
Credit: Bill Dunford

1
00:00:04,470 --> 00:00:02,389
[Music]

2
00:00:06,150 --> 00:00:04,480
what's up for september

3
00:00:08,470 --> 00:00:06,160
mars on the move

4
00:00:10,549 --> 00:00:08,480
prime viewing time for jupiter and a

5
00:00:12,070 --> 00:00:10,559
clever way to find your bearings on the

6
00:00:14,470 --> 00:00:12,080
equinox

7
00:00:16,070 --> 00:00:14,480
you'll find mars hanging out high in the

8
00:00:17,269 --> 00:00:16,080
south on september mornings before

9
00:00:18,710 --> 00:00:17,279
sunrise

10
00:00:21,029 --> 00:00:18,720
early in the month it's near

11
00:00:22,630 --> 00:00:21,039
orange-colored aldebrain the eye of

12
00:00:24,470 --> 00:00:22,640
taurus the bull

13
00:00:26,470 --> 00:00:24,480

and over the course of the month mars

14
00:00:29,109 --> 00:00:26,480
works its way eastward from aldebaran

15
00:00:32,549 --> 00:00:29,119
toward reddish beetlejuice creating a

16
00:00:34,630 --> 00:00:32,559
sort of red triangle in the morning sky

17
00:00:37,030 --> 00:00:34,640
then the red planet will appear to hit

18
00:00:38,630 --> 00:00:37,040
the brakes and halt its eastward motion

19
00:00:40,630 --> 00:00:38,640
to hang out in that triangle for the

20
00:00:43,030 --> 00:00:40,640
next month or so we'll talk about what's

21
00:00:44,790 --> 00:00:43,040
going on there in our october video

22
00:00:47,029 --> 00:00:44,800
on the morning of the 11th before

23
00:00:48,709 --> 00:00:47,039
sunrise you'll find the moon just a

24
00:00:51,029 --> 00:00:48,719
couple of finger widths from jupiter on

25
00:00:52,630 --> 00:00:51,039
the sky making for a great viewing

26
00:00:54,069 --> 00:00:52,640
opportunity to observe them together

27
00:00:56,150 --> 00:00:54,079
through binoculars

28
00:00:58,069 --> 00:00:56,160
jupiter is at opposition this month

29
00:00:59,910 --> 00:00:58,079
making it visible all night under clear

30
00:01:01,590 --> 00:00:59,920
skies and it's around this time when the

31
00:01:03,590 --> 00:01:01,600
planet's at its biggest and brightest

32
00:01:05,509 --> 00:01:03,600
for telescope viewing but a pair of

33
00:01:07,510 --> 00:01:05,519
binoculars is enough to reveal the giant

34
00:01:09,190 --> 00:01:07,520
planet's four large moons as little

35
00:01:10,390 --> 00:01:09,200
star-like points of light next to

36
00:01:14,789 --> 00:01:10,400
jupiter

37
00:01:17,350 --> 00:01:14,799
juno spacecraft is slated to make a

38
00:01:20,710 --> 00:01:17,360

special vast flyby of one of those icy

39
00:01:22,550 --> 00:01:20,720
moons europa on the 29th the spacecraft

40
00:01:24,550 --> 00:01:22,560
is planned to pass a little over 200

41
00:01:26,550 --> 00:01:24,560
miles above the moon's surface returning

42
00:01:28,310 --> 00:01:26,560
images and science data

43
00:01:30,469 --> 00:01:28,320
and nasa is currently preparing its

44
00:01:32,069 --> 00:01:30,479
europa clipper spacecraft for launch in

45
00:01:33,670 --> 00:01:32,079
2024

46
00:01:35,990 --> 00:01:33,680
it's planned to make dozens of close

47
00:01:37,749 --> 00:01:36,000
flybys of europa to investigate whether

48
00:01:39,749 --> 00:01:37,759
the moon could have conditions suitable

49
00:01:41,590 --> 00:01:39,759
for life

50
00:01:43,510 --> 00:01:41,600
turning to the evening sky you'll have

51
00:01:46,230 --> 00:01:43,520
saturn together with jupiter as your

52
00:01:48,149 --> 00:01:46,240
planetary companions all month long

53
00:01:51,109 --> 00:01:48,159
on the night of the 9th jupiter and

54
00:01:53,109 --> 00:01:51,119
saturn escort the moon across the sky

55
00:01:54,870 --> 00:01:53,119
you'll find the trio rising in the

56
00:01:57,109 --> 00:01:54,880
southeast in the first couple of hours

57
00:01:59,030 --> 00:01:57,119
after dark and gliding westward together

58
00:02:00,310 --> 00:01:59,040
over the course of the night by the end

59
00:02:02,469 --> 00:02:00,320
of the month you'll find the pair of

60
00:02:04,469 --> 00:02:02,479
planets is rising even earlier appearing

61
00:02:08,150 --> 00:02:04,479
in the east soon after it gets dark with

62
00:02:10,229 --> 00:02:08,160
bright jupiter hanging low in the sky

63
00:02:12,390 --> 00:02:10,239

september 23rd brings the september

64
00:02:13,990 --> 00:02:12,400
equinox which marks the start of fall in

65
00:02:16,070 --> 00:02:14,000
the northern hemisphere and the start of

66
00:02:18,150 --> 00:02:16,080
spring in the southern hemisphere the

67
00:02:19,990 --> 00:02:18,160
equinoxes occur twice per year when

68
00:02:22,470 --> 00:02:20,000
earth's tilt with respect to the sun is

69
00:02:24,309 --> 00:02:22,480
the same for both hemispheres both north

70
00:02:26,869 --> 00:02:24,319
and south receive the same amount of

71
00:02:29,030 --> 00:02:26,879
sunlight and day and night are briefly

72
00:02:31,670 --> 00:02:29,040
of nearly equal length

73
00:02:34,229 --> 00:02:31,680
and get this if you take note of exactly

74
00:02:36,710 --> 00:02:34,239
where the sun appears to rise and set on

75
00:02:39,270 --> 00:02:36,720
the equinoxes those points mark the

76
00:02:41,509 --> 00:02:39,280
locations of due east and due west

77
00:02:43,350 --> 00:02:41,519
respectively and that's something useful

78
00:02:45,270 --> 00:02:43,360
to know for sky watchers whatever

79
00:02:47,670 --> 00:02:45,280
hemisphere you happen to live in

80
00:02:49,509 --> 00:02:47,680
so take note of any buildings tall trees

81
00:02:50,390 --> 00:02:49,519
lamp posts and the like at those places

82
00:02:51,750 --> 00:02:50,400
on the horizon

83
00:02:53,670 --> 00:02:51,760
and you can use them to find your

84
00:02:54,390 --> 00:02:53,680
bearings when looking skyward all year

85
00:02:55,830 --> 00:02:54,400
long

86
00:02:57,110 --> 00:02:55,840
[Music]

87
00:03:00,070 --> 00:02:57,120
here are the phases of the moon for

88
00:03:03,830 --> 00:03:01,830

stay up to date with all of nasa's

89
00:03:06,070 --> 00:03:03,840
missions to explore the solar system and

90
00:03:07,750 --> 00:03:06,080
beyond at nasa.gov

91
00:03:09,589 --> 00:03:07,760
i'm preston dykes from nasa's jet