station this is Houston now you're ready

for the event we are ready for the event

Smithson Valley High School this is

Mission Control Houston

please call station for a voice check

you for being with us very very much we

appreciate your taking the time this is

a special occasion for 600 high school

students at Smithson Valley and my

question goes to both of you guys and it

is did you ever dream or aspire to

become astronauts and also what was the

feeling when you figured out that you're

going into space well I'll start off on
a let Samantha answer the the second

part the first dream that I had when I

was a little kid was to be an astronaut

the first book I ever read was about the

Apollo program and flying and especially

space was something I was interested in

since I was a just a kindergartner so I

was I was pretty lucky to be able to

pursue that and the time you find out

you're gonna get selected to be an

astronaut is different than when you get

assigned to a flight and those are

different feelings and I'll let Samantha

talk about that yes Aloha and thanks for
the question yes I have also dreamt of

becoming an astronaut since I was a little girl and so when I finally was selected to become an astronaut you know for me it was a dream come true and of course I realized and I was aware of the fact that you know it was a goal that I had achieved but it was also the start of a new journey and so I started training I did basic training and then I didn't know how long it would take until I actually got to go to space sometimes it takes many years and it took a few years in my case as well but not too
many so I'm happy about that and when

00:01:54,478 --> 00:01:58,379
you finally get assigned you know it's

00:01:57,030 --> 00:02:00,239
like finally you're you're almost

00:01:58,379 --> 00:02:01,468
touching this dream in your hands you

00:02:00,239 --> 00:02:03,478
know that there is still a lot of work

00:02:01,468 --> 00:02:05,368
ahead but you are on a path and if

00:02:03,478 --> 00:02:07,379
everything goes well then you will

00:02:05,368 --> 00:02:09,139
actually fulfill that that big dream and

00:02:07,379 --> 00:02:11,370
and and get to space and actually

00:02:09,139 --> 00:02:12,719
arriving in space of course has been

00:02:11,370 --> 00:02:16,430
everything that I dreamed

00:02:12,719 --> 00:02:21,599
and probably the happiest day on my life

00:02:16,430 --> 00:02:24,390
thank you hello my name is Cole this one

00:02:21,599 --> 00:02:25,590
I have a few questions for both y'all my

00:02:24,389 --> 00:02:27,599
first question is how long does this
whole process take the second one is what are the dangers of this job and the third one is what made you want to do this well the process of becoming an astronaut is a long one it starts when you're a little kid and in school going through middle school high school college and then even after that there's always some type of training or learning or studying that seems like you go through but when it came time to apply to be an astronaut the application process was about a year and a half it took a long time there was a pretty
involved interview process that we went

