1
00:00:19,029 --> 00:00:17,269
it's day one of nasa's three-day exhibit

2
00:00:21,830 --> 00:00:19,039
at this year's south by southwest

3
00:00:23,830 --> 00:00:21,840
festival in austin texas a great way for

4
00:00:26,070 --> 00:00:23,840
people to learn more about what comes

5
00:00:28,550 --> 00:00:26,080
after hubble so amber tell us a little

6
00:00:30,390 --> 00:00:28,560
bit about what this is and why did you

7
00:00:32,389 --> 00:00:30,400
guys come to this festival well this is

8
00:00:34,549 --> 00:00:32,399
the full-scale model of the james webb

9
00:00:36,709 --> 00:00:34,559
space telescope so this is a successor

10
00:00:38,069 --> 00:00:36,719
to hubble and we're building it um to

11
00:00:39,830 --> 00:00:38,079
answer those big science questions that

12
00:00:41,510 --> 00:00:39,840
hubble can't quite answer and we wanted

13
00:00:43,430 --> 00:00:41,520

to bring it here to austin because this

14
00:00:45,430 --> 00:00:43,440
is such a great festival and also

15
00:00:47,510 --> 00:00:45,440
because texas has a really big part in

16
00:00:49,750 --> 00:00:47,520
testing the james webb space telescope

17
00:00:51,430 --> 00:00:49,760
so in just a few years the telescope

18
00:00:53,510 --> 00:00:51,440
will go down to johnson space center in

19
00:00:55,189 --> 00:00:53,520
houston for a big test in the huge

20
00:00:57,430 --> 00:00:55,199
chamber a after checking out the

21
00:01:00,069 --> 00:00:57,440
full-scale model of the webb telescope

22
00:01:01,750 --> 00:01:00,079
you can walk towards nasa's huge tent

23
00:01:03,029 --> 00:01:01,760
but before you get there you walk by

24
00:01:05,109 --> 00:01:03,039
something that looks like an outdoor

25
00:01:06,789 --> 00:01:05,119
museum you can learn about what web is

26
00:01:09,030 --> 00:01:06,799
going to teach us when it's going to be

27
00:01:10,950 --> 00:01:09,040
ready for launch and just why sometimes

28
00:01:13,190 --> 00:01:10,960
it's being referred to as a real life

29
00:01:14,870 --> 00:01:13,200
transformer

30
00:01:16,630 --> 00:01:14,880
so once you're inside the tent there's

31
00:01:17,510 --> 00:01:16,640
all sorts of interesting things to see

32
00:01:18,950 --> 00:01:17,520
and do

33
00:01:20,710 --> 00:01:18,960
so what do you have here well this is

34
00:01:22,550 --> 00:01:20,720
the ball aerospace booth and we build

35
00:01:24,950 --> 00:01:22,560
all the mirrors for the james webb space

36
00:01:27,749 --> 00:01:24,960
telescope so we have models of each one

37
00:01:29,510 --> 00:01:27,759
of them and what's great is it allows us

38
00:01:31,990 --> 00:01:29,520

to see what's actually going on on the

39
00:01:33,990 --> 00:01:32,000
back side where we have to have motors

40
00:01:35,030 --> 00:01:34,000
to move the mirrors around to position

41
00:01:36,710 --> 00:01:35,040
them

42
00:01:38,550 --> 00:01:36,720
and you can also see how we take

43
00:01:40,630 --> 00:01:38,560
material out to make the mirrors light

44
00:01:42,390 --> 00:01:40,640
enough to launch so these are not

45
00:01:44,550 --> 00:01:42,400
actually the full scale model

46
00:01:45,749 --> 00:01:44,560
full scale is much larger

47
00:01:47,910 --> 00:01:45,759
but these give an accurate

48
00:01:50,389 --> 00:01:47,920
representation we also have an example

49
00:01:52,149 --> 00:01:50,399
here of the reflective gold coating that

50
00:01:53,990 --> 00:01:52,159
we put on the mirrors that's highly

51
00:01:56,149 --> 00:01:54,000
reflective in the infrared wavelengths

52
00:01:57,990 --> 00:01:56,159
where james webb operates so eileen

53
00:02:00,630 --> 00:01:58,000
what's going on over here so over here

54
00:02:02,469 --> 00:02:00,640
we have the infrared camera

55
00:02:04,310 --> 00:02:02,479
that is going to be on the james webb

56
00:02:07,030 --> 00:02:04,320
space telescope when it goes out in

57
00:02:11,190 --> 00:02:07,040
space in around 2018

