

1  
00:00:07,580 --> 00:00:09,560

Your guide to constellations,

2  
00:00:09,560 --> 00:00:14,359

deep-sky objects, planets, and events:

3  
00:00:14,359 --> 00:00:24,759

Tonight's Sky, highlights of the February sky.

4  
00:00:35,700 --> 00:00:39,980

The winter night sky, filled with brilliant stars,

5  
00:00:39,979 --> 00:00:47,179

presents one of the best celestial views.

6  
00:00:50,579 --> 00:00:54,239

Orion, the Great Hunter of Greek mythology,

7  
00:00:54,240 --> 00:00:59,620

dominates the winter sky.

8  
00:00:59,619 --> 00:01:04,039

This constellation is among the easiest to recognize.

9  
00:01:04,040 --> 00:01:10,340

It is full of young stars, dying stars, and many nebulae.

10  
00:01:10,340 --> 00:01:13,420

Betelgeuse, one of Orion's "shoulders,"

11  
00:01:13,420 --> 00:01:15,879

is a red supergiant star about

12  
00:01:15,879 --> 00:01:20,140

650 times bigger than the Sun.

13  
00:01:20,140 --> 00:01:23,180

It shines with the brightness of tens of

14  
00:01:23,180 --> 00:01:27,120

thousands of Suns.

15  
00:01:27,120 --> 00:01:30,140  
Betelgeuse is near the end of its life.

16  
00:01:30,140 --> 00:01:33,599  
With the fuel at the star's core practically depleted,

17  
00:01:33,599 --> 00:01:36,500  
the core has contracted and heated,

18  
00:01:36,500 --> 00:01:44,560  
causing the outer gaseous layers of the star to swell.

19  
00:01:44,560 --> 00:01:49,420  
Rigel, one of Orion's "knees," is a triple-star system

20  
00:01:49,420 --> 00:01:51,739  
made up of two smaller stars

21  
00:01:51,739 --> 00:01:54,759  
orbiting a blue supergiant.

22  
00:01:54,760 --> 00:01:59,980  
Rigel's blue supergiant star has a short lifespan.

23  
00:01:59,980 --> 00:02:04,240  
Blue supergiant stars are much hotter than our Sun

24  
00:02:04,239 --> 00:02:08,240  
and use up their fuel quickly.

25  
00:02:08,240 --> 00:02:12,280  
Orion's Belt is easy to spot.

26  
00:02:12,280 --> 00:02:17,439  
It is made up of three stars, Alnitak, Alnilam,

27  
00:02:17,439 --> 00:02:20,359  
and Mintaka.

28  
00:02:20,360 --> 00:02:22,680  
From the left side of Orion's Belt,

29

00:02:22,680 --> 00:02:26,599  
look down to the Great Orion Nebula.

30  
00:02:26,599 --> 00:02:29,460  
Although barely visible to the naked eye,

31  
00:02:29,460 --> 00:02:33,480  
it is the brightest diffuse gas cloud in the night sky.

32  
00:02:33,479 --> 00:02:36,979  
("Nebula" is Latin for "cloud.")

33  
00:02:36,979 --> 00:02:40,079  
A small telescope unveils the details and

34  
00:02:40,080 --> 00:02:48,160  
grandeur of the nebula.

35  
00:02:48,159 --> 00:02:52,479  
Embedded inside the Orion Nebula is the Trapezium,

36  
00:02:52,479 --> 00:02:56,060  
a group of hot young stars so brilliant

37  
00:02:56,060 --> 00:03:02,800  
they cause the surrounding gas to glow.

38  
00:03:16,639 --> 00:03:20,959  
Canis Major, the Great Dog, is the faithful companion

39  
00:03:20,960 --> 00:03:26,800  
who follows in Orion's footsteps.

40  
00:03:26,800 --> 00:03:30,560  
Canis Major is dominated by the most brilliant star

41  
00:03:30,560 --> 00:03:33,900  
in the night sky, Sirius.

42  
00:03:33,900 --> 00:03:37,560  
Sirius is actually a double system, containing a

43  
00:03:37,560 --> 00:03:42,479

bright star and a much smaller and fainter companion.

44

00:03:42,479 --> 00:03:46,500

It is a mere 8.6 light-years away.

45

00:03:46,500 --> 00:03:49,939

Scanning with binoculars just below Sirius

46

00:03:49,939 --> 00:03:54,919

will reveal a lovely cluster of stars called M41.

47

00:03:54,919 --> 00:03:57,619

It contains about 100 stars,

48

00:03:57,620 --> 00:04:00,640

including several red giants.

49

00:04:00,639 --> 00:04:05,179

Stars in clusters like M41 were born together

50

00:04:05,180 --> 00:04:14,060

and are all about the same age.

51

00:04:22,740 --> 00:04:25,759

Jupiter rises shortly after midnight,

52

00:04:25,759 --> 00:04:33,879

soon followed by Mars.

53

00:04:38,220 --> 00:04:42,440

A small telescope will reveal the cloud bands of Jupiter,

54

00:04:42,439 --> 00:04:44,439

and the reddish hue of Mars.

55

00:04:57,240 --> 00:05:01,240

On February 15, the Moon passes across the upper

56

00:05:01,240 --> 00:05:06,960

part of the solar disk, producing a partial solar eclipse.

57

00:05:06,959 --> 00:05:10,939

The eclipse will be visible only from southern South America

58

00:05:10,939 --> 00:05:16,860

and parts of Antarctica.

59

00:05:16,860 --> 00:05:23,520

The night sky is always a celestial showcase.

60

00:05:23,519 --> 00:05:31,359

Explore its wonders from your own backyard.