
Credit: Bill Dunford

1
00:00:04,309 --> 00:00:02,470
[Music]

2
00:00:06,309 --> 00:00:04,319
what's up for june

3
00:00:08,070 --> 00:00:06,319
a planetary breakup

4
00:00:11,669 --> 00:00:08,080
prime viewing for a well-known star

5
00:00:13,990 --> 00:00:11,679
cluster and the constellation lyra

6
00:00:15,589 --> 00:00:14,000
the gathering of four naked eye planets

7
00:00:17,349 --> 00:00:15,599
we've been enjoying in the morning sky

8
00:00:19,670 --> 00:00:17,359
for the past few months including

9
00:00:21,189 --> 00:00:19,680
several close conjunctions is beginning

10
00:00:23,990 --> 00:00:21,199
to break up

11
00:00:25,750 --> 00:00:24,000
over the next few months saturn mars

12
00:00:27,589 --> 00:00:25,760
jupiter and venus will appear

13
00:00:30,230 --> 00:00:27,599

increasingly spread out across the

14
00:00:32,150 --> 00:00:30,240
morning sky so much so that venus and

15
00:00:35,030 --> 00:00:32,160
saturn will make their exits as morning

16
00:00:37,270 --> 00:00:35,040
objects for most observers by september

17
00:00:39,510 --> 00:00:37,280
look for this increasingly spaced out

18
00:00:41,270 --> 00:00:39,520
planetary procession in june and note

19
00:00:44,709 --> 00:00:41,280
that the crescent moon jumps into the

20
00:00:46,549 --> 00:00:44,719
lineup on the morning of the 23rd

21
00:00:49,270 --> 00:00:46,559
june is an excellent time to observe one

22
00:00:53,510 --> 00:00:49,280
of the best known globular star clusters

23
00:00:55,590 --> 00:00:53,520
m13 also known as the hercules cluster

24
00:00:57,670 --> 00:00:55,600
globular clusters are spherical

25
00:00:59,349 --> 00:00:57,680
collections of stars tightly packed

26
00:01:01,830 --> 00:00:59,359
together in their centers

27
00:01:03,430 --> 00:01:01,840
m13 itself contains several hundred

28
00:01:06,789 --> 00:01:03,440
thousand stars

29
00:01:08,710 --> 00:01:06,799
globular clusters are also extremely old

30
00:01:11,030 --> 00:01:08,720
the stars in m13 are thought to be

31
00:01:13,030 --> 00:01:11,040
around 12 billion years old which is

32
00:01:14,469 --> 00:01:13,040
approaching the age of the universe

33
00:01:16,469 --> 00:01:14,479
itself

34
00:01:19,270 --> 00:01:16,479
our home galaxy the milky way is known

35
00:01:21,670 --> 00:01:19,280
to have about 150 globular clusters they

36
00:01:23,429 --> 00:01:21,680
orbit outside the galaxy's disk

37
00:01:25,350 --> 00:01:23,439
traveling tens of thousands of light

38
00:01:27,190 --> 00:01:25,360

years above and below its spiral arms

39
00:01:28,870 --> 00:01:27,200
and most of its stars

40
00:01:30,710 --> 00:01:28,880
now the hercules cluster is best

41
00:01:32,630 --> 00:01:30,720
observed with a telescope and larger

42
00:01:34,950 --> 00:01:32,640
telescopes will allow you to see more of

43
00:01:36,630 --> 00:01:34,960
the cluster's stars but you can also

44
00:01:45,590 --> 00:01:36,640
find it with a pair of binoculars where

45
00:01:49,910 --> 00:01:48,310
find m13 in the constellation hercules

46
00:01:52,310 --> 00:01:49,920
which is high in the east in the first

47
00:01:54,710 --> 00:01:52,320
couple of hours after dark in june

48
00:01:55,990 --> 00:01:54,720
first look for the bright stars vega and

49
00:01:57,910 --> 00:01:56,000
arcturus

50
00:01:59,910 --> 00:01:57,920
then find the four stars that comprise

51
00:02:02,069 --> 00:01:59,920
the keystone which is the pattern making

52
