1
00:00:00,436 --> 00:00:09,466
>> Endeavor, this is Houston
com check for Nick and Bob.

2
00:00:09,966 --> 00:00:13,686
>> Mike, you are loud and
clear on board, Node 2.

3
00:00:15,166 --> 00:00:16,706
>> Okay, Nick, I have you the same.

4
00:00:16,706 --> 00:00:19,236
You guys, we have you on the
big screen down here too.

5
00:00:19,986 --> 00:00:20,686
You look huge.

6
00:00:25,276 --> 00:00:25,686
>> We are.

7
00:00:26,046 --> 00:00:32,666
>> Alright, folks we appreciate
you participating in here.

8
00:00:33,196 --> 00:00:34,916
You're to-- oh, you-- oh, that's really good.

9
00:00:35,296 --> 00:00:37,116
You guys are, you look awesome.

10
00:00:37,116 --> 00:00:41,336
We've got some great questions here.

11
00:00:41,336 --> 00:00:42,836
This is a major competition.

12
00:00:42,836 --> 00:00:44,456

We got like thousands of questions.

13
00:00:44,456 --> 00:00:48,896
And these are just a few
that we selected to ask you.

14
00:00:49,266 --> 00:00:51,206
So we'll get right into it.

15
00:00:51,206 --> 00:00:57,726
First thing is, first question, it's
about the sounds and smells in space.

16
00:00:57,906 --> 00:01:03,736
Can you describe how the various parts of the
shuttle or the ISS, how they smell and some

17
00:01:03,736 --> 00:01:09,226
of the sounds that you hear that might describe
the environment further for your followers?

18
00:01:10,086 --> 00:01:15,766
>> Well that's a good question, Mike.

19
00:01:15,766 --> 00:01:17,176
Obviously, launch is really noisy.

20
00:01:17,176 --> 00:01:21,546
But once you're in the space, space
itself is really quiet but the inside

21
00:01:21,546 --> 00:01:24,036
of the spacecraft is never quiet.

22
00:01:24,126 --> 00:01:25,516
It's full of fan noise.

23
00:01:26,066 --> 00:01:31,926
Everywhere you go there's a fan circulating

air because there's no convection

24
00:01:32,136 --> 00:01:34,676
that on Earth is caused by gravity
and temperature differences.

25
00:01:34,676 --> 00:01:37,456
There's no convection up here
to circulate the air for you.

26
00:01:37,456 --> 00:01:39,126
So that's the biggest noise we noticed.

27
00:01:39,466 --> 00:01:41,696
How about smells, Bob, what
do you notice up here?

28
00:01:43,716 --> 00:01:48,136
>> Well I think one of the most
remarkable smells that you notice in space,

29
00:01:48,136 --> 00:01:53,226
everything smells relatively similar
except for food and then one other thing,

30
00:01:53,226 --> 00:01:57,426
and that second thing is the smell
that you smell when you actually go

31
00:01:57,426 --> 00:01:59,786
into a place that was recently at vacuum.

32
00:02:00,276 --> 00:02:03,016
I've heard it described as ozonish.

33
00:02:03,336 --> 00:02:07,286
Also being attributed to
the oxidation of aluminum.

34

00:02:07,286 --> 00:02:11,456
But the smell of coming in to an
area that had just been at vacuum,

35
00:02:11,596 --> 00:02:15,326
just been at space is really unique.

36
00:02:15,326 --> 00:02:19,996
And I haven't smelled it any place on
the ground just coming through the hatch

37
00:02:19,996 --> 00:02:25,356
or actually coming back in from an
EVA, you can smell the EVA crew members

38
00:02:25,356 --> 00:02:26,806
or spacewalkers when they come in.

39
00:02:26,806 --> 00:02:29,666
They really have a strong
smell, the smell of space.

40
00:02:30,736 --> 00:02:34,336
>> Now I know the both of you
guys very well and between the two

41
00:02:34,336 --> 00:02:35,606
of you there's a lot of brain power.

