
High School
Aerospace Scholars
A Journey of Discovery

1
00:00:07,760 --> 00:00:05,420
these high school students are part of a

2
00:00:10,089 --> 00:00:07,770
unique learning experience that combines

3
00:00:12,560 --> 00:00:10,099
online lessons with face-to-face

4
00:00:14,270 --> 00:00:12,570
interaction with NASA engineers and

5
00:00:17,029 --> 00:00:14,280
scientists at the Johnson Space Center

6
00:00:20,779 --> 00:00:17,039
the program is called high school

7
00:00:22,670 --> 00:00:20,789
aerospace scholars Haas for years it is

8
00:00:24,679 --> 00:00:22,680
encouraged and enlightened Texas

9
00:00:26,560 --> 00:00:24,689
students all while building a new

10
00:00:28,880 --> 00:00:26,570
workforce of scientists and engineers

11
00:00:42,370 --> 00:00:28,890
ready to serve our nation's future

12
00:00:47,750 --> 00:00:44,900
they come from all over the Lone Star

13
00:00:51,020 --> 00:00:47,760

State from small towns and large cities

14
00:00:53,450 --> 00:00:51,030
they are high school juniors interested

15
00:00:56,740 --> 00:00:53,460
in working with NASA and interested in

16
00:01:01,310 --> 00:00:56,750
science technology engineering and math

17
00:01:03,290 --> 00:01:01,320
the STEM subjects through Haas they

18
00:01:05,299 --> 00:01:03,300
discover they are not alone in those

19
00:01:07,280 --> 00:01:05,309
interests as they meet other like-minded

20
00:01:09,740 --> 00:01:07,290
Texas students with different

21
00:01:13,190 --> 00:01:09,750
backgrounds different experiences and

22
00:01:16,040 --> 00:01:13,200
fresh ideas the Haas experience of

23
00:01:18,280 --> 00:01:16,050
seeing NASA up-close and meeting the

24
00:01:20,840 --> 00:01:18,290
people who make space missions a reality

25
00:01:23,300 --> 00:01:20,850
reveals new paths for the high school

26
00:01:25,400 --> 00:01:23,310
students to explore at a critical time

27
00:01:27,620 --> 00:01:25,410
in their lives students are definitely

28
00:01:29,270 --> 00:01:27,630
making decisions about their future in

29
00:01:30,800 --> 00:01:29,280
this point about where they want to go

30
00:01:32,630 --> 00:01:30,810
to school what they want to do in

31
00:01:35,300 --> 00:01:32,640
college and and what kind of career that

32
00:01:37,310 --> 00:01:35,310
might lead to and for a lot of students

33
00:01:39,109 --> 00:01:37,320
they don't really know what a career in

34
00:01:42,080 --> 00:01:39,119
engineering is like without getting some

35
00:01:43,999 --> 00:01:42,090
kind of experience like this the high

36
00:01:46,279 --> 00:01:44,009
school aerospace Scholar Program has

37
00:01:48,590 --> 00:01:46,289
proven to have lasting effects on the

38
00:01:51,800 --> 00:01:48,600

participants as they go on to pursue

39
00:01:52,790 --> 00:01:51,810
their education and careers meet some

40
00:01:55,219 --> 00:01:52,800
hostile um Knight

41
00:01:57,350 --> 00:01:55,229
I'm interest in math and sciences always

42
00:01:59,960 --> 00:01:57,360
is and it started way back when I was a

43
00:02:02,150 --> 00:01:59,970
kid so it's just working with numbers

44
00:02:04,130 --> 00:02:02,160
it's just like a second language my name

45
00:02:06,020 --> 00:02:04,140
is on Tia chambers I work at Johnson

46
00:02:08,180 --> 00:02:06,030
Space Center in Houston Texas and I'm

47
00:02:10,730 --> 00:02:08,190
the precipitation prevention project

48
00:02:13,130 --> 00:02:10,740
