

1
00:00:01,899 --> 00:00:06,380
[Music]

2
00:00:08,300 --> 00:00:15,599
your guide to constellations deep-sky

3
00:00:11,509 --> 00:00:18,780
objects planets and events tonight's sky

4
00:00:15,599 --> 00:00:37,629
highlights of the August sky

5
00:00:18,780 --> 00:00:41,090
[Music]

6
00:00:37,628 --> 00:00:42,949
bright Venus hangs low in the western

7
00:00:41,090 --> 00:00:54,820
sky at nightfall

8
00:00:42,950 --> 00:00:57,040
[Music]

9
00:00:54,820 --> 00:00:59,409
a backyard telescope reveals the

10
00:00:57,039 --> 00:01:02,179
sunlight reflecting off the clouds of

11
00:00:59,409 --> 00:01:10,069
Venus's thick atmosphere

12
00:01:02,179 --> 00:01:10,069
[Music]

13
00:01:12,599 --> 00:01:20,530
jupiter largest of the planets shines in

14
00:01:16,269 --> 00:01:23,649
the southwest on the 15th Jupiter Venus

15
00:01:20,530 --> 00:01:30,599
and the crescent moon form a beautiful

16
00:01:23,650 --> 00:01:34,110
arc in the sky a small telescope reveals

17
00:01:30,599 --> 00:01:43,949
Jupiter's major cloud bands

18
00:01:34,109 --> 00:01:48,039
[Music]

19
00:01:43,950 --> 00:01:51,280
in the southeast Mars and Saturn shine

20
00:01:48,040 --> 00:01:54,849
on either side of Sagittarius

21
00:01:51,280 --> 00:01:54,849
[Music]

22
00:01:58,969 --> 00:02:06,719
telescope views show two very different

23
00:02:02,340 --> 00:02:09,599
planets one a gas giant with rings the

24
00:02:06,719 --> 00:02:11,479
other a much smaller terrestrial or

25
00:02:09,599 --> 00:02:21,090
earth-like world

26
00:02:11,479 --> 00:02:21,089
[Music]

27
00:02:22,360 --> 00:02:29,290
stargazing on a hot August night reveals

28
00:02:25,550 --> 00:02:29,290
a multitude of wonders

29

00:02:31,479 --> 00:02:39,098
Lyra the small harp lies high in the

30
00:02:35,110 --> 00:02:41,680
late evening sky its main star is the

31
00:02:39,098 --> 00:02:45,639
great Vega one of the brightest in the

32
00:02:41,680 --> 00:02:50,489
sky look for Lyra by locating Vega and

33
00:02:45,639 --> 00:02:53,829
then the parallelogram of stars nearby

34
00:02:50,489 --> 00:02:57,250
epsilon Lyra the bright star near Vega

35
00:02:53,830 --> 00:03:00,980
is actually a wonderful quadruple star

36
00:02:57,250 --> 00:03:03,979
system known as the double-double

37
00:03:00,979 --> 00:03:07,439
[Music]

38
00:03:03,979 --> 00:03:11,639
in the parallelogram of Lyra lies the

39
00:03:07,439 --> 00:03:14,639
dramatic ring nebula it is an expanding

40
00:03:11,639 --> 00:03:17,829
shell of glowing gas expelled by the

41
00:03:14,639 --> 00:03:26,129
dying star at its center

42
00:03:17,830 --> 00:03:29,630
[Music]

43
00:03:26,129 --> 00:03:33,590

the great constellation Cygnus the Swan

44

00:03:29,629 --> 00:03:36,719

flies high through the August night

45

00:03:33,590 --> 00:03:40,340

using bright Vega as your guide star

46

00:03:36,719 --> 00:03:43,530

look for the cross just to the east

47

00:03:40,340 --> 00:03:47,969

Cygnus is also known as the northern

48

00:03:43,530 --> 00:03:51,990

cross Albireo at the head of the Swan is

49

00:03:47,969 --> 00:03:54,719

a showpiece for small telescopes this

50

00:03:51,990 --> 00:03:57,270

spectacular pair of stars features

51

00:03:54,719 --> 00:04:02,569

contrasting colors of sapphire and

52

00:03:57,270 --> 00:04:06,480

golden topaz Deneb the Swans tail is a

53

00:04:02,569 --> 00:04:09,120

supergiant star if Deneb replaced the

54

00:04:06,479 --> 00:04:13,679

Sun in the center of our solar system it

55

00:04:09,120 --> 00:04:16,829

would engulf Mercury and Venus on a

56

00:04:13,680 --> 00:04:19,560

clear night hazy patches of nebulae can

57

00:04:16,829 --> 00:04:25,109

be seen by casually panning across the

58
00:04:19,560 --> 00:04:27,689
Cygnus area with binoculars the most

59
00:04:25,110 --> 00:04:31,080
prominent is the North American nebula

60
00:04:27,689 --> 00:04:34,329
an area of gas and dust illuminated by

61
00:04:31,079 --> 00:04:37,430
the nearby brilliant star Deneb

62
00:04:34,329 --> 00:04:37,430
[Music]

