1
00:00:05,110 --> 00:00:02,790
[Music]

2
00:00:07,110 --> 00:00:05,120
what's up for october

3
00:00:10,390 --> 00:00:07,120
what to look for this month at sunrise

4
00:00:13,030 --> 00:00:10,400
and sunset and two brilliant stars vying

5
00:00:14,629 --> 00:00:13,040
for the pole position

6
00:00:17,189 --> 00:00:14,639
on october 10th look for the

7
00:00:19,670 --> 00:00:17,199
five-day-old crescent moon to join venus

8
00:00:21,750 --> 00:00:19,680
and bright orange-colored antares in the

9
00:00:24,310 --> 00:00:21,760
southwest after sunset

10
00:00:26,630 --> 00:00:24,320
then watch as venus closes on antares

11
00:00:28,710 --> 00:00:26,640
for a close conjunction on the 15th and

12
00:00:31,349 --> 00:00:28,720
16th where the two will be only about a

13
00:00:33,590 --> 00:00:31,359

degree and a half apart

14
00:00:36,549 --> 00:00:33,600
during the last week of october mercury

15
00:00:38,229 --> 00:00:36,559
pops briefly into view for early risers

16
00:00:39,830 --> 00:00:38,239
look for it about 10 degrees above the

17
00:00:41,990 --> 00:00:39,840
eastern horizon or about the width of

18
00:00:44,630 --> 00:00:42,000
your fist held at arm's length about 30

19
00:00:46,709 --> 00:00:44,640
to 45 minutes before sunrise

20
00:00:48,549 --> 00:00:46,719
then on october 30th in the last couple

21
00:00:50,470 --> 00:00:48,559
of hours before daybreak look for the

22
00:00:53,430 --> 00:00:50,480
crescent moon to join brilliant blue

23
00:00:55,590 --> 00:00:53,440
white star regulus

24
00:00:57,590 --> 00:00:55,600
all month long looking high overhead

25
00:00:59,910 --> 00:00:57,600
early in the evening you'll find two

26
00:01:02,389 --> 00:00:59,920
bright stars that over thousands of

27
00:01:05,590 --> 00:01:02,399
years take turns with polaris being the

28
00:01:06,950 --> 00:01:05,600
north star their names are vega and

29
00:01:08,550 --> 00:01:06,960
deneb

30
00:01:10,390 --> 00:01:08,560
both of these stars are part of the

31
00:01:12,390 --> 00:01:10,400
summer triangle and we introduce the

32
00:01:13,750 --> 00:01:12,400
other member of the trio altair in last

33
00:01:15,830 --> 00:01:13,760
month's video

34
00:01:17,749 --> 00:01:15,840
to find vega and deneb look high

35
00:01:19,109 --> 00:01:17,759
overhead in the first few hours after it

36
00:01:21,590 --> 00:01:19,119
gets dark

37
00:01:23,670 --> 00:01:21,600
vega is a bluish white star and like

38
00:01:25,590 --> 00:01:23,680

altair it's a fast rotator spinning

39
00:01:28,710 --> 00:01:25,600
every 12 and a half hours compared to

40
00:01:30,870 --> 00:01:28,720
our sun's 27 day rotation

41
00:01:32,870 --> 00:01:30,880
nasa's spitzer space telescope found

42
00:01:34,789 --> 00:01:32,880
vega to have a debris disk around it

43
00:01:36,550 --> 00:01:34,799
that could be similar to regions in our

44
00:01:39,270 --> 00:01:36,560
own solar system

45
00:01:41,910 --> 00:01:39,280
deneb is a blue white supergiant star

46
00:01:44,230 --> 00:01:41,920
that is fusing hydrogen at a phenomenal

47
00:01:46,870 --> 00:01:44,240
rate with this sort of fury the party

48
00:01:49,109 --> 00:01:46,880
won't last all that much longer deneb is

49
00:01:51,990 --> 00:01:49,119
likely headed for an explosive end as a

50
00:01:54,469 --> 00:01:52,000
supernova within a few million years

51
00:01:56,630 --> 00:01:54,479
now deneb is much farther away than most

52
00:01:58,709 --> 00:01:56,640
bright stars in our night sky

53
00:02:01,270 --> 00:01:58,719
this means it's super luminous to be

54
00:02:03,030 --> 00:02:01,280
that bright from so far away

55
00:02:04,630 --> 00:02:03,040
because it's so bright it's one of the

56
00:02:06,830 --> 00:02:04,640
most distant stars you can see with the

57
00:02:09,510 --> 00:02:06,840
unaided

58
00:02:11,910 --> 00:02:09,520
eye these stars rotate around the

59
00:02:13,430 --> 00:02:11,920
northern celestial pole

60
00:02:15,350 --> 00:02:13,440
this time of year they dip toward the

61
00:02:16,949 --> 00:02:15,360
western horizon before setting in the

62
00:02:19,030 --> 00:02:16,959
predawn hours

63
00:02:21,190 --> 00:02:19,040

both vega and deneb are part of a

64
00:02:23,110 --> 00:02:21,200
special group of stars that take turns

65
00:02:25,510 --> 00:02:23,120
being the pole star in the north as

66
00:02:28,470 --> 00:02:25,520
earth's axis wobbles in a circle over a

67
00:02:30,390 --> 00:02:28,480
period of 26 000 years

68
00:02:32,710 --> 00:02:30,400
for now the distinction of north star

69
00:02:35,589 --> 00:02:32,720
belongs to polaris for at least a few

70
00:02:38,390 --> 00:02:35,599
hundred years more

71
00:02:40,630 --> 00:02:38,400
finally october 16th is international

72
00:02:42,470 --> 00:02:40,640
observe the moon night when everyone is

73
00:02:44,949 --> 00:02:42,480
invited to learn about the science and

74
00:02:46,790 --> 00:02:44,959
exploration of the moon visit the link

75
00:02:47,910 --> 00:02:46,800
on screen to find out how you can take

76
00:02:49,750 --> 00:02:47,920
part

77
00:02:52,390 --> 00:02:49,760
and here are the phases of the moon for

78
00:02:55,830 --> 00:02:54,070
you can catch up on all of nasa's

79
00:02:58,710 --> 00:02:55,840
missions to explore the solar system and

80
00:03:00,390 --> 00:02:58,720
beyond at nasa.gov

81
00:03:02,309 --> 00:03:00,400
i'm preston dykes from nasa's jet