42
00:02:35,606 --> 00:02:38,266
And I just can't help to
follow up on that question.

43
00:02:38,266 --> 00:02:40,756
What do you think causes that smell of space?

44
00:02:40,756 --> 00:02:41,856
What do you think it is?

45

00:02:42,416 --> 00:02:48,006
Do you think it's actually
space or is it something else?

46
00:02:48,196 --> 00:02:51,396
>> I think the smell that you
get is actually all the hard work

47
00:02:51,526 --> 00:02:54,116
of the spacewalkers who are outside, you know.

48
00:02:54,116 --> 00:03:00,426
They spend 6 or 8 hours like yourself
Mike, 8 hours on the spacewalk

49
00:03:00,496 --> 00:03:02,666
on the last couple that you had on Hubble.

50
00:03:03,046 --> 00:03:07,096
They spend a lot of time outside working and
you can generate probably a pretty good odor.

51
00:03:07,096 --> 00:03:07,576
[Laughter]

52
00:03:07,576 --> 00:03:07,766
>> Okay.

53
00:03:07,936 --> 00:03:13,696
>> I have a way I like to describe
that smell to people, Mike.

54
00:03:13,696 --> 00:03:23,246
That smell to me is to metal what the smell
of toast is to bread, if that makes any sense.

55
00:03:23,246 --> 00:03:25,396
>> Yes, so it might be some
out gassing going on there.

56
00:03:25,956 --> 00:03:26,996
>> Alright, thanks very much.

57
00:03:26,996 --> 00:03:27,956
That's question number 1.

58
00:03:27,956 --> 00:03:30,966
Question number 2, we're
looking for funny moments.

59
00:03:31,046 --> 00:03:35,136
Were there any funny moments
particularly after you first get to space?

60
00:03:35,136 --> 00:03:39,556
You know anything, anything unusual,
anything funny when you unbuckle zero G

61
00:03:39,556 --> 00:03:44,786
for the first time, what was that like?

62
00:03:45,536 --> 00:03:49,246
>> I think we were both smiling
when we unbuckled.

63
00:03:49,246 --> 00:03:55,176
The funny things are when things that you
think you had just 10 seconds ago are gone.

64
00:03:55,176 --> 00:03:58,206
And there's one thing I lost, I
still haven't found it 5 days later.

65
00:03:58,686 --> 00:04:05,636
So we're too busy to really, really
have our humors up at full speed.

66
00:04:05,996 --> 00:04:11,466
But it is amusing to watch things and people

fly around as though it were their first time

67
00:04:11,466 --> 00:04:17,616
in a new environment and for many of us,
it is a first time in a new environment.

68
00:04:18,286 --> 00:04:21,686
>> Yeah, I think one of the things I
wouldn't describe as you know kind of funny

69
00:04:21,686 --> 00:04:26,446
in a joking sort of a sense but what
was really fun for me on this flight was

70
00:04:26,446 --> 00:04:29,236
to see folks get to do things
for the first time.

71
00:04:29,236 --> 00:04:34,916
And so to see Terry Verts our pilot start
floating around and try to work his way

72
00:04:34,916 --> 00:04:41,826
out of his suit and deal with the challenges
of weightlessness was fun to watch for me.

73
00:04:41,826 --> 00:04:44,546
And it was also fun for me to
share that experience with him

74
00:04:44,546 --> 00:04:46,796
as he went through it for the first time.

75
00:04:46,796 --> 00:04:52,246
And for Nick going out the hatch, it was fun for
me to watch him go out on his first spacewalk

76
00:04:52,586 --> 00:04:55,136
and experience that for the first time.

77
00:04:55,136 --> 00:04:57,606
So it's not really funny in the comical sense.

78
00:04:58,176 --> 00:05:01,196
Nick didn't do anything comical during the EVA.

79
00:05:01,256 --> 00:05:04,136
But it was fun for me to be
there for the first time.

80
00:05:04,136 --> 00:05:07,226
A couple of folks got to do those things.

