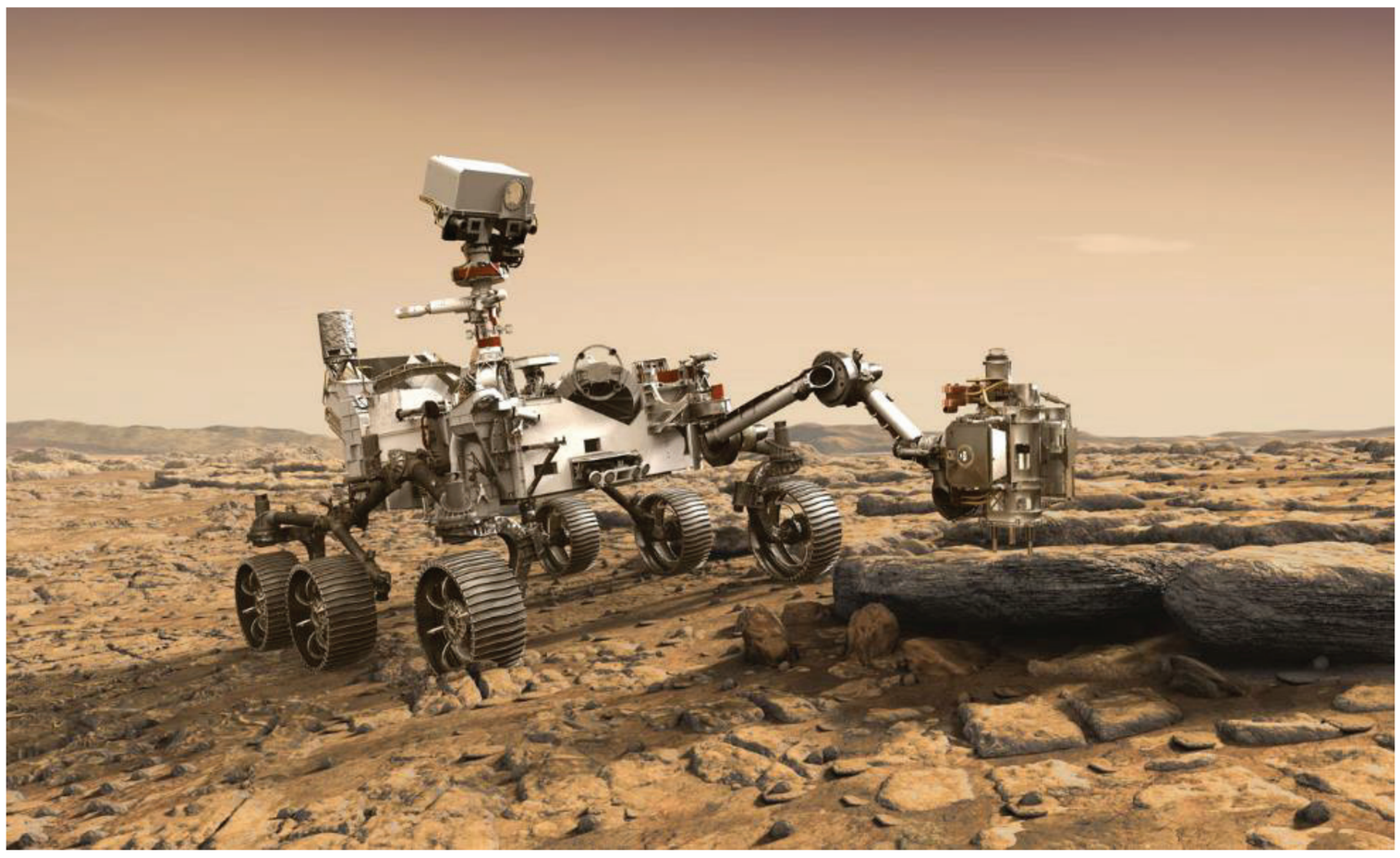


SpaceX Mission to Mars

SpaceX Mission to Mars has promise to establish a million person colony in the next 50-100 years. To make this trip possible, SpaceX builds the Interplanetary Transport System (ITS) that combines the most powerful rocket with a 100-person spaceship named Starship that will send us to the Red Planet. In the early 2030's, NASA will be sending six astronauts to Mars to experiment with life habitat along with collecting other data on Mars. The Red Planet is one of the closest habitable neighbors in order for us to extend our population. The Starship Spacecraft will allow us to refuel its engine with Mars' resources.

- Expanding human population on Mars could decrease the likelihood of human extinction.
- Perseverance (NASA's Mars Rover) is expected to land on Mars by February 18, 2021.The mission is to collect samples of ancient life, rocks, and soil to bring back to Earth.
- 7 out of 12 American exploratory missions to mars have been successful.

