,749 --> 00:04:17,919

combination to study the orion

98

00:04:21,909 --> 00:04:19,759

multipurpose crew vehicle

99

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

options for returning to earth the

100

00:04:25,110 --> 00:04:23,360

excellent work and the contributions

101
00:04:26,830 --> 00:04:25,120
from the langley team will continue now

102
00:04:30,550 --> 00:04:26,840
with the delivery of this unique new

103
00:04:32,790 --> 00:04:30,560
capability at 115 feet long 90 feet wide

104
00:04:34,710 --> 00:04:32,800
and 20 feet deep the hydro impact basin

105
00:04:36,550 --> 00:04:34,720
holds 1 million gallons of water

106
00:04:38,230 --> 00:04:36,560
allowing langley engineers to check out

107
00:04:40,710 --> 00:04:38,240
the water landing properties of future

108
00:04:43,030 --> 00:04:40,720
spacecraft

109
00:04:45,110 --> 00:04:43,040
the new hydro impact basin is located at

110
00:04:51,110 --> 00:04:45,120
the historic gantry where neil armstrong

111
00:04:55,430 --> 00:04:52,710
johnson space center's office of

112
00:04:57,430 --> 00:04:55,440
education hosted 40 high school girls as

113
00:05:00,710 --> 00:04:57,440

part of the women in stem high school

114

00:05:02,469 --> 00:05:00,720

aerospace scholars program or wish

115

00:05:04,390 --> 00:05:02,479

during the week the young women work

116

00:05:06,150 --> 00:05:04,400

together to get a real world look at

117

00:05:08,790 --> 00:05:06,160

what it takes to be a scientist or

118

00:05:11,110 --> 00:05:08,800

engineer wish meets nasa's educational

119

00:05:13,189 --> 00:05:11,120

goals by providing students opportunity

120

00:05:15,350 --> 00:05:13,199

to participate in authentic hands-on

121

00:05:17,270 --> 00:05:15,360

activities using nasa's missions the

122

00:05:19,029 --> 00:05:17,280

young women worked in teams to plan a

123

00:05:21,189 --> 00:05:19,039

human mission to mars

124

00:05:23,749 --> 00:05:21,199

they designed how to send astronauts to

125

00:05:26,629 --> 00:05:23,759

the red planet sustain life to work and

126

00:05:28,870 --> 00:05:26,639

research there and return back to earth

127

00:05:31,110 --> 00:05:28,880

i'm learning so much about different

128

00:05:35,029 --> 00:05:31,120

scientific fields getting some advice

129

00:05:37,110 --> 00:05:35,039

for the college process and meeting some

130

00:05:39,670 --> 00:05:37,120

women in science who are really

131

00:05:43,110 --> 00:05:39,680

inspiring and kind of learning what they

132

00:05:45,430 --> 00:05:43,120

did to get to where they are today

133

00:05:47,590 --> 00:05:45,440

when you think of science and research

134

00:05:49,029 --> 00:05:47,600

you think it's very it's very focused

135

00:05:51,350 --> 00:05:49,039

and it's very detail-oriented but in

136

00:05:53,510 --> 00:05:51,360

reality it's a lot of teamwork and it's

137

00:05:55,430 --> 00:05:53,520

a lot of collaboration the girls are

138

00:05:57,430 --> 00:05:55,440

awesome they're great they're they're

139

00:05:58,950 --> 00:05:57,440

the best of the best across our country

140

00:06:00,230 --> 00:05:58,960

and we're just really glad to have them

141

00:06:03,670 --> 00:06:00,240

here and be able to provide this

142

00:06:09,189 --> 00:06:07,029

welcome to cleveland 375 5th through

143

00:06:11,430 --> 00:06:09,199

12th graders were part of a minority

144

00:06:13,430 --> 00:06:11,440

student education forum held at the

145

00:06:15,830 --> 00:06:13,440

glenn research center in cleveland

146

00:06:18,629 --> 00:06:15,840

there's great things in your future and

147

00:06:20,710 --> 00:06:18,639

you can do it just like all the people

148

00:06:22,790 --> 00:06:20,720

that you're going to meet created as

149

00:06:25,029 --> 00:06:22,800

part of nasa's summer of innovation

150

00:06:27,590 --> 00:06:25,039

initiative the farm is designed to

151

00:06:29,990 --> 00:06:27,600

motivate minority students to pursue

