1
00:00:23,279 --> 00:00:36,630
do

2
00:00:36,640 --> 00:00:47,590
so

3
00:00:51,750 --> 00:00:50,549
more than 20 years ago americans had a

4
00:00:55,270 --> 00:00:51,760
dream

5
00:00:57,590 --> 00:00:55,280
step

6
00:00:59,750 --> 00:00:57,600
the world's fascination with space took

7
00:01:02,150 --> 00:00:59,760
on a whole new dimension as neil

8
00:01:04,950 --> 00:01:02,160
armstrong stepped from the eagle onto

9
00:01:06,630 --> 00:01:04,960
the lunar soil a quarter of a million

10
00:01:09,429 --> 00:01:06,640
miles away

11
00:01:35,270 --> 00:01:09,439
people everywhere watched breathlessly

12
00:01:41,590 --> 00:01:39,030
in 1981 history was once again rewritten

13
00:01:44,069 --> 00:01:41,600

as the space shuttle columbia roared

14
00:01:46,149 --> 00:01:44,079
from the launch pad on its maiden voyage

15
00:01:49,990 --> 00:01:46,159
allowing people and payloads to be put

16
00:01:52,389 --> 00:01:50,000
into space and returned safely to earth

17
00:01:55,190 --> 00:01:52,399
today space is no longer the final

18
00:01:58,870 --> 00:01:55,200
frontier but a stepping stone to a new

19
00:02:01,749 --> 00:01:58,880
era a new era in space transportation

20
00:02:04,550 --> 00:02:01,759
space development exploration and

21
00:02:09,350 --> 00:02:06,789
excellence in education is more

22
00:02:11,990 --> 00:02:09,360
important than ever as nasa continues

23
00:02:14,470 --> 00:02:12,000
space shuttle operations and development

24
00:02:16,869 --> 00:02:14,480
of a permanently manned space station

25
00:02:19,270 --> 00:02:16,879
the space station freedom will extend

26
00:02:21,670 --> 00:02:19,280
human presence beyond earth orbit and

27
00:02:24,309 --> 00:02:21,680
into the solar system

28
00:02:26,949 --> 00:02:24,319
nasa's goal of leadership in space must

29
00:02:29,030 --> 00:02:26,959
extend well into the 21st century

30
00:02:31,350 --> 00:02:29,040
such research and development depends on

31
00:02:34,150 --> 00:02:31,360
a well-educated workforce

32
00:02:36,229 --> 00:02:34,160
action must be taken now to ensure that

33
00:02:38,070 --> 00:02:36,239
our youth are equipped with the tools

34
00:02:40,470 --> 00:02:38,080
they will need

35
00:02:42,869 --> 00:02:40,480
between now and the year 2000 for the

36
00:02:45,910 --> 00:02:42,879
first time in history the majority of

37
00:02:47,990 --> 00:02:45,920
all new jobs will require more than a

38
00:02:49,990 --> 00:02:48,000

high school education in fact the

39
00:02:53,350 --> 00:02:50,000
national science foundation has

40
00:02:56,390 --> 00:02:53,360
predicted a shortage of some 675

41
00:02:58,949 --> 00:02:56,400
000 scientists and engineers by the year

42
00:03:00,790 --> 00:02:58,959
2000

43
00:03:02,710 --> 00:03:00,800
at the john c stennis space center in

44
00:03:05,110 --> 00:03:02,720
hancock county mississippi

45
00:03:06,309 --> 00:03:05,120
we are committed to nasa's educational

46
00:03:10,309 --> 00:03:06,319
goals

47
00:03:12,390 --> 00:03:10,319
education

48
00:03:15,190 --> 00:03:12,400
bring more prestige to the teaching

49
00:03:17,830 --> 00:03:15,200
profession and increase awareness of the

50
00:03:20,070 --> 00:03:17,840
impact science and technology will have

51
00:03:21,990 --> 00:03:20,080
on life in the future

52
00:03:23,750 --> 00:03:22,000
drawing on the inspiration and

53
00:03:26,550 --> 00:03:23,760
intellectual excitement inherent in the

54
00:03:28,790 --> 00:03:26,560
aerospace program stennis space center

55
00:03:30,869 --> 00:03:28,800
is able to enrich the study of social

56
00:03:33,910 --> 00:03:30,879
sciences physical sciences and

57
00:03:35,830 --> 00:03:33,920
mathematics at all levels of education

58
