
WHAT'S UP
SKYWATCHING HIGHLIGHTS
APRIL 2022
NASA

1
00:00:00,467 --> 00:00:02,268
[Lively music]

2
00:00:02,334 --> 00:00:03,803
What's Up for April?

3
00:00:04,270 --> 00:00:05,938
Conjunction junction

4
00:00:06,205 --> 00:00:08,975
and a hidden surprise
in the Big Dipper.

5
00:00:09,642 --> 00:00:13,045
At the beginning of April,
Venus, Mars and Saturn

6
00:00:13,045 --> 00:00:16,316
form a trio in the southeast
before sunrise, with Saturn

7
00:00:16,316 --> 00:00:19,252
appearing to move steadily
toward Mars each day.

8
00:00:20,119 --> 00:00:22,722
On April 1st, they're a couple
of finger widths apart.

9
00:00:23,455 --> 00:00:24,690
And by the fourth, Saturn

10
00:00:24,890 --> 00:00:27,927
and Mars are separated by less
than the width of the full moon.

11
00:00:28,528 --> 00:00:31,697
Saturn then moves on increasing
its separation from Mars

12
00:00:31,697 --> 00:00:35,134
each day as a new addition to
the morning sky makes its debut.

13
00:00:35,868 --> 00:00:38,304
By mid-month,
Jupiter is starting to rise

14
00:00:38,304 --> 00:00:39,439
in the pre-dawn hour.

15
00:00:39,439 --> 00:00:40,973
Making for a quartet of planets

16
00:00:40,973 --> 00:00:43,176
strung out in a line
across the morning sky.

17
00:00:44,177 --> 00:00:46,579
Heading into the last week of
April, Jupiter will be high

18
00:00:46,579 --> 00:00:48,114
enough above the
horizon in the

19
00:00:48,114 --> 00:00:50,750
before sunrise to make it
more easily observed.

20
00:00:51,384 --> 00:00:53,119
The two brightest
planets in the sky,

21
00:00:53,119 --> 00:00:54,587
Venus and Jupiter, are headed

22
00:00:54,587 --> 00:00:57,557

for their own ultra-close
conjunction on April 30th,

23
00:00:57,791 --> 00:01:00,526
similar to the meetup of Mars
and Saturn earlier in the month.

24
00:01:01,027 --> 00:01:03,028
In fact, they approach to
about the same distance.

25
00:01:03,662 --> 00:01:06,532
Of course, the planets
are actually far apart in space

26
00:01:06,699 --> 00:01:09,501
and only appear to move closer
or farther apart in the sky

27
00:01:09,501 --> 00:01:10,235
as our view of them

28
00:01:10,736 --> 00:01:12,739
across the solar system
changes from month to month.

29
00:01:13,473 --> 00:01:14,274
If you recall

30
00:01:14,908 --> 00:01:18,077
the grand conjunction of Jupiter
and Saturn at the end of 2020,

31
00:01:18,311 --> 00:01:20,613
these conjunctions
are not quite as close as that,

32
00:01:20,746 --> 00:01:22,314
but still really impressive

33
00:01:22,314 --> 00:01:24,617
and they'll make for thrilling
sights in the morning sky.

34
00:01:24,951 --> 00:01:26,920
So definitely try to
catch them if you can.

35
00:01:28,387 --> 00:01:30,689
Whether you call it
the Big Dipper

36
00:01:30,689 --> 00:01:33,292
or Ursa Major or the Plough,

37
00:01:33,292 --> 00:01:34,126
it's probably the

38
00:01:34,660 --> 00:01:37,196
most familiar pattern of bright
stars in the northern sky.

39
00:01:37,964 --> 00:01:40,132
The Big Dipper
is a really useful reference

40
00:01:40,132 --> 00:01:42,135
for finding your way
around the sky,

41
00:01:42,135 --> 00:01:44,870
but it also contains
a hidden surprise.

42
00:01:45,237 --> 00:01:47,573
One of its stars
is really two...

43
00:01:47,907 --> 00:01:50,142

Or, actually six...

44
00:01:50,476 --> 00:01:51,710
Let's break that down.

45
00:01:52,178 --> 00:01:54,346
What looks on first glance
like a single

46
00:01:54,346 --> 00:01:58,217
bright star here, midway along
the Dipper's handle, is on

47
00:01:58,217 --> 00:02:02,855
closer inspection,
a double star Mizar and Alcor.

48
00:02:03,289 --> 00:02:04,390
Next time you have a chance,

49
00:02:04,390 --> 00:02:05,024
try to see

50
00:02:05,724 --> 00:02:07,993
if you can perceive them
as two stars with your own eyes.

51
00:02:08,293 --> 00:02:09,295
Once you give it a try,

52
00:02:09,295 --> 00:02:11,030
then grab binoculars
if you have them,

53
00:02:11,030 --> 00:02:13,165
which will easily
show them as separate stars.

54
00:02:13,699 --> 00:02:15,401

The two star systems are around

55
00:02:15,401 --> 00:02:16,569
a light year apart

56
00:02:16,569 --> 00:02:18,338
and are located
80 light years away

57
00:02:18,338 --> 00:02:20,874
from our solar system,
with Alcor taking

58
00:02:20,874 --> 00:02:24,844
just shy of a million years to
complete an orbit around Mizar.

59
00:02:25,511 --> 00:02:27,113
Now, lots of stars
are bound together

60
00:02:27,113 --> 00:02:28,614
by gravity in small groups,

61
00:02:28,614 --> 00:02:32,251
especially in pairs or binaries
that orbit around each other.

62
00:02:33,018 --> 00:02:35,354
But usually it takes a telescope
to be able to see them

63
00:02:35,354 --> 00:02:36,955
as separate stars.

64
00:02:36,955 --> 00:02:39,759
Mizar and Alcor are a rare
example of a double star

65

00:02:39,759 --> 00:02:42,261
that you can see as a pair
without the aid of a telescope.

66
00:02:42,828 --> 00:02:44,897
But it gets more interesting.

67
00:02:44,897 --> 00:02:47,467
Although they appear as a close
pair of two stars,

68
00:02:47,467 --> 00:02:49,935
they are, in fact six.

69
00:02:49,935 --> 00:02:53,539
Alcor is a binary
pair of two stars, while Mizar

70
00:02:53,539 --> 00:02:56,909
is actually four stars:
two pairs of binaries.

71
00:02:57,877 --> 00:03:01,481
So find the unusual
"double" stars Mizar and Alcor

72
00:03:01,481 --> 00:03:04,617
in the Big Dipper in April,
where what at first appears as

73
00:03:04,617 --> 00:03:07,987
one star is in reality
a six-star system.

74
00:03:09,522 --> 00:03:11,758
Here are the phases
of the Moon for April.

75
00:03:13,926 --> 00:03:16,095
Stay up to date

with all of NASA's missions

76
00:03:16,095 --> 00:03:19,498
to explore the solar system
and beyond at NASA.gov.

77
00:03:20,199 --> 00:03:22,869
I'm Preston Dyches from NASA's
Jet Propulsion Laboratory