
Gemini
Taurus
Mercury
Looking west at 8:30 p.m.

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 --> 00:00:12,000
Jupiter, Mars, the Lyrid meteor shower and 2016's best views of Mercury.

4
00:00:12,000 --> 00:00:14,000
Hello and welcome. I'm Jane Houston Jones

5
00:00:14,000 --> 00:00:18,000
from NASA's Jet Propulsion Laboratory in Pasadena, California.

6
00:00:18,000 --> 00:00:23,000
Jupiter, where NASA's Juno mission will begin orbiting on July 4,

7
00:00:23,000 --> 00:00:26,000
continues to shine almost as brightly this month as last.

8
00:00:26,000 --> 00:00:28,000
And eagle-eyed telescope viewers will see

9
00:00:28,000 --> 00:00:31,000
a transit, a shadow transit,

10
00:00:31,000 --> 00:00:34,000
an occultation and an eclipse of Jupiter's moons

11
00:00:34,000 --> 00:00:38,000
all on one night: April 6-7.

12
00:00:38,000 --> 00:00:44,000
Io transits first, crossing the planet beginning at 9:52 p.m. EDT.

13
00:00:44,000 --> 00:00:48,000

Its shadow can be seen less than an hour later.

14
00:00:48,000 --> 00:00:51,000
Next Jupiter occults, or eclipses, Europa

15
00:00:51,000 --> 00:00:58,000
as Europa slips behind the giant planet at 10:48 p.m. EDT.

16
00:00:58,000 --> 00:01:01,000
At three a.m. Europa reappears from its eclipse,

17
00:01:01,000 --> 00:01:05,000
dramatically leaving the shadow of Jupiter.

18
00:01:05,000 --> 00:01:11,000
Ganymede transits the planet beginning at 1:01 EDT April 7.

19
00:01:11,000 --> 00:01:12,000
Sound: Whoosh.

20
00:01:12,000 --> 00:01:15,000
Jones: Check out the other planets in April, too.

21
00:01:15,000 --> 00:01:18,000
Mercury is always a challenging object to view,

22
00:01:18,000 --> 00:01:20,000
but this month you can spot it just after sunset

23
00:01:20,000 --> 00:01:24,000
about 10 degrees above the horizon.

24
00:01:24,000 --> 00:01:26,000
Through a telescope you can see its phase.

25
00:01:26,000 --> 00:01:29,000
It will appear like a tiny crescent moon,

26
00:01:29,000 --> 00:01:31,000
with about 1/3 of its disk illuminated.

27
00:01:32,000 --> 00:01:35,000
Mars is finally visible before midnight this month.

28
00:01:35,000 --> 00:01:40,000
It rises in the southeast at about 10 p.m. by the end of April.

29
00:01:40,000 --> 00:01:44,000
The best observing of Mars will be when it's highest in the sky.

30
00:01:44,000 --> 00:01:47,000
This means a few hours before dawn.

31
00:01:47,000 --> 00:01:51,000
Its brightness and apparent size increase dramatically this month.

32
00:01:51,000 --> 00:01:56,000
By month's end Mars appears nearly twice as bright as at the beginning of the month.

33
00:01:56,000 --> 00:02:00,000
About mid-month you'll see Mars near its rival in the sky:

34
00:02:00,000 --> 00:02:03,000
the similar-colored red supergiant star Antares.

35
00:02:03,000 --> 00:02:07,000
The name 'Antares' means 'equal to or rival of Mars.'

36
00:02:07,000 --> 00:02:08,000
Earth moves almost twice as fast as Mars does,

37
00:02:11,000 --> 00:02:15,000
so it often passes Mars in their race around the sun.

38
00:02:15,000 --> 00:02:17,000

This causes 'retrograde motion'--

39
00:02:17,000 --> 00:02:20,000
an illusion we see from our viewpoint on Earth.

40
00:02:21,000 --> 00:02:25,000
Retrograde motion happens as Earth catches up to Mars,

41
00:02:25,000 --> 00:02:30,000
causing Mars to appear to slow its eastward motion against the stars.

42
00:02:30,000 --> 00:02:33,000
After a few days, when Earth has overtaken Mars,

43
00:02:33,000 --> 00:02:36,000
Mars seems to move westward.

44
00:02:36,000 --> 00:02:39,000
Eventually, Earth moves far enough around in its orbit

45
00:02:39,000 --> 00:02:42,000
that Mars appears to be moving eastward again.

46
00:02:42,000 --> 00:02:43,000
Sound: Whoosh.

47
00:02:43,000 --> 00:02:46,000
Jones: April features one meteor shower, the Lyrids.

48
00:02:46,000 --> 00:02:49,000
This year the Lyrids are marred by the full moon.

49
00:02:49,000 --> 00:02:53,000
The best time to view will be just before dawn on April 23,

50
00:02:53,000 --> 00:02:57,000
when the constellation Lyra is overhead and the moon will be near to setting.

51
00:02:58,000 --> 00:03:05,000
You can find out about NASA's #JourneytoMars missions at www.mars.nasa.gov

52
00:03:05,000 --> 00:03:12,000
and you can learn about all of NASA's missions, including Juno, at www.nasa.gov