



# **NASA's Commercial Crew Program**



NASA's Commercial Crew Program is working with American companies to build new rockets and spacecraft that will launch astronauts into space, to places like the International Space Station. The spaceships will launch from Florida and take astronauts about 250 miles above the surface of Earth to perform experiments. Those experiments make our lives better here on the ground and prepare other astronauts for longer missions to places like asteroids and Mars.

# **Preparing for Flight**

Bob Behnken, Suni Williams, Eric Boe and Doug Hurley are training for Commercial Crew flight tests to the International Space Station on Boeing's CST-100 Starliner and SpaceX's Crew Dragon vehicles.



"Working for NASA and being an astronaut is really exciting and it's fun. I go to work every day and it is something new and exciting, and sometimes it means getting on a rocket and going to space.

There are a lot of cool things we do at NASA. It's not only astronauts who work for NASA, but it's doctors, scientists, engineers, veterinarians, and many others all working together to make a space mission that allows us to eventually get up on the rocket and go and do the experiments in space on the space station."

~Suni Williams

#### ROBERT L. "BOB" BEHNKEN. NASA ASTRONAUT

Hometown: St. Ann, Missouri

Education: Washington University, California Institute of Technology

Flight Training: 1.500 hours in more than 25 aircraft

Time in Space: 29 days

Spacewalks: 6, totaling 37 hours

Missions: Space Shuttle missions STS-123 & STS-130 delivering Dextre, Kibo, Cupola, and Node

Previous Assignments: Space Shuttle Cape Crusader, CAPCOM, Chief of the NASA

Achievements: National Science Foundation Graduate Research Fellow, NASA Space Flight and

Defense Superior Service Medals

Military Experience: USAF Research Laboratory Engineer, Test Pilot School, F-22 Flight Test,

**USAF Colonel** 

Hobbies: Backpacking, skiing and learning

#### SUNITA L. "SUNI" WILLIAMS, NASA ASTRONAUT

Hometown: Needham. Massachusetts

Education: U.S. Naval Academy, Florida Institute of Technology

Flight Training: 3.000 hours in more than 30 fixed wing and helicopter aircraft

Time in Space: 322 days

Spacewalks: 7 totaling 50 hours, 40 minutes - World Record for Women

Missions: STS 116, Expeditions 14/15, STS 117, Russian Sovuz TMA-05M, Expeditions 32/33,

Previous Assignments: ISS Russian Crusader, Robotics Branch, NEEMO2 Crew Member, Deputy Chief of the Astronaut Office, Director of Operations at the Gagarin Cosmonaut Training Center in Star

Achievements: Defense Superior Service Medals, NASA Space Flight medals, Republic of India Padma Bhushan Award and Slovenian Medal for Service, first marathon and triathlon in space

Military Experience: US Navy Captain, CH-46D pilot, USN Test Pilot School graduate and instructor, Marine Air Warfare Training graduate, USN/USMC helicopter test pilot, V-22 chase pilot

Hobbies: Running, swimming, biking, triathlons, windsurfing, snowboarding, bow hunting and yoga

#### ERIC A. BOE. NASA ASTRONAUT

Education: United States Air Force Academy, Georgia Institute of Technology

Flight Training: 5,000 hours in more than 45 aircraft

Time in Space: 28 Days Miles Traveled: 11.3 million Missions: STS-126, STS-133

Previous Assignments: Pilot, NASA Director of Operations at the Gagarin Cosmonaut Training Center in Star City, Russia, Deputy Chief of the Astronaut Office and United States Air Force

**Achievements:** Delivered the Multi-Purpose Logistics Module Leonardo, the Permanent

Multipurpose Module and 4th Express Logistics Carrier to ISS

Military Experience: 55 combat missions over Iraq in support of Operation Southern Watch

Hobbies: Outdoor sports, reading, scuba diving and skiing

#### DOUGLAS G. "DOUG" HURLEY, NASA ASTRONAUT

Hometown: Apalachin, New York **Education:** Tulane University

Flight Training: 5,000 hours in more than 25 aircraft

Time in Space: 28 days Miles Traveled: 11.8 million

Missions: Space Shuttle missions STS-127 and STS-135 delivering the Japanese Exposed Facility

