

1
00:00:00,190 --> 00:00:06,660
[Music]

2
00:00:07,549 --> 00:00:14,218
your guide to constellations deep-sky

3
00:00:10,609 --> 00:00:18,280
objects planets and events tonight's sky

4
00:00:14,218 --> 00:00:24,899
highlights of the February sky

5
00:00:18,280 --> 00:00:24,899
[Music]

6
00:00:37,659 --> 00:00:42,709
Mars and Venus accompany each other in

7
00:00:40,630 --> 00:00:54,100
the West after sunset

8
00:00:42,710 --> 00:00:57,340
[Music]

9
00:00:54,100 --> 00:01:02,308
use a telescope to search for features

10
00:00:57,340 --> 00:01:02,309
on Mars or the crescent phase of Venus

11
00:01:02,600 --> 00:01:08,028
[Music]

12
00:01:15,329 --> 00:01:20,789
the winter night sky filled with

13
00:01:18,030 --> 00:01:24,019
brilliant stars presents one of the best

14
00:01:20,790 --> 00:01:24,020
celestial views

15
00:01:30,310 --> 00:01:39,969
Orion the great hunter of Greek

16
00:01:33,069 --> 00:01:42,548
mythology dominates the winter sky this

17
00:01:39,969 --> 00:01:45,728
constellation is among the easiest to

18
00:01:42,549 --> 00:01:50,350
recognize it is full of young stars

19
00:01:45,728 --> 00:01:53,489
dying stars and many nebulae Betelgeuse

20
00:01:50,349 --> 00:01:57,609
one of Orion's shoulders is a red

21
00:01:53,489 --> 00:01:59,978
supergiant star about 650 times bigger

22
00:01:57,609 --> 00:02:05,099
than the Sun it shines with the

23
00:01:59,978 --> 00:02:05,099
brightness of tens of thousands of Suns

24
00:02:06,509 --> 00:02:12,310
Betelgeuse is near the end of its life

25
00:02:09,689 --> 00:02:15,129
with the fuel at the Stars core

26
00:02:12,310 --> 00:02:18,129
practically depleted the core have

27
00:02:15,129 --> 00:02:22,859
contracted and heated causing the outer

28
00:02:18,129 --> 00:02:22,859
gaseous layers of the star to swell

29

00:02:23,699 --> 00:02:30,818
Rigel one of Orion's knees is a triple

30
00:02:27,580 --> 00:02:35,320
star system made up of two smaller stars

31
00:02:30,818 --> 00:02:38,699
orbiting a blue supergiant Rigel z' blue

32
00:02:35,319 --> 00:02:42,400
supergiant star has a short lifespan

33
00:02:38,699 --> 00:02:44,768
blue supergiant stars are much hotter

34
00:02:42,400 --> 00:02:50,650
than our Sun and use up their fuel

35
00:02:44,769 --> 00:02:53,670
quickly Orion's belt is easy to spot it

36
00:02:50,650 --> 00:02:58,170
is made up of three stars Alnitak

37
00:02:53,669 --> 00:02:58,169
Alnilam and Mintaka

38
00:02:59,479 --> 00:03:05,569
from the left side of Orion's belt look

39
00:03:02,879 --> 00:03:08,400
down to the great Orion Nebula

40
00:03:05,569 --> 00:03:11,430
although barely visible to the naked eye

41
00:03:08,400 --> 00:03:14,789
it is the brightest diffused gas cloud

42
00:03:11,430 --> 00:03:18,719
in the night sky nebula is Latin for

43
00:03:14,789 --> 00:03:22,009

cloud a small telescope unveils the

44

00:03:18,719 --> 00:03:27,889

details and grandeur of the nebula

45

00:03:22,009 --> 00:03:31,408

[Music]

46

00:03:27,889 --> 00:03:35,309

embedded inside the Orion Nebula is the

47

00:03:31,408 --> 00:03:37,919

trapezium a group of hot young stars so

48

00:03:35,310 --> 00:03:38,770

brilliant they cause the surrounding gas

49

00:03:37,919 --> 00:03:56,279

to glow

50

00:03:38,770 --> 00:03:59,879

[Music]

