

1  
00:00:08,000 --> 00:00:11,000  
Your guide to constellations, deep-sky objects,

2  
00:00:11,019 --> 00:00:13,699  
planets and events. Tonight's Sky,

3  
00:00:13,699 --> 00:00:19,000  
Tonight's Sky, highlights of the February sky.

4  
00:00:37,880 --> 00:00:41,600  
Mars and Venus accompany each other in the west

5  
00:00:41,640 --> 00:00:45,000  
after sunset.

6  
00:00:54,320 --> 00:00:58,200  
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 --> 00:01:39,659  
dominates the winter sky.

12  
00:01:39,659 --> 00:01:43,700  
This constellation is among the easiest to recognize.

13  
00:01:43,760 --> 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 --> 00:01:58,739  
about 650 times bigger than the Sun.

18  
00:01:58,780 --> 00:02:04,700  
It shines with the brightness of tens of thousands of Suns.

19  
00:02:06,680 --> 00:02:10,300  
Betelgeuse is near the end of its life.

20  
00:02:10,360 --> 00:02:14,000  
With the fuel at the Star's core practically depleted,

21  
00:02:14,000 --> 00:02:17,319  
the core has contracted and heated,

22  
00:02:17,319 --> 00:02:21,519  
causing the outer gaseous layers of the star to swell.

23  
00:02:23,939 --> 00:02:28,719  
Rigel, one of Orion's "knees," is a triple-star system

24  
00:02:28,780 --> 00:02:34,199  
made up of two smaller stars orbiting a blue supergiant.

25  
00:02:34,280 --> 00:02:39,199  
Rigel's blue supergiant star has a short lifespan.

26  
00:02:39,219 --> 00:02:43,800  
Blue supergiant stars are much hotter than our Sun

27  
00:02:43,800 --> 00:02:47,040  
and use up their fuel quickly.

28  
00:02:47,699 --> 00:02:51,099  
Orion's Belt is easy to spot.

29

00:02:51,139 --> 00:02:56,399  
It is made up of three stars, Alnitak, Alnilam,

30  
00:02:56,419 --> 00:03:00,099  
and Mintaka.

31  
00:03:00,180 --> 00:03:02,620  
From the left side of Orion's Belt,

32  
00:03:02,620 --> 00:03:06,099  
look down to the Great Orion Nebula.

33  
00:03:06,120 --> 00:03:08,900  
Although barely visible to the naked eye,

34  
00:03:08,939 --> 00:03:13,000  
it is the brightest diffuse gas cloud in the night sky.

35  
00:03:13,000 --> 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  
00:03:28,199 --> 00:03:32,780  
Embedded inside the Orion Nebula is the Trapezium,

39  
00:03:32,860 --> 00:03:36,200  
a group of hot young stars so brilliant

40  
00:03:36,219 --> 00:03:40,500  
they cause the surrounding gas to glow.

41  
00:03:56,479 --> 00:03:59,560  
Canis Major, the Great Dog,

42  
00:03:59,580 --> 00:04:04,340  
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

00:04:12,580 --> 00:04:16,000

Sirius is actually a double system,

46

00:04:16,100 --> 00:04:18,400

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 --> 00:04:26,239

It is a mere 8.6 light-years away.

49

00:04:26,269 --> 00:04:29,599

Scanning with binoculars just below Sirius

50

00:04:29,620 --> 00:04:35,199

will reveal a lovely cluster of stars called M41.

51

00:04:35,220 --> 00:04:38,100

It contains about 100 stars

52

00:04:38,139 --> 00:04:41,219

including several red giants.

53

00:04:41,240 --> 00:04:45,699

Stars in clusters like M41 were born together

54

00:04:45,740 --> 00:04:50,000

and are all about the same age.

55

00:05:02,680 --> 00:05:06,720

Jupiter ascends into the eastern sky around midnight

56

00:05:06,740 --> 00:05:09,300

and climbs high into the southeast

57

00:05:09,379 --> 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 --> 00:05:26,540  
and to see how many of its moons you can spot.

60  
00:05:37,040 --> 00:05:40,200  
Saturn follows Jupiter into the southeast

61  
00:05:40,199 --> 00:05:43,039  
a few hours later.

62  
00:05:51,100 --> 00:05:53,000  
Catch a glimpse of Saturn's rings through a telescope

63  
00:05:54,420 --> 00:05:57,160  
before the Sun comes up.

64  
00:06:09,310 --> 00:06:12,189  
Visible throughout most of the world,

65  
00:06:12,189 --> 00:06:15,930  
a penumbral lunar eclipse occurs in the late evening

66  
00:06:15,980 --> 00:06:20,100  
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  
00:06:22,509 --> 00:06:25,029  
The Moon will darken slightly

69  
00:06:25,029 --> 00:06:30,299  
as it passes through the outer edges of Earth's shadow.

70  
00:06:30,339 --> 00:06:32,459  
On February 26th,

71  
00:06:32,459 --> 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, when the

74  
00:06:42,959 --> 00:06:46,899  
when the Moon blocks all but the outer edge of the Sun,

75  
00:06:46,959 --> 00:06:51,399  
leaving a glowing "ring of fire."

76  
00:06:54,110 --> 00:06:58,699  
The night sky is always a celestial showcase.

77  
00:06:58,699 --> 00:07:04,300  
Explore its wonders from your own backyard.