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Alicia Balbuena
Class of 2021
Spring Woods, HS
Houston, TX

Artist: Xavier Adams

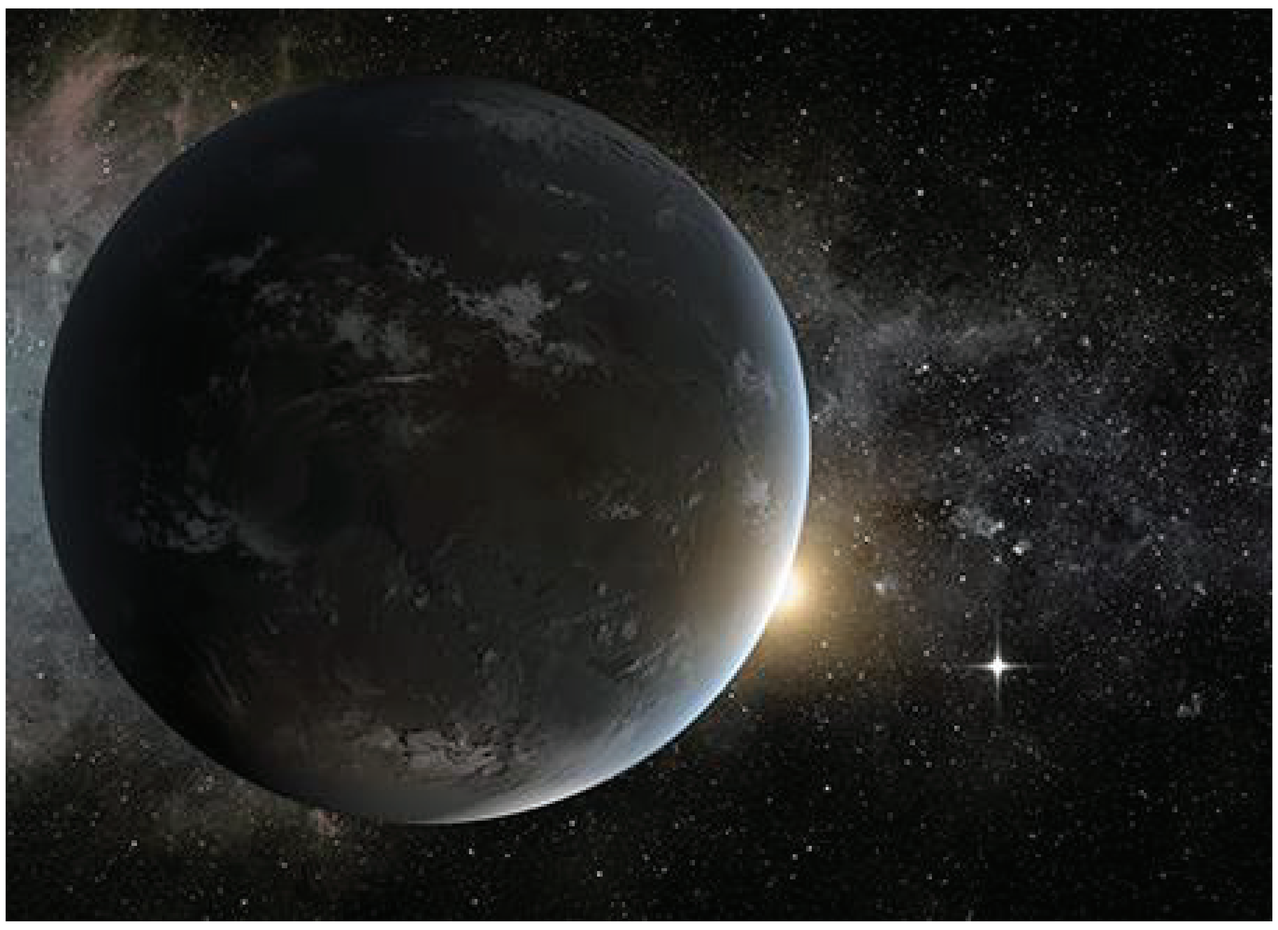
International Space Station (ISS)

The International Space Station is a flexible space station in low Earth orbit. A global construction project that is the largest unique structure humans ever put into space. The station works on microgravity and space environment research laboratories in which scientific research manage in astrobiology, astronomy, meteorology, physics, and the other such fields. The ISS is also used for testing the spacecraft systems and equipment required for possible future long duration missions to the Moon and Mars. The station is also used by NASA to learn more about living and working in space. Lessons that will be useful from the space station will help NASA explore space in the future.

- In 24 hours, the space station makes 16 orbits of earth, travelling through 16 sunrises and sunsets.
- The space station flies at an average altitude of 248 miles above earth.
- Eight spaceships can be connected to the space station at once.
- ISS generally holds crews of between three and six people.

