



1
00:00:06,860 --> 00:00:03,649
hello I'm Sonny Williams I'm up here on

2
00:00:08,810 --> 00:00:06,870
the International Space Station no want

3
00:00:11,810 --> 00:00:08,820
to say where we are so right now we're

4
00:00:13,820 --> 00:00:11,820
in the Japanese laboratory it's one

5
00:00:15,560 --> 00:00:13,830
laboratory out of many here on the

6
00:00:18,290 --> 00:00:15,570
International Space Station it's

7
00:00:19,790 --> 00:00:18,300
actually on the left-hand side if I was

8
00:00:22,099 --> 00:00:19,800
International Space Station and I was

9
00:00:23,540 --> 00:00:22,109
flying through space like this my left

10
00:00:35,150 --> 00:00:23,550
hand would be where the Japanese

11
00:00:36,950 --> 00:00:35,160
laboratory is so now again we're on the

12
00:00:38,840 --> 00:00:36,960
right hand side all the way on the right

13
00:00:41,780 --> 00:00:38,850

of the International Space Station this

14

00:00:43,970 --> 00:00:41,790

is Columbus the European module it has

15

00:00:46,010 --> 00:00:43,980

science experiments all over you can see

16

00:00:53,189 --> 00:00:46,020

it looks a little bit crowded and here

17

00:00:57,930 --> 00:00:56,400

here we are in the u.s. laboratory again

18

00:01:00,750 --> 00:00:57,940

this is a laboratory with science

19

00:01:03,270 --> 00:01:00,760

experience on all of the walls here all

20

00:01:05,520 --> 00:01:03,280

sorts of stuff that we do and one of the

21

00:01:07,499 --> 00:01:05,530

things we also do is we exercise we have

22

00:01:10,499 --> 00:01:07,509

some exercise equipment on board the

23

00:01:13,680 --> 00:01:10,509

space station we need to do that because

24

00:01:15,870 --> 00:01:13,690

we lose bone density and muscle mass

25

00:01:18,320 --> 00:01:15,880

while we're up here and that's a result

26

00:01:21,899 --> 00:01:18,330

of not having to fight against gravity

27

00:01:24,029 --> 00:01:21,909

so how we keep ourselves in shape are

28

00:01:26,399 --> 00:01:24,039

with a bike a treadmill and a

29

00:01:29,160 --> 00:01:26,409

weightlifting machine this is the bike

30

00:01:30,660 --> 00:01:29,170

you notice the clip the pedals so all

31

00:01:33,109 --> 00:01:30,670

you need to do is actually clip your

32

00:01:35,820 --> 00:01:33,119

feet in and then you can start pedaling

33

00:01:38,130 --> 00:01:35,830

you don't need a seat because you don't

34

00:01:40,230 --> 00:01:38,140

sit down actually I haven't sat down for

35

00:01:41,520 --> 00:01:40,240

six months now so you don't need any any

36

00:01:43,889 --> 00:01:41,530

type of seat just make sure you're

37

00:01:45,449 --> 00:01:43,899

you're held in with your pedals you

38

00:01:47,520 --> 00:01:45,459

probably see that the bike bounces

39

00:01:50,850 --> 00:01:47,530

around a little bit as I move it it's

40

00:01:54,930 --> 00:01:50,860

not steady and held to the wall firmly

41

00:01:56,609 --> 00:01:54,940

and the reason for that is the space

42

00:01:58,230 --> 00:01:56,619

station is pretty big you saw that

43

00:02:00,630 --> 00:01:58,240

there's also solar arrays on the space

44

00:02:02,099 --> 00:02:00,640

station if we start putting any forces

45

00:02:04,050 --> 00:02:02,109

into the space station it's going to

46

00:02:06,959 --> 00:02:04,060

make those solar arrays bounce around a

47

00:02:08,910 --> 00:02:06,969

little bit so to prevent that the

48

00:02:10,410 --> 00:02:08,920

machines bounce around a little bit move

49

00:02:13,229 --> 00:02:10,420

around a little bit and that way we

50

00:02:15,000 --> 00:02:13,239

don't put any forces on to the structure

51
00:02:18,390 --> 00:02:15,010
of the spacecraft out to the solar

52
00:02:24,740 --> 00:02:18,400
arrays alright a little farther on come

53
00:02:30,330 --> 00:02:28,470
I'm here with my two buddies in the

54
00:02:33,570 --> 00:02:30,340
airlock actually these are two

55
00:02:36,150 --> 00:02:33,580
spacesuits that are ready primed up to

56
00:02:37,830 --> 00:02:36,160
go outside as we call it to go do a

57
00:02:40,110 --> 00:02:37,840
spacewalk in case we have to do any

58
00:02:42,450 --> 00:02:40,120
thing outside some of the things we do

59