152

00:06:33,110 --> 00:06:30,000

academic study in science technology

153

00:06:35,430 --> 00:06:33,120

engineering and math or stem courses and

154

00:06:37,590 --> 00:06:35,440

encourage them to become scientists and

155

00:06:39,670 --> 00:06:37,600

engineers the event featured

156

00:06:42,790 --> 00:06:39,680

inspirational talks by nasa senior

157

00:06:44,550 --> 00:06:42,800

managers astronauts and glenn personnel

158

00:06:46,390 --> 00:06:44,560

set your sights high

159

00:06:48,790 --> 00:06:46,400

get a good education

160

00:06:50,550 --> 00:06:48,800

learn that science and math can be fun

161

00:06:51,990 --> 00:06:50,560

it's all about you you guys are the

162

00:06:54,629 --> 00:06:52,000

future you're going to be the future

163

00:06:56,629 --> 00:06:54,639

astronauts scientists leaders and that's

164

00:06:59,510 --> 00:06:56,639

why we have these programs because it's

165

00:07:01,990 --> 00:06:59,520

all about you students also participated

166

00:07:04,870 --> 00:07:02,000

in peer-to-peer ambassador roundtable

167

00:07:08,309 --> 00:07:04,880

and trailblazers panel discussions and

168

00:07:12,790 --> 00:07:10,629

i was looking at these five system tests

169

00:07:15,110 --> 00:07:12,800

at the close of their summer session

170

00:07:17,430 --> 00:07:15,120

program interns from nasa's independent

171

00:07:20,629 --> 00:07:17,440

verification and validation engineering

172

00:07:22,950 --> 00:07:20,639

apprenticeship program or neap presented

173

00:07:25,589 --> 00:07:22,960

their projects to nasa managers friends

174

00:07:28,390 --> 00:07:25,599

and family at nasa headquarters linen

175

00:07:30,550 --> 00:07:28,400

auditorium we also wanted to implement

176

00:07:32,629 --> 00:07:30,560

some swarm technologies

177

00:07:34,550 --> 00:07:32,639

the students all with strong interest in

178

00:07:36,870 --> 00:07:34,560

stem studies science technology

179

00:07:38,790 --> 00:07:36,880

engineering and mathematics are paired

180

00:07:41,830 --> 00:07:38,800

with a mentor to work on a specific

181

00:07:43,830 --> 00:07:41,840

project over an eight-week period the

182

00:07:45,670 --> 00:07:43,840

interns come from diverse backgrounds

183

00:07:48,070 --> 00:07:45,680

and have interests in a variety of

184

00:07:50,710 --> 00:07:48,080

subjects from forensics to mining

185

00:07:53,909 --> 00:07:50,720

engineering i can meet a lot of people

186

00:07:55,749 --> 00:07:53,919

at nasa they can help me kind of guide

187

00:07:57,589 --> 00:07:55,759

my future because i'm still undecided

188

00:08:01,430 --> 00:07:57,599

about what i want to do since its

189

00:08:03,990 --> 00:08:01,440

inception neap has hosted 190 students

190

00:08:06,629 --> 00:08:04,000

the program's alumni have gone on to top

191

00:08:08,869 --> 00:08:06,639

colleges and to positions in nasa and

192

00:08:10,469 --> 00:08:08,879

industry

193

00:08:12,390 --> 00:08:10,479

the whole exhibit together really tells

194

00:08:14,309 --> 00:08:12,400

the nasa's story in an interesting way

195

00:08:15,909 --> 00:08:14,319

through the perspective of artists so

196

00:08:17,430 --> 00:08:15,919

it's very wonderful to sort of see them

197

00:08:18,869 --> 00:08:17,440

all together and it's rare that we have

198

00:08:20,869 --> 00:08:18,879

them all together like this the

199

00:08:24,150 --> 00:08:20,879

smithsonian's national air and space

200

00:08:27,189 --> 00:08:24,160

museum in washington is hosting nasa art

201
00:08:29,270 --> 00:08:27,199
50 years of exploration more than 70

202
00:08:31,909 --> 00:08:29,280
works ranging from the illustrative to

203
00:08:34,149 --> 00:08:31,919
the abstract present a different view of

204
00:08:36,230 --> 00:08:34,159
nasa than the one in history books or

205
00:08:38,630 --> 00:08:36,240
news accounts with art you really really

206
00:08:39,829 --> 00:08:38,640