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Andrea Hernandez
Class of 2021
Spring Woods, HS
Houston, TX



Planetary Discovery (Exo-Planets)

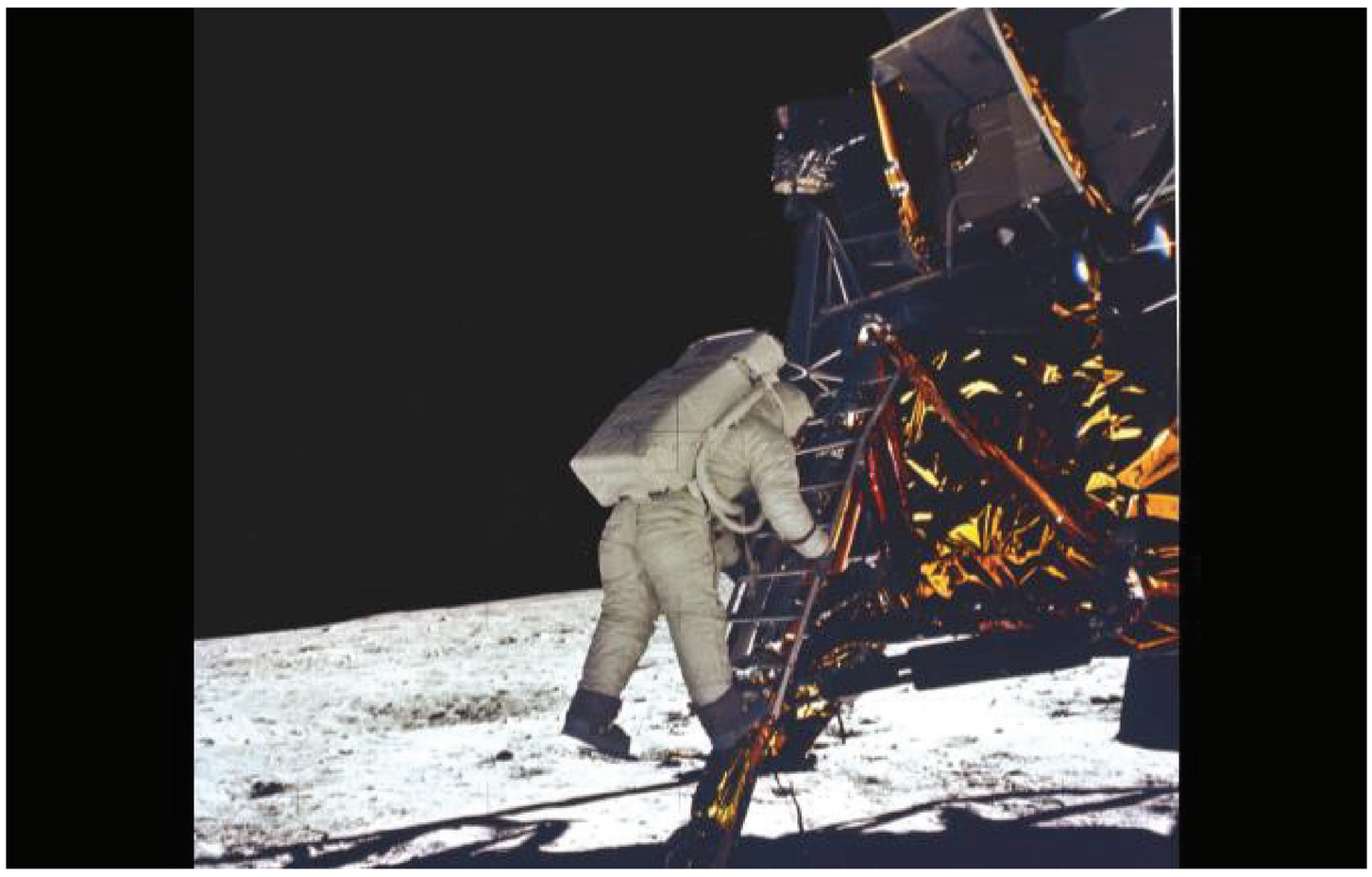
Exo-Planets, planets outside of our Solar System, are being discovered every day. There are than 4,000 confirmed Exo-Planets in our Milky Way Galax alone! These Exo-Planets are so fascinating, they come in all shapes and sizes and there is a probable chance of life on exo-planets that are in the habitable zone! And with enough time and technology we could even be transported to these planets that could benefit us in the future!

- More than 22% of Sun-like stars have Earth-sized planets in their habitable zone.
- There is at least one planet on average per star with about 1 in 5 Sun-like stars having an Earth-sized planet in the habitable zone.
- There could be about 1 trillion exoplanets in the Milky Way.

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Cassie Harbison
Class of 2022
Spring Woods HS
Houston, TX

Artist:
Olivia Carranza &
Yexi Flores with
Nicole Gomez



The Moon Landing

On July 20, 1969, American astronauts Neil Armstrong and Edwin “Buzz” Aldrin became the first humans ever to land on the moon. About six-and-a-half hours later, Armstrong became the first person to walk on the moon. As he took his first step, Armstrong famously said, “That’s one small step for man, one giant leap for mankind.” The Apollo 11 mission occurred eight years after President John F. Kennedy announced a national goal of landing a man on the moon by the end of the 1960s. Apollo 17, the final manned moon mission, took place in 1972.