81
00:05:08,056 --> 00:05:11,056
>> That's awesome and kind
of following up to it.

82
00:05:11,056 --> 00:05:13,786
Bob started talking about with the spacewalk.

83
00:05:13,786 --> 00:05:17,436
For both of you, can you describe
what the Earth looks like?

84
00:05:17,436 --> 00:05:20,736
I mean through the windows of
the spaceship is one thing.

85
00:05:20,736 --> 00:05:27,996
But what was your impression of
seeing it from the spacewalk?

86
00:05:28,336 --> 00:05:32,836
>> Well Mike, I think there are two things that
are really impressive during the spacewalk.

87
00:05:33,166 --> 00:05:36,446
The first one is just the
depth of the atmosphere.

88
00:05:36,446 --> 00:05:40,366
And so you can see the clouds
and the shadow that they cast.

89
00:05:40,366 --> 00:05:44,086
I don't know if you've ever had the
experience of being on the ground

90
00:05:44,086 --> 00:05:48,476
and then had an airplane fly over
you or had a dense cloud go over you.

91
00:05:48,476 --> 00:05:52,476
But that shadow that it cast on
the ground and then that something

92
00:05:52,476 --> 00:05:54,826
that you can really see the
depth of the atmosphere

93
00:05:54,826 --> 00:05:57,046
and notice how high the clouds actually are.

94
00:05:57,436 --> 00:06:00,226
You can also see lightning,
you can see cities at night.

95
00:06:00,676 --> 00:06:04,346
All that remarkableness that you can
look out the window and kinda see

96
00:06:04,346 --> 00:06:08,986
through just a little small portal, you
kinda have the whole horizon out in front

97
00:06:08,986 --> 00:06:10,756
of you through your space helmet.

98

00:06:11,106 --> 00:06:13,886
And it's really remarkable
to just to take that all in.

99
00:06:13,886 --> 00:06:17,506
You have to take mental pictures
because even the cameras

100
00:06:17,506 --> 00:06:22,946
that we have don't have a wide enough
field of view to take all of that in.

101
00:06:23,316 --> 00:06:29,976
And the other remarkable part of going out
for the spacewalks is again just thinking

102
00:06:29,976 --> 00:06:33,156
about all the people who come
together to make it all possible.

103
00:06:33,156 --> 00:06:36,766
And so it took, it takes a giant
team on the ground to get us

104
00:06:36,766 --> 00:06:38,366
into space and to make it all happen.

105
00:06:38,366 --> 00:06:40,916
I know you had a great support
team on your previous flights

106
00:06:40,916 --> 00:06:46,806
and we've had a huge support team and just to
know all those people are rewarded and excited

107
00:06:46,806 --> 00:06:56,246
by how things are going during the
spacewalk is also a pretty neat thing.

108
00:06:56,246 --> 00:07:03,226

>> Nick, you want to describe your first look at the Earth from the helmet visor.

109
00:07:03,996 --> 00:07:06,416
>> It's really hard to describe, Mike, I'll try.

110
00:07:06,896 --> 00:07:11,146
We went out of the hatch in the dark so I couldn't see anything at first except the

111
00:07:11,146 --> 00:07:15,016
under side of Space Station Endeavor which were lit in flood lights.

112
00:07:15,656 --> 00:07:16,836
And that was beautiful enough.

113
00:07:17,296 --> 00:07:21,516
We got working and at some point in that I think Steve warned us

114
00:07:21,576 --> 00:07:24,926
that our first sunrise was coming up and I looked towards the horizon

115
00:07:24,926 --> 00:07:27,786
and there was this beautiful blue glow coming towards us.

116
00:07:28,416 --> 00:07:30,576
And there isn't much time to watch it.

117
00:07:30,576 --> 00:07:35,906
But the once or twice I could watch it during the spacewalk yesterday, it was just amazing.

118
00:07:35,906 --> 00:07:37,486
The view is panoramic as Bob said.