see a different perspective and

207
00:08:41,670 --> 00:08:39,839
it's sort of processed through the

208
00:08:43,750 --> 00:08:41,680
artist's imaginations a very interesting

209
00:08:46,150 --> 00:08:43,760
way featured in this exhibition are

210
00:08:49,190 --> 00:08:46,160
works by artists as diverse as annie

211
00:08:52,070 --> 00:08:49,200
leibovitz andy warhol and william wegman

212
00:08:55,750 --> 00:08:52,080
i came over to nasa to make movies jim

213
00:08:58,150 --> 00:08:55,760

dean became nasa's first curator in 1962

214

00:09:00,550 --> 00:08:58,160

when then administrator james webb

215

00:09:02,949 --> 00:09:00,560

initially invited artists to illustrate

216

00:09:04,630 --> 00:09:02,959

and interpret the agency's missions and

217

00:09:05,910 --> 00:09:04,640

projects when we looked at the

218

00:09:07,910 --> 00:09:05,920

photographs back then there was

219

00:09:10,389 --> 00:09:07,920

something missing you know all the facts

220

00:09:12,710 --> 00:09:10,399

were there but the excitement that you

221

00:09:15,110 --> 00:09:12,720

felt when you watched what was happening

222

00:09:15,910 --> 00:09:15,120

and you knew what we were trying to do i

223

00:09:19,430 --> 00:09:15,920

think

224

00:09:21,750 --> 00:09:19,440

where the artist can really fill that

225

00:09:24,790 --> 00:09:21,760

gap one of those invited was norman

226

00:09:26,710 --> 00:09:24,800

rockwell a stickler for detail rockwell

227

00:09:29,110 --> 00:09:26,720

realized upon returning from his trip to

228

00:09:31,190 --> 00:09:29,120

cape canaveral that he needed a real

229

00:09:33,910 --> 00:09:31,200

spacesuit to satisfactorily paint

230

00:09:35,670 --> 00:09:33,920

astronaut john young's and would dean

231

00:09:39,269 --> 00:09:35,680

please get one sent to his rural

232

00:09:41,430 --> 00:09:39,279

massachusetts studio so i called houston

233

00:09:44,550 --> 00:09:41,440

as i recall the phone was slammed down

234

00:09:46,070 --> 00:09:44,560

in my ear after somebody said

235

00:09:48,949 --> 00:09:46,080

there's stuff in that suit that's

236

00:09:51,990 --> 00:09:48,959

classified you can't have that but dean

237

00:09:54,389 --> 00:09:52,000

persisted and soon by day the suit was

238

00:09:56,949 --> 00:09:54,399

being painted by rockwell in his studio

239

00:09:59,350 --> 00:09:56,959

and by night it was being watched in the

240

00:10:01,430 --> 00:09:59,360

stockbridge motel room by the nasa

241

00:10:03,590 --> 00:10:01,440

technician sent along to garden rocco

242

00:10:04,630 --> 00:10:03,600

was so pleased at getting the real thing

243

00:10:06,550 --> 00:10:04,640

to work with

244

00:10:07,509 --> 00:10:06,560

he put the technician in the in the

245

00:10:09,590 --> 00:10:07,519

painting

246

00:10:10,710 --> 00:10:09,600

that would be joe schmidt there on the

247

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

left

248

00:10:13,430 --> 00:10:12,320

if you could be down at the cape for a

249

00:10:16,949 --> 00:10:13,440

launch

250

00:10:19,110 --> 00:10:16,959

and see this array of cameras set up

251

00:10:20,470 --> 00:10:19,120

it's like an artillery range with these

252

00:10:22,550 --> 00:10:20,480

long lenses

253

00:10:25,350 --> 00:10:22,560

and then to see sitting on the ground an

254

00:10:27,430 --> 00:10:25,360

artist with a watercolor pad and his

255

00:10:29,269 --> 00:10:27,440

brushes and paint and doing that it was

256

00:10:30,790 --> 00:10:29,279

like somebody left over from another

257

00:10:33,910 --> 00:10:30,800

world that had been brought in to do

258

00:10:35,750 --> 00:10:33,920

this nasa art 50 years of exploration

259

00:10:37,750 --> 00:10:35,760

runs through october 9th at the

260

00:10:40,230 --> 00:10:37,760

smithsonian's national air and space

261

00:10:42,790 --> 00:10:40,240

museum in washington

262

00:10:44,790 --> 00:10:42,800

and that's this week at nasa