1
00:00:07,069 --> 00:00:12,700
This Week At NASA….

2
00:00:12,700 --> 00:00:17,030
Cheered on by hundreds of handkerchief-waving
employees to the strains of a traditional

3
00:00:17,030 --> 00:00:19,660
New
Orleans brass band…

4
00:00:19,660 --> 00:00:25,750
…the last external fuel tank scheduled to
fly on a space shuttle mission was rolled

5
00:00:25,750 --> 00:00:28,820
away from
the Michoud Assembly Facility in New Orleans

6
00:00:28,820 --> 00:00:31,970
in preparation for its 900-mile sea journey
to the

7
00:00:31,970 --> 00:00:38,720
Kennedy Space Center in Florida. The tank,
designated ET-138, was completed by Lockheed

8
00:00:38,720 --> 00:00:41,120
Martin workers on June 28.

9
00:00:41,120 --> 00:00:46,690
During a special ceremony Michoud employees
were honored by VIPs for building the final

10
00:00:46,690 --> 00:00:53,870
external tank and were recognized for the
successful delivery over 37 years of 134 ETs

11
00:00:53,870 --> 00:00:57,559

to the
Space Shuttle Program.

12
00:00:57,559 --> 00:01:03,899
At Kennedy, ET-138 will be mated to the orbiter
Endeavour and two solid rocket boosters for

13
00:01:03,899 --> 00:01:09,750
the STS-134 launch to the International Space
Station targeted for February 26.

14
00:01:09,750 --> 00:01:17,810
A full house crowd at the Langley Research
Center’s Pearl Young Theater heard Jaiwon

15
00:01:17,810 --> 00:01:21,189
Shin,
NASA’ s Associate Administrator for Aeronautics,

16
00:01:21,189 --> 00:01:26,310
laud the quality and depth of work being done
at the Center. Shin noted the aeronautics

17
00:01:26,310 --> 00:01:29,229
research conducted by and advancements made
at

18
00:01:29,229 --> 00:01:35,990
Langley, including projects like the X-48
blended-wing body jet, largely developed there.

19
00:01:35,990 --> 00:01:40,840
Later, during a special luncheon, Shin encouraged
a group of Langley interns to join the next

20
00:01:40,840 --> 00:01:43,240
generation of aeronautical engineers.

21
00:01:43,240 --> 00:01:49,719
“I’m learning everything that the researchers

are learning. I’m talking to a lot of the

22
00:01:49,719 --> 00:01:55,680
managers around the center, and finding out
where the technology is, and where they think

23
00:01:55,680 --> 00:01:57,780
it’s
going in the next fifty years. So, basically,

24
00:01:57,780 --> 00:02:03,010
I’m learning every single area that they
are focusing

25
00:02:03,010 --> 00:02:04,010
on.”

26
00:02:04,010 --> 00:02:08,520
“I’m actually studying biomedical engineering,
so I get a lot of questions of why I’m here

27
00:02:08,520 --> 00:02:10,369
at
Langley, but I ‘m very interested in aviation.

28
00:02:10,369 --> 00:02:13,280
I’d like to merge the two fields, so I’m
learning a

29
00:02:13,280 --> 00:02:17,320
lot more about helicopters cause, understandably,
I have not had that in biomed, but I would

30
00:02:17,320 --> 00:02:21,730
like to combine those two and work with my
biomedical devices and help out pilots and

31
00:02:21,730 --> 00:02:22,730
things
like that.”

32
00:02:22,730 --> 00:02:29,510
A new NASA video game is offering some daunting
challenges to virtual space travelers. On

33
00:02:29,510 --> 00:02:35,630
Moonbase Alpha, you and your friends can become
part of an exploration team in a futuristic

34
00:02:35,630 --> 00:02:38,910
3-
D lunar settlement. After a nearby meteor

35
00:02:38,910 --> 00:02:41,829
strike cripples your critical life support
systems, like

36
00:02:41,829 --> 00:02:49,790
oxygen flow, your mission will be to repair
and restore those systems to working order.

37
00:02:49,790 --> 00:02:54,240
Moonbase Alpha demonstrates how NASA content
combined with cutting-edge game

38
00:02:54,240 --> 00:02:59,900
technology can offer an experience that inspires
interest in science, technology, engineering

39
00:02:59,900 --> 00:03:04,220
and math -- skills critical to NASA's exploration
goals.

40
00:03:04,220 --> 00:03:09,320
“Lectures, and writing on a chalk board,
and doing homework are amongst the least successful

41
00:03:09,320 --> 00:03:13,600
ways to teach people. In games you fail, you
do it again; you fail, you do it again, and

42
00:03:13,600 --> 00:03:17,150
sometimes you do it a lot of times, but you
can keep at it until you get it right. And

43
00:03:17,150 --> 00:03:20,080
it doesn’t
use up anybody else’s time to do that.”

