
SLS
NASA

1
00:00:03,590 --> 00:00:01,429
[Music]

2
00:00:05,269 --> 00:00:03,600
hi i'm shane kimbrough nasa astronaut

3
00:00:06,230 --> 00:00:05,279
and commander of the international space

4
00:00:07,990 --> 00:00:06,240
station

5
00:00:10,470 --> 00:00:08,000
to all of you back on earth in the super

6
00:00:12,549 --> 00:00:10,480
bowl host city of houston welcome we

7
00:00:15,240 --> 00:00:12,559
hope you enjoy our great city and have a

8
00:00:17,510 --> 00:00:15,250
fabulous super bowl week

9
00:00:19,990 --> 00:00:17,520
[Music]

10
00:00:21,269 --> 00:00:20,000
hi i'm nasa astronaut victor glover and

11
00:00:22,550 --> 00:00:21,279
i'm here in the countermeasures training

12
00:00:24,150 --> 00:00:22,560
laboratory

13
00:00:25,670 --> 00:00:24,160

just like physical fitness is important

14
00:00:27,429 --> 00:00:25,680
for all of the athletes participating in

15
00:00:29,750 --> 00:00:27,439
the super bowl it's important for

16
00:00:31,429 --> 00:00:29,760
astronauts who work and live in space

17
00:00:32,950 --> 00:00:31,439
to fight the effects of microgravity we

18
00:00:35,590 --> 00:00:32,960
train on special devices like this

19
00:00:40,229 --> 00:00:35,600
exercise bike a special treadmill and a

20
00:00:43,990 --> 00:00:42,470
hi i'm jennifer pruitt i work with the

21
00:00:45,510 --> 00:00:44,000
environmental control and life support

22
00:00:47,590 --> 00:00:45,520
systems on the international space

23
00:00:49,510 --> 00:00:47,600
station our resources are very precious

24
00:00:50,549 --> 00:00:49,520
to us in space so we recycle everything

25
00:00:52,150 --> 00:00:50,559
that we can

26
00:00:53,990 --> 00:00:52,160
in the past eight years we've made

27
00:00:56,470 --> 00:00:54,000
enough clean water that we could give a

28
00:00:59,430 --> 00:00:56,480
water bottle to every fan in the stadium

29
00:01:01,670 --> 00:00:59,440
every day for a year

30
00:01:04,469 --> 00:01:01,680
i'm here at nasa's neutral boise

31
00:01:07,109 --> 00:01:04,479
laboratory in houston texas

32
00:01:09,990 --> 00:01:07,119
the mbl is a supersized pool that holds

33
00:01:11,670 --> 00:01:10,000
an impressive 6.2 million gallons of

34
00:01:16,760 --> 00:01:11,680
water

35
00:01:21,749 --> 00:01:18,710
[Music]

36
00:01:23,990 --> 00:01:21,759
here we scout upcoming missions

37
00:01:25,830 --> 00:01:24,000
rehearse plays and watch tape so

38
00:01:27,190 --> 00:01:25,840

everything is perfect for game time and

39
00:01:32,390 --> 00:01:27,200
space

40
00:01:34,069 --> 00:01:32,400
requires tons of practice and training

41
00:01:35,910 --> 00:01:34,079
state-of-the-art training helps football

42
00:01:37,749 --> 00:01:35,920
teams win the big game

43
00:01:39,330 --> 00:01:37,759
and tomorrow space pioneers journey to

44
00:01:44,469 --> 00:01:39,340
mars

45
00:01:47,030 --> 00:01:44,479
[Music]

