1
00:00:07,829 --> 00:00:05,749
what's up for february jupiter's moons

2
00:00:11,030 --> 00:00:07,839
jupiter's largest moons were first seen

3
00:00:13,350 --> 00:00:11,040
400 years ago in early 1610.

4
00:00:15,270 --> 00:00:13,360
hello and welcome i'm jane houston jones

5
00:00:17,430 --> 00:00:15,280
at nasa's jet propulsion laboratory in

6
00:00:20,470 --> 00:00:17,440
pasadena california

7
00:00:22,870 --> 00:00:20,480
on the 7th of january 1610 in padua

8
00:00:24,790 --> 00:00:22,880
italy galileo looked up above the

9
00:00:26,950 --> 00:00:24,800
constellation orion

10
00:00:29,669 --> 00:00:26,960
he aimed his telescope at the well-known

11
00:00:32,229 --> 00:00:29,679
starry wanderer the planet jupiter which

12
00:00:34,229 --> 00:00:32,239
was near orion that night what he saw

13
00:00:37,190 --> 00:00:34,239

through his telescope startled him and

14
00:00:39,510 --> 00:00:37,200
marked the beginning of modern astronomy

15
00:00:41,590 --> 00:00:39,520
jupiter was not just one object as he

16
00:00:43,430 --> 00:00:41,600
wrote and drew in his journal

17
00:00:45,590 --> 00:00:43,440
there are three stars in the heavens

18
00:00:49,590 --> 00:00:45,600
moving about jupiter as venus and

19
00:00:54,790 --> 00:00:52,310
galileo's january 7th observation showed

20
00:00:56,709 --> 00:00:54,800
three stars the one star to the west was

21
00:00:59,670 --> 00:00:56,719
ganymede and to the east there were two

22
00:01:01,910 --> 00:00:59,680
objects one was the moon callisto and

23
00:01:03,029 --> 00:01:01,920
the other was a tight pairing of io and

24
00:01:07,510 --> 00:01:03,039
europa

25
00:01:10,070 --> 00:01:07,520
they looked like one object in galileo's

26
00:01:12,310 --> 00:01:10,080
modest telescopic view

27
00:01:13,510 --> 00:01:12,320
on january 8 he saw a different lineup

28
00:01:15,270 --> 00:01:13,520
altogether

29
00:01:17,030 --> 00:01:15,280
there were three stars on one side of

30
00:01:21,990 --> 00:01:17,040
the planet

31
00:01:23,830 --> 00:01:22,000
followed by europa and ganymede

32
00:01:26,630 --> 00:01:23,840
two cloudy nights and two additional

33
00:01:28,630 --> 00:01:26,640
observations later on january 13th

34
00:01:30,950 --> 00:01:28,640
galileo identified a fourth object

35
00:01:32,789 --> 00:01:30,960
orbiting jupiter the arrangement this

36
00:01:35,670 --> 00:01:32,799
night turned out to be europa on the

37
00:01:37,109 --> 00:01:35,680
east and ganymede io and callisto on the

38
00:01:40,069 --> 00:01:37,119

west

39
00:01:43,350 --> 00:01:40,079
on january 15 all four stars were seen

40
00:01:45,510 --> 00:01:43,360
on one side of the planet

41
00:01:47,590 --> 00:01:45,520
everyone who aims a modest telescope or

42
00:01:49,910 --> 00:01:47,600
even binoculars at jupiter will see the

43
00:01:51,830 --> 00:01:49,920
same view that galileo did

44
00:01:53,749 --> 00:01:51,840
the views of tiny moons orbiting the

45
00:01:55,990 --> 00:01:53,759
king of the planets will surprise and

46
00:01:57,670 --> 00:01:56,000
delight all who look up

47
00:01:59,670 --> 00:01:57,680
jupiter is hard to see in the evening

48
00:02:01,749 --> 00:01:59,680
sky this month but northern hemisphere

49
00:02:03,670 --> 00:02:01,759
observers may see jupiter and venus

50
00:02:06,550 --> 00:02:03,680
close together low on the southwestern

51
00:02:08,229 --> 00:02:06,560
horizon on valentine's day then it will

52
00:02:10,630 --> 00:02:08,239
be a few months wait until jupiter

53
00:02:12,470 --> 00:02:10,640
becomes visible in the morning sky

54
00:02:14,630 --> 00:02:12,480
by august you can once again view

55
00:02:16,869 --> 00:02:14,640
jupiter and the four galilean moons

56
00:02:19,190 --> 00:02:16,879
after dinner or as soon as the sun sets

57
00:02:21,350 --> 00:02:19,200
and the stars come out

58
00:02:23,990 --> 00:02:21,360
nasa's galileo mission which ended in

59
00:02:26,630 --> 00:02:24,000
2003 changed the way we look at our

60
00:02:29,430 --> 00:02:26,640
solar system it found evidence of

61
00:02:31,990 --> 00:02:29,440
subsurface salt water on europa ganymede

62
00:02:34,229 --> 00:02:32,000
and callisto and intense volcanic

63
00:02:37,110 --> 00:02:34,239

activity on io

64
00:02:39,270 --> 00:02:37,120
nasa's juno mission will launch in 2011

65
00:02:41,589 --> 00:02:39,280
on a mission to study jupiter

66
00:02:43,430 --> 00:02:41,599
and the europa jupiter system mission a

67
00:02:46,589 --> 00:02:43,440
joint mission of the european space

68
00:02:49,910 --> 00:02:46,599
agency and nasa is slated to launch in

69
00:02:52,470 --> 00:02:49,920
2020 it will primarily study jupiter's

70
00:02:54,710 --> 00:02:52,480
moons europa and ganymede and jupiter's

71
00:02:56,630 --> 00:02:54,720
magnetosphere

72
00:03:00,390 --> 00:02:56,640
you can learn all about nasa's missions