00:03:38,390 --> 00:03:35,840
through the visitor center the teacher

59
00:03:41,270 --> 00:03:38,400
resource center and special workshops

60
00:03:43,430 --> 00:03:41,280
for educators and students

61
00:03:45,430 --> 00:03:43,440
of special interest to all educators and

62
00:03:47,670 --> 00:03:45,440
students is dennis space center's

63
00:03:49,190 --> 00:03:47,680

visitor center open seven days a week

64
00:03:51,270 --> 00:03:49,200
except christmas day

65
00:03:53,110 --> 00:03:51,280
the visitor center offers a wide range

66
00:03:55,830 --> 00:03:53,120
of exhibits and models geared to

67
00:03:57,270 --> 00:03:55,840
stimulate interest in space science a

68
00:03:59,110 --> 00:03:57,280
walk through the hall of achievements

69
00:04:00,949 --> 00:03:59,120
chronicles the history of stennis space

70
00:04:04,309 --> 00:04:00,959
center and gives the missions and

71
00:04:06,630 --> 00:04:04,319
projects of the 18 resident agencies

72
00:04:09,270 --> 00:04:06,640
you can stand next to a full-scale model

73
00:04:11,750 --> 00:04:09,280
of a space shuttle main engine and an

74
00:04:13,910 --> 00:04:11,760
actual apollo command module

75
00:04:16,949 --> 00:04:13,920
displays include a moon rock collected

76
00:04:19,430 --> 00:04:16,959
by the crew of apollo 15 a space suit

77
00:04:22,390 --> 00:04:19,440
worn by mississippi astronaut fred hayes

78
00:04:26,230 --> 00:04:22,400
during the apollo 13 mission and a scale

79
00:04:28,950 --> 00:04:26,240
model of the space station freedom

80
00:04:31,749 --> 00:04:28,960
in addition video presentations

81
00:04:33,830 --> 00:04:31,759
spacesuit demonstrations and aerospace

82
00:04:36,310 --> 00:04:33,840
lectures are held in the visitor center

83
00:04:40,550 --> 00:04:36,320
auditorium to enlighten teachers and

84
00:04:43,110 --> 00:04:40,560
students about life in space

85
00:04:45,270 --> 00:04:43,120
in 1985 stennis space center created the

86
00:04:47,510 --> 00:04:45,280
teacher resource center to provide

87
00:04:49,430 --> 00:04:47,520
educators of all grade levels with an

88
00:04:51,909 --> 00:04:49,440

easily accessible source of

89
00:04:53,350 --> 00:04:51,919
instructional materials suitable for use

90
00:04:55,110 --> 00:04:53,360
in the classroom

91
00:04:56,550 --> 00:04:55,120
the teacher resource center contains a

92
00:04:59,189 --> 00:04:56,560
wealth of information

93
00:05:02,230 --> 00:04:59,199
including publications reference books

94
00:05:04,950 --> 00:05:02,240
slides audio and videotapes computer

95
00:05:06,790 --> 00:05:04,960
programs lesson plans and activities

96
00:05:08,950 --> 00:05:06,800
most free of charge

97
00:05:11,110 --> 00:05:08,960
these materials reflect nasa research

98
00:05:13,830 --> 00:05:11,120
and technology development and relate to

99
00:05:16,950 --> 00:05:13,840
such curriculum areas as life science

100
00:05:19,670 --> 00:05:16,960
physical science astronomy energy earth

101
00:05:22,390 --> 00:05:19,680
resources environment mathematics and

102
00:05:24,469 --> 00:05:22,400
career guidance

103
00:05:26,550 --> 00:05:24,479
in the resource center educators can

104
00:05:28,629 --> 00:05:26,560
also find reference materials on nasa

105
00:05:30,390 --> 00:05:28,639
and stennis space center as well as

106
00:05:33,909 --> 00:05:30,400
information on other state and federal

107
00:05:35,510 --> 00:05:33,919
agencies located at stennis

108
00:05:37,350 --> 00:05:35,520
the teacher resource center also

109
00:05:39,510 --> 00:05:37,360
sponsors specialized educational

110
00:05:41,430 --> 00:05:39,520
workshops and programs

111
00:05:42,950 --> 00:05:41,440
recently workshops were held for first

112
00:05:44,950 --> 00:05:42,960
