

1  
00:00:01,899 --> 00:00:09,410  
[Music]

2  
00:00:06,378 --> 00:00:15,689  
your guide to constellations deep-sky

3  
00:00:09,410 --> 00:00:19,030  
objects planets and events tonight's sky

4  
00:00:15,689 --> 00:00:35,960  
highlights of the August sky

5  
00:00:19,030 --> 00:00:39,739  
[Music]

6  
00:00:35,960 --> 00:00:44,198  
soon after sunset look to the west to

7  
00:00:39,738 --> 00:00:44,198  
find Jupiter king of planets

8  
00:00:49,070 --> 00:00:55,960  
use a telescope to glimpse its cloud

9  
00:00:52,009 --> 00:00:55,960  
bands and some of its moons

10  
00:00:56,210 --> 00:00:59,280  
[Music]

11  
00:01:02,079 --> 00:01:06,780  
Saturn spends these August evenings

12  
00:01:04,790 --> 00:01:10,069  
perched in the southern sky

13  
00:01:06,780 --> 00:01:10,069  
[Music]

14  
00:01:12,540 --> 00:01:16,849  
[Music]

15  
00:01:18,060 --> 00:01:23,820  
catch sight of its famous rings through

16  
00:01:21,340 --> 00:01:23,820  
a telescope

17  
00:01:29,370 --> 00:01:39,670  
[Music]