63
00:04:40,050 --> 00:04:48,160
cygnus also hosts several clusters of

64
00:04:43,360 --> 00:04:53,080
stars the easiest to find are m-29 and M

65
00:04:48,160 --> 00:04:55,450
39 m 29 is found near the centre of the

66
00:04:53,079 --> 00:05:00,180
northern cross when viewed in a small

67
00:04:55,449 --> 00:05:02,610
telescope it resembles a small square

68
00:05:00,180 --> 00:05:06,340
best seen in binoculars

69
00:05:02,610 --> 00:05:15,580
m39 is a loosely bound cluster of about

70
00:05:06,339 --> 00:05:17,859
30 stars just to the north of Deneb just

71
00:05:15,579 --> 00:05:21,389
south of Cygnus lies the small

72
00:05:17,860 --> 00:05:24,330
constellation vulpecula the little fox

73
00:05:21,389 --> 00:05:28,199
first charted by Polish astronomer

74
00:05:24,329 --> 00:05:31,500
johannes hevelius in the 17th century

75
00:05:28,199 --> 00:05:34,689
[Music]

76
00:05:31,500 --> 00:05:37,449
vulpecula hosts the dumbbell nebula

77
00:05:34,689 --> 00:05:41,529
which can be seen as a faint smudge in

78
00:05:37,449 --> 00:05:43,269
binoculars a small telescope reveals its

79
00:05:41,529 --> 00:06:05,439
double-lobed shape

80
00:05:43,269 --> 00:06:08,509
[Music]

81
00:06:05,439 --> 00:06:13,269
Aquila the Eagle was known to the

82
00:06:08,509 --> 00:06:16,730
ancient Greeks as the great bird of Zeus

83
00:06:13,269 --> 00:06:21,519
altair the brightest star in Aquila is

84
00:06:16,730 --> 00:06:21,520
only 16 light-years from Earth

85
00:06:21,610 --> 00:06:30,850
[Music]

86

00:06:33,279 --> 00:06:40,818
the bright stars of the summer night sky

87
00:06:36,249 --> 00:06:45,379
Vega Altair and Deneb make up the summer

88
00:06:40,819 --> 00:06:47,840
triangle use binoculars to look for the

89
00:06:45,379 --> 00:06:50,470
coat hanger located halfway between

90
00:06:47,839 --> 00:06:57,878
Altair and Albireo

91
00:06:50,470 --> 00:06:57,879
[Music]

92
00:06:58,490 --> 00:07:04,199
this remarkable little group of stars

93
00:07:01,319 --> 00:07:19,949
forms a familiar pattern from our point

94
00:07:04,199 --> 00:07:22,288
of view Comet Jaco beanie inner may

95
00:07:19,949 --> 00:07:25,228
become visible this month as it

96
00:07:22,288 --> 00:07:29,449
approaches the Sun in its six and a half

97
00:07:25,228 --> 00:07:33,089
year orbit its path will take it past

98
00:07:29,449 --> 00:07:34,650
Cassiopeia and Perseus during August and

99
00:07:33,089 --> 00:07:38,909
then past

100
00:07:34,649 --> 00:07:41,879

Araya in early September use binoculars

101

00:07:38,910 --> 00:07:49,139

to look for its fuzzy glowing head and

102

00:07:41,879 --> 00:07:51,810

short dim tail on August 11th sky

103

00:07:49,139 --> 00:07:54,960

watchers in remote northern Canada and

104

00:07:51,810 --> 00:07:57,629

Russia will be able to witness a partial

105

00:07:54,959 --> 00:08:05,698

solar eclipse as the moon passes between

106

00:07:57,629 --> 00:08:08,300

Earth and the Sun shortly after the

107

00:08:05,699 --> 00:08:10,590

Perseid meteor shower an always

108

00:08:08,300 --> 00:08:15,870

anticipated feature of the August night

109

00:08:10,589 --> 00:08:18,448

sky will peak look for meteors during

110

00:08:15,870 --> 00:08:23,069

the early morning hours of August 12th

111

00:08:18,449 --> 00:08:26,400

and 13th with the moon out of the way

112

00:08:23,069 --> 00:08:29,848

the sky will be dark and several dozen

113

00:08:26,399 --> 00:08:35,009

meteors per hour may be seen under good

114

00:08:29,848 --> 00:08:37,819

conditions the night sky is always a

115
00:08:35,009 --> 00:08:37,819
celestial showcase

116
00:08:39,379 --> 00:08:43,220
explore its wonders from your own

117
00:08:41,729 --> 00:08:58,700
backyard

118
00:08:43,220 --> 00:08:58,700
[Music]

119
00:08:59,458 --> 00:09:03,518
you

120
00:09:00,440 --> 00:09:03,519
[Music]