00:02:45,660 --> 00:02:42,460
Outsiders just like inside repairs we

60
00:02:48,000 --> 00:02:45,670
have a lot of electrical boxes and

61
00:02:49,860 --> 00:02:48,010
machinery and solar arrays in fact that

62
00:02:52,470 --> 00:02:49,870
I talked about earlier that are outside

63
00:02:55,710 --> 00:02:52,480

and sometimes they don't work quite

64

00:02:58,140 --> 00:02:55,720

right remember space is really cold and

65

00:03:00,480 --> 00:02:58,150

really hot and it's also the vacuum of

66

00:03:02,430 --> 00:03:00,490

space with no pressure and so some of

67

00:03:04,860 --> 00:03:02,440

the equipment doesn't work well all the

68

00:03:07,080 --> 00:03:04,870

time so we might have to go out and do a

69

00:03:10,200 --> 00:03:07,090

spacewalk right behind me is actually

70

00:03:11,790 --> 00:03:10,210

the hatch that you go out into space and

71

00:03:13,200 --> 00:03:11,800

right now we have it filled up with a

72

00:03:16,290 --> 00:03:13,210

couple other spacesuits because we've

73

00:03:18,330 --> 00:03:16,300

got four of them up here and some of our

74

00:03:20,460 --> 00:03:18,340

tools but right behind here is the hatch

75

00:03:23,760 --> 00:03:20,470

in which you actually go right outside

76
00:03:25,470 --> 00:03:23,770
into the vacuum of space the spacesuit

77
00:03:28,230 --> 00:03:25,480
is pretty big as you can see it's like

78
00:03:30,300 --> 00:03:28,240
being a football player part of the

79
00:03:32,520 --> 00:03:30,310
reason it's so big and bulky is because

80
00:03:34,620 --> 00:03:32,530
of this backside of this backpack it's

81
00:03:36,360 --> 00:03:34,630
like going on a hike with a backpack but

82
00:03:39,150 --> 00:03:36,370
the backpack and the suit weighs about

83
00:03:40,980 --> 00:03:39,160
300 pounds luckily in space

84
00:03:43,320 --> 00:03:40,990
nothing really weighs anything so you

85
00:03:45,030 --> 00:03:43,330
don't feel that it's so heavy but we

86
00:03:48,120 --> 00:03:45,040
need to have such a big suit because

87
00:03:50,699 --> 00:03:48,130
that guy back there is essentially the

88
00:03:53,190 --> 00:03:50,709

heart of the space craft this I call

89

00:03:55,260 --> 00:03:53,200

this actually a spacecraft it has all

90

00:03:57,630 --> 00:03:55,270

the oxygen for you it has all the carbon

91

00:04:00,120 --> 00:03:57,640

dioxide removal system for you it also

92

00:04:01,920 --> 00:04:00,130

has a heating and cooling system to make

93

00:04:04,229 --> 00:04:01,930

sure regulate our body temperatures

94

00:04:07,170 --> 00:04:04,239

while we're outside it also has a

95

00:04:09,000 --> 00:04:07,180

computer so it tells you on a display

96

00:04:10,590 --> 00:04:09,010

here if there's anything that is going

97

00:04:12,180 --> 00:04:10,600

wrong with the suit if we're running out

98

00:04:15,240 --> 00:04:12,190

of oxygen if we have too much carbon

99

00:04:17,970 --> 00:04:15,250

dioxide or any type of electrical

100

00:04:20,310 --> 00:04:17,980

problem so it's a pretty awesome little

101
00:04:22,950 --> 00:04:20,320
spacecraft and actually got to go out

102
00:04:24,650 --> 00:04:22,960
use my spacecraft little spacecraft a

103
00:04:29,330 --> 00:04:24,660
couple times and it worked like a charm

104
00:04:33,990 --> 00:04:31,500
you might want to see what the helmet

105
00:04:35,040 --> 00:04:34,000
looks like it's pretty cool too we don't

106
00:04:38,030 --> 00:04:35,050
usually go out like this

107
00:04:42,740 --> 00:04:38,040
so usually conceived in the helmets open

108
00:04:44,820 --> 00:04:42,750
so you can see what it looks like inside

109
00:04:47,190 --> 00:04:44,830
somebody's little head would be inside

110
00:04:48,720 --> 00:04:47,200
of here so you can see you can turn your

111
00:04:50,280 --> 00:04:48,730
head all the way around while you're

112
00:04:54,150 --> 00:04:50,290
inside of there but the helmet stays

113
00:04:57,150 --> 00:04:54,160

still so that's determined your how far

114

00:04:58,770 --> 00:04:57,160

you could see and it's usually pretty

115

00:05:00,960 --> 00:04:58,780

sunny out there so we have to wear our

116

00:05:03,090 --> 00:05:00,970

sunglasses and this is our sunglasses