What does Hubble's infrared vision help astronomers see?

1
00:00:02,420 --> 00:00:09,110
[Music]

2
00:00:13,270 --> 00:00:10,950
infrared is an important wavelength for

3
00:00:14,950 --> 00:00:13,280
astronomers because several reasons the

4
00:00:16,870 --> 00:00:14,960
expansion of the universe to see farther

5
00:00:19,430 --> 00:00:16,880
back looking through dust clouds and

6
00:00:29,269 --> 00:00:19,440
looking at cooler objects like planets

7
00:00:33,590 --> 00:00:31,830
we can see into dust clouds the way that

8
00:00:35,270 --> 00:00:33,600
infrared does it the longer wavelengths

9
00:00:37,510 --> 00:00:35,280
of light actually can go bending around

10
00:00:39,910 --> 00:00:37,520
the obstacles like dust grains

11
00:00:42,310 --> 00:00:39,920
so we see around the dust grains and

12
00:00:44,069 --> 00:00:42,320
able to see inside those opaque clouds

13
00:00:48,630 --> 00:00:44,079

to see what's happening like in the

14
00:00:52,869 --> 00:00:50,630
infrared is important also when we want

15
00:00:54,389 --> 00:00:52,879
to see the most distant galaxies

16
00:00:56,229 --> 00:00:54,399
they appear to be running away from us

17
00:00:58,150 --> 00:00:56,239
at immense speeds because of the

18
00:00:59,990 --> 00:00:58,160
expansion of the universe the light that

19
00:01:01,750 --> 00:01:00,000
we received from those distant galaxies

20
00:01:03,510 --> 00:01:01,760
had been stretched along with the

21
00:01:05,830 --> 00:01:03,520
expansion of the universe so that it is

22
00:01:07,270 --> 00:01:05,840
much longer wavelengths which means

23
00:01:08,870 --> 00:01:07,280
started off with visible light and

24
00:01:10,230 --> 00:01:08,880
that's now infrared

25
00:01:12,070 --> 00:01:10,240
so if you want to see those first

26
00:01:13,910 --> 00:01:12,080
galaxies you need an infrared telescope

27
00:01:21,000 --> 00:01:13,920
to pick up the light that started out as