- Moon soil is extremely clingy and hard to brush off, so when Armstrong and Aldrin returned to the lunar module and re-pressurized it, lunar dirt that had clung to the men’s suits entered the cabin and began to emit an odor.
- The landing site that Apollo 11 crew had chosen was an area called the Sea of Tranquility, which looked smooth and safe for landing. This isn’t a sea as we know it. It’s a lunar mare – a large plain formed long ago by a volcanic eruption.
- The lunar module, Eagle, was so small that there was no room for seats. While Eagle dropped 60 miles to the moon’s surface, Neil Armstrong and Buzz Aldrin had to stand up.

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Artist: Patty Sauceda

Christopher Zeledon
Class of 2021
Spring Woods HS
Houston, TX

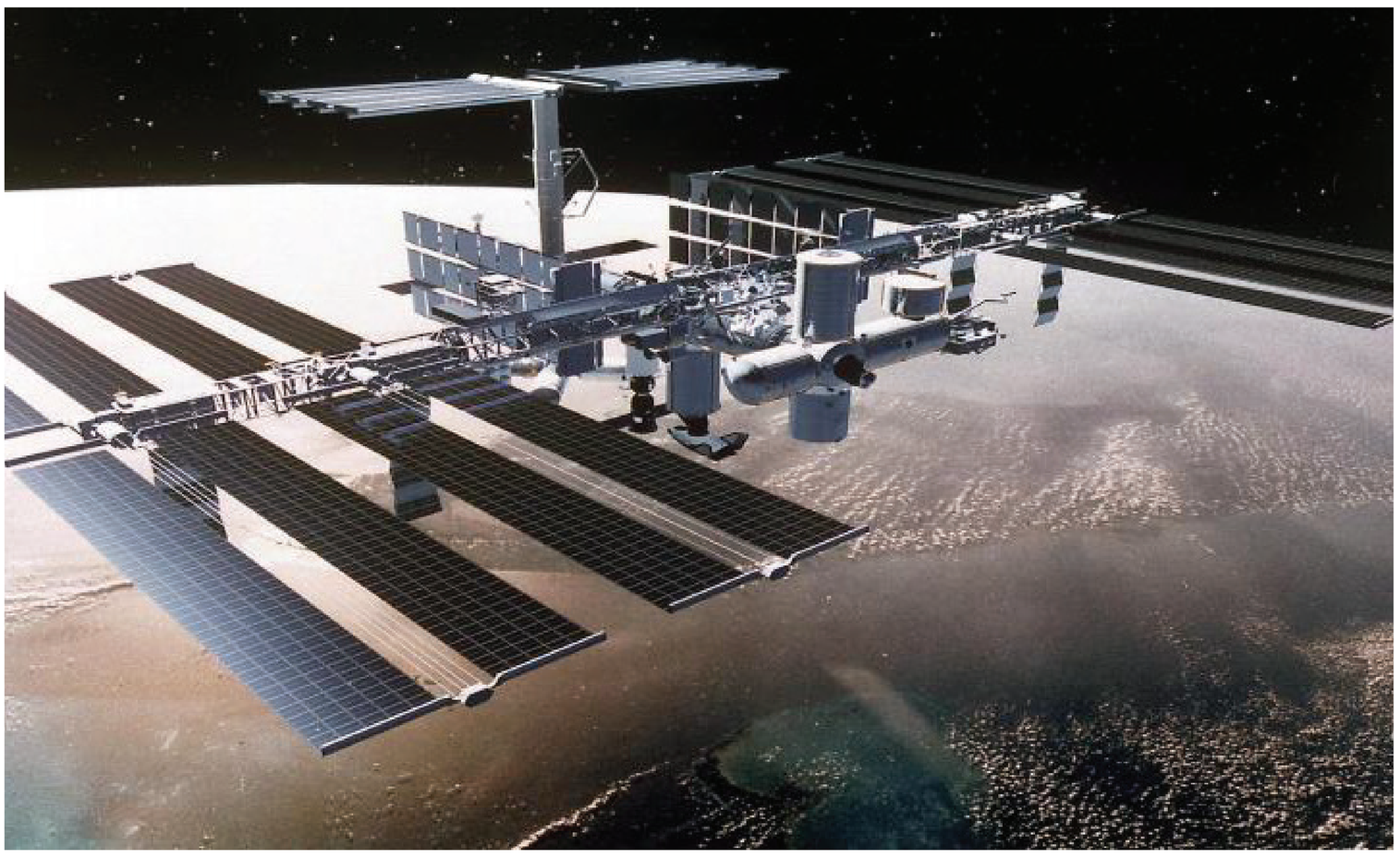
Artemis

The Artemis space program was found by NASA. NASA will collaborate with their commercial and international partners and found endurable prospecting by the end of the decade. The Artemis program is a US government-funded human spaceflight program that has the goal of landing “the first woman and the next man” on the Moon, specifically at the lunar south pole region by 2024, and establishing a permanent base there by the end of the decade.

