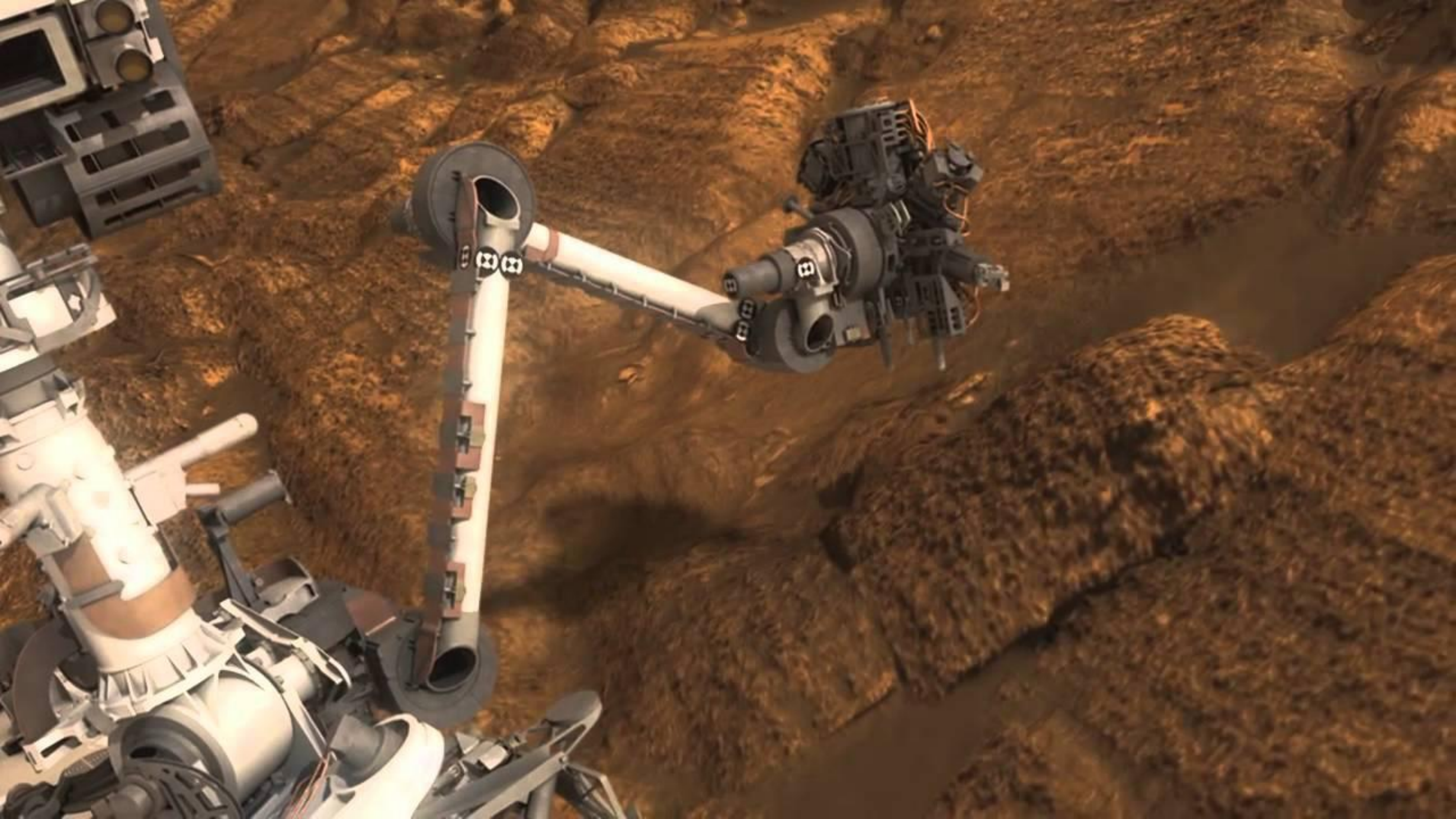

1
00:00:06,309 --> 00:00:03,550
what's up for november

2
00:00:08,710 --> 00:00:06,319
magnetospheres and a mars rover launch

3
00:00:10,709 --> 00:00:08,720
hello and welcome i'm jane houston jones

4
00:00:12,870 --> 00:00:10,719
at nasa's jet propulsion laboratory in

5
00:00:15,829 --> 00:00:12,880
pasadena california

6
00:00:17,750 --> 00:00:15,839
every magnet generates a magnetic field

7
00:00:20,310 --> 00:00:17,760
and several objects in our solar system

8
00:00:23,109 --> 00:00:20,320
generate their own magnetic fields

9
00:00:26,070 --> 00:00:23,119
the magnetic field of a planet extends

10
00:00:29,029 --> 00:00:26,080
into space and is called a magnetosphere

11
00:00:31,669 --> 00:00:29,039
the sun earth mercury jupiter saturn

12
00:00:33,590 --> 00:00:31,679
uranus and neptune all have them

13
00:00:35,670 --> 00:00:33,600

earth's magnetosphere shields us from

14
00:00:38,229 --> 00:00:35,680
the constant barrage of high-energy

15
00:00:39,030 --> 00:00:38,239
particles that the sun emits the solar

16
00:00:41,110 --> 00:00:39,040
wind

17
00:00:42,549 --> 00:00:41,120
a magnetosphere protects our atmosphere

18
00:00:45,110 --> 00:00:42,559
and oceans which would otherwise

19
00:00:47,350 --> 00:00:45,120
gradually erode into space

20
00:00:49,510 --> 00:00:47,360
mars's lack of a magnetosphere may

21
00:00:54,150 --> 00:00:49,520
partly be responsible for the thinness

22
00:00:59,029 --> 00:00:56,470
this month the mars science laboratory

23
00:01:02,470 --> 00:00:59,039
also known as the curiosity rover

24
00:01:05,509 --> 00:01:02,480
launches on a 23-month mission to mars

25
00:01:07,429 --> 00:01:05,519
curiosity will study mars habitability

26
00:01:09,750 --> 00:01:07,439
using the most advanced suite of

27
00:01:12,070 --> 00:01:09,760
instruments for scientific studies ever