second and third grade teachers in

113
00:05:46,550 --> 00:05:44,960

southern mississippi and saint tammany

114
00:05:48,390 --> 00:05:46,560
parish louisiana

115
00:05:50,710 --> 00:05:48,400
the workshops include how to and

116
00:05:52,550 --> 00:05:50,720
hands-on activities to help teachers

117
00:05:55,189 --> 00:05:52,560
incorporate what they learn into

118
00:05:58,230 --> 00:05:55,199
classroom activities and programs to

119
00:06:01,430 --> 00:05:58,240
supplement existing curriculum

120
00:06:03,510 --> 00:06:01,440
in july 1990 stennis space center and

121
00:06:06,150 --> 00:06:03,520
the teacher resource center will once

122
00:06:08,790 --> 00:06:06,160
again host the newest conference the

123
00:06:10,070 --> 00:06:08,800
nasa education workshop for elementary

124
00:06:11,830 --> 00:06:10,080
school teachers

125
00:06:14,469 --> 00:06:11,840
during the conference teachers meet with

126
00:06:16,870 --> 00:06:14,479
scientists engineers and educational

127
00:06:19,029 --> 00:06:16,880
specialists teachers are also instructed

128
00:06:21,350 --> 00:06:19,039
on how to apply their experiences to

129
00:06:23,029 --> 00:06:21,360
their elementary curriculum

130
00:06:25,590 --> 00:06:23,039
a one-of-a-kind training session was

131
00:06:28,150 --> 00:06:25,600
held recently at stennis space center

132
00:06:31,510 --> 00:06:28,160
taken onyx the teaching of astronautics

133
00:06:34,629 --> 00:06:31,520
to teachers by teachers was the idea of

134
00:06:36,150 --> 00:06:34,639
ce craft in the mccomb school district

135
00:06:38,390 --> 00:06:36,160
this school district in the southwest

136
00:06:39,990 --> 00:06:38,400
mississippi public school consortium in

137
00:06:41,830 --> 00:06:40,000
conjunction with the state department of

138
00:06:44,150 --> 00:06:41,840

education the university of southern

139
00:06:46,550 --> 00:06:44,160
mississippi nasa and stennis space

140
00:06:48,230 --> 00:06:46,560
center hosted a week-long program

141
00:06:50,309 --> 00:06:48,240
designed to give teachers from around

142
00:06:53,270 --> 00:06:50,319
the state of mississippi a special

143
00:06:55,590 --> 00:06:53,280
awareness of astronaut training

144
00:06:57,830 --> 00:06:55,600
what really made this program unique was

145
00:07:00,230 --> 00:06:57,840
the actual participation of the teachers

146
00:07:01,430 --> 00:07:00,240
in hands-on activities such as rocket

147
00:07:02,710 --> 00:07:01,440
building

148
00:07:04,230 --> 00:07:02,720
kite flight

149
00:07:06,309 --> 00:07:04,240
survival school

150
00:07:09,430 --> 00:07:06,319
zero gravity underwater simulation

151
00:07:10,950 --> 00:07:09,440
training and flying

152
00:07:12,230 --> 00:07:10,960
one of the many activities awaiting

153
00:07:16,070 --> 00:07:12,240
teachers was instruction in the

154
00:07:18,469 --> 00:07:16,080
assembling and launching of rockets

155
00:07:20,790 --> 00:07:18,479
assembly to liftoff teachers gain

156
00:07:26,390 --> 00:07:20,800
knowledge and insight into the

157
00:07:30,390 --> 00:07:28,469
after classroom discussions and compass

158
00:07:32,710 --> 00:07:30,400
functions and map reading the

159
00:07:37,189 --> 00:07:32,720
mississippi teachers headed outdoors to

160
00:07:41,670 --> 00:07:39,270
armed with only a map and a conference

161
00:07:44,870 --> 00:07:41,680
the teachers set out on a six mile trek

162
00:07:53,189 --> 00:07:44,880
to a fairly isolated area

163
00:07:57,589 --> 00:07:55,029

then the mississippi teachers took to

164
00:07:59,749 --> 00:07:57,599
the sky in order to feel the same forces

165
00:08:02,710 --> 00:07:59,759
of gravity as the astronauts

166
00:08:06,790 --> 00:08:02,720