- Artemis was the twin sister of Apollo and goddess of the Moon in Greek mythology. Now, she personifies the path to the Moon as the name of NASA’s program to return astronauts to the lunar surface by 2024.
- The Artemis program is a US government-funded human spaceflight program that has the goal of landing “the first woman and the next man” on the Moon, specifically at the lunar south pole region by 2024.
- NASA has selected three American companies – Blue Origin, Dynetics and SpaceX – to design and develop human landing systems for the Artemis program.

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Deivid Almazan
Class of 2022
Spring Woods, HS
Houston, TX



The International Space Station

The ISS, International Space Station celebrated its 20th anniversary on November 2, 2020. The ISS was the first ever multinational collaborative space project, shared by NASA, CSA, ESA, JAXA, and Roscosmos. The ISS is home to all astronauts that are in space, and it allows us to study the effects of space on humans and learn what we will need to continue our vast journey into space and beyond. Construction for the ISS began in 1998 and wasn't fully complete till 2010! This extraordinary piece of equipment was designed by engineers, scientists, and physicists from around the world. The ISS is a tool that connects the entire human race and is essential for our next advancement into our mysterious universe.

- ISS has enough science equipment for more than 250 different experiments at any given time.
- The ISS orbits the Earth every 90 minutes. Traveling at speeds of 4.76 miles/s!
- 240 individuals from 19 countries have visited the International Space Station.
- The space station has been continuously occupied since November 2000.

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Daniela Sanchez
Class of 2021
Spring Woods HS
Houston, TX

Artist: Hung Pham

James Webb Space Telescope

The James Webb Space Telescope can look beyond our galaxy and closer at exo-planets and their composition as well as other galaxies, in greater detail than any telescope before. The JWST will also be able to look inside nebulae where stars and different planetary systems are forming. It will give us the tools to search for indications of an atmosphere on planets that could sustain life. This telescope was named after NASA's second administrator, James E. Webb and was previously known as the Next Generation Space Telescope before being renamed. Since Webb is NASA's next great space science observatory, it will discover new galaxies, planets, and other worlds within the universe. Using this new information, we could find new places that can sustain life or learn more about the beginning of the universe.

- The telescope is 70 feet by 48 feet, about the size of a tennis court
- It can possibly see what the universe looked like about 100 million years after the Big Bang (beginning of the universe)
- It's optimized for infrared wavelengths and will find the first galaxies that formed in the early universe
- Webb will orbit the Sun in the L2 about 1.5 million Kilometers from Earth.

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Ella Guo
Class of 2021
Spring Woods HS
Houston, TX

Artist: Henry Darnell

Satellite Exploration

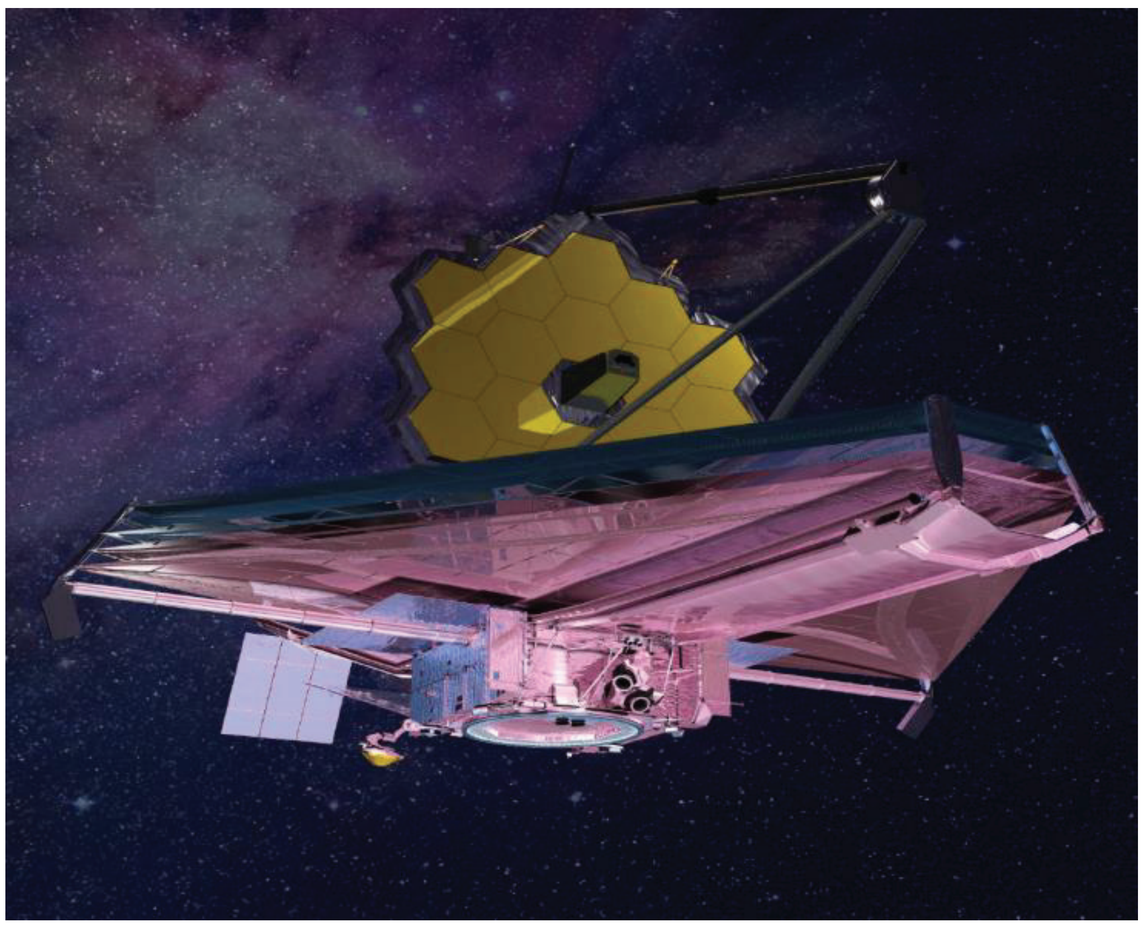
Satellites have been a major help when it comes to exploring the universe. Since the first satellite to orbit the planet, Sputnik, was launched in 1957, they have helped us discover planets and other celestial bodies. Satellites are major human achievement. As of now we are able to use satellites for a variety of things, from observing the terrain of a planet, to helping us with the weather forecasts and maps. We most likely wouldn't have gotten to where we are now without the help of satellites, they help us in our daily lives and also help us explore the vast universe.