119

00:07:37,486 --> 00:07:41,256
You can, in the helmet you can see so much
more than you can through shuttle windows

120
00:07:41,256 --> 00:07:44,666
because you can see almost
a 180 degrees field of view.

121
00:07:45,196 --> 00:07:51,566
But the blue spreads across the horizon and
towards you and then turns orange and red

122
00:07:51,566 --> 00:07:55,396
and the sun pokes up and the space
station is bathed in a brilliant light.

123
00:07:56,126 --> 00:07:59,496
It all happens extremely quickly and
of course it happens 16 times a day.

124
00:07:59,496 --> 00:08:02,096
And it's a really stunning
sight from anywhere up here

125
00:08:02,486 --> 00:08:06,426
but especially, from the inside of a space suit.

126
00:08:08,016 --> 00:08:08,606
>> Nice job.

127
00:08:08,606 --> 00:08:11,236
It's hard to describe it but
you guys did really well.

128
00:08:11,236 --> 00:08:16,216
And following up, we have another question
related to what you see during a spacewalk.

129
00:08:16,216 --> 00:08:18,556
Did you notice any stars

while you're spacewalking?

130
00:08:23,116 --> 00:08:30,976
>> I did see some stars, Mike, but they are so
small compared to actually being able to look

131
00:08:30,976 --> 00:08:33,916
at the Earth and see the lightning
or to see the cities at night.

132
00:08:34,066 --> 00:08:40,166
The stars are actually very dim compared to
the lit up space station or the space shuttle.

133
00:08:40,566 --> 00:08:45,116
We did see a very good view of the moon
and like I said, the cities at night

134
00:08:45,116 --> 00:08:49,506
and the lightning show that you get through
the atmosphere is just really remarkable.

135
00:08:49,776 --> 00:08:52,016
The stars are a little bit tougher to see.

136
00:08:52,016 --> 00:08:55,156
You can break out the colors
on individual stars.

137
00:08:55,526 --> 00:09:01,676
But they're hard to compare to
just all you can see on the ground.

138
00:09:02,186 --> 00:09:11,276
>> As Bob mentioned, the moon, I did
watch the moon rise behind Bob yesterday.

139
00:09:11,276 --> 00:09:14,836
Once it came up through the atmosphere,
I wasn't sure what I was seeing

140
00:09:14,836 --> 00:09:16,846
that literally rose through the atmosphere.

141
00:09:16,846 --> 00:09:19,566
So it was a white moon behind a blue haze.

142
00:09:20,156 --> 00:09:25,226
And then all of a sudden it was up in
the clear black of space and I could tell

143
00:09:25,226 --> 00:09:26,746
that it really was the moon
I've been looking at.

144
00:09:26,746 --> 00:09:28,466
That was really a remarkable thing to see.

145
00:09:28,466 --> 00:09:29,906
But I didn't see any stars yesterday.

146
00:09:29,906 --> 00:09:35,666
I'll look for them tomorrow.

147
00:09:35,666 --> 00:09:38,156
>> Those are great descriptions of
what you guys saw out there, you know.

148
00:09:38,156 --> 00:09:39,656
It's just an incredible experience.

149
00:09:39,656 --> 00:09:41,676
I appreciate you sharing that
with us and like you said,

150
00:09:41,676 --> 00:09:44,016
you got a couple more opportunities
to make some more memories.

151
00:09:44,016 --> 00:09:48,566
So great job on your first EVA and good
luck on the next couple we'll be watching.

152
00:09:49,316 --> 00:09:53,706
Onto a slightly different topic
now, how are you sleeping?

153
00:09:53,706 --> 00:09:58,976
How are your sleep patterns up there and how
are your dreams affected by being in space?

154
00:09:59,516 --> 00:10:04,946
[Pause]

155
00:10:05,446 --> 00:10:05,976
>> Well, that.

156
00:10:06,376 --> 00:10:10,156
Sleep patterns aren't affected too
much with a couple of exceptions.