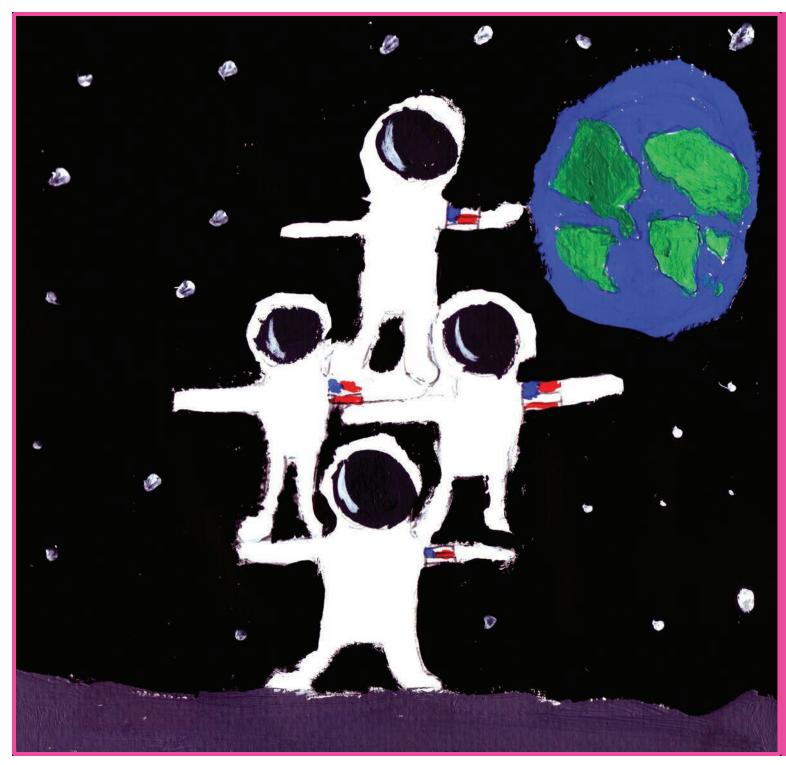
and the Multi-Purpose Logistics Module Raffaello to ISS

**Previous Assignments:** Pilot, Shuttle Cape Crusader, NASA Director of Operations at the Gagarin Cosmonaut Training Center in Star City, Russia, and Assistant Director for Flight Operations Achievements: 1st Marine pilot to fly the F/A-18 E/F Super Hornet, last pilot of the Space Shuttle,

Military Experience: F/A-18 pilot, Weapons and Tactics Instructor, Navy Test Pilot School, F-18

A-F Flight Test, retired USMC Colonel

Hobbies: Family time in the Texas Hill Country and hunting



### **Astronauts**

NASA's astronauts have many skills and experiences that make them perfect for the variety of jobs they do both in space and on the ground. During their careers, astronauts could pilot a spacecraft, run experiments on the International Space Station, train new astronauts and even help guide other astronauts through challenging work in space from Earth.



Cheyenne, 9 Titusville, FL

### **Astronaut Acrobats**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
December 2015  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	February 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29				New Year's Day	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
	Martin Luther King Jr. Day					
24	<b>25</b>	26	27	28	29	30
31						

#### Did You Know?

NASA is looking for explorers who want to be part of the next class of astronauts. These astronauts will have more opportunities than ever before. They can fly aboard Boeing's CST-100 Starliner, SpaceX's Crew Dragon, NASA's Orion spacecraft and even perform experiments while living on the International Space Station for months at a time. Learn what it takes to be an astronaut at <a href="www.nasa.gov/astronauts">www.nasa.gov/astronauts</a>





### Rockets

Commercial crew rockets will launch the spacecraft that will carry astronauts to the International Space Station.

The rockets will be smaller than NASA's Space Launch System rocket, as well as the agency's previous Saturn V and space shuttle systems. Their missions are different, so their designs are different. Think of it like going to see your next door neighbor. You would ride a bike to see them, but you would take a bus to travel across the country.



Mia, 4 Manhattan Beach, CA

# Happy Rocket Day!

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14 Valentine's Day	15 Presidents Day	16	17	18	19	20
21	22	23	24	<b>25</b>	26	27
28	29	January 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	March 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31			

#### Did You Know?

NASA is designing a rocket even more powerful than the Saturn V that boosted humans to the moon. Lifting off from NASA's Kennedy Space Center in Florida, the Space Launch System will take astronauts riding atop in the Orion spacecraft deeper into the solar system than humans have ever gone before.





### **Spacecraft**

Spacecraft carrying astronauts are stacked on top of rockets before launching them into space. Orion is the first spacecraft since Apollo that NASA has built with an eye on distant worlds. NASA's Space Launch System rocket and Orion spacecraft, now in development, will enable humans to reach asteroids beyond lunar orbit, Mars and other potential destinations. At the same time, NASA is working with commercial companies to launch astronauts to the space station and return them home safely. The commercial crew spacecraft that astronauts will fly to the International Space Station - SpaceX's Crew Dragon and Boeing's CST-100 Starliner—will be lightweight, but tough enough to withstand meteorites.