down to Houston I went to Houston and

Samantha did that in Europe and they

interview you to find out what kind of

person you are and they do a lot of

medical tests so just getting picked to

be an astronaut is a long process and

then that basic astronaut training takes

about a year and a half two years to

learn all the basic skills that you need

to do spacewalks and to learn Russian

language and learn about the space

station systems in my case I became an

astronaut a long time ago and I learned
how to fly the space shuttle as a pilot

in the future there'll be other vehicles

that we learn how to fly and then after

that you go through a waiting process to

get assigned which really just

depends on how many flight assignments

there are and how many astronauts there

are and you get in line and you wait

your turn and once you get assigned

Samantha and I were assigned together

for about two and a half years before we

flew so there's a lot to learn it's a

very complicated Space Station it's

about a million pounds and so there's a
lot of stuff to learn and but like I

00:03:50,039 --> 00:03:54,629
said it's really a lifelong process more

00:03:51,750 --> 00:03:56,819
than it is just one you know checking

00:03:54,629 --> 00:04:03,329
the box and getting getting a degree

00:03:56,819 --> 00:04:06,719
here or there or anything like that and

00:04:03,330 --> 00:04:09,690
as far as the dangers of this job are

00:04:06,719 --> 00:04:11,459
concerned you know on a on a day to day

00:04:09,689 --> 00:04:14,219
basis where you are on the ground I do

00:04:11,459 --> 00:04:16,350
not think that it's a very dangerous job

00:04:14,219 --> 00:04:18,899
Terry and I were both in the military

00:04:16,350 --> 00:04:21,239
before this flying jets and I do think

00:04:18,899 --> 00:04:23,969
that on a day-to-day basis that is more

00:04:21,238 --> 00:04:25,529
dangerous however you know the the day

00:04:23,970 --> 00:04:28,050
comes where you you know

00:04:25,529 --> 00:04:29,669
you you climb up a rocket and you're you
know you sit on the top of this rocket and there is hundreds of tons of propellant that is about to ignite and chemically propellants and explosives are very very similar and in a way a rocket that starts and launches into space is nothing else than a very controlled explosion or let's not call it explosion it's a deflagration but it's really a controlled combustion and and so you know when you sit on the top of that rocket that kind of goes through your mind a little bit and that's probably the most dangerous part of the
job the launch
together with the re-entry you know
coming back to earth all of that energy
that you have acquired through the rocket that have gotten you into space
and have made you acquire of the speed that we have with travel and about 27 thousand kilometers per hour and enter
is gonna tell you the miles per hour all of that energy you somehow have to dissipate it when you come back to earth and that of course is quite dangerous as well so those are probably the most the two most dangerous moments at the
beginning and the end of a mission and

then there are some health risks of
course you know related to being exposed
to a certain level of radiation or just
the effect that microgravity has on your
body it kind of gets your body all the
systems of your body a little bit out of
balance but I think we have those
dangers pretty much under control at
least when it comes to being here in
low-earth orbit but it's gonna be a
whole new challenge when we start
getting beyond low-earth orbit and
explore further thank you
Hello my name is Celine Rendon and I'm a senior. What do the scientific experiments in biology or human physiology consist of and what information is being gathered that can be explored in space but not on earth?

Thanks, that's a great question. There's a lot of biology and human physiology experiments that we do. It seems like it's probably the most different types of science up here: physics, material science, biology, but biology is probably our biggest and most important thing that we're doing a lot of what we do on our own bodies.
ultrasounds on our brain our hearts and

our eyes we have a machine called an Oct
machine that scans the inner structure

of your eye with a laser

we have other specialized cameras

infrared cameras and stuff that we use
to look at our eyes and so we do a lot

of investigation on how the body reacts
to weightlessness and that helps us

understand how we can live in space and

stay healthy and and for even longer

periods of time we do some other

experiments plant experiment Samantha

was doing something called Anna so this
morning which is a Japanese plant experiment to help us learn the fundamental biology behind how plants work on earth and also help us understand how plants could work in weightlessness and grow eventually in a long-term if we're gonna live in space for a long time we're gonna need to be able to grow plants here we did a really cool experiment a few months ago when our last cargo ship was here in the European Columbus module that had a big pink light so the whole station was glowing pink at night it was kind of
neat to see these plants grow just like

a greenhouse at home that has a light on

it I did an experiment a few months ago

that involved Salmonella and some other

diseases that we were infecting these

poor little worms these C elegans worms

that are commonly used in science and we

were studying how their they reacted to

this infection in space which their

reaction is actually stronger in space

so there's lots of different things that

we're doing for biology and it's very

interesting some of these you just can't

do on earth because of the
weightlessness that we have here thank

215
00:08:21,668 --> 00:08:23,759
you

216
00:08:24,279 --> 00:08:28,929
my name is Caroline and I'm a junior my

217
00:08:26,959 --> 00:08:31,519
question is for mr. Christopher Eddie

218
00:08:28,930 --> 00:08:33,259
what obstacles did you face wanting to

219
00:08:31,519 --> 00:08:35,029
be a female astronaut since the space

220
00:08:33,259 --> 00:08:37,129
program is mostly a male populated

221
00:08:35,029 --> 00:08:45,319
program also how does it feel not being

222
00:08:37,129 --> 00:08:47,179
able to go hiking or scuba diving hello

223
00:08:45,320 --> 00:08:50,360
thanks for the question

224
00:08:47,179 --> 00:08:53,419
you know I since I was a little girl

225
00:08:50,360 --> 00:08:56,300
growing out but I never really looked at

226
00:08:53,419 --> 00:08:58,129
life expecting that it would be more

227
00:08:56,299 --> 00:09:01,009
difficult for me because I was a girl I

228
00:08:58,129 --> 00:09:02,809
I always grew up assuming that it was an
even playing field and and I never thought that somebody was out to get me because I was a girl or that somebody wanted to make things harder and I looking back now that you know I have lived a little bit of my life actually quite a bit I'm 38 years old now I think that you know I had the right expectations I I don't think that you know anybody was out there to make life harder for me I have chosen difficult paths and so of course there have been challenges and you know at times it has been hard but you know you face those
challenges as an individual you know