- Voyager 1, a satellite launched back in 1977, was sent into space with the hope that it would eventually find extraterrestrial life. It even included a gold plated record that contained a message from Earth and instructions on the record on how to play it. Voyager is still transmitting signals back to Earth today!
- The first satellite ever put into orbit, Sputnik, was built by the Russians and was about the size of a beach ball and weighed almost 200 lbs! It would spend 2 months orbiting around the earth. Sputnik jump-started the space race between the Russians and Americans.
- In its entirety, there about 2,666 current active satellites exploring space, about double that number are inactive or lost within the vastness of space.

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Edwin Sapon
Class of 2022
Spring Woods HS
Houston, TX

Artist: Madi Blissard



James Webb Space Telescope

The James Webb Space Telescope, currently scheduled to be launched in late 2021, is a telescope that will be in orbit 1.5 million Km from Earth. This telescope will allow us to see further into the Universe than ever before and learn answers to questions we have not answered previously. The Webb telescope will enable astronomers to see close to the edge of the Universe to the time when it was created, helping scientists and humanity learn about galaxies from billions of years ago.

- The James Webb Telescope is so sensitive is could detect the heat signal from a bee if the telescope was on the moon!
- The Webb telescope is so powerful it can see the detail on a penny from 24 miles away!
- The solar panel is so big it is the size of a tennis court. This panel helps block light from the reflection of the Earth and the moon, allowing Webb to pick up very faint traces of light.

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Joshua Cervantes
Class of 2021
Spring Woods, HS
Houston, TX

James Webb Space Telescope

The James Webb Space Telescope is the most expensive and the most sensitive telescope ever to be made. It is also the first telescope to revolve the L2 zone or at 1 million miles from earth. Webb will help astronomers to compare the faintest, earliest galaxies to today's grand spirals and ellipticals, helping us to understand how galaxies assemble over billions of years.

- With unprecedented infrared sensitivity, it will peer back in time over 13.5 billion years to see the first galaxies born after the Big Bang.
- Webb is so sensitive, it could detect the heat signature of a bumblebee at the distance of the moon.
- Webb can see details the size of a US penny at the distance of about 24 miles (40 km). (That's a limiting sensitivity of ~11 nJy and spatial resolution of better than 0.1 arc-secon at 2 microns.)

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Jeffrey Zavala
Class of 2022
Spring Branch HS
Houston, TX

