

TONIGHT'S SKY



February
2017

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

2
00:00:11,020 --> 00:00:13,700
planets and events. Tonight's Sky,

3
00:00:13,700 --> 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 --> 00:01:34,100
Orion, the great hunter of Greek mythology,

11
00:01:34,100 --> 00:01:39,660
dominates the winter sky.

12
00:01:39,660 --> 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 --> 00:01:49,300

and many nebulae.

15

00:01:49,300 --> 00:01:52,700

Betelgeuse, one of Orion's "shoulders,"

16

00:01:52,700 --> 00:01:55,300

is a red supergiant star

17

00:01:55,300 --> 00:01:58,740

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 --> 00:02:17,320

the core has contracted and heated,

22

00:02:17,320 --> 00:02:21,520

causing the outer gaseous layers of the star to swell.

23

00:02:23,940 --> 00:02:28,720

Rigel, one of Orion's "knees," is a triple-star system

24

00:02:28,780 --> 00:02:34,200

made up of two smaller stars orbiting a blue supergiant.

25

00:02:34,280 --> 00:02:39,200

Rigel's blue supergiant star has a short lifespan.

26
00:02:39,220 --> 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
00:02:47,700 --> 00:02:51,100
Orion's Belt is easy to spot.

29
00:02:51,140 --> 00:02:56,400
It is made up of three stars, Alnitak, Alnilam,

30
00:02:56,420 --> 00:03:00,100
and Mintaka.

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

32
00:03:02,620 --> 00:03:06,100
look down to the Great Orion Nebula.

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

34
00:03:08,940 --> 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
00:03:28,200 --> 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

00:03:36,220 --> 00:03:40,500

they cause the surrounding gas to glow.

41

00:03:56,480 --> 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

00:04:05,700 --> 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

00:04:18,400 --> 00:04:22,400

and a much smaller and fainter companion.

48

00:04:22,400 --> 00:04:26,240

It is a mere 8.6 light-years away.

49

00:04:26,270 --> 00:04:29,600

Scanning with binoculars just below Sirius

50

00:04:29,620 --> 00:04:35,200

will reveal a lovely cluster of stars called M41.

- 51
00:04:35,220 --> 00:04:38,100
It contains about 100 stars
- 52
00:04:38,140 --> 00:04:41,220
including several red giants.
- 53
00:04:41,240 --> 00:04:45,700
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
00:05:09,380 --> 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
00:05:40,200 --> 00:05:43,040
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 --> 00:06:12,190

Visible throughout most of the world,

65

00:06:12,190 --> 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

00:06:22,510 --> 00:06:25,030

The Moon will darken slightly

69

00:06:25,030 --> 00:06:30,300

as it passes through the outer edges of Earth's shadow.

70

00:06:30,340 --> 00:06:32,460

On February 26th,

71

00:06:32,460 --> 00:06:36,900

parts of South America, Africa, and Antarctica

72

00:06:36,900 --> 00:06:40,700

will be treated to either a partial solar eclipse

73

00:06:40,700 --> 00:06:42,900

or an annular eclipse, when the

74

00:06:42,960 --> 00:06:46,900

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

75

00:06:46,960 --> 00:06:51,400

leaving a glowing "ring of fire."