51

00:03:56,280 --> 00:04:02,189

Canis Major the great dog is the

52

00:03:59,879 --> 00:04:06,900

faithful companion who follows in

53

00:04:02,189 --> 00:04:09,509

Orion's footsteps Canis Major is

54

00:04:06,900 --> 00:04:14,219

dominated by the most brilliant star in

55

00:04:09,509 --> 00:04:17,819

the night sky Sirius Sirius is actually

56

00:04:14,219 --> 00:04:21,238

a double system containing a bright star

57

00:04:17,819 --> 00:04:25,969

and a much smaller and fainter companion

58
00:04:21,238 --> 00:04:28,620
it is a mere 8.6 light-years away

59
00:04:25,970 --> 00:04:31,890
scanning with binoculars just below

60
00:04:28,620 --> 00:04:36,750
Sirius will reveal a lovely cluster of

61
00:04:31,889 --> 00:04:41,849
stars called m41 it contains about 100

62
00:04:36,750 --> 00:04:45,180
stars including several red giants stars

63
00:04:41,850 --> 00:04:49,370
in clusters like m41 were born together

64
00:04:45,180 --> 00:04:49,370
and are all about the same age

65
00:04:52,120 --> 00:04:55,209
[Music]

66
00:05:02,228 --> 00:05:08,329
Jupiter ascends into the eastern sky

67
00:05:04,699 --> 00:05:11,199
around midnight and climbs high into the

68
00:05:08,329 --> 00:05:16,838
southeast during the early morning hours

69
00:05:11,199 --> 00:05:20,418
[Music]

70
00:05:16,838 --> 00:05:23,300
aim a telescope at Jupiter to view its

71
00:05:20,418 --> 00:05:23,868
cloud bands and to see how many of its

72
00:05:23,300 --> 00:05:25,560
moons

73
00:05:23,869 --> 00:05:36,639
you can spot

74
00:05:25,560 --> 00:05:39,408
[Music]

75
00:05:36,639 --> 00:05:41,550
Saturn follows Jupiter into the

76
00:05:39,408 --> 00:05:49,449
southeast a few hours later

77
00:05:41,550 --> 00:05:49,449
[Music]

78
00:05:50,449 --> 00:05:55,560
catch a glimpse of Saturn's rings

79
00:05:52,649 --> 00:05:55,969
through a telescope before the Sun comes

80
00:05:55,560 --> 00:06:07,298
up

81
00:05:55,970 --> 00:06:07,299
[Music]

82
00:06:09,120 --> 00:06:14,819
visible throughout most of the world a

83
00:06:12,019 --> 00:06:18,089
penumbral lunar eclipse occurs in the

84
00:06:14,819 --> 00:06:20,879
late evening of February 10 or the early

85
00:06:18,089 --> 00:06:23,369
morning of February 11th depending on

86

00:06:20,879 --> 00:06:26,159
the viewing location the moon will

87
00:06:23,370 --> 00:06:30,228
darken slightly as it passes through the

88
00:06:26,160 --> 00:06:33,889
outer edges of Earth's shadow on

89
00:06:30,228 --> 00:06:38,069
February 26 parts of South America

90
00:06:33,889 --> 00:06:41,189
Africa and Antarctica will be treated to

91
00:06:38,069 --> 00:06:44,339
either a partial solar eclipse or an

92
00:06:41,189 --> 00:06:47,639
annular eclipse when the moon blocks all

93
00:06:44,339 --> 00:06:51,138
but the outer edge of the Sun leaving a

94
00:06:47,639 --> 00:06:51,139
glowing Ring of Fire

95
00:06:53,418 --> 00:06:58,459
the night sky is always a celestial

96
00:06:57,300 --> 00:07:00,870
showcase

97
00:06:58,459 --> 00:07:01,979
explore its wonders from your own

98
00:07:00,870 --> 00:07:24,329
backyard

99
00:07:01,980 --> 00:07:24,329
[Music]