manager I'm also the hardware manager of

49
00:02:14,510 --> 00:02:13,140
the compatible water containers that are

50
00:02:16,460 --> 00:02:14,520
used currently on the international

51
00:02:18,680 --> 00:02:16,470
space station I would go to Mars in a

52
00:02:21,350 --> 00:02:18,690
heartbeat I'm Allie Rutledge and I'm a

53
00:02:23,300 --> 00:02:21,360
PhD candidate in the geological sciences

54
00:02:26,480 --> 00:02:23,310
at Arizona State University

55
00:02:28,580 --> 00:02:26,490
I study planetary geology especially the

56
00:02:29,130 --> 00:02:28,590
geologic evolution of the surface of

57
00:02:31,650 --> 00:02:29,140
Mars

58
00:02:32,970 --> 00:02:31,660
my name is Cody Kelly and I'm a crew

59
00:02:35,460 --> 00:02:32,980
survival engineering here at the NASA

60
00:02:36,860 --> 00:02:35,470
Johnson Space Center so what our branch

61
00:02:38,790 --> 00:02:36,870
what my group does is we're basically

62
00:02:41,820 --> 00:02:38,800
designing the technologies that we'll

63
00:02:44,370 --> 00:02:41,830

need to extend human presence for space

64
00:02:46,620 --> 00:02:44,380
walking outside of low-earth orbit and

65
00:02:49,500 --> 00:02:46,630
there are countless other hostile um9

66
00:02:52,350 --> 00:02:49,510
many working at NASA others in STEM

67
00:02:54,510 --> 00:02:52,360
careers but all inspired by the program

68
00:02:56,730 --> 00:02:54,520
the journey of a high school aerospace

69
00:02:58,650 --> 00:02:56,740
scholar begins when they decide to sign

70
00:03:00,270 --> 00:02:58,660
up they must seek a nomination from

71
00:03:02,670 --> 00:03:00,280
their state representative to become a

72
00:03:05,550 --> 00:03:02,680
part of the program then it's time to

73
00:03:07,320 --> 00:03:05,560
study the students will work online with

74
00:03:09,090 --> 00:03:07,330
a specially constructed curriculum

75
00:03:14,100 --> 00:03:09,100
designed to prepare them for a specific

76
00:03:15,240 --> 00:03:14,110
task planning a mission to Mars so I was

77
00:03:16,500 --> 00:03:15,250
high for another you know learn all this

78
00:03:18,540 --> 00:03:16,510
stuff in addition to my normal

79
00:03:20,280 --> 00:03:18,550
educational curriculum and that was a

80
00:03:21,510 --> 00:03:20,290
huge part of it is I got to learn stuff

81
00:03:24,090 --> 00:03:21,520
that I wasn't learning in the

82
00:03:25,680 --> 00:03:24,100
traditional classroom and it has some so

83
00:03:28,140 --> 00:03:25,690
much real world application to what NASA

84
00:03:30,390 --> 00:03:28,150
was doing at the time the hostage Ernie

85
00:03:32,580 --> 00:03:30,400
continues with a week-long experience at

86
00:03:34,949 --> 00:03:32,590
the NASA Johnson Space Center it

87
00:03:37,860 --> 00:03:34,959
introduces the students to new fields

88
00:03:39,120 --> 00:03:37,870

they did not know existed so I think

89
00:03:41,130 --> 00:03:39,130
high school aerospace Scholars allows

90
00:03:42,780 --> 00:03:41,140
kids from across the state of Texas to

91
00:03:44,550 --> 00:03:42,790
come see what does that really mean what

92
00:03:46,020 --> 00:03:44,560
is it what does it mean to you learn

93
00:03:47,940 --> 00:03:46,030
math in a classroom but what does that

94
00:03:49,860 --> 00:03:47,950
mean in the real world you learn about

95
00:03:52,590 --> 00:03:49,870
science but what does that do what does

96
00:03:56,580 --> 00:03:52,600
engineers really do with its concepts I