58
00:02:14,229 --> 00:02:11,200
so i can show you how it works okay um

59
00:02:16,229 --> 00:02:14,239
here we have a bucket of cold ice water

60
00:02:18,630 --> 00:02:16,239
all right you stick your hand in there

61
00:02:21,030 --> 00:02:18,640
you have cocoa very cold yeah it is and

62
00:02:23,750 --> 00:02:21,040
then take it out okay and then show it

63
00:02:26,150 --> 00:02:23,760

on the screen here

64
00:02:28,150 --> 00:02:26,160
you are very dark and that is because

65
00:02:31,270 --> 00:02:28,160
you're very cold right there

66
00:02:34,229 --> 00:02:31,280
and it's sensing temperatures we can

67
00:02:36,390 --> 00:02:34,239
brighten you up here

68
00:02:38,710 --> 00:02:36,400
and hair is the best

69
00:02:40,229 --> 00:02:38,720
thing to use all right

70
00:02:42,390 --> 00:02:40,239
in here

71
00:02:44,710 --> 00:02:42,400
you're actually right there

72
00:02:46,710 --> 00:02:44,720
thanks

73
00:02:52,470 --> 00:02:46,720
on fire

74
00:02:58,949 --> 00:02:55,990
the infrared camera you can see through

75
00:03:01,430 --> 00:02:58,959
transparent objects so like this bag

76
00:03:03,030 --> 00:03:01,440
okay if you put your hand in here

77
00:03:05,509 --> 00:03:03,040
you're gonna be able to see through it

78
00:03:07,430 --> 00:03:05,519
what's happening on the telescope is

79
00:03:09,910 --> 00:03:07,440
when it goes out in space

80
00:03:12,550 --> 00:03:09,920
it's going to use this camera to see

81
00:03:14,149 --> 00:03:12,560
through dusty cloud formations right so

82
00:03:16,630 --> 00:03:14,159
that's what this black bag represents

83
00:03:19,270 --> 00:03:16,640
yeah exactly

84
00:03:22,949 --> 00:03:19,280
and it'll be able to see you know stars

85
00:03:24,390 --> 00:03:22,959
and planets and galaxy formations and

86
00:03:25,190 --> 00:03:24,400
stuff that you can't see in the visible

87
00:03:26,550 --> 00:03:25,200
light

88
00:03:28,710 --> 00:03:26,560

and if you want to find out more about

89
00:03:31,670 --> 00:03:28,720
astronomy and web you can sit in on one

90
00:03:35,430 --> 00:03:31,680
of the sessions at the nasa beer

91
00:03:37,430 --> 00:03:35,440
launching in october 2018.

92
00:03:39,030 --> 00:03:37,440
so can i get my picture taken absolutely

93
00:03:40,390 --> 00:03:39,040
all you have to do is have a seat and

94
00:03:53,190 --> 00:03:40,400
we'll take your picture and it'll print

95
00:03:53,200 --> 00:04:04,309
one two three

96
00:04:08,470 --> 00:04:06,470
all right i'll put some information

97
00:04:12,229 --> 00:04:08,480
about the james webb space telescope on

98
00:04:16,390 --> 00:04:14,869
i can take web home with me

99
00:04:18,469 --> 00:04:16,400
but before you call it a day make sure

100
00:04:21,990 --> 00:04:18,479
you stop by the special nasa booth at

101
00:04:25,749 --> 00:04:23,830
so what's going on over here we have a

102
00:04:28,629 --> 00:04:25,759
display here of a quarter size of the

103
00:04:30,710 --> 00:04:28,639
mirror if you stand on the feet okay and

104
00:04:32,550 --> 00:04:30,720
you look down and look into the various

105
00:04:33,510 --> 00:04:32,560
mirrors it'll give you an idea of how

106
00:04:36,070 --> 00:04:33,520
big

107
00:04:38,230 --> 00:04:36,080
the mirror actually is wow and how small

108
00:04:40,230 --> 00:04:38,240
i am and how small you are

109
00:04:42,550 --> 00:04:40,240
and it's a little easier to get the

110
00:04:45,110 --> 00:04:42,560
perception of how big the mirror is than

111
00:04:47,749 --> 00:04:45,120
looking at the full-scale model outside

112
00:04:49,590 --> 00:04:47,759
right because the mirror is way up in

113
00:04:51,909 --> 00:04:49,600

the sky it's a little hard to

114
00:04:56,629 --> 00:04:51,919
get that perspective get attached to our

115
00:05:01,030 --> 00:04:58,790
this special exhibit goes through sunday

116
00:05:03,110 --> 00:05:01,040
and is free to the public thanks for