with you know with what you bring to

life in terms of your talents and your

ambitions and your skills and your

motivation and and really it you know

you shouldn't expect it to be harder or

full of hurdles just because you know

you're a girl or you're gonna be a young

woman soon so please do not have those

kinds of expectations I encourage you to

think that you know life is full of

opportunities for you just like your you

know your your male colleagues and just

going get them
thank you hi my name is Mackenzie

Beckwith and my questions for Terry how

do you use the restroom very carefully

know one of the most important one of

those important pieces of space

technology we have is our toilet and the

most important component in there is a

fan it it uses air flow or ventilation

to compensate for the lack of gravity

and that air flow is very important to

make sure everything goes in the correct

direction and doesn't come back in the

other direction so we have a hose and

basically a big can and in both of those
things like I said they have the air

00:10:52:710 --> 00:10:57:990
flow and you use them just like you

00:10:55:019 --> 00:10:59:909
would on earth and that air flow keeps

00:10:57:990 --> 00:11:02:310
everything in the right place and it's

00:10:59:909 --> 00:11:04:019
very important and when it breaks we're

00:11:02:309 --> 00:11:06:179
very interested in getting it repaired

00:11:04:019 --> 00:11:07:799
as quickly as possible so that's a big

00:11:06:179 --> 00:11:09:989
we kind of joke about it and everybody

00:11:07:799 --> 00:11:11,969
always asked that question but when we

00:11:09,990 --> 00:11:13,529
start going to the Moon and Mars and and

00:11:11,970 --> 00:11:16,620
living in the solar system away from

00:11:13,529 --> 00:11:18,779
Earth having a bathroom that works and

00:11:16,620 --> 00:11:20,100
and is able to be repaired very easily

00:11:18,779 --> 00:11:27,240
it's going to be really important that's

00:11:20,100 --> 00:11:29,279
a good question thank you hello my name
is Carlos I'm jr. and this question is

for Samantha can you do a flip

she's the expert doing a flip is easy

stopping at the right time is the hard

part thank you

hi my name is Antonia and my question is

for Terry how if at all and to what extent did language barriers hinder

operations aboard the space station

thanks San Antonio that's a very good

question because as you know it's the

International Space Station and we have

Samantha who's Italian we have a couple

of Americans here myself and Scott Kelly
and we have three Russians here and everybody has different levels of language ability but we're all able to speak each other's language except none of us can speak Italian but Samantha speaks everybody's language so that's okay.

I could say if I could say pizza and a few words and in Italian tiramisu yeah.

so but that that is something that we have to spend a lot of time preparing for before flight to learn Russian because we launched in a Russian Soyuz spacecraft and a lot of the comm that we
do over there is in the Russian language

so the ability to learn languages I think is an important skill for astronauts and in today's world as we carry out these international missions

Colonel verts and Captain Christopher

Eddy thank you both for being with us today we really appreciate your time we appreciate your knowledge and expertise as well and safe travels while you're at the space station and may you have a safe trip back to earth as well and we'd like to all give you a round of applause for all you do for business
thanks guys this is a lot of fun and

00:13:36,759 --> 00:13:40,169
this is just a this is a fun part of our

00:13:38,649 --> 00:13:42,250
day you had some great questions and

00:13:40,169 --> 00:13:48,629
hopefully we'll see you back in Texas

00:13:42,250 --> 00:13:48,629
here in a few months thanks again

00:13:52,679 --> 00:13:56,620
station this is Houston ACR that

00:13:55,059 --> 00:14:00,789
concludes the event thank you do you

00:13:56,620 --> 00:14:02,289
thank you thank you Smith Smithson

00:14:00,789 --> 00:14:04,120
Valley High School and representative

00:14:02,289 --> 00:14:05,589
Lamar Smith station please stand by

00:14:04,120 --> 00:14:08,370
while we reconfigure video and audio

00:14:05,590 --> 00:14:08,370
communications