157
00:10:10,256 --> 00:10:14,166
The first is we have a huge, what
we call a sleep shift to get here.

158
00:10:14,166 --> 00:10:18,976
We needed to launch at 4:30 in the morning
eastern time and because of the amount

159
00:10:18,976 --> 00:10:24,596
of work you have to do when you get to the
space, it takes about a whole afternoon's worth

160
00:10:24,596 --> 00:10:27,506
of work to convert the shuttle
into something that's appropriate

161
00:10:27,506 --> 00:10:28,906

for living in once you've launched.

162
00:10:29,526 --> 00:10:32,396
We needed to make that just
after our launch time.

163
00:10:33,066 --> 00:10:38,516
So, we were sleep shifted by about 9 or 10
hours to achieve that and that took us a week

164
00:10:38,516 --> 00:10:41,196
or two really to get comfortable
with that huge sleep shift.

165
00:10:41,196 --> 00:10:45,656
And we're still roughly on that sleep cycle
sleeping when people in North America are awake

166
00:10:45,766 --> 00:10:47,376
and we're awake when they're asleep.

167
00:10:48,346 --> 00:10:52,766
But up here on station, now that
we've adapted to that sleep schedule,

168
00:10:53,106 --> 00:10:54,386
we're more or less sleeping normally.

169
00:10:54,386 --> 00:10:57,326
There just isn't as much
time for it as we'd like.

170
00:10:58,496 --> 00:11:05,046
>> For us Mike, it was like making a trip
to Tokyo right before we launched and we did

171
00:11:05,156 --> 00:11:12,016
about 3 days before the lunch we did the
equivalent of transferring to almost Tokyo time,

172
00:11:12,376 --> 00:11:17,326
Tokyo, Japan and going through that is gonna
happen on the other end when we come back.

173
00:11:17,466 --> 00:11:20,916
So, I'm sure we'll not only be tired
from the mission but we'll be tired

174
00:11:20,916 --> 00:11:27,826
from those two big sleep shifts as
Nick described when we get back.

175
00:11:28,576 --> 00:11:33,076
>> Well you have plenty of time to
catch up when you get back to Earth.

176
00:11:33,076 --> 00:11:39,476
Another question now comes from the Los Primosos
[phonetic] and I'm probably mispronouncing that,

177
00:11:39,976 --> 00:11:44,436
6th graders at the Sherman Middle
School in Madison, Wisconsin.

178
00:11:44,436 --> 00:11:46,726
So, this comes from a bunch
of 6th graders so be prepared.

179
00:11:46,726 --> 00:11:50,396
They wanna know what do you weigh in space?

180
00:11:51,516 --> 00:11:56,766
[Pause]

181
00:11:57,266 --> 00:12:01,676
>> Well, for a bunch of 6th graders they
asked some pretty tough questions for us.

182
00:12:01,986 --> 00:12:07,546

You know, I think Nick and I probably have well
over 30 years of education between the two of us

183
00:12:07,916 --> 00:12:12,756
and getting questions from 6th graders is
always the most challenging of them all

184
00:12:12,756 --> 00:12:16,976
but I think Nick just demonstrated and
I think that we both could show you,

185
00:12:19,836 --> 00:12:23,946
that we don't weigh much of
anything while we're up here.

186
00:12:24,516 --> 00:12:30,726
[Pause]

187
00:12:31,226 --> 00:12:32,316
>> Very nice demonstration.

188
00:12:32,696 --> 00:12:36,576
>> But you know the 6th graders will probably be
interested to-- probably be interested to hear,

189
00:12:36,576 --> 00:12:41,566
Mike, that although you don't weigh anything,
you still have mass, you still have inertia.

190
00:12:41,566 --> 00:12:45,116
So if you start something moving like if I
take Bob and I move him towards the camera,

191
00:12:45,116 --> 00:12:46,456
it takes me a second to speed him up.

