
TW@N
THIS WEEK @ NASA

1
00:00:00,066 --> 00:00:02,802
A critical preflight test
for Artemis I …

2
00:00:02,802 --> 00:00:05,672
The first trip to space for a NASA astronaut …

3
00:00:05,672 --> 00:00:09,776
And new Webb Space Telescope
images of neighbors in our solar system …

4
00:00:09,776 --> 00:00:13,046
a few of the stories
to tell you about – This Week at NASA!

5
00:00:14,581 --> 00:00:16,516
On Sept. 21, teams at our

6
00:00:16,516 --> 00:00:20,186
Kennedy Space Center
conducted a cryogenic demonstration test

7
00:00:20,186 --> 00:00:23,023
with the Space Launch System,
or SLS rocket

8
00:00:23,223 --> 00:00:27,127
for our upcoming uncrewed Artemis
I flight test around the Moon.

9
00:00:27,627 --> 00:00:32,298
The demonstration test was designed
to allow teams to confirm the repair

10
00:00:32,499 --> 00:00:36,369
of a hydrogen leak that cropped up
during a previous launch attempt in early

11
00:00:36,369 --> 00:00:40,240

September, evaluate updated procedures
for loading the rocket

12
00:00:40,240 --> 00:00:43,643
with propellant,
and conduct additional evaluations.

13
00:00:43,977 --> 00:00:48,314
Keep up with the latest Artemis
I updates on NASA’s Artemis blog

14
00:00:48,481 --> 00:00:51,518
at: blogs.nasa.gov/artemis.

15
00:00:53,153 --> 00:00:54,954
Also on September 21st,

16
00:00:54,954 --> 00:00:57,223
NASA astronaut Frank Rubio

17
00:00:57,257 --> 00:01:00,360
launched to the International Space
Station from Kazakhstan

18
00:01:00,593 --> 00:01:04,230
with two other members of the station’s
Expedition 68 crew.

19
00:01:04,531 --> 00:01:08,034
Later that same day, they docked
to the station’s Rassvet module

20
00:01:08,268 --> 00:01:11,571
and were welcomed aboard by the Expedition
67 crew,

21
00:01:11,771 --> 00:01:15,842
including NASA’s Bob Hines,
Kjell Lindgren, and Jessica Watkins.

22
00:01:16,276 --> 00:01:19,245
This is Rubio’s first spaceflight.

23
00:01:20,180 --> 00:01:23,283
Our Webb Space Telescope’s
first image of Neptune

24
00:01:23,283 --> 00:01:27,787
includes the clearest view of Neptune’s
rings since the images Voyager 2

25
00:01:27,821 --> 00:01:31,291
captured during its 1989
flyby of the distant planet.

26
00:01:31,691 --> 00:01:37,464
Webb also captured seven of Neptune’s 14
known moons including Triton, which orbits

27
00:01:37,464 --> 00:01:41,034
Neptune in an unusual retrograde,
or backward direction.

28
00:01:41,468 --> 00:01:44,771
Additional studies
by Webb of both Triton and Neptune

29
00:01:44,771 --> 00:01:46,940
are planned in the coming year.

30
00:01:47,941 --> 00:01:51,010
The Webb Space
Telescope recently used its infrared

31
00:01:51,010 --> 00:01:54,948
capability to capture its first images
and spectra of Mars.

32
00:01:55,381 --> 00:02:00,386

Images of the planet’s eastern hemisphere
captured by Webb’s Near-Infrared Camera

33
00:02:00,653 --> 00:02:03,990
show surface
features, such as craters and dust layers,

34
00:02:04,224 --> 00:02:08,928
as well as thermal emission, or light
given off by the planet as it loses heat.

35
00:02:09,696 --> 00:02:13,900
Meanwhile, data from the telescope’s
first near-infrared spectrum of Mars

36
00:02:14,100 --> 00:02:17,837
could give astronomers additional details
about the planet’s surface

37
00:02:17,837 --> 00:02:19,739
and about its atmosphere.

38
00:02:20,707 --> 00:02:23,409
\{Sound of meteoroid impacting mars\}

39
00:02:23,610 --> 00:02:24,777
That strange noise

40
00:02:24,777 --> 00:02:29,482
is what a space rock crashing into Mars
sounds like to our InSight lander.

41
00:02:30,116 --> 00:02:33,920
InSight detected
seismic waves from four meteoroid impacts

42
00:02:33,920 --> 00:02:36,956
on the Red Planet in 2020 and 2021.

43

00:02:37,457 --> 00:02:40,527
This includes an impact on Sept. 5, 2021,

44
00:02:40,527 --> 00:02:42,228
that made these craters.

45
00:02:42,662 --> 00:02:46,799
Not only are these the first impacts
detected by InSight's seismometer

46
00:02:46,799 --> 00:02:51,437
since the spacecraft landed in 2018,
but they also mark the first time

47
00:02:51,437 --> 00:02:55,775
seismic and acoustic waves from an impact
have been detected on Mars.

48
00:02:57,343 --> 00:03:00,547
Our DART spacecraft is on track
to intentionally crash

49
00:03:00,547 --> 00:03:04,284
into the asteroid moonlet
Dimorphos on Sept. 26.

50
00:03:04,717 --> 00:03:08,321
The views in this composite
image of the Jupiter system were captured

51
00:03:08,321 --> 00:03:11,691
during recent testing
with the spacecraft's imager and guidance

52
00:03:11,758 --> 00:03:15,361
systems to target and track Jupiter's
moon Europa

53
00:03:15,595 --> 00:03:19,265
as it emerged from behind the planet,

similar to how Dimorphos

54
00:03:19,265 --> 00:03:23,670
will visually separate from Didymos,
the larger asteroid it orbits.

55
00:03:24,170 --> 00:03:27,340
DART, the world's
first planetary defense test mission,

56
00:03:27,540 --> 00:03:30,843
is designed to deflect
and alter the course of an asteroid

57
00:03:31,110 --> 00:03:33,980
should one ever be discovered
that is a threat to Earth.

58
00:03:33,980 --> 00:03:37,483
Neither Dimorphos
nor Didymos is a threat to Earth.