
NASA
WHAT IS AN
ANNULAR ECLIPSE?

1
00:00:00,467 --> 00:00:03,303
Roughly every year or two,
somewhere in the world

2
00:00:03,503 --> 00:00:07,173
the Sun appears for a few moments
as a ring of fire in the sky.

3
00:00:08,174 --> 00:00:10,643
This is called an annular solar eclipse.

4
00:00:11,011 --> 00:00:14,814
Annular comes from the Latin word annulus,
which means ring.

5
00:00:15,415 --> 00:00:19,085
An annular solar eclipse occurs
when a new Moon passes

6
00:00:19,085 --> 00:00:22,956
directly in front of the Sun, but appears
too small to cover it completely.

7
00:00:23,256 --> 00:00:24,557
But why is that?

8
00:00:24,557 --> 00:00:28,094
It's because the Moon's orbit around
Earth isn't a perfect circle,

9
00:00:28,128 --> 00:00:30,697
but rather an ellipse or slightly
oval-shaped.

10
00:00:31,131 --> 00:00:34,968
This causes the Moon to move closer to us
and then farther away

11
00:00:34,968 --> 00:00:36,603

during its month long orbit.

12
00:00:36,603 --> 00:00:39,939
When the Moon is at its closest
point called perigee,

13
00:00:39,939 --> 00:00:42,008
it appears slightly larger in our sky.

14
00:00:43,143 --> 00:00:45,712
When it's farthest from us at apogee,

15
00:00:45,712 --> 00:00:47,247
it appears a little smaller.

16
00:00:48,148 --> 00:00:50,450
But we don't see an annular
eclipse every month.

17
00:00:50,984 --> 00:00:53,653
That's because the Moon's orbit
is also slightly

18
00:00:53,653 --> 00:00:56,589
tilted in relation
to Earth's orbit around the Sun.

19
00:00:56,923 --> 00:01:00,827
This means during most months
the Moon is either too high or too low

20
00:01:00,827 --> 00:01:02,062
to block the Sun.

21
00:01:02,062 --> 00:01:05,231
So only when a new Moon is at apogee
and passes

22
00:01:05,231 --> 00:01:08,768

directly between Earth
and the Sun do spectators on Earth

23
00:01:08,768 --> 00:01:12,238
get the rare opportunity
to see the ring of fire in the sky.

24
00:01:12,872 --> 00:01:16,042
Unlike a total solar eclipse,
when the Moon completely covers

25
00:01:16,042 --> 00:01:20,313
the Sun, during an annular eclipse
the Sun never fully disappears.

26
00:01:20,880 --> 00:01:24,651
So if you're lucky enough to be
in the path of an annular solar eclipse

27
00:01:24,851 --> 00:01:28,455
make sure to wear your solar
eclipse glasses, or use other safe