although for a shorter period of time

167
00:08:11,589 --> 00:08:06,800
four forces gravity lift thrust and drag

168
00:08:15,670 --> 00:08:13,110
while the feeling of weightlessness and

169
00:08:17,510 --> 00:08:15,680
zero gravity lasted only seconds it was

170
00:08:19,510 --> 00:08:17,520
compared to the floating sensation of a

171
00:08:21,749 --> 00:08:19,520
carnival ride at the fair

172
00:08:23,510 --> 00:08:21,759
with something as simple as kite flying

173
00:08:25,670 --> 00:08:23,520
mississippi teachers learned the same

174
00:08:26,869 --> 00:08:25,680
principles of aerodynamics as the

175
00:08:28,710 --> 00:08:26,879
astronauts

176
00:08:30,390 --> 00:08:28,720
testing the kite's construction and

177
00:08:33,509 --> 00:08:30,400
shape as well as wind direction and

178
00:08:36,949 --> 00:08:33,519
speed most found this type of flying not

179
00:08:41,589 --> 00:08:39,430
with this hands-on activity teachers

180
00:08:45,110 --> 00:08:41,599
became aware of how the atmosphere

181
00:08:47,269 --> 00:08:45,120
interacts with moving objects

182
00:08:50,710 --> 00:08:47,279
weightlessness in space takes a

183
00:08:53,750 --> 00:08:50,720
concentrated effort to move walk grasp

184
00:08:55,509 --> 00:08:53,760
for objects and complete experiments

185
00:08:57,910 --> 00:08:55,519
the mississippi teachers were about to

186
00:09:00,630 --> 00:08:57,920
learn exactly how difficult

187
00:09:02,550 --> 00:09:00,640
weightlessness is

188
00:09:04,470 --> 00:09:02,560

following instruction from a navy

189
00:09:06,710 --> 00:09:04,480
research physicist a biologist and a

190
00:09:16,790 --> 00:09:06,720
physical scientist they dove into the

191
00:09:21,350 --> 00:09:18,630
while the first two buddy teams struggle

192
00:09:24,150 --> 00:09:21,360
to use their entire bodies underwater

193
00:09:25,829 --> 00:09:24,160
others watched from the underwater camp

194
00:09:27,750 --> 00:09:25,839
the teachers tried to meet the

195
00:09:29,829 --> 00:09:27,760
challenges and deal with the frustration

196
00:09:32,230 --> 00:09:29,839
of piecing together a puzzle

197
00:09:33,670 --> 00:09:32,240
pulling themselves across a ladder and

198
00:09:35,350 --> 00:09:33,680
sitting in a chair from the apollo

199
00:09:37,030 --> 00:09:35,360
spacecraft

200
00:09:38,630 --> 00:09:37,040
and as soon as i got started doing the

201
00:09:40,949 --> 00:09:38,640
activities

202
00:09:42,790 --> 00:09:40,959
it was so enthralling i forgot

203
00:09:44,310 --> 00:09:42,800
completely about breathing or doing

204
00:09:45,990 --> 00:09:44,320
anything wrong

205
00:09:47,829 --> 00:09:46,000
and i bet by now

206
00:09:49,430 --> 00:09:47,839
they're loving everything

207
00:09:51,670 --> 00:09:49,440
and he holds your hands you know and

208
00:09:52,790 --> 00:09:51,680
he'll make sure you're okay and

209
00:09:54,470 --> 00:09:52,800
there's

210
00:09:56,150 --> 00:09:54,480
very little room to be afraid

211
00:09:58,389 --> 00:09:56,160
on the last day of the takeanotic

212
00:10:01,110 --> 00:09:58,399
workshop the teachers along with their

213
00:10:03,110 --> 00:10:01,120

families toured stennis space center to

214
00:10:05,030 --> 00:10:03,120
see all that is involved in testing the

215
00:10:06,949 --> 00:10:05,040
space shuttle main engines

216
00:10:09,190 --> 00:10:06,959
as well as the work done by the resident

217
00:10:11,430 --> 00:10:09,200
agency

218
00:10:14,069 --> 00:10:11,440
the raw power that rockets the shuttle

219
00:10:35,350 --> 00:10:14,079
into space shook everyone as they

220
00:10:41,750 --> 00:10:39,750
i was totally surprised by the sound

221
00:10:44,790 --> 00:10:41,760
i knew it would be loud but i had no

