
What's Up

1
00:00:00,000 --> 00:00:03,000
Music.

2
00:00:03,000 --> 00:00:05,000
Jane Houston Jones: What's Up for April?

3
00:00:05,000 --> 00:00:11,000
Mars at opposition, a lunar eclipse and April's Lyrid meteor shower.

4
00:00:11,000 --> 00:00:16,000
Hello and welcome. I'm Jane Houston Jones from NASA's Jet Propulsion Laboratory in Pasadena, California.

5
00:00:16,000 --> 00:00:22,000
On April 8 Mars reaches opposition, in its nearly 2-year orbit

6
00:00:22,000 --> 00:00:26,000
when it's directly opposite the sun in our sky.

7
00:00:26,000 --> 00:00:31,000
This year Mars will be closer to Earth than it has been since 2007.

8
00:00:31,000 --> 00:00:37,000
Mars rises in the East in the early evening and is visible all night long.

9
00:00:37,000 --> 00:00:43,000
The viewing will be best a little after midnight, when the red planet reaches its highest elevation.

10
00:00:43,000 --> 00:00:50,000
Some of the famous dark markings--and possibly the polar cap--will be visible, even in a small telescope.

11
00:00:50,000 --> 00:00:55,000
The next Mars oppositions happen in 2016 and 2018

12
00:00:55,000 --> 00:01:01,000
when Mars will be even closer to the Earth and will appear even more impressive in the telescope.

13
00:01:01,000 --> 00:01:08,000

Mars spacecraft launches always happen roughly 2 years apart, a few months before opposition.

14
00:01:08,000 --> 00:01:13,000
Because both Earth and Mars are moving in space, we don't aim our spacecraft at where Mars is at launch.

15
00:01:13,000 --> 00:01:18,000
Instead, our spacecraft's elliptical orbit takes it to where Mars will be

16
00:01:18,000 --> 00:01:20,000
at the end of the 7- or 8-month journey.

17
00:01:20,000 --> 00:01:28,000
InSight, NASA's next Mars mission, launches in 2016 to study the deep interior of Mars

18
00:01:28,000 --> 00:01:32,000
and help understand the processes that shaped the rocky planets of the inner solar system

19
00:01:32,000 --> 00:01:36,000
more than 4 billion years ago--including Earth.

20
00:01:36,000 --> 00:01:42,000
By using sophisticated geophysical instruments, InSight will measure the planet's 'vital signs'

21
00:01:42,000 --> 00:01:47,000
its 'pulse,' 'temperature' and 'reflexes.'

22
00:01:47,000 --> 00:01:48,000
Sound: Whoosh

23
00:01:48,000 --> 00:01:53,000
Jones: The Dawn mission's two targets, the protoplanet Vesta and the dwarf planet Ceres,

24
00:01:53,000 --> 00:01:56,000
both reach opposition this month, too.

25
00:01:56,000 --> 00:02:01,000
Use a telescope to see them in the constellation Virgo, not too far from Mars.

26
00:02:01,000 --> 00:02:02,000
Sound: Whoosh

27
00:02:02,000 --> 00:02:07,000
Jones: A lunar eclipse will be visible to everyone in North and South America and the Pacific

28
00:02:07,000 --> 00:02:10,000
on April 14 and 15.

29
00:02:10,000 --> 00:02:17,000
On the East Coast the eclipse begins at 12:53 a.m. and ends at 6:38 a.m.

30
00:02:17,000 --> 00:02:22,000
If you just want to catch the total eclipse, set your alarm clock for 3 a.m. on the East Coast

31
00:02:22,000 --> 00:02:25,000
and midnight on the West Coast.

32
00:02:25,000 --> 00:02:28,000
The total eclipse will last an hour and a half from beginning to end.

33
00:02:28,000 --> 00:02:29,000
Sound: Whoosh

34
00:02:29,000 --> 00:02:35,000
Jones: Look for the familiar constellation Lyra, rising in the Northeast at 10 p.m.

35
00:02:35,000 --> 00:02:38,000
It'll be high overhead by 4 a.m.

36
00:02:38,000 --> 00:02:44,000
This month's Lyrid meteor shower peaks on the night of April 22 and the morning of April 23.

37
00:02:44,000 --> 00:02:48,000
But you'll spot some Lyrids any night between the 16th and the 25th.

38
00:02:48,000 --> 00:02:53,000

The peak rate is expected to be 15 to 20 meteors per hour.

39
00:02:53,000 --> 00:02:58,000
The third quarter moon rises an hour past midnight, brightening the sky.
0:02:58.0,0:0c:01.0
But the moon will only obscure the fainter meteors.
0:0c:01.0,0:03:07.0
Luckily, the Lyrids are known to produce bright meteors, many with persistent trains.

40
00:03:07,000 --> 00:03:12,000
If you're under a dark sky, you can't miss the beautiful river of stars near Lyra

41
00:03:12,000 --> 00:03:15,000
a spiral arm of our Milky Way galaxy.

42
00:03:15,000 --> 00:03:22,000
You can learn about NASA's Mars exploration missions and all of NASA's missions at w w w dot nasa dot gov.