1
00:00:00,506 --> 00:00:06,836
[MUSIC]

2
00:00:07,336 --> 00:00:09,286
[Carlie:] My name is Carlie
Zumwalt and I work at NASA.

3
00:00:10,776 --> 00:00:13,486
I work for the Flight Mechanics
and Trajectory Design branch,

4
00:00:13,546 --> 00:00:16,646
so basically what that mean is I
help give directions to vehicles

5
00:00:17,276 --> 00:00:19,926
as they are entering the atmosphere
to make sure that they land safely.

6
00:00:20,526 --> 00:00:26,086
I develop simulations of the Martian atmosphere
and I fly sample vehicles through the atmosphere

7
00:00:26,406 --> 00:00:32,096
and get an idea of how they are performing
and how they're flying compared to the type

8
00:00:32,096 --> 00:00:33,976
of trajectories we'd prefer them to fly.

9
00:00:34,556 --> 00:00:39,906
So the job really does encompass a lot of the
STEM fields, but is very much science based

10
00:00:39,906 --> 00:00:42,626
in the fact that you have to understand
the physics of what is going on.

11
00:00:43,006 --> 00:00:46,626

I think Science and Tech, Science and
Engineering are intrinsically linked

12
00:00:46,716 --> 00:00:50,646
because you can't have one
without understanding the other.

13
00:00:50,746 --> 00:00:55,296
They are very much interrelated
and very much connected.

14
00:00:55,866 --> 00:00:58,196
[Julie:] My name is Julie
Mitchell and I work at NASA.

15
00:00:59,806 --> 00:01:03,036
My job title is Project Manager
for Water Recovery Systems.

16
00:01:03,846 --> 00:01:09,206
So what that means is, I lead a team of
about 10 engineers and we all work together

17
00:01:09,426 --> 00:01:13,556
to develop new technologies for
recycling water on spacecraft.

18
00:01:13,676 --> 00:01:19,496
So, we take the urine, we take the grey water
with the shower water, all the water with soap

19
00:01:19,546 --> 00:01:26,216
in it and other types of waste water is what
we call it on a spacecraft and we recycle it

20
00:01:26,286 --> 00:01:30,746
to the point the crew can drink
it again, and the cycle continues.

21
00:01:32,036 --> 00:01:38,606

The coolest part of my job is the hardware side
of, the hands on side of it, you have an idea

22
00:01:38,606 --> 00:01:44,686
and you are able to walk into the lab and put
things together and make the idea a reality.

23
00:01:44,756 --> 00:01:49,236
I think that's the most rewarding part of
my job, that's the coolest part of my job.

24
00:01:50,166 --> 00:01:52,746
[Tara:] My name is Tara Ruttley
and I work at NASA.

25
00:01:53,026 --> 00:01:56,336
Well, I am the Associate Program Scientist
for the International Space Station,

26
00:01:56,336 --> 00:02:01,026
and that is the fancy way of saying that I
help coordinate and communicate the experiments

27
00:02:01,086 --> 00:02:02,166
that happen on the space station.

28
00:02:02,166 --> 00:02:07,106
So, I get to talk to the researchers and
understand what's being done on space station

29
00:02:07,106 --> 00:02:09,756
and communicate that back to the
public and to other researchers.

30
00:02:10,566 --> 00:02:15,816
I get to be a part of an
unprecedented microgravity laboratory.

31
00:02:16,376 --> 00:02:20,276
A big, super cool laboratory with

all these different facilities

32
00:02:20,766 --> 00:02:23,596
and these experiments get to float.

33
00:02:24,226 --> 00:02:31,236
It's the only place on earth you can
do experiments with gravity being gone.

34
00:02:31,556 --> 00:02:33,286
[Carlie:] So, my passion for, for science

35
00:02:33,286 --> 00:02:35,586
and math really started out
when I was in middle school.

36
00:02:35,586 --> 00:02:39,486
I always loved math, I loved the challenge
of math and I loved the challenge of science,

37
00:02:39,486 --> 00:02:43,096
and that was sort of how I really
really got bitten by the NASA bug.

38
00:02:43,096 --> 00:02:45,496
I always wanted to be astronaut.

39
00:02:45,496 --> 00:02:47,646
Specifically, I wanted to be the
first woman to walk on the moon.

40
00:02:47,646 --> 00:02:51,296
So, I started off by doing a lot
of the programs that are open

41
00:02:51,406 --> 00:02:53,706
to high school and college students.

42
00:02:53,706 --> 00:02:56,806

So I started off with the High School
Aerospace Scholars Program and then

43
00:02:56,806 --> 00:02:59,746
from there I did the Mars
Settlement Design Competition.

44
00:02:59,746 --> 00:03:05,776
And then when I graduated high school and went
to college, I did some undergraduate research

45
00:03:05,806 --> 00:03:08,646
with a professor of mine and then
took that research and applied

46
00:03:08,696 --> 00:03:14,456
to the Reduced Gravity Program and
got to fly that research on the C9,

47
00:03:14,456 --> 00:03:17,936
and then once that program was finished
I applied to the co-op program which is

48
00:03:18,176 --> 00:03:20,946
where I really got a taste of what
it's like to be an engineer for NASA.

