TW@N

THIS WEEK @ NASA

1
00:00:00,340 --> 00:00:03,229
The next commercial crew test mission to the
space station …

2
00:00:03,229 --> 00:00:07,170
Outlining the agency’s objectives for deep
space exploration ….

3
00:00:07,170 --> 00:00:12,160
And covering the total lunar eclipse on Earth
and from space … a few of the stories to

4
00:00:12,160 --> 00:00:14,730
tell you about – This Week at NASA!

5
00:00:14,730 --> 00:00:21,070
On May 19, Boeing’s CST-100 Starliner spacecraft
launched from Cape Canaveral Space Force Station

6
00:00:21,070 --> 00:00:25,690
in Florida on Orbital Flight Test-2 or OFT-2.

7
00:00:25,690 --> 00:00:30,660
The mission is the Starliner’s second uncrewed
flight to the station for our Commercial Crew

8
00:00:30,660 --> 00:00:32,020
Program.

9
00:00:32,020 --> 00:00:38,590
On May 17, NASA released a draft set of high-level
objectives identifying 50 points that fall

10
00:00:38,590 --> 00:00:44,810
under four overarching categories of exploration
for future Artemis missions to return astronauts

11
00:00:44,810 --> 00:00:49,219
to the Moon in preparation for human exploration

of Mars.

12
00:00:49,219 --> 00:00:54,969
The agency is asking U.S. industry, academia,
international communities, and other stakeholders

13
00:00:54,969 --> 00:00:58,660
to provide input on these deep space exploration
objectives.

14
00:00:58,660 --> 00:01:02,760
Learn more at nasa.gov/moontomars.

15
00:01:02,760 --> 00:01:08,060
The latest episode of our NASA Science Live
was all about the total lunar eclipse on the

16
00:01:08,060 --> 00:01:11,689
evening of May 15, overnight into May 16.

17
00:01:11,689 --> 00:01:16,420
It featured NASA experts and live views of
the eclipse from around the world.

18
00:01:16,420 --> 00:01:21,569
Meanwhile, our Lucy spacecraft captured the
imagery of the eclipse seen in this time-lapse

19
00:01:21,569 --> 00:01:26,329
when the traveling spacecraft was about 64
million miles from Earth.

20
00:01:26,329 --> 00:01:30,530
It shows Earth on the left and the Moon on
the right, which can be seen disappearing

21
00:01:30,530 --> 00:01:34,369
into darkness as it passes through Earth’s
shadow.

22
00:01:34,369 --> 00:01:39,159
The Lucy spacecraft is on its way to study
Jupiter’s Trojan asteroids.

23
00:01:39,159 --> 00:01:44,810
Dust on the solar panels of our InSight Mars
lander is causing the spacecraft to gradually

24
00:01:44,810 --> 00:01:46,380
lose power.

25
00:01:46,380 --> 00:01:51,069
As a result, the InSight team anticipates
that the lander will become inoperative by

26
00:01:51,069 --> 00:01:52,799
the end of this year.

27
00:01:52,799 --> 00:01:59,310
InSight, which arrived at Mars in November
2018, has so far detected more than 1,300

28
00:01:59,310 --> 00:02:04,569
marsquakes and collected information to help
improve our understanding of the interiors

29
00:02:04,569 --> 00:02:07,409
of rocky planets, including Earth.

30
00:02:07,409 --> 00:02:12,930
NASA’s Cold Atom Lab, the first-ever quantum
physics facility aboard the International

31
00:02:12,930 --> 00:02:19,380
Space Station, has been used to shape atoms
of gas cooled to nearly absolute zero – or

32
00:02:19,380 --> 00:02:25,890
about minus 459 degrees Fahrenheit – into

extremely thin, hollow spheres.

33
00:02:25,890 --> 00:02:31,630
This is similar to how liquids behave in microgravity
and can’t be duplicated on Earth.

34
00:02:31,630 --> 00:02:36,129
The accomplishment could lead to new kinds
of experiments with a state of matter distinctly

35
00:02:36,129 --> 00:02:42,200
different from gases, liquids, solids, and
plasmas, called a Bose-Einstein condensate

36
00:02:42,200 --> 00:02:44,000
or BEC.

37
00:02:44,000 --> 00:02:49,760
In a BEC, scientists can observe the quantum
properties of atoms at a scale visible to

38
00:02:49,760 --> 00:02:51,500
the naked eye.

39
00:02:51,500 --> 00:02:57,780
Our research mission to enable supersonic
air travel over land has been renamed Quesst.

40
00:02:57,780 --> 00:03:03,129
The name, which includes an extra "s" to represent
“supersonic,” replaces the mission’s

41
00:03:03,129 --> 00:03:06,780
original name: The Low-Boom Flight Demonstration.

42
00:03:06,780 --> 00:03:12,849
Through Quesst, NASA plans to demonstrate
that the X-59 research aircraft can fly faster

43

00:03:12,849 --> 00:03:18,790
than sound without generating the loud sonic booms supersonic aircraft typically produce.