46
00:01:48,789 --> 00:01:47,040
hey there i'm dave piattak an engineer

47
00:01:51,190 --> 00:01:48,799
here at nasa's langley research center

48
00:01:53,590 --> 00:01:51,200
in hampton virginia behind me is a model

49
00:01:55,990 --> 00:01:53,600
of nasa's newest rocket the space launch

50
00:01:57,190 --> 00:01:56,000
system we're here to test this model in

51
00:01:59,350 --> 00:01:57,200
order to determine the rocket's

52
00:02:01,749 --> 00:01:59,360
performance on its race to space through

53
00:02:03,350 --> 00:02:01,759
the atmosphere in order to do this we've

54
00:02:05,830 --> 00:02:03,360
placed the model in this huge wind

55
00:02:08,630 --> 00:02:05,840
tunnel capable of speeds of over 900

56
00:02:10,309 --> 00:02:08,640
miles an hour at that speed a football

57
00:02:12,070 --> 00:02:10,319
can be thrown from one end zone to the

58
00:02:16,309 --> 00:02:12,080
other in less than one quarter of a

59
00:02:18,869 --> 00:02:16,319
second now that's a supersonic pass

60
00:02:20,790 --> 00:02:18,879
i am dr renee horton at nasa's mission

61
00:02:22,470 --> 00:02:20,800
assembly facility in new orleans you can

62
00:02:24,309 --> 00:02:22,480
fit 31 football fields inside the

63
00:02:26,229 --> 00:02:24,319

factory where the space launch system

64
00:02:28,070 --> 00:02:26,239
rocket is being built it's the largest

65
00:02:30,229 --> 00:02:28,080
rocket nasa has built and will go the

66
00:02:32,949 --> 00:02:30,239
furthest we've gone look out for our

67
00:02:35,589 --> 00:02:32,959
touchdown on mars

68
00:02:38,390 --> 00:02:35,599
catching football isn't rocket science

69
00:02:40,309 --> 00:02:38,400
but testing rocket engines is here at

70
00:02:42,869 --> 00:02:40,319
stennis space center we're testing the

71
00:02:45,750 --> 00:02:42,879
rs25 engines that will power nasa's

72
00:02:53,990 --> 00:02:45,760
space launch system on a journey to mars

73
00:02:58,229 --> 00:02:56,070
hi and welcome to aerojet rocket 9's

74
00:03:01,190 --> 00:02:58,239
stennis facility where we assemble and

75
00:03:03,509 --> 00:03:01,200
test the mighty rs-25 engine for nasa's

76
00:03:05,750 --> 00:03:03,519
space launch system did you know the

77
00:03:07,470 --> 00:03:05,760
rs25 engine can propel or throw a

78
00:03:12,149 --> 00:03:07,480
football at over

79
00:03:14,149 --> 00:03:12,159
9750 miles per hour imagine that

80
00:03:16,229 --> 00:03:14,159
the booster for nasa's space launch

81
00:03:20,000 --> 00:03:16,239
system weighs more than 4

82
00:03:23,750 --> 00:03:21,270
[Music]