49
00:03:21,296 --> 00:03:25,266
[Julie:] So, when I was growing up
I actually spent the first few years

50
00:03:25,266 --> 00:03:27,856
of my life in a trailer park in Louisiana.

51
00:03:27,856 --> 00:03:32,266
I particularly enjoyed math and
science in school but I never,

52
00:03:32,326 --> 00:03:34,376
honestly never really thought

I would use it for anything,

53
00:03:34,376 --> 00:03:38,906
I just did it cause I thought it was
fun and it was interesting to me.

54
00:03:38,906 --> 00:03:44,456
And you know, going through elementary
school, middle school, high school,

55
00:03:45,286 --> 00:03:50,626
I never really thought about college, I never
thought about what I would do after high school.

56
00:03:50,626 --> 00:03:52,466
I just kind of assumed I
wasn't going to go to college.

57
00:03:53,226 --> 00:03:56,716
I've always wanted to understand how things
work, why everything is the way it is.

58
00:03:56,716 --> 00:04:03,416
I've always asked a lot of questions, and I
think science as a whole really does a good job

59
00:04:03,416 --> 00:04:04,986
of answering a lot of those questions.

60
00:04:05,946 --> 00:04:08,336
[Tara:] From middle school I've
wanted to work for the space program.

61
00:04:08,416 --> 00:04:10,746
In fact probably as early on as third grade.

62
00:04:11,306 --> 00:04:16,856
And it was just that Space Shuttle picture
and the picture of these astronauts

63
00:04:17,076 --> 00:04:23,176
in their big white spacesuits doing EVAs
that got me geeked up about science.

64
00:04:23,386 --> 00:04:29,136
When I was in, I think I was in high school
in Louisiana my class took a field trip

65
00:04:29,136 --> 00:04:31,336
over to Johnson Space Center and I asked one

66
00:04:31,336 --> 00:04:35,866
of the astronauts something I know they get
asked a lot- 'what did you do to get there,

67
00:04:35,976 --> 00:04:39,736
how did you get to be an astronaut' and
he said to me "well not everybody gets

68
00:04:39,736 --> 00:04:43,596
to be an astronaut, so you just do what you
want to do and you have fun getting there."

69
00:04:44,596 --> 00:04:49,006
So having fun getting there, I took that to
heart, you know people told me study hard,

70
00:04:49,316 --> 00:04:52,586
make good grades, do well in school, and
you'll get to be anything you want to be.

71
00:04:52,586 --> 00:04:56,736
But no one had actually ever told me just
enjoy what you do, follow what you love,

72
00:04:56,916 --> 00:05:00,976
and my love has always been
science, and I followed that,

73

00:05:00,976 --> 00:05:03,396
and that's how I ended up where I am today.

74
00:05:04,496 --> 00:05:09,576
[Julie:] I would tell my thirteen year
old self, that if I could just go back

75
00:05:09,576 --> 00:05:11,976
and say just one thing, believe it's possible.

76
00:05:11,976 --> 00:05:20,896
If you think you can do it, if you believe that
you can do it, then that's really the spark

77
00:05:20,996 --> 00:05:24,536
that starts everything else and
that's what started it for me.

78
00:05:24,536 --> 00:05:28,666
I had to believe that I could do it
before I actually went out and did it.

79
00:05:29,066 --> 00:05:33,296
So I would just go back and tell
myself that 'yes, this is an option,

80
00:05:33,416 --> 00:05:37,676
yes this is something you can do, and if
you are interested in it go after it'.

81
00:05:37,676 --> 00:05:42,616
[Tara:] Make what you do today count, make
it fun, make it what you want it to be.

82
00:05:42,906 --> 00:05:45,026
And make it a step towards your future.

83
00:05:45,146 --> 00:05:46,296
If it's science, do it!

84
00:05:46,296 --> 00:05:48,196
You're going to be successful at it.

85
00:05:48,196 --> 00:05:52,586
If it's engineering, technology
development, math, follow that goal,

86
00:05:52,586 --> 00:05:55,886
cause you'll be wonderfully successful
at it and you'll have a great time

87
00:05:55,936 --> 00:05:57,256
at it too, so who can ask for more?

88
00:05:58,016 --> 00:06:01,996
[Carlie:] You can achieve, you can
do anything you put your mind to it.

89
00:06:01,996 --> 00:06:05,126
I don't think it's the smartest
people that get ahead in life,

90
00:06:05,126 --> 00:06:08,956
it's the people that are the most
motivated, dedicated, and most persistent,

91
00:06:09,376 --> 00:06:13,926
so I would say to set impossible
dreams for yourself, impossible goals,

92
00:06:13,956 --> 00:06:17,466
and to work every day as hard as
you possibly can to get there,

93
00:06:17,466 --> 00:06:19,256
because you will get there
and it will be worth it.

94
00:06:19,756 --> 00:06:25,176

And there's nothing that can stop
you from achieving your goals.