192
00:12:47,056 --> 00:12:52,316
I have to take that same second to slow him down
because he is massive and just as we all are,

193
00:12:52,546 --> 00:12:55,926
he'll keep moving in one direction as
long as there's no force acting on him.

194
00:12:55,926 --> 00:12:58,266
So there's really some interesting
physics to observe up here,

195
00:12:58,266 --> 00:13:01,026
not just the weight but also the mass.

196
00:13:01,176 --> 00:13:01,696
Thanks Bob.

197
00:13:02,316 --> 00:13:04,546
>> Well done, boys.

198
00:13:04,546 --> 00:13:10,176
Moving on to a different topic, your meals.

199
00:13:10,176 --> 00:13:10,756
We have this.

200
00:13:10,826 --> 00:13:19,736
This comes from Chef KC Wilson and here she
asked, the chef asked, what your meals consists

201
00:13:19,736 --> 00:13:23,406
of and is there anything
specific that you asked to bring

202
00:13:23,406 --> 00:13:30,906
up that you're eating that's
maybe little bit different?

203
00:13:31,776 --> 00:13:36,826
>> Well, Mike, I think there's always a lot of
interest in what type of food we actually eat

204
00:13:36,826 --> 00:13:42,276
on orbit and it's a mixture of kind of
camping food and military rations and kind

205
00:13:42,276 --> 00:13:47,316
of dehydrated things and so we've kinda got just
about everything that you have on the ground,

206
00:13:47,356 --> 00:13:52,466
just in a slightly different format that we
either warm up or add water to and then warm up.

207
00:13:52,536 --> 00:13:54,546
So, those are kind of the
two things that we have.

208
00:13:54,546 --> 00:14:02,186
So, nothing too fancy as far as chefs go because
we don't get to use all the fancy techniques,

209
00:14:02,186 --> 00:14:06,036
we just get to add water or add
heat and that's just about it.

210
00:14:06,336 --> 00:14:12,096
For me, I brought up some chocolates that I
like and I also brought up some breakfast rolls

211
00:14:12,096 --> 00:14:15,896
and some fresh fruit 'cause one of the things
that you don't have very much of up here,

212
00:14:16,216 --> 00:14:21,666
like I said with all rehydrated or food that you
just warm up, you don't get a lot of vegetables

213
00:14:21,826 --> 00:14:28,056
so it is nice to taste citrus and
taste fresh vegetables during the week

214
00:14:28,056 --> 00:14:29,496
or two that you're actually on orbit.

215
00:14:29,496 --> 00:14:32,246
And when we arrive with the--
for the station crew,

216
00:14:32,506 --> 00:14:35,406
we actually brought them
quite a bit of fresh food.

217
00:14:35,746 --> 00:14:39,056
I don't think you can see anymore
but here, actually you can.

218
00:14:39,056 --> 00:14:41,946
There's some of it stored right
above Nick's head up here.

219
00:14:41,946 --> 00:14:45,916
There are some oranges and some apples
and some avocados and some lemons.

220
00:14:46,006 --> 00:14:51,316
So a lot of fresh fruits that only get delivered
when there's a progress vehicle arriving

221
00:14:51,316 --> 00:14:53,976
or a space shuttle arrives to
drop some of these things off.

222
00:14:54,516 --> 00:15:03,996
[Pause]

223
00:15:04,496 --> 00:15:09,596
>> Okay, next question comes
from PO-Trust-007 [phonetic]

224
00:15:09,716 --> 00:15:14,196

and they wanna know how long
do you prepare for your flight.

225
00:15:14,196 --> 00:15:19,616
How long do you guys prepare
for your space flight?

226
00:15:21,216 --> 00:15:23,286
>> Well we've been training
for about a year, Mike.

227
00:15:24,556 --> 00:15:30,716
We've got assigned for this mission I
think in December of 2008 and so we trained

228
00:15:30,716 --> 00:15:32,176
for just over a year before we launched.

229
00:15:32,516 --> 00:15:34,706
But in a way we've been training
for these for all of our lives.

