

- 1
00:00:08,539 --> 00:00:11,000
Your guide to constellations, deep-sky objects,
- 2
00:00:11,000 --> 00:00:13,699
planets and events.
- 3
00:00:13,798 --> 00:00:19,100
Tonight's Sky, highlights of the February
Sky.
- 4
00:00:38,179 --> 00:00:41,600
Mars and Venus accompany each other in the west
- 5
00:00:41,600 --> 00:00:54,900
after sunset.
- 6
00:00:54,899 --> 00:00:58,199
Use a telescope to search for features on
Mars
- 7
00:00:58,200 --> 00:01:00,400
or the crescent phase of Venus.
- 8
00:01:15,500 --> 00:01:19,400
The winter night sky, filled with brilliant
stars,
- 9
00:01:19,400 --> 00:01:24,000
presents one of the best celestial views.
- 10
00:01:30,500 --> 00:01:34,099
Orion, the Great Hunter of Greek mythology,
- 11
00:01:34,099 --> 00:01:37,559
dominates the winter sky.
- 12
00:01:39,599 --> 00:01:43,699
This constellation is among the easiest to recognize.
- 13
00:01:43,700 --> 00:01:47,700
It is full of young stars, dying stars,
- 14

00:01:47,700 --> 00:01:49,299
and many nebulae.

15
00:01:49,299 --> 00:01:52,700
Betelgeuse, one of Orion's "shoulders,"

16
00:01:52,700 --> 00:01:55,299
is a red supergiant star

17
00:01:55,299 --> 00:01:58,700
about 650 times bigger than the Sun.

18
00:01:58,700 --> 00:02:04,700
It shines with the brightness of tens of thousands of Suns.

19
00:02:06,599 --> 00:02:10,299
Betelgeuse is near the end of its life.

20
00:02:10,300 --> 00:02:14,000
With the fuel at the star's core practically
depleted,

21
00:02:14,000 --> 00:02:17,300
the core has contracted and heated,

22
00:02:17,300 --> 00:02:21,500
causing the outer gaseous layers of the star to swell.

23
00:02:23,900 --> 00:02:28,700
Rigel, one of Orion's "knees," is a
triple-star system

24
00:02:28,699 --> 00:02:34,199
made up of two smaller stars orbiting a blue supergiant.

25
00:02:34,199 --> 00:02:39,199
Rigel's blue supergiant star has a short
lifespan.

26
00:02:39,199 --> 00:02:43,799
Blue supergiant stars are much hotter than our Sun

27
00:02:43,800 --> 00:02:47,000
and use up their fuel quickly.

28

00:02:47,699 --> 00:02:51,099

Orion's Belt is easy to spot.

29

00:02:51,099 --> 00:02:56,400

It is made up of three stars, Alnitak, Alnilam,

30

00:02:56,400 --> 00:03:00,099

and Mintaka.

31

00:03:00,099 --> 00:03:02,599

From the left side of Orion's Belt,

32

00:03:02,599 --> 00:03:06,099

look down to the Great Orion Nebula.

33

00:03:06,099 --> 00:03:08,900

Although barely visible to the naked eye,

34

00:03:08,900 --> 00:03:13,019

it is the brightest diffuse gas cloud in the night sky.

35

00:03:13,019 --> 00:03:16,300

("Nebula" is Latin for "cloud.")

36

00:03:16,300 --> 00:03:19,500

A small telescope unveils the details

37

00:03:19,500 --> 00:03:23,400

and grandeur of the nebula.

38

00:03:28,378 --> 00:03:32,699

Embedded inside the Orion Nebula is the Trapezium,

39

00:03:32,699 --> 00:03:36,199

a group of hot young stars so brilliant the

40

00:03:36,370 --> 00:03:40,500

they cause the surrounding gas to glow.

41

00:03:56,400 --> 00:03:59,500

Canis Major, the Great Dog,

42
00:03:59,500 --> 00:04:04,300
is the faithful companion who follows in Orion's footsteps.

43
00:04:05,699 --> 00:04:08,500
Canis Major is dominated by the most

44
00:04:08,500 --> 00:04:12,500
brilliant star in the night sky, Sirius.

45
00:04:12,500 --> 00:04:16,000
Sirius is actually a double system,

46
00:04:16,000 --> 00:04:18,399
containing a bright star

47
00:04:18,399 --> 00:04:22,399
and a much smaller and fainter companion.

48
00:04:22,399 --> 00:04:26,199
It is a mere 8.6 light-years away.

49
00:04:26,199 --> 00:04:29,599
Scanning with binoculars just below Sirius

50
00:04:29,600 --> 00:04:35,200
will reveal a lovely cluster of stars called M41.

51
00:04:35,199 --> 00:04:38,099
It contains about 100 stars,

52
00:04:38,100 --> 00:04:41,200
including several red giants.

53
00:04:41,199 --> 00:04:45,699
Stars in clusters like M41 were born together

54
00:04:45,699 --> 00:04:50,000
and are all about the same age.

55
00:05:02,600 --> 00:05:06,700
Jupiter ascends into the eastern sky around midnight

56

00:05:06,699 --> 00:05:09,399
and climbs high into the southeast

57
00:05:09,410 --> 00:05:12,500
during the early morning hours.

58
00:05:17,600 --> 00:05:21,800
Aim a telescope at Jupiter to view its cloud bands

59
00:05:21,800 --> 00:05:26,500
and to see how many of its moons you can spot.

60
00:05:37,000 --> 00:05:40,199
Saturn follows Jupiter into the southeast

61
00:05:40,199 --> 00:05:43,000
a few hours later.

62
00:05:51,100 --> 00:05:54,400
Catch a glimpse of Saturn's rings through
a telescope

63
00:05:54,399 --> 00:05:57,099
before the Sun comes up.

64
00:06:09,300 --> 00:06:12,100
Visible throughout most of the world,

65
00:06:12,100 --> 00:06:15,900
a penumbral lunar eclipse occurs in the late evening

66
00:06:15,899 --> 00:06:20,099
of February 10th or the early morning of February 11th,

67
00:06:20,100 --> 00:06:22,500
depending on the viewing location.

68
00:06:22,500 --> 00:06:25,000
The Moon will darken slightly

69
00:06:25,000 --> 00:06:30,300
as it passes through the outer edges of Earth's shadow.

70

00:06:30,300 --> 00:06:32,400

On February 26th,

71

00:06:32,399 --> 00:06:36,899

parts of South America, Africa, and Antarctica

72

00:06:36,899 --> 00:06:40,699

will be treated to either a partial solar eclipse

73

00:06:40,699 --> 00:06:42,899

or an annular eclipse,

74

00:06:42,899 --> 00:06:46,899

when the Moon blocks all but the outer edge of the Sun,

75

00:06:46,899 --> 00:06:51,399

leaving a glowing "ring of fire."

76

00:06:54,100 --> 00:06:58,700

The night sky is always a celestial showcase.

77

00:06:58,699 --> 00:07:04,300

Explore its wonders from your own backyard.