44
00:03:20,080 --> 00:03:24,590
For more on this virtual lunar mission, visit:
www.nasa.gov/moonbasealpha

45
00:03:24,590 --> 00:03:31,840
“It’ is rated “E” for everyone through
the Entertainment Software Review Board, so,

46
00:03:31,840 --> 00:03:34,440
it’s safe
for everybody. For those parents who worried

47
00:03:34,440 --> 00:03:36,780
about their kids playing games, this is not
one

48
00:03:36,780 --> 00:03:42,410
they’ll have to worry about.”
“And lift off of shuttle Endeavour to with

49
00:03:42,410 --> 00:03:47,060
NASA’s final space station crew compartment
that brings a

50
00:03:47,060 --> 00:03:48,060
bay window view to our celestial backyard.

51
00:03:48,060 --> 00:03:52,750
A little piece of the world's first national
park is home after a lengthy trip into space.

52
00:03:52,750 --> 00:03:56,200
A banner with
patches featuring various aspects of operations

53
00:03:56,200 --> 00:03:59,290
at Yellowstone National Park was aboard space
shuttle

54
00:03:59,290 --> 00:04:05,759
Endeavour on the STS-130 mission to the International
Space Station last February. Yellowstone staff

55
00:04:05,759 --> 00:04:10,560
members prepared the banner after 130 crew
member Bob Behnken offered to take a small

56
00:04:10,560 --> 00:04:13,900
reminder
of Yellowstone with him on the flight. Behnken

57
00:04:13,900 --> 00:04:16,630
visited the park to return the banner, which
circled

58
00:04:16,630 --> 00:04:23,470
Earth 217 times, traveling 5.7 million miles.

59
00:04:23,470 --> 00:04:30,250
For nearly 33 years, Voyager 2 has returned
data about the giant outer planets, making

60
00:04:30,250 --> 00:04:33,430
important
discoveries like Neptune's Great Dark Spot

61
00:04:33,430 --> 00:04:38,660
and its 1,000-mph winds. On June 28, Voyager
2 reached

62

00:04:38,660 --> 00:04:46,930
an operations milestone – 12,000 days.

63
00:04:46,930 --> 00:04:55,440
When Voyager 2 launched on August 20, 1977Jimmy Carter was president. Its twin, Voyager 1,

64
00:04:55,440 --> 00:05:02,160
launched about two weeks later on Sept. 5, 1977; it marks its 12,000th day of operation

65
00:05:02,160 --> 00:05:05,900
this week. Built
and managed at the Jet Propulsion Laboratory,

66
00:05:05,900 --> 00:05:09,220
the Voyagers 1 and 2 are the most distant
human-

67
00:05:09,220 --> 00:05:14,710
made objects, traveling the outer edges of
the heliosphere -- the bubble the sun creates

68
00:05:14,710 --> 00:05:15,901
around the
solar system.

69
00:05:15,901 --> 00:05:20,350
“It’s about 100 times the distance of
the earth from the sun, which we call, or

70
00:05:20,350 --> 00:05:23,940
refer to as an
astronomical unit., so that’s about the

71
00:05:23,940 --> 00:05:29,540
scale where the Voyagers are now. If you imagine
communicating with the Voyagers, it takes

72
00:05:29,540 --> 00:05:34,090

about 12 to 16 hours one way to communicate.
So if you

73
00:05:34,090 --> 00:05:38,930
talk to someone who gives you an answer after
32 hours, and you can imagine how hard it

74
00:05:38,930 --> 00:05:42,140
is to keep a
conversation going, but that's what our

75
00:05:42,140 --> 00:05:45,750
scientists and engineers have done for the
last 33 years, or so,

76
00:05:45,750 --> 00:05:51,180
with increasing time gaps between the answers
from the spacecraft, and maintaining that

77
00:05:51,180 --> 00:05:52,360
is a major
achievement."

78
00:05:52,360 --> 00:05:57,460
Mission managers expect Voyager 1 to leave
our solar system and enter interstellar space

79
00:05:57,460 --> 00:06:01,050
in
approximately five years, with Voyager 2 following

80
00:06:01,050 --> 00:06:02,450
shortly thereafter.

81
00:06:02,450 --> 00:06:10,150
"It reminds me of a Renaissance-style painting,
a woodcut actually. I think it was ordered

82
00:06:10,150 --> 00:06:14,530
by some

French astronomer in 1888, where a missionary

83
00:06:14,530 --> 00:06:15,530
breaks through and what is beyond the astrophysics influence. So the Voyagers actually break

84
00:06:15,530 --> 00:06:18,250
through the crystal spheres that have been believed to exist

85
00:06:18,250 --> 00:06:25,110
and look beyond. So the Voyagers, through this sphere that exists between the solar

86
00:06:25,110 --> 00:06:29,510
influence and
what is beyond the astrophysics influence,

87
00:06:29,510 --> 00:06:32,850
and give us a first look into what happens beyond.”

88
00:06:32,850 --> 00:06:35,639
And that’s This Week at NASA!