230
00:15:34,796 --> 00:15:36,436
Bob and I are both engineers.

231
00:15:36,966 --> 00:15:42,796
Bob is an air force flight test engineer and
I'm a civilian mechanical engineer as you know

232
00:15:42,796 --> 00:15:47,436
because we were at school together but we
have literally been training to be astronauts

233
00:15:47,776 --> 00:15:51,616
for the last 30 or 40 years
through our education.

234
00:15:52,146 --> 00:15:55,546
One of the things I was struck by
yesterday when I was doing my spacewalk is

235
00:15:55,626 --> 00:16:00,736
that I think you probably can't
feel really comfortable hanging

236
00:16:00,986 --> 00:16:04,326
from a space station 200
miles above the planet going

237
00:16:04,326 --> 00:16:08,276
about 18,000 miles an hour unless
you're really confident in the physics

238
00:16:08,276 --> 00:16:10,746
that you'll just keep going around
the planet and won't fall so,

239
00:16:10,746 --> 00:16:12,976
in a way I think we've been
training a long, long time.

240
00:16:13,516 --> 00:16:18,736
[Pause]

241
00:16:19,236 --> 00:16:24,316
>> Yeah, all that education that you
guys have between you comes in handy.

242
00:16:24,816 --> 00:16:31,016
Next question is from Paonida
[phonetic] and the question is what types

243
00:16:31,126 --> 00:16:33,726
of experiments do you have on board?

244
00:16:33,726 --> 00:16:34,856
What experiments are you guys doing?

245
00:16:34,856 --> 00:16:39,126

I know you're busy with lots of stuff
but do you have any time for experiments?

246
00:16:42,536 --> 00:16:43,236
What are you doing?

247
00:16:43,686 --> 00:16:47,796
>> Well, Mike, we do have a couple
of experiments with us and most

248
00:16:47,796 --> 00:16:51,426
of them are biological in nature
really as far as our flight goes.

249
00:16:51,426 --> 00:16:54,716
The space station is doing
quite a bit of additional work.

250
00:16:55,376 --> 00:17:00,306
This is an assembly mission to the space
station and so we're primarily focused on that

251
00:17:00,306 --> 00:17:05,156
but the experiments that we do have,
we have one which is an experiment

252
00:17:05,156 --> 00:17:12,126
to actually control viruses and so we have a--
they're in a contained vessel and we cycle them

253
00:17:12,126 --> 00:17:17,526
through their process trying to activate them
and then deactivate them inside their canister

254
00:17:17,526 --> 00:17:22,126
to understand what effects
gravity has on those viruses.

255
00:17:22,476 --> 00:17:24,736
We also fly a big freezer.

256
00:17:25,116 --> 00:17:31,366
It's called the glacier and it keeps biological
samples really cold and also allows us

257
00:17:31,366 --> 00:17:36,626
to transfer new science materials either to
the station or back down from the station

258
00:17:36,626 --> 00:17:42,476
and so just the day that we arrived I opened
up that freezer and exchanged some samples

259
00:17:42,636 --> 00:17:46,456
that Jeff Williams, the commander of the
space station right now, had on board

260
00:17:46,766 --> 00:17:52,186
and swapped those out and I know there'll be a
large number of blood samples and other samples

261
00:17:52,186 --> 00:17:55,596
from the crews that have been on orbit
to make sure that they've been healthy

262
00:17:55,916 --> 00:17:57,886
and understand the effects of gravity

263
00:17:57,886 --> 00:18:01,466
on their health during their 6
months stay on the space station.

264
00:18:02,626 --> 00:18:09,146
>> Boys, I think we have
time for one more question

265
00:18:09,236 --> 00:18:13,476
and this one is pertinent
to our twittering in space.

266
00:18:13,846 --> 00:18:15,616
This comes from Rich V. Miller.

267
00:18:15,746 --> 00:18:20,066
He wants to know what kind of computer
do you use to send your tweets and Nick,

268
00:18:20,066 --> 00:18:22,246
are you able to tweet from space.

