



1
00:00:03,889 --> 00:00:02,000
this is macquaire samaarambhaam gorg

2
00:00:05,869 --> 00:00:03,899
I've been asked why clouds and wires

3
00:00:08,179 --> 00:00:05,879
some things sometimes appear to be

4
00:00:09,799 --> 00:00:08,189
behind the Sun well the reason is

5
00:00:12,620 --> 00:00:09,809
because the Sun is so bright it

6
00:00:14,120 --> 00:00:12,630
basically washes out anything that's

7
00:00:16,820 --> 00:00:14,130
imprinted it that is partially

8
00:00:19,640 --> 00:00:16,830
transparent or is small enough or is

9
00:00:23,179 --> 00:00:19,650
out-of-focus enough that the sun's light

10
00:00:24,740 --> 00:00:23,189
basically goes through it or around it I

11
00:00:27,380 --> 00:00:24,750
can demonstrate that with this little

12
00:00:30,830 --> 00:00:27,390
setup I have here is a work light behind

13
00:00:33,319 --> 00:00:30,840

a board with some white paper simulating

14

00:00:36,340 --> 00:00:33,329

the Sun and I've got some old film

15

00:00:40,100 --> 00:00:36,350

strips and a small antenna to simulate

16

00:00:44,420 --> 00:00:40,110

clouds and cables so I'm going to go

17

00:00:47,150 --> 00:00:44,430

ahead and switch the Sun on and you'll

18

00:00:49,150 --> 00:00:47,160

see straight away that the film strip in

19

00:00:52,069 --> 00:00:49,160

the middle which is simulating a cloud

20

00:00:54,650 --> 00:00:52,079

has disappeared where the Sun it looks

21

00:00:57,729 --> 00:00:54,660

like it's going behind the Sun and the

22

00:00:59,779 --> 00:00:57,739

wire itself also similarly seems to be

23

00:01:03,740 --> 00:00:59,789

going behind the Sun now I'm going to

24

00:01:05,929 --> 00:01:03,750

zoom in a bit to see what's a more

25

00:01:08,570 --> 00:01:05,939

typical video of the Sun with things

26
00:01:10,700 --> 00:01:08,580
going behind it and you see here there's

27
00:01:13,880 --> 00:01:10,710
the Sun and the film strips are going

28
00:01:15,410 --> 00:01:13,890
behind it now if I adjust the focus so

29
00:01:18,649 --> 00:01:15,420
things are in focus you'll see the the

30
00:01:21,200 --> 00:01:18,659
antenna which is a solid object pops

31
00:01:23,090 --> 00:01:21,210
into visibility because it is actually

32
00:01:25,820 --> 00:01:23,100
blocking the light from the Sun however

33
00:01:28,550 --> 00:01:25,830
you only see it if it's in focus if you

34
00:01:30,530 --> 00:01:28,560
go slightly out of focus it disappears

35
00:01:33,050 --> 00:01:30,540
come back into focus and there it is

36
00:01:36,350 --> 00:01:33,060
again now doesn't matter how much I

37
00:01:38,390 --> 00:01:36,360
focus the filmstrip never pops into

38
00:01:40,940 --> 00:01:38,400

visibility that's because the filmstrip

39

00:01:43,069 --> 00:01:40,950

is transparent so no matter how much you

40

00:01:45,590 --> 00:01:43,079

focus it is the sun's light is always

41

00:01:47,210 --> 00:01:45,600

going through it now I've got some other

42

00:01:49,370 --> 00:01:47,220

film strips on the side and I'm going to

43

00:01:51,210 --> 00:01:49,380

move those over the film strip in the

44

00:01:54,480 --> 00:01:51,220

middle and as I move

45

00:01:57,500 --> 00:01:54,490

whereas a time this is the same thing as

46

00:02:01,320 --> 00:01:57,510

making a cloud more and more dense

47

00:02:04,350 --> 00:02:01,330

you'll see that the film strip which is

48

00:02:07,830 --> 00:02:04,360

simulating a cloud is becoming more and

49

00:02:14,100 --> 00:02:07,840

more visible and when we've got four

50

00:02:16,350 --> 00:02:14,110

strips on you can see that the cloud /

51
00:02:18,540 --> 00:02:16,360
film strip now appears to be going in

52
00:02:20,700 --> 00:02:18,550
front of the Sun and you'll see that the

53
00:02:22,200 --> 00:02:20,710
edges of it are still washed out because

54
00:02:25,740 --> 00:02:22,210
there are more transparent than the rest

55
00:02:29,040 --> 00:02:25,750
of it but the solid dark parts of it are

56
00:02:30,510 --> 00:02:29,050
picked up going in front of the Sun so

57
00:02:32,070 --> 00:02:30,520
there you have it the reason why things

58
00:02:35,970 --> 00:02:32,080
appear to be going in front of the Sun

59
00:02:37,500 --> 00:02:35,980
is that the Sun is so bright and if

60
00:02:40,050 --> 00:02:37,510
something is transparent like a cloud

61
00:02:42,900 --> 00:02:40,060
and the Sun is behind it then it will

62
00:02:46,050 --> 00:02:42,910
look like it is going behind the Sun

63
00:02:48,480 --> 00:02:46,060

when in fact in front of the Sun and

64

00:02:50,820 --> 00:02:48,490

with the small objects it's more to do

65

00:02:54,330 --> 00:02:50,830

with them being in focus if the object