1
00:00:05,190 --> 00:00:02,869
the year's biggest meeting of

2
00:00:08,070 --> 00:00:05,200
astronomers was the site of a special

3
00:00:10,470 --> 00:00:08,080
unveiling an image seen countless times

4
00:00:11,509 --> 00:00:10,480
before by scientists studying the night

5
00:00:13,910 --> 00:00:11,519
sky

6
00:00:15,509 --> 00:00:13,920
but nothing like this

7
00:00:17,510 --> 00:00:15,519
i think it's very important to make

8
00:00:19,189 --> 00:00:17,520
things accessible for everyone i feel

9
00:00:20,790 --> 00:00:19,199
uncomfortable when there's materials

10
00:00:23,509 --> 00:00:20,800
that are just for

11
00:00:25,509 --> 00:00:23,519
people who are blind versus everybody

12
00:00:27,830 --> 00:00:25,519
else

13
00:00:30,230 --> 00:00:27,840

so using some grant money from a special

14
00:00:32,549 --> 00:00:30,240
hubble archival research project the

15
00:00:34,549 --> 00:00:32,559
space telescope science institute here

16
00:00:37,190 --> 00:00:34,559
in baltimore maryland teamed up with

17
00:00:40,069 --> 00:00:37,200
braille author norwen grice to give the

18
00:00:43,030 --> 00:00:40,079
visually impaired an unprecedented view

19
00:00:45,270 --> 00:00:43,040
of the iconic carina nebula

20
00:00:47,190 --> 00:00:45,280
it's a mishmash of starburst and star

21
00:00:48,790 --> 00:00:47,200
death and everything in between lots of

22
00:00:50,229 --> 00:00:48,800
cloud structures now the challenge was

23
00:00:52,790 --> 00:00:50,239
to figure out which of these features to

24
00:00:55,029 --> 00:00:52,800
emphasize and which ones to maybe not

25
00:00:57,510 --> 00:00:55,039
include to make sure that the image

26
00:00:59,349 --> 00:00:57,520
wasn't confusing but figuring out what

27
00:01:01,670 --> 00:00:59,359
textures should represent the different

28
00:01:03,430 --> 00:01:01,680
parts of the nebula was just one

29
00:01:04,710 --> 00:01:03,440
challenge image designers had to

30
00:01:06,149 --> 00:01:04,720
overcome

31
00:01:08,149 --> 00:01:06,159
kids were assembled for a camp and we

32
00:01:09,590 --> 00:01:08,159
did have them test various prototypes so

33
00:01:11,510 --> 00:01:09,600
we could figure out what was working and

34
00:01:13,429 --> 00:01:11,520
what wasn't working we had a large

35
00:01:15,270 --> 00:01:13,439
version we had a medium-sized version

36
00:01:16,950 --> 00:01:15,280
and then we had a more compact version

37
00:01:19,190 --> 00:01:16,960
and what we learned is that the more

38
00:01:20,950 --> 00:01:19,200

compact versions seem to be the most

39
00:01:22,550 --> 00:01:20,960
effective at providing just the right

40
00:01:23,910 --> 00:01:22,560
amount of information so that's what we

41
00:01:25,990 --> 00:01:23,920
ended up with

42
00:01:29,109 --> 00:01:26,000
all lessons learned gries and mutchler

43
00:01:30,870 --> 00:01:29,119
hope will help in future projects it's

44
00:01:32,390 --> 00:01:30,880
much better to make materials that

45
00:01:35,109 --> 00:01:32,400
everyone can use

46
00:01:38,830 --> 00:01:35,119
it brings people together so classmates

47
00:01:41,190 --> 00:01:38,840
are equal peers and scientists are equal

48
00:01:44,710 --> 00:01:41,200
colleagues equality that will help make

49
00:01:46,310 --> 00:01:44,720
the universe a sight for everyone to see

50
00:01:48,789 --> 00:01:46,320
from the space telescope science