00:02:04,069 --> 00:02:02,079
up the central part of hercules

53
00:02:06,230 --> 00:02:04,079
you'll find m13 about a third of the way

54
00:02:08,710 --> 00:02:06,240
between the two stars on the western or

55
00:02:10,869 --> 00:02:08,720
leading side of the keystone

56
00:02:13,750 --> 00:02:10,879
so check out the great globular cluster

57
00:02:15,910 --> 00:02:13,760
in hercules m13 in june and find

58
00:02:18,229 --> 00:02:15,920
yourself staring at an ancient gathering

59
00:02:20,869 --> 00:02:18,239
of stars that soars high above the milky

60
00:02:25,110 --> 00:02:23,110
finally in june a quick introduction to

61
00:02:27,670 --> 00:02:25,120
one of the smaller constellations that's

62
00:02:30,150 --> 00:02:27,680
home to one of the brightest stars

63
00:02:33,190 --> 00:02:30,160

that's the constellation lyra

64
00:02:36,150 --> 00:02:33,200
it represents a liar or harp played by

65
00:02:38,070 --> 00:02:36,160
the musician orpheus in greek mythology

66
00:02:40,229 --> 00:02:38,080
in arab cultures as well as ancient

67
00:02:41,270 --> 00:02:40,239
egypt and india lyra was seen as an

68
00:02:43,990 --> 00:02:41,280
eagle

69
00:02:45,589 --> 00:02:44,000
and the inca of south america saw it as

70
00:02:48,070 --> 00:02:45,599
a llama

71
00:02:49,670 --> 00:02:48,080
find lyra by looking for vega which is

72
00:02:51,750 --> 00:02:49,680
the westernmost of the three bright

73
00:02:53,190 --> 00:02:51,760
stars in the summer triangle

74
00:02:54,790 --> 00:02:53,200
in the northern hemisphere you'll find

75
00:02:57,589 --> 00:02:54,800
it halfway up the eastern sky in the

76
00:02:59,910 --> 00:02:57,599
first couple of hours after dark in june

77
00:03:00,869 --> 00:02:59,920
vega is by far the brightest star in

78
00:03:02,949 --> 00:03:00,879
lyra

79
00:03:04,390 --> 00:03:02,959
it's the fifth brightest star in the sky

80
00:03:06,710 --> 00:03:04,400
and the second brightest in the northern

81
00:03:08,229 --> 00:03:06,720
hemisphere after sirius

82
00:03:10,149 --> 00:03:08,239
a pair of binoculars will help you see

83
00:03:12,630 --> 00:03:10,159
the other stars in lyra which form a

84
00:03:14,229 --> 00:03:12,640
sort of parallelogram hanging beneath it

85
00:03:16,830 --> 00:03:14,239
it's sometimes described as looking a

86
00:03:19,910 --> 00:03:16,840
bit like a diamond ring with vega as the

87
00:03:22,390 --> 00:03:19,920
diamond and that's not the only ring in

88
00:03:24,869 --> 00:03:22,400

lyra it's also home to the famous ring

89
00:03:27,030 --> 00:03:24,879
nebula where a star has blown off most

90
00:03:30,070 --> 00:03:27,040
of its outer layers leaving behind a

91
00:03:32,630 --> 00:03:30,080
remnant star known as a white dwarf

92
00:03:34,869 --> 00:03:32,640
so let the bright star vega lead you to

93
00:03:35,750 --> 00:03:34,879
lyra the harp constellation in the june

94
00:03:37,750 --> 00:03:35,760
sky

95
00:03:40,070 --> 00:03:37,760
and if you see it as an eagle or a

96
00:03:42,949 --> 00:03:40,080
diamond ring or a llama well that's

97
00:03:47,030 --> 00:03:42,959
perfectly okay too

98
00:03:48,630 --> 00:03:47,040
here are the phases of the moon for june

99
00:03:50,550 --> 00:03:48,640
stay up to date with all of nasa's

100
00:03:53,350 --> 00:03:50,560
missions to explore the solar system and

101
00:03:54,869 --> 00:03:53,360
beyond at nasa.gov

102
00:03:56,710 --> 00:03:54,879
i'm preston dykes from nasa's jet