Monroe, 9 Grass Valley, CA

### Spaceship!

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
February 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	April 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	1	2	3	4	5
6	7	8	9	10	11	12
13  Daylight Saving Time Begins	14	15	16	17 Saint Patrick's Day	18	19
20 Spring Begins	21	22	23	24	25	26
<b>27</b>	28	29	30	31		
Lasiei						



#### Throwback:

NASA's lunar modules delivered Apollo astronauts safely to the surface of the moon six times from 1969 to 1972. Designed only to operate in the vacuum of space, lunar modules, like the one that Eliora drew, boasted all the supplies a pair of moonwalkers would need to survive on the airless, charcoal-colored world. Each spacecraft was designed in two stages so it could land on the moon, then lift off to take the astronauts to the waiting command module for the flight home to Earth.

The Apollo Spacecraft Eliora, 11 Grass Valley, CA





### **Spacecraft Interior**

Every spacecraft's interior has been unique and advanced for its time. In the past, NASA's spaceships, which are also called spacecraft, had thousands of knobs and dials. Today's spacecraft could feature tablet-like technology, parts like engines and seats that are printed on a machine called a 3D printer, Wi-Fi and much more.



Kiley, 9 Titusville, FL

# The Girl in Space

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
March 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	May 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31				1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18 Patriots' Day	19	20	21	22	23
24	<b>25</b>	<b>26</b>	27	28	29	30

#### Learn More:

Boeing and SpaceX are designing their spacecraft with creativity and simplicity in mind. See what their systems will look like by visiting our photo album at <a href="http://go.nasa.gov/1MjlwEe">http://go.nasa.gov/1MjlwEe</a>



# Ear Rece To Comunicate whith NASA. Helmet American Flag. Boots water Designed to decreas More Health Problems. Due to Exposse To a Man gravily environments Water To Refil

### **Spacesuits**

An astronaut's spacesuit is like his or her own personal spacecraft. Spacesuits keep astronauts safe by providing breathable air and keeping them warm and cool. Spacesuits are also pressurized like the inside of a flying airplane so that the astronauts are safe in space. Spacesuits allow the astronauts to be in constant communication with doctors and medical professionals who track their health here on the ground.



Nicholas, 11 Sarasota Springs, UT

# Innovated Spacesuit

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8 Mother's Day	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30 Memorial Day	31	April 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	June 2016       1     2     3     4       5     6     7     8     9     10     11       12     13     14     15     16     17     18       19     20     21     22     23     24     25       26     27     28     29     30		







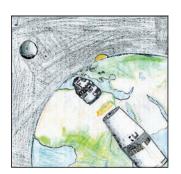
### Florida Space Coast Launches

The rumble . . . the glow . . . the excitement! Every time NASA has launched people off the surface of Earth and into space, it has been from Florida's Space Coast. In the next couple years, we will see commercial crew rockets glow orange and make huge plumes of smoke as astronauts launch to the International Space Station from Florida. In the 2030s, we will also see astronauts launching from NASA's Kennedy Space Center as they begin their journey to Mars.



### Rocket Launch

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
May 2016  1 2 3 4 5 6 7  8 9 10 11 12 13 14  15 16 17 18 19 20 21  22 23 24 25 26 27 28  29 30 31	July 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31		1	2	3	4
5	6	7	8	9	10	11
12	13	14 Flag Day	15	16	17	18
19 Father's Day	20 Summer Begins	21	22	23	24	25
26	27	28	29	30		



#### Throwback:

NASA's Saturn V rocket rumbled the Space Coast shores like no other launch vehicle before or since. It took more than 7.5 million pounds of thrust at liftoff to push the 363-foot-tall rocket off the launch pad and into the sky. Five engines provided the power for the first minutes of flight, then a second and third stage, seen here in Jacob's drawing, completed the work of sending three astronauts to the moon inside an Apollo spacecraft with a lunar module in tow.

Saturn V S-II Second Stage Jacob, 12

Titusville, FL





# International Space Station

Look up! The International Space Station is orbiting about 250 miles above the surface of Earth, 24 hours a day, seven days a week, 365 days a year at 17,500 miles every hour. On board, astronauts conduct very important experiments that help us here on Earth. They are also learning how to live for long periods of time in space, which will help future astronauts on their journey to Mars. Commercial crew spacecraft will carry up to four crew members to the station so that even more experiments can be done!