Artist: Johanna St. Clair
& Aubrey Finn with
Vanessa Delgado

Artemis

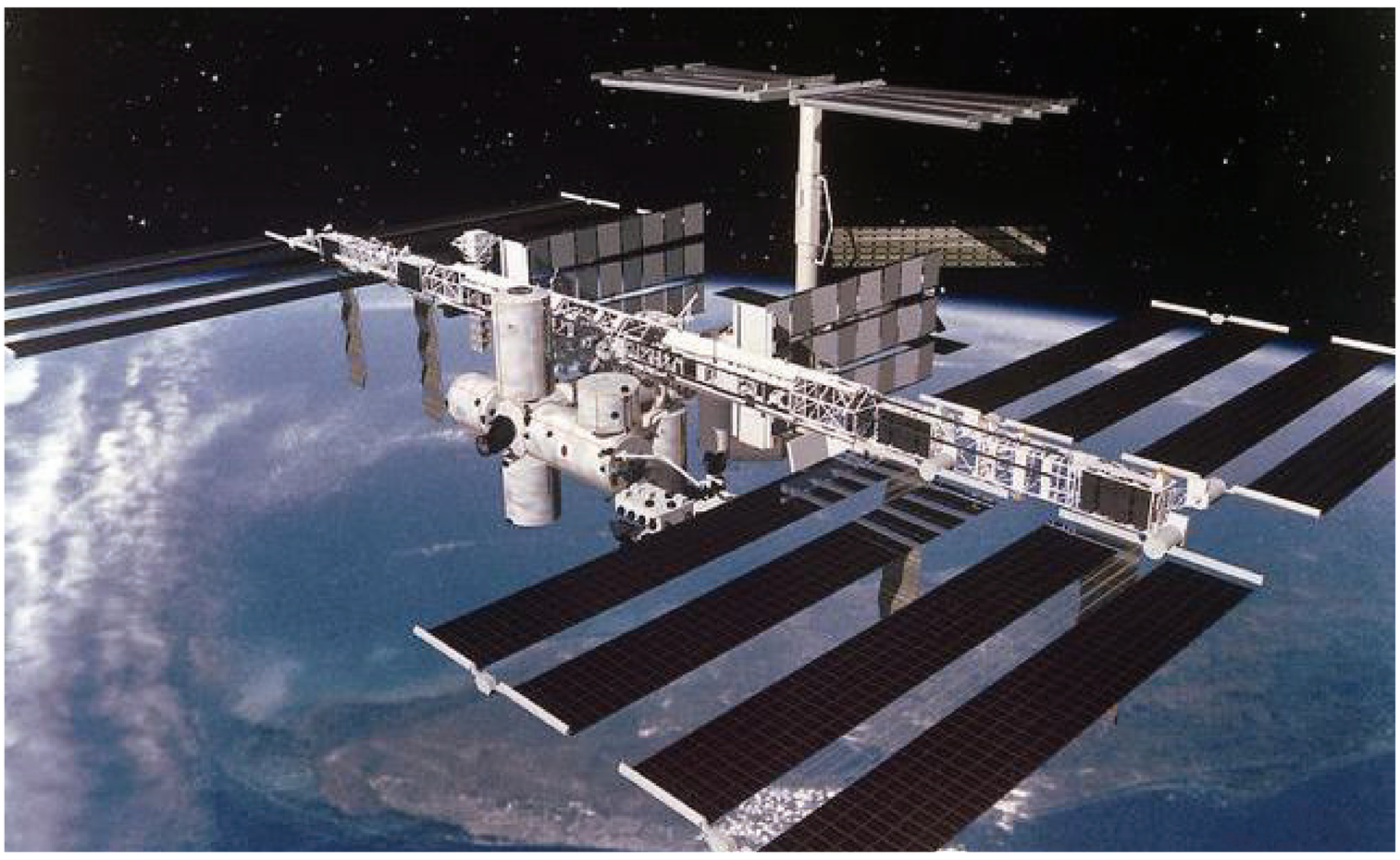
The Artemis mission is humanity’s return to the moon in hopes of discovering more about our closest solar system neighbor. Its name is inspired by Apollo’s twin sister Artemis, the goddess of the Moon, making it a perfect name for the mission in which brave astronauts chase down new possibilities and make them a reality. Using Apollo 11 as an outline for the moon landing, NASA plans to take the first woman into space. Making a huge impact on what a woman can do in the 21st century. Information learned from the Artemis program will revolutionize our scientific understanding and aid in sending humans to Mars to inhabit the red planet. Creating a giant leap in scientific accomplishments and leading to more areas of study when the mission is launches in 2024.

- The mission will explore more of the moon than ever before.
- Before the name Artemis was assigned to this mission NASA would use the word to refer to a pair of lunar probes.
- More than 45 years have passed since we first visited the moon.

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Artist: Chewy Arranza &
Hay-Leigh Franco

Mercedes Echaverry
Class of 2021
Spring Woods, HS
Houston, TX



International Space Station

The International Space Station is a large spacecraft in orbit which circles around the Earth. It circles around the Earth every 90 minutes at a speed of 4.76 miles/s! It is considered as home where crews of astronauts and cosmonauts live. NASA is using the space station to learn more about living and working in space. The International Space Station is a modular space station in low Earth orbit. It was a huge success because there was a collaboration between five participating space agencies which are NASA, Roscosmos, JAXA, ESA, and CSA. The ownership and use of the space station is established by intergovernmental treaties and agreements. The ISS has been in continuous use for 20 years!

- Over all 240 individuals astronauts from 19 countries have visited the International Space Station.
- The space station has been continuously occupied with astronauts since November 2000. Makes it its 20th anniversary.
- An international crew of six people live and work while traveling at a speed of five miles per second, orbiting Earth about every 90 minutes.

