
Susie Darling

1
00:00:04,370 --> 00:00:02,330
have you ever wondered how even though

2
00:00:06,410 --> 00:00:04,380
the sun is so much bigger than the moon

3
00:00:08,750 --> 00:00:06,420
they appear to be the same size in the

4
00:00:11,390 --> 00:00:08,760
sky or how the moon can cover up the Sun

5
00:00:13,730 --> 00:00:11,400
and cause a total solar eclipse

6
00:00:15,770 --> 00:00:13,740
let's try something out take any two

7
00:00:17,750 --> 00:00:15,780
differently sized circles

8
00:00:20,029 --> 00:00:17,760
I'm using a paper plate

9
00:00:21,830 --> 00:00:20,039
and a coin I found

10
00:00:23,929 --> 00:00:21,840
secure the larger Circle either by

11
00:00:32,030 --> 00:00:23,939
having a friend hold on to it for you or

12
00:00:35,930 --> 00:00:33,709
now what you're going to want to do is

13
00:00:38,870 --> 00:00:35,940

take the smaller Circle and hold it out

14
00:00:42,290 --> 00:00:38,880
at arm's length and close one eye

15
00:00:44,450 --> 00:00:42,300
see if it overlaps the larger Circle

16
00:00:46,549 --> 00:00:44,460
if it doesn't take a few more steps back

17
00:00:48,830 --> 00:00:46,559
and try again until the smaller Circle

18
00:00:51,830 --> 00:00:48,840
completely overlaps the larger Circle

19
00:00:54,229 --> 00:00:51,840
what we found here is the spot where the

20
00:00:56,510 --> 00:00:54,239
smaller object appears to look at the

21
00:00:58,549 --> 00:00:56,520
same size as the bigger object despite

22
00:01:00,650 --> 00:00:58,559
being completely different sizes

23
00:01:03,229 --> 00:01:00,660
even though the Moon is about 400 times

24
00:01:04,969 --> 00:01:03,239
smaller than the sun it's also about 400

25
00:01:06,890 --> 00:01:04,979
times closer to us

26
00:01:09,050 --> 00:01:06,900
so when both the sun and the moon appear

27
00:01:10,910 --> 00:01:09,060
in the sky the moon can completely cover

28
00:01:13,070 --> 00:01:10,920
up the Sun and cause a total solar

29
00:01:14,510 --> 00:01:13,080
eclipse try this at home and see if you

30
00:01:16,190 --> 00:01:14,520
can find the point where objects appear

31
00:01:17,390 --> 00:01:16,200
to be the same size despite being

32
00:01:19,730 --> 00:01:17,400
completely different

33
00:01:20,870 --> 00:01:19,740
eclipses are all about perspective and

34
00:01:23,030 --> 00:01:20,880
distances

35
00:01:25,010 --> 00:01:23,040
the distance and angle of the Moon can

36
00:01:27,109 --> 00:01:25,020
vary throughout the year so sometimes

37
00:01:28,850 --> 00:01:27,119
instead of a total solar eclipse we can

38
00:01:31,070 --> 00:01:28,860

get a partial solar eclipse when the

39
00:01:33,050 --> 00:01:31,080
moon only covers part of the Sun or an

40
00:01:34,670 --> 00:01:33,060
annular solar eclipse when the sun peeks

41
00:01:36,469 --> 00:01:34,680
out around the moon so it looks like a

42
00:01:38,330 --> 00:01:36,479
big Ring of Fire