June, 4
Fort Calhoun, NE

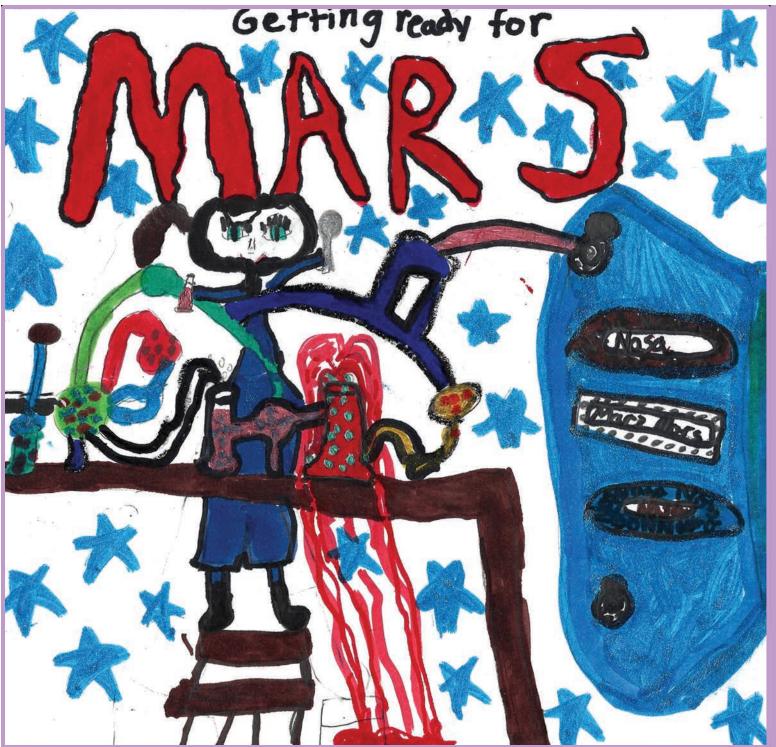
# International Space Station: I want to be an astronaut

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
June 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	August 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31				1	2
3	Independence Day	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

#### Spot the Station:

Several times a week, Mission Control at NASA's Johnson Space Center in Houston, Texas, determines International Space Station sighting opportunities for more than 6,700 locations worldwide. To view upcoming sighting opportunities in your area, visit <a href="http://spotthestation.nasa.gov/sightings">http://spotthestation.nasa.gov/sightings</a>





### Experiments

Every day, astronauts perform experiments aboard the International Space Station, which is commercial crew's destination in space. Those experiments make our lives better here on Earth, help us understand more about our own planet and space, and prepare us for missions to Mars.



Georgia, 10 Merritt Island, FL

# Mission to Mars

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	July 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	September 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	



Have Some Fun! Find your way through the International Space Station while thinking about what type of science experiments you would perform in space. Download the station maze at <a href="http://go.nasa.gov/1!WJme6">http://go.nasa.gov/1!WJme6</a>





### **Space Safety**

Commercial crew spacecraft that will fly astronauts to the International Space Station are designed to keep astronauts safe throughout their entire mission. The spacecraft are designed to separate from a rocket, as well as safely and quickly carry the station's crew back to Earth in an emergency.



Stacy, 11 Cocoa Beach, FL

### Keep Our Astronauts Safe

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
August 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	October 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31			1	2	3
4	5 Labor Day	6	7	8	9	10
11 Patriot Day	12	13	14	15	16	17
18	19	20	21	<b>22</b> Fall Begins	23	24
25	26	27	28	29	30	



#### Did You Know?

Astronauts are just like us! They have families, neighbors, friends and pets here on Earth. That's why NASA makes keeping people safe a top priority! Jack has two parents who are astronauts: Doug Hurley, who has flown to space twice aboard the space shuttle and is now training to fly a test flight to the International Space Station for NASA's Commercial Crew Program. And Karen Nyberg, who has spent about 180 days on the orbiting laboratory, is shown in space through Jack's art.

My Mom in Space Jack, 5 League City, TX





### Landing

Spacecraft landings are quite impressive. After flying through space and re-entering the atmosphere at 17,500 miles per hour, spacecraft have to land smoothly to protect the astronauts and science experiments they carry. Engineers are looking at different ways to land with parachutes and airbags, fly to a runway like an airplane, or land using only rocket engines.

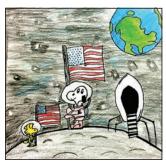


Sophia, 8 Titusville, FL

### Awesome Water Landing

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
September 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	November 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30					1
2	3	4	5	6	7	8
9	10 Columbus Day	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
20	04		Did You Know?			