28
00:01:14,230 --> 00:01:12,080
sent to the martian surface the rover

29
00:01:16,390 --> 00:01:14,240
will analyze samples scooped from the

30
00:01:18,310 --> 00:01:16,400
soil and drilled from the rocks along

31
00:01:20,230 --> 00:01:18,320
with many other activities

32
00:01:22,310 --> 00:01:20,240
if you stay up late you'll be able to

33
00:01:25,190 --> 00:01:22,320
see the red planet this month

34
00:01:27,990 --> 00:01:25,200
red orange mars will be in leo near the

35
00:01:31,429 --> 00:01:28,000
blue white star regulus

36
00:01:33,670 --> 00:01:31,439
jupiter rules the skies this month

37
00:01:35,830 --> 00:01:33,680
you can't see its magnetosphere but if

38
00:01:37,830 --> 00:01:35,840

you could its apparent size from earth

39
00:01:39,270 --> 00:01:37,840
would fill a space bigger than the full

40
00:01:41,350 --> 00:01:39,280
moon

41
00:01:43,270 --> 00:01:41,360
while earth's magnetosphere is dominated

42
00:01:46,310 --> 00:01:43,280
by its interaction with the sun and the

43
00:01:49,030 --> 00:01:46,320
solar wind jupiter's is driven largely

44
00:01:51,270 --> 00:01:49,040
by the planet's fast rotation

45
00:01:53,830 --> 00:01:51,280
this month try looking for both mercury

46
00:01:56,149 --> 00:01:53,840
and venus low on the southwest horizon

47
00:01:57,429 --> 00:01:56,159
just after sunset during the first part

48
00:01:59,270 --> 00:01:57,439
of the month

49
00:02:01,749 --> 00:01:59,280
finally this is a great time to check

50
00:02:04,630 --> 00:02:01,759
out the sun and see sunspots but only

51
00:02:06,789 --> 00:02:04,640
through a safe solar telescope

52
00:02:08,790 --> 00:02:06,799
you can learn about mars missions at

53
00:02:10,790 --> 00:02:08,800
mars.nasa

54
00:02:14,550 --> 00:02:10,800
and you can learn about all of nasa's

55
00:02:16,070 --> 00:02:14,560
missions at www.nasa.gov