222
00:10:46,630 --> 00:10:44,800
idea that i could feel it all over i

223
00:10:48,710 --> 00:10:46,640
couldn't hold my teeth together the

224
00:10:50,069 --> 00:10:48,720
vibration was so great open your mouth

225
00:10:52,069 --> 00:10:50,079
and you can feel your different tissues

226
00:10:54,069 --> 00:10:52,079
vibrating through your body

227
00:10:55,829 --> 00:10:54,079
as far as comparing the noise level to

228
00:10:57,590 --> 00:10:55,839
anything there's nothing you compare the

229
00:10:59,590 --> 00:10:57,600
noise level to you got a feeling of

230
00:11:01,190 --> 00:10:59,600
panic but it really wasn't endangered

231
00:11:03,750 --> 00:11:01,200
but uh it was just a feeling of panic

232
00:11:05,910 --> 00:11:03,760
and wanting to get out of dodge

233
00:11:07,750 --> 00:11:05,920
because of nasa's and stennis space

234
00:11:08,949 --> 00:11:07,760
center's involvement in educational

235
00:11:10,949 --> 00:11:08,959
programs

236
00:11:13,110 --> 00:11:10,959
these moms and dads who happen to teach

237
00:11:15,269 --> 00:11:13,120
other parents children are anxious to

238
00:11:17,509 --> 00:11:15,279

get back to the classroom and share

239
00:11:19,030 --> 00:11:17,519
their experiences with their students

240
00:11:20,870 --> 00:11:19,040
and fellow teachers

241
00:11:23,430 --> 00:11:20,880
everything that they've told us is on a

242
00:11:25,590 --> 00:11:23,440
level that we can understand and in turn

243
00:11:27,910 --> 00:11:25,600
give it to our children to understand i

244
00:11:30,470 --> 00:11:27,920
would like to share all this information

245
00:11:31,990 --> 00:11:30,480
with my peers one of the main objectives

246
00:11:34,310 --> 00:11:32,000
of this program was to do staff

247
00:11:36,069 --> 00:11:34,320
development and i feel like in the state

248
00:11:38,550 --> 00:11:36,079
of mississippi if we don't start sharing

249
00:11:39,829 --> 00:11:38,560
things within the circles of educators

250
00:11:43,110 --> 00:11:39,839
then we're really missing out on the

251
00:11:45,110 --> 00:11:43,120
vote this week we've gotten

252
00:11:47,269 --> 00:11:45,120
seeds of

253
00:11:50,230 --> 00:11:47,279
knowledge to take back home

254
00:11:51,350 --> 00:11:50,240
and to plant and to nurture and to watch

255
00:11:53,110 --> 00:11:51,360
them grow

256
00:11:54,710 --> 00:11:53,120
i think the kids in mississippi are

257
00:11:56,389 --> 00:11:54,720
really lucky because there's a whole

258
00:11:58,150 --> 00:11:56,399
bunch of wonderful teachers down here

259
00:12:00,389 --> 00:11:58,160
who have given up summertime who've

260
00:12:01,910 --> 00:12:00,399
given up jobs to be here to learn about

261
00:12:03,269 --> 00:12:01,920
the space program and i guarantee you

262
00:12:05,509 --> 00:12:03,279
the mississippi is going to be far

263
00:12:08,069 --> 00:12:05,519

better off for it we are capable of

264
00:12:10,310 --> 00:12:08,079
accomplishing wonderful things but only

265
00:12:12,470 --> 00:12:10,320
if we can attract and develop future

266
00:12:15,030 --> 00:12:12,480
generations of the most talented

267
00:12:17,110 --> 00:12:15,040
engineers and space scientists

268
00:12:19,509 --> 00:12:17,120
together we must strengthen america's

269
00:12:22,550 --> 00:12:19,519
educational framework in the areas of

270
00:12:24,389 --> 00:12:22,560
science engineering and mathematics by

271
00:12:26,550 --> 00:12:24,399
investing in america's youth

272
00:12:29,269 --> 00:12:26,560
by encouraging them and by affording

273
00:12:40,470 --> 00:12:29,279
them the opportunities necessary to

274
00:12:43,750 --> 00:12:41,430
nasa

275
00:12:47,350 --> 00:12:43,760
stennis space center and mississippi