97
00:03:59,370 --> 00:03:56,590
especially remember a tour of a biology

98
00:04:00,990 --> 00:03:59,380
lab where we got to see plants and how

99
00:04:02,580 --> 00:04:01,000
they were grown aboard the International

100
00:04:04,460 --> 00:04:02,590
Space Station and how they could be

101
00:04:07,259 --> 00:04:04,470
grown for an eventual mission to Mars

102
00:04:09,600 --> 00:04:07,269
that blew me away I think the first time

103
00:04:11,100 --> 00:04:09,610
I saw the NBL was just an incredible

104
00:04:13,680 --> 00:04:11,110
experience when you when you come up and

105
00:04:16,349 --> 00:04:13,690
you see the pool and you see just how

106
00:04:18,180 --> 00:04:16,359
big it is and to know that that's how

107
00:04:20,880 --> 00:04:18,190
they trained for space book other than

108
00:04:22,380 --> 00:04:20,890
seeing stem in action at NASA the

109
00:04:24,690 --> 00:04:22,390
students also have an important

110
00:04:26,159 --> 00:04:24,700
assignment to finish using their

111
00:04:27,050 --> 00:04:26,169
knowledge obtained from the online

112
00:04:29,830 --> 00:04:27,060
curriculum

113
00:04:32,840 --> 00:04:29,840

they create a simulated mission to Mars

114
00:04:35,330 --> 00:04:32,850
working in teams with assigned roles as

115
00:04:37,570 --> 00:04:35,340
real engineers do the students must

116
00:04:40,159 --> 00:04:37,580
analyze the challenges before them

117
00:04:42,590 --> 00:04:40,169
problem-solve and utilize critical

118
00:04:44,720 --> 00:04:42,600
thinking skills thinking as an educator

119
00:04:46,400 --> 00:04:44,730
it's hands-on stem science technology

120
00:04:48,890 --> 00:04:46,410
engineering and mathematics

121
00:04:51,110 --> 00:04:48,900
it's real-world this is you know they're

122
00:04:53,120 --> 00:04:51,120
in meetings there in deadlines they have

123
00:04:56,120 --> 00:04:53,130
pressure they have to work as a team

124
00:04:59,060 --> 00:04:56,130
along the way how students are mentored

125
00:05:01,219 --> 00:04:59,070
by NASA engineers and scientists having

126
00:05:03,050 --> 00:05:01,229
the students meet the scientists and

127
00:05:06,740 --> 00:05:03,060
engineers is probably one of the key

128
00:05:10,150 --> 00:05:06,750
elements of this program because it

129
00:05:14,420 --> 00:05:10,160
gives them the first-hand interaction

130
00:05:17,390 --> 00:05:14,430
face-to-face wow this is a real NASA

131
00:05:19,219 --> 00:05:17,400
scientist for so many years you hear

132
00:05:20,390 --> 00:05:19,229
about the NASA rocket scientist and

133
00:05:21,050 --> 00:05:20,400
you're coming Wow yeah but he's a

134
00:05:22,790 --> 00:05:21,060
scientist

135
00:05:24,980 --> 00:05:22,800
but yeah we're we're regular people and

136
00:05:26,719 --> 00:05:24,990
those kids get a feel for that and then

137
00:05:28,820 --> 00:05:26,729
they also get a feel for that I can do

138
00:05:30,590 --> 00:05:28,830

this too everybody was just really open

139
00:05:31,940 --> 00:05:30,600
to talk with you kind of our you know

140
00:05:33,080 --> 00:05:31,950
thinking oh I'm just kind of a high

141
00:05:35,630 --> 00:05:33,090
school student and this is a big

142
00:05:37,550 --> 00:05:35,640
scientist or engineer or astronaut or

143
00:05:39,110 --> 00:05:37,560
any kind of profession and you kind of

144
00:05:42,110 --> 00:05:39,120
feel a little timid to ask them

145
00:05:44,150 --> 00:05:42,120