Halloween



On July 20, 1969, Neil Armstrong stepped on to the surface of the moon and transmitted back to Earth, "That's one small step for a man ... one giant leap for mankind." He and fellow astronaut Buzz Aldrin explored the moon for about two-and-a-half hours. They collected moon rocks, set up experiments and put up an American flag. They also left behind mementos representing all of humanity and the teams of people that made the moon landing possible. Snoopy, shown in Ava's artwork, is more than just a household name. The cartoon character is also NASA's safety mascot.

Snoopy on the Moon Ava, 12 Rockledge, FL



### NASA's Journey to Mars

To propel humanity into a new era of space exploration, NASA is developing the Space Launch System rocket, which will be the most powerful ever built. It is designed to take astronauts to deep space, eventually even to Mars. At the same time, the experiments that astronauts are doing on the International Space Station help NASA understand what future astronauts will need to live on Mars



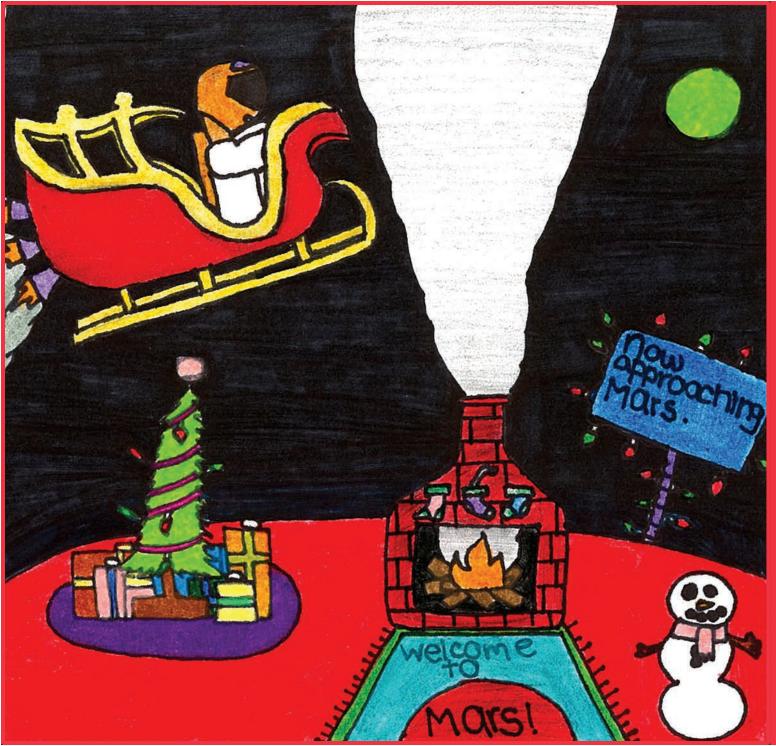
Amanda, 8
Manhattan Beach, CA

### Jungle on Mars

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
October 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	December 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	2	3	4	5
Daylight Saving Time Ends	7	8	9	10	11 Veterans Day	12
13	14	15	16	17	18	19
20	21	22	23	24 Thanksgiving Day	25	26
27	28	29	30			

#### Students and Teachers:

November
2016



# You Could Fly To Space

Right now, only astronauts can fly to space, but soon NASA astronauts won't be the only people flying into space in new commercial crew spacecraft.

American companies will own their own spacecraft and rockets to carry other people into space. People will be able to buy tickets to take a short trip into space and come right back to Earth. . .

Will you be one of them?



Kaitlyn, 12 Merritt Island, FL

# Future Magic on Mars

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
November 2016  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	January 2017  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31			1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	<b>21</b> Winter Begins	22	23	24 Hanukkah Begins
25 Christmas Day	26	27	28	29	30	31 New Year's Eve

#### Did You Know?

Many American companies are designing spaceships to take people to space. Would you want to fly to space and look back at the Earth below you? Create your own spacecraft out of cardboard boxes and art supplies, using this coloring sheet as your inspiration: <a href="http://go.nasa.gov/1Qr01Yn">http://go.nasa.gov/1Qr01Yn</a>



### #LaunchAmerica

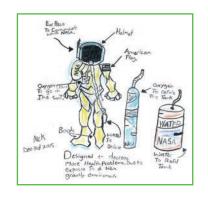
























Connect at:



@Commercial\_Crew



**NASACommercialCrew** 

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For more information, go to: <a href="http://blogs.nasa.gov/commercialcrew">www.nasa.gov/commercialcrew</a> and <a href="http://blogs.nasa.gov/commercialcrew">http://blogs.nasa.gov/commercialcrew</a> www.nasa.gov