TONIGHT'S SKY

February 2017

1
00:00:08,540 --> 00:00:11,000
Your guide to constellations, deep-sky objects,

2
00:00:11,000 --> 00:00:13,700
planets and events.

3
00:00:13,799 --> 00:00:19,100
Tonight's Sky, highlights of the February
Sky.

4
00:00:38,180 --> 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
00:00:54,900 --> 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 --> 00:01:37,560
dominates the winter sky.

12
00:01:39,600 --> 00:01:43,700
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 --> 00:01:49,300
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 --> 00:01:58,700
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
00:02:06,600 --> 00:02:10,300
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
00:02:28,700 --> 00:02:34,200
made up of two smaller stars orbiting a blue supergiant.

25
00:02:34,200 --> 00:02:39,200
Rigel’s blue supergiant star has a short
lifespan.

26
00:02:39,200 --> 00:02:43,800
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
00:02:47,700 --> 00:02:51,100
Orion’s Belt is easy to spot.

29
00:02:51,100 --> 00:02:56,400
It is made up of three stars, Alnitak, Alnilam,

30
00:02:56,400 --> 00:03:00,100
and Mintaka.

31
00:03:00,100 --> 00:03:02,600
From the left side of Orion’s Belt,

32
00:03:02,600 --> 00:03:06,100
look down to the Great Orion Nebula.

33
00:03:06,100 --> 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
00:03:28,379 --> 00:03:32,700
Embedded inside the Orion Nebula is the Trapezium,

39
00:03:32,700 --> 00:03:36,200
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
00:04:05,700 --> 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
00:04:12,500 --> 00:04:16,000
Sirius is actually a double system,

46
00:04:16,000 --> 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 --> 00:04:26,200
It is a mere 8.6 light-years away.

49
00:04:26,200 --> 00:04:29,600

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
00:04:35,200 --> 00:04:38,100
It contains about 100 stars,

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

53
00:04:41,200 --> 00:04:45,700
Stars in clusters like M41 were born together

54
00:04:45,700 --> 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
00:05:06,700 --> 00:05:09,400
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 --> 00:05:40,200
Saturn follows Jupiter into the southeast

61
00:05:40,200 --> 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
00:05:54,400 --> 00:05:57,100
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
00:06:15,900 --> 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
00:06:22,500 --> 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
00:06:32,400 --> 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,

74

00:06:42,900 --> 00:06:46,900
when the Moon blocks all but the outer edge of the Sun,

75
00:06:46,900 --> 00:06:51,400
leaving a glowing “ring of fire.”