questions but but I found as we love

146
00:05:46,219 --> 00:05:44,160
talking about our job so I asked all the

147
00:05:47,960 --> 00:05:46,229
questions that you want the students

148
00:05:50,120 --> 00:05:47,970
wrap up their Haas experience by

149
00:05:52,640 --> 00:05:50,130
presenting their Mars mission project to

150
00:05:55,850 --> 00:05:52,650
a team of actual NASA technical experts

151
00:05:58,790 --> 00:05:55,860
who will grade the assignment this work

152
00:06:01,219 --> 00:05:58,800
along with what they learned online the

153
00:06:04,340 --> 00:06:01,229
STEM careers and NASA hardware they saw

154
00:06:07,219 --> 00:06:04,350
and the people they met provides a new

155
00:06:09,500 --> 00:06:07,229
sense of direction and purpose I think

156
00:06:10,680 --> 00:06:09,510
what the experience at NASA taught me

157
00:06:12,690 --> 00:06:10,690
and

158
00:06:16,200 --> 00:06:12,700
people that I met at NASA taught me was

159
00:06:19,200 --> 00:06:16,210
it allowed me to focus my interest a

160
00:06:21,750 --> 00:06:19,210
little bit more they grow up when they

161
00:06:23,790 --> 00:06:21,760
can look at everything and they know

162
00:06:26,640 --> 00:06:23,800
without a shadow of a doubt this is what

163
00:06:29,670 --> 00:06:26,650

I want to do do we know we can go home

164
00:06:32,430 --> 00:06:29,680
with that story so for a lot of our

165
00:06:34,650 --> 00:06:32,440
aerospace scholars they do end up going

166
00:06:37,200 --> 00:06:34,660
to college and majoring in some kind of

167
00:06:39,690 --> 00:06:37,210
stem field and if we're lucky we see

168
00:06:41,970 --> 00:06:39,700
them back here maybe as college students

169
00:06:44,520 --> 00:06:41,980
as interns and then we've had the

170
00:06:46,680 --> 00:06:44,530
opportunity to hire them several years

171
00:06:49,800 --> 00:06:46,690
later and come back and many of our

172
00:06:51,450 --> 00:06:49,810
folks now who work here as employees who

173
00:06:54,600 --> 00:06:51,460
started as high school aerospace

174
00:06:57,330 --> 00:06:54,610
scholars have become mentors for for a

175
00:07:00,150 --> 00:06:57,340
new group of aerospace scholars so for

176
00:07:02,040 --> 00:07:00,160
us it's a really great cycle I'm living

177
00:07:03,870 --> 00:07:02,050
my dream everyday I work with some of

178
00:07:05,040 --> 00:07:03,880
the greatest people here at NASA a lot

179
00:07:07,620 --> 00:07:05,050
of them are actually high school

180
00:07:09,570 --> 00:07:07,630
aerospace scholar alumni so again it's

181
00:07:11,160 --> 00:07:09,580
kind of that that Club and that culture

182
00:07:13,410 --> 00:07:11,170
that was built up by this program

183
00:07:15,180 --> 00:07:13,420
it's amazing that you know I grew up in

184
00:07:17,280 --> 00:07:15,190
those in a small town was given these

185
00:07:35,060 --> 00:07:17,290
opportunities and I'm able to to live

186
00:07:39,050 --> 00:07:37,550
from the International Space Station the

187
00:07:40,790 --> 00:07:39,060
expedition 40 crew would like to

188
00:07:43,160 --> 00:07:40,800

congratulate the aerospace Scholars

189
00:07:44,900 --> 00:07:43,170
Program your diligent work is opening

190
00:07:46,550 --> 00:07:44,910
the world of STEM education to students

191
00:07:48,950 --> 00:07:46,560
and building the workforce of tomorrow

192
00:07:51,350 --> 00:07:48,960
as aerospace scholars become part of the