18  
00:01:36,328 --> 00:01:43,559  
stargazing on a hot August night reveals

19  
00:01:39,670 --> 00:01:43,560  
a multitude of wonders

20  
00:01:45,810 --> 00:01:53,590  
Lyra the small harp lies high in the

21  
00:01:49,810 --> 00:01:56,349  
late evening sky its main star is the

22  
00:01:53,590 --> 00:02:00,520  
great Vega one of the brightest in the

23  
00:01:56,349 --> 00:02:03,959  
sky look for Lyra by locating Vega and

24  
00:02:00,519 --> 00:02:07,539  
then the parallelogram of stars nearby

25  
00:02:03,959 --> 00:02:11,079  
epsilon Lyra the bright star near Vega

26  
00:02:07,539 --> 00:02:19,150  
is actually a wonderful quadruple star

27  
00:02:11,079 --> 00:02:22,390  
system known as the double-double in the

28  
00:02:19,150 --> 00:02:26,439  
parallelogram of Lyra lies the dramatic

29

00:02:22,389 --> 00:02:29,708  
ring nebula it is an expanding shell of

30  
00:02:26,439 --> 00:02:32,789  
glowing gas expelled by the dying star

31  
00:02:29,709 --> 00:02:32,789  
at its center

32  
00:02:40,878 --> 00:02:47,810  
the great constellation Cygnus the Swan

33  
00:02:45,019 --> 00:02:51,030  
flies high through the August night

34  
00:02:47,810 --> 00:02:54,079  
using bright Vega as your guide star

35  
00:02:51,030 --> 00:02:57,419  
look for the cross just to the east

36  
00:02:54,079 --> 00:03:00,299  
Cygnus is also known as the northern

37  
00:02:57,419 --> 00:03:03,208  
cross Albireo

38  
00:03:00,299 --> 00:03:07,170  
at the head of the Swan is a showpiece

39  
00:03:03,209 --> 00:03:09,628  
for small telescopes this spectacular

40  
00:03:07,169 --> 00:03:13,699  
pair of stars features contrasting

41  
00:03:09,628 --> 00:03:17,729  
colors of sapphire and golden topaz

42  
00:03:13,699 --> 00:03:21,479  
denim the Swans tail is a supergiant

43  
00:03:17,729 --> 00:03:23,729

star if den have replaced the Sun in the

44

00:03:21,479 --> 00:03:27,899

center of our solar system it would

45

00:03:23,729 --> 00:03:31,138

engulf Mercury and Venus on a clear

46

00:03:27,900 --> 00:03:33,599

night hazy patches of nebulae can be

47

00:03:31,139 --> 00:03:39,450

seen by casually panning across the

48

00:03:33,598 --> 00:03:42,000

Cygnus area with binoculars the most

49

00:03:39,449 --> 00:03:45,568

prominent is the North American nebula

50

00:03:42,000 --> 00:03:55,378

an area of gas and dust illuminated by

51

00:03:45,568 --> 00:03:59,339

the nearby brilliant star Deneb Cygnus

52

00:03:55,378 --> 00:04:04,969

also hosts several clusters of stars the

53

00:03:59,340 --> 00:04:08,310

easiest to find are M 29 and M 39

54

00:04:04,969 --> 00:04:10,710

m29 is found near the center of the

55

00:04:08,310 --> 00:04:14,810

northern cross when viewed in a small

56

00:04:10,710 --> 00:04:17,360

telescope it resembles a small square

57

00:04:14,810 --> 00:04:21,180

best seen in binoculars

58  
00:04:17,360 --> 00:04:22,350  
m39 is a loosely bound cluster of about

59  
00:04:21,180 --> 00:04:30,569  
30 stars

60  
00:04:22,350 --> 00:04:33,260  
just to the north of Deneb just south of

61  
00:04:30,569 --> 00:04:37,529  
Cygnus lies the small constellation

62  
00:04:33,259 --> 00:04:40,439  
vulpecula the little fox first charted

63  
00:04:37,529 --> 00:04:48,239  
by polish astronomer johannes hevelius

64  
00:04:40,439 --> 00:04:50,819  
in the 17th century vulpecula hosts the

65  
00:04:48,240 --> 00:04:54,360  
dumbbell nebula which can be seen as a

66  
00:04:50,819 --> 00:04:59,209  
faint smudge in binoculars a small

67  
00:04:54,360 --> 00:05:20,050  
telescope reveals its double-lobed shape

68  
00:04:59,209 --> 00:05:23,209  
[Music]

69  
00:05:20,050 --> 00:05:27,790  
Aquila the Eagle was known to the

70  
00:05:23,209 --> 00:05:31,310  
ancient Greeks as the great bird of Zeus

71  
00:05:27,790 --> 00:05:36,129  
altair the brightest star in Aquila is

72  
00:05:31,310 --> 00:05:36,129  
only 16 light-years from Earth

73  
00:05:38,129 --> 00:05:42,350  
[Music]

74  
00:05:46,970 --> 00:05:54,470  
the bright stars of the summer night sky

75  
00:05:49,750 --> 00:05:59,750  
Vega Altair and Deneb make up a summer

76  
00:05:54,470 --> 00:06:02,540  
triangle use binoculars to look for the

77  
00:05:59,750 --> 00:06:06,519  
coat hanger located halfway between

78  
00:06:02,540 --> 00:06:06,520  
Altair and Albireo

79  
00:06:13,819 --> 00:06:19,490  
this remarkable little group of stars

80  
00:06:16,430 --> 00:06:21,610  
forms a familiar pattern from our point

81  
00:06:19,490 --> 00:06:30,838  
of view

82  
00:06:21,610 --> 00:06:30,838  
[Music]

83  
00:06:33,259 --> 00:06:39,129  
the appearance of Venus in the East

84  
00:06:35,959 --> 00:06:42,229  
announces that dawn is approaching

85  
00:06:39,129 --> 00:06:42,230  
[Music]

86

00:06:45,170 --> 00:06:51,270

[Music]

87

00:06:47,779 --> 00:06:54,750

before the sky grows bright catch a

88

00:06:51,269 --> 00:07:04,778

glimpse of Venus through a telescope

89

00:06:54,750 --> 00:07:04,778

[Music]

90

00:07:05,120 --> 00:07:11,939

skywatchers in Eastern Europe Africa

91

00:07:08,100 --> 00:07:14,879

Asia and Australia who have the chance

92

00:07:11,939 --> 00:07:17,810

to see a partial lunar eclipse on August

93

00:07:14,879 --> 00:07:21,480

7th and 8th depending on their location

94

00:07:17,810 --> 00:07:23,160

the moon will darken slightly as it

95

00:07:21,480 --> 00:07:32,850

passes through the edge of Earth's

96

00:07:23,160 --> 00:07:36,030

shadow the Perseid meteor shower is an

97

00:07:32,850 --> 00:07:38,810

always anticipated feature of the August

98

00:07:36,029 --> 00:07:38,809

night sky

99

00:07:43,120 --> 00:07:49,740

look for meteors during the early

100

00:07:45,769 --> 00:07:53,319

morning hours of August 12 and 13

101

00:07:49,740 --> 00:07:56,269

[Music]

102

00:07:53,319 --> 00:07:59,000

unfortunately abundant moonlight will

103

00:07:56,269 --> 00:08:01,939

likely limit the show this year allowing

104

00:07:59,000 --> 00:08:10,459

sky watchers to see only the brightest

105

00:08:01,939 --> 00:08:12,319

meteors on August 21st a total solar

106

00:08:10,459 --> 00:08:14,750

eclipse will Wow

107

00:08:12,319 --> 00:08:17,329

millions of sky watchers across the

108

00:08:14,750 --> 00:08:23,810

United States along a path stretching

109

00:08:17,329 --> 00:08:26,029

from Oregon to South Carolina a partial

110

00:08:23,810 --> 00:08:29,149

solar eclipse will also be visible

111

00:08:26,029 --> 00:08:35,598

throughout the continental US Canada

112

00:08:29,149 --> 00:08:39,908

Mexico and Central America the night sky

113

00:08:35,599 --> 00:08:39,908

is always a celestial showcase

114

00:08:41,469 --> 00:08:45,690

explore its wonders from your own



115

00:08:44,029 --> 00:09:01,389

backyard

116

00:08:45,690 --> 00:09:03,450

[Music]

117

00:09:01,389 --> 00:09:03,449

you