269
00:18:25,476 --> 00:18:31,156
>> As you know, Mike, I was tweeting everyday
before we launched and unfortunately,

270
00:18:31,156 --> 00:18:34,186
I haven't had enough time
to do too much tweeting

271
00:18:34,186 --> 00:18:36,356
from up here although I will
send another one out today.

272
00:18:36,926 --> 00:18:39,336
When I send a tweet I have
to email it to a colleague

273
00:18:39,336 --> 00:18:41,866
on the ground who's agreed to post it for me.

274
00:18:42,176 --> 00:18:45,166
But when folks on the space
station here send a tweet,

275
00:18:45,166 --> 00:18:48,756
they're able to do it directly
via a live computer link

276
00:18:48,756 --> 00:18:50,886
with a machine down in mission control.

277
00:18:51,466 --> 00:18:56,406
So, they're actually able to directly
if somewhat slowly post their own tweets

278
00:18:56,406 --> 00:19:04,106
and that's something that TJ Creamer, the
ISS flight engineer up here now has just set

279
00:19:04,216 --> 00:19:06,196
up with help from colleagues on the grounds.

280
00:19:06,196 --> 00:19:08,676
So that's a very exciting
development for the tweeting community.

281
00:19:10,136 --> 00:19:14,716
>> Well we know you're busy, Nick
and anything you can send out,

282
00:19:14,716 --> 00:19:21,176
I know the folks will be interested in reading
eventually and we're out of time actually

283
00:19:21,176 --> 00:19:24,246
and I know you guys are busy
and have something else to do.

284
00:19:24,646 --> 00:19:28,876
It's been a real honor for me to work as
your CAPCOM and to talk to you this evening.

285
00:19:29,166 --> 00:19:34,436
It's been a real blast and you guys look great
and you're doing a great job and we're all proud

286
00:19:34,436 --> 00:19:36,046
of everything you guys are doing.

287

00:19:36,046 --> 00:19:41,236
Anything you wanna say to wrap up, you
wanna say hi to anybody or thank anyone

288
00:19:41,236 --> 00:19:45,806
or what do you got, closing thoughts first.

289
00:19:46,396 --> 00:19:51,056
>> First of all, we like to thank
everybody but we won't thank everybody.

290
00:19:51,056 --> 00:19:52,866
It's bit like an Oscar speech if you do that.

291
00:19:53,306 --> 00:20:00,116
I guess we'd like to thank the people who got
us here, our trainers in Houston and the people

292
00:20:00,116 --> 00:20:03,736
at Neutral Buoyancy Lab who make
the underwater training possible

293
00:20:04,386 --> 00:20:06,806
and flight control team on the ground.

294
00:20:07,066 --> 00:20:09,376
Those are the really important groups to thank.

295
00:20:09,846 --> 00:20:14,556
I'd like to thank my family too for
putting up with my, what should we call it,

296
00:20:14,616 --> 00:20:16,556
business travel which can be demanding.

297
00:20:20,256 --> 00:20:24,916
>> And Nick covered the folks
that have got us to this point

298

00:20:24,916 --> 00:20:27,486
and also been supporting us
while we're here on orbit.

299
00:20:27,486 --> 00:20:33,026
I'd also like to thank my family and
my wife Megan who's also a CAPCOM

300
00:20:33,026 --> 00:20:36,176
for some other missions and
flew with you Mike back

301
00:20:36,686 --> 00:20:40,586
to the space telescope a little
bit, a little while back.

302
00:20:40,586 --> 00:20:43,416
So I'd like to thank her specifically as well.

303
00:20:46,986 --> 00:20:48,486
>> Alright guys, great job.

304
00:20:48,486 --> 00:20:49,766
This concludes the event.

305
00:20:50,006 --> 00:20:51,466
Good luck with the rest of the mission.

306
00:20:51,466 --> 00:20:53,166
We'll be talking with you and
looking forward to seeing you