83
00:03:25,589 --> 00:03:23,760
hi i'm yves lamothe and welcome to

84
00:03:28,229 --> 00:03:25,599
kennedy space center's vehicle assembly

85
00:03:31,110 --> 00:03:28,239
building this was home to the saturn v

86
00:03:33,270 --> 00:03:31,120
rockets and the space shuttle and is

87
00:03:36,470 --> 00:03:33,280
currently being modified to support a

88
00:03:38,149 --> 00:03:36,480

host of rockets including the sls rocket

89
00:03:39,509 --> 00:03:38,159
that will take our astronauts to the

90
00:03:43,110 --> 00:03:39,519
planet mars

91
00:03:46,149 --> 00:03:43,120
did you know that this facility is 525

92
00:03:48,710 --> 00:03:46,159
feet high that's nearly double the

93
00:03:50,869 --> 00:03:48,720
length of the nrg stadium in houston

94
00:03:53,830 --> 00:03:50,879
where the big game will be played not

95
00:03:55,990 --> 00:03:53,840
even a pro football player can hunt pass

96
00:03:58,550 --> 00:03:56,000
or kick their way through this facility

97
00:04:00,309 --> 00:03:58,560
unless they think they can

98
00:04:03,110 --> 00:04:00,319
hi i'm lily villarreal and this is

99
00:04:05,190 --> 00:04:03,120
kenny's space center launch pad 39b now

100
00:04:06,630 --> 00:04:05,200
it's a clean path built for flexibility

101
00:04:08,789 --> 00:04:06,640
that means that every rocket that

102
00:04:10,710 --> 00:04:08,799
launches from here including the sls

103
00:04:12,229 --> 00:04:10,720
will come over with its own launch tower

104
00:04:15,509 --> 00:04:12,239
the pad will then provide everything it

105
00:04:17,349 --> 00:04:15,519
needs power water flame trench and a

106
00:04:19,830 --> 00:04:17,359
great location to launch from launch pad

107
00:04:22,629 --> 00:04:19,840
39b helping nasa's missions get over the

108
00:04:24,469 --> 00:04:22,639
goal line for many more years to come

109
00:04:26,070 --> 00:04:24,479
hi i'm laura palia and we're in the high

110
00:04:28,150 --> 00:04:26,080
bay of kennedy space center's neil

111
00:04:29,990 --> 00:04:28,160
armstrong operation checkout building

112
00:04:31,590 --> 00:04:30,000
and this is orion america's next

113
00:04:33,670 --> 00:04:31,600

generation spacecraft which is going to

114
00:04:36,310 --> 00:04:33,680
be flying on nasa's new heavy lift

115
00:04:37,510 --> 00:04:36,320
vehicle the space launch system or sls

116
00:04:39,430 --> 00:04:37,520
now orion's going to be taking us

117
00:04:40,790 --> 00:04:39,440
farther than we've ever been before with

118
00:04:44,790 --> 00:04:40,800
his added capabilities is going to be

119
00:04:46,390 --> 00:04:44,800
able to hold up to four people or 4 625

120
00:04:48,710 --> 00:04:46,400
footballs

121
00:04:50,950 --> 00:04:48,720
hi i'm nettie roosby from ames research

122
00:04:53,030 --> 00:04:50,960
center in silicon valley behind me is

123
00:04:54,950 --> 00:04:53,040
the world's largest wind tunnel it's big

124
00:04:56,950 --> 00:04:54,960
enough to test full-size aircraft as

125
00:04:59,030 --> 00:04:56,960
well as semi-trucks and has recently

126
00:05:02,310 --> 00:04:59,040
been used to test parachutes for nasa's

127
00:05:04,310 --> 00:05:02,320
mars landers oh and by the way the air

128
00:05:08,390 --> 00:05:04,320
intake of the wind tunnel is larger than

129
00:05:12,870 --> 00:05:10,550
hi i'm sydney doe i'm an engineer

130
00:05:15,110 --> 00:05:12,880
working on future mars mission concepts

131
00:05:16,390 --> 00:05:15,120
i'm here at the mars yard at jpl have

132
00:05:17,990 --> 00:05:16,400
you ever wondered what it'd be like to

133
00:05:20,230 --> 00:05:18,000
throw a football on mars

134
00:05:22,230 --> 00:05:20,240
on mars gravity is about a third of what

135
00:05:24,230 --> 00:05:22,240
it is on earth so if you threw a

136
00:05:25,830 --> 00:05:24,240
football on mars it would spend three

137
00:05:29,029 --> 00:05:25,840
times longer in the air and go three

138
00:05:31,830 --> 00:05:29,990

hi

139
00:05:34,629 --> 00:05:31,840
here at the goddard space flight center

140
00:05:37,590 --> 00:05:34,639
in greenbelt maryland we built and are

141
00:05:40,310 --> 00:05:37,600
currently testing the most advanced and

142
00:05:43,110 --> 00:05:40,320
largest space telescope ever constructed

143
00:05:45,510 --> 00:05:43,120
the james webb space telescope

144
00:05:48,150 --> 00:05:45,520
it's roughly the size of the red zone on

145
00:05:50,230 --> 00:05:48,160
a football field you might even call it

146
00:05:52,629 --> 00:05:50,240
the infrared zone

147
00:05:56,150 --> 00:05:52,639
it will weigh a couple hundred pounds

148
00:05:58,309 --> 00:05:56,160
more than your average football team

149
00:06:00,629 --> 00:05:58,319
in a few months we will pack and ship

150
00:06:03,029 --> 00:06:00,639
the telescope element that is inside

151
00:06:06,309 --> 00:06:03,039
this tent to the johnson space center

152
00:06:08,870 --> 00:06:06,319
located in houston texas for testing in

153
00:06:13,029 --> 00:06:08,880
the giant space environment simulator

154
00:06:16,550 --> 00:06:14,710
once the telescope is launched we'll

155
00:06:18,230 --> 00:06:16,560
control the spacecraft and download its

156
00:06:19,830 --> 00:06:18,240
science data from here

157
00:06:23,830 --> 00:06:19,840
web mission and operations control

158
00:06:28,390 --> 00:06:25,830
northrop grumman is designing the webb

159
00:06:30,469 --> 00:06:28,400
telescope sunshield optics and

160
00:06:33,270 --> 00:06:30,479
spacecraft for nasa's goddard space

161
00:06:35,510 --> 00:06:33,280
flight center in greenbelt maryland here

162
00:06:37,590 --> 00:06:35,520
at our space park facility located in

163
00:06:39,590 --> 00:06:37,600

redondo beach california we are

164
00:06:42,070 --> 00:06:39,600
developing and creating some of the

165
00:06:44,469 --> 00:06:42,080
cutting edge technology behind this

166
00:06:46,790 --> 00:06:44,479
incredible observatory and we hope to