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Artist: Meric Nelson

Salik Daheri
Class of 2021
Spring Woods HS
Houston, TX

Commercial Space Flight & Travel

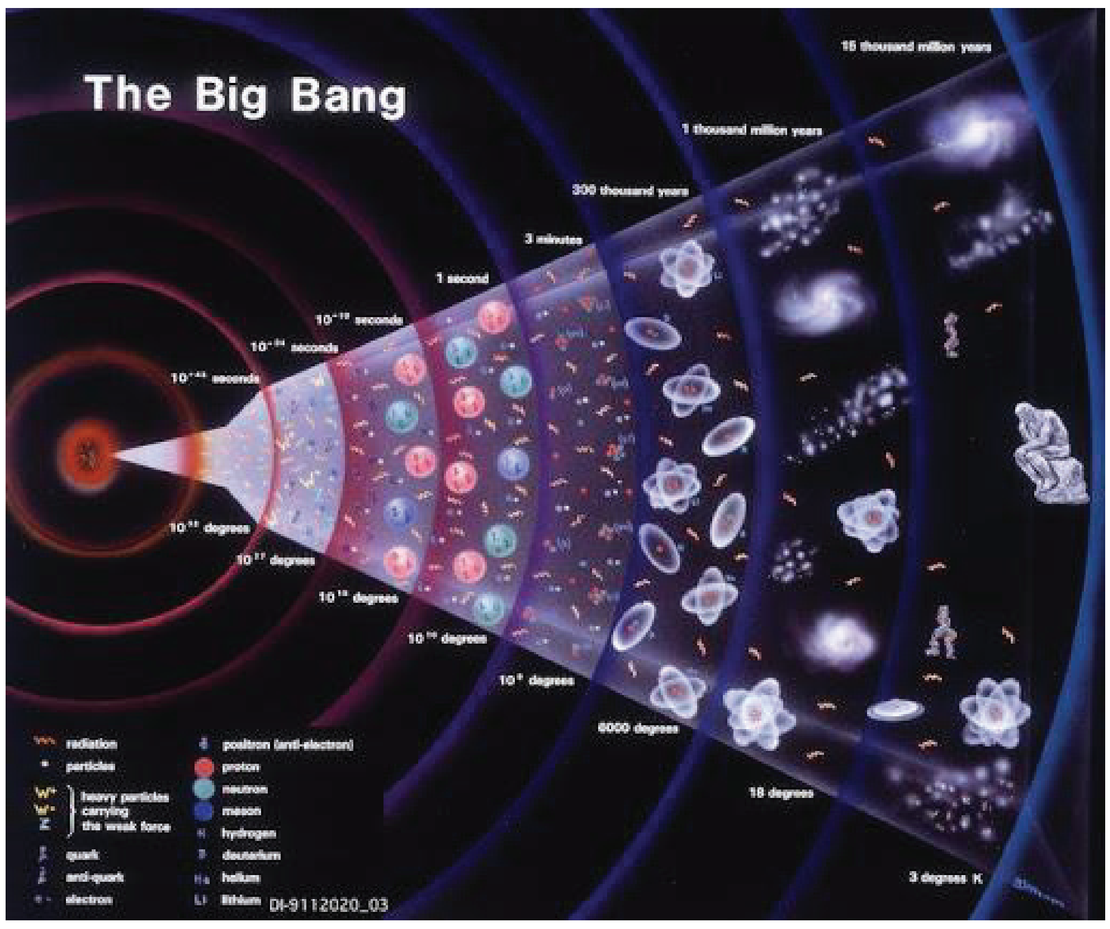
Commercial space travel is the future. Scientists are planning return trips to the Moon and groundbreaking trips to Mars in the future. What would be the next step in space travel? Plans for commercial space travel are well underway. Private companies such as Blue Origin and Virgin Galactic have plans to make public suborbital trips around Earth, and in the distant future, possible trips to the moon or other planets like Mars. Plans are also underway for space hotels in orbit around Earth and one day on the Moon. Commercial space travel must happen, as it can be an important source of income that can boost our economy. For this can create new jobs and new careers. Many people are looking forward to this, as I think we have all dreamt of going to space before, yet they were just random thoughts. As we knew that only trained professionals can go to space. Well, that is all going to change if space travel gets commercialized. We will all be able to go to space as if we were traveling from country to country. Though there is still a long way to go from this becoming a reality, commercial space travel is something exciting and something we are all looking forward to becoming a reality in the near future.

- Companies like Virgin Galactic, Blue Origin, and SpaceX by Elon Musk are planning on investing in commercial space travel.
- Tourists would be able to orbit the Earth in commercial space craft.
- Eventually, tourists could stay overnight in space hotels that would be in orbit around Earth!

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Artist: Ethan Perez with Kylia Ruben

Said Recio
Class of 2021
Spring Woods HS
Houston, TX



The Big Bang

The Big Bang Theory is the most accepted explanation regarding how the universe began. When Edwin Hubble and Milton Humason discovered that galaxies were moving further away from each other, scientists began to believe in the possibility that our universe started at a singular point, and over the next 13.8 billion years continued to inflate and grow to be more complex.

- Every part of the cosmos is expanding, and therefore, there is no center point
- The Big Bang theory explained the creation of hydrogen and helium (Ralph Alpher and George Gamow assumed that the early universe was hot enough to create the elements)
- “Big Bang” Was coined by astronomer Fred Hoyle

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Thy Ho
Class of 2021
Spring Woods HS
Houston, TX

Artist: Abby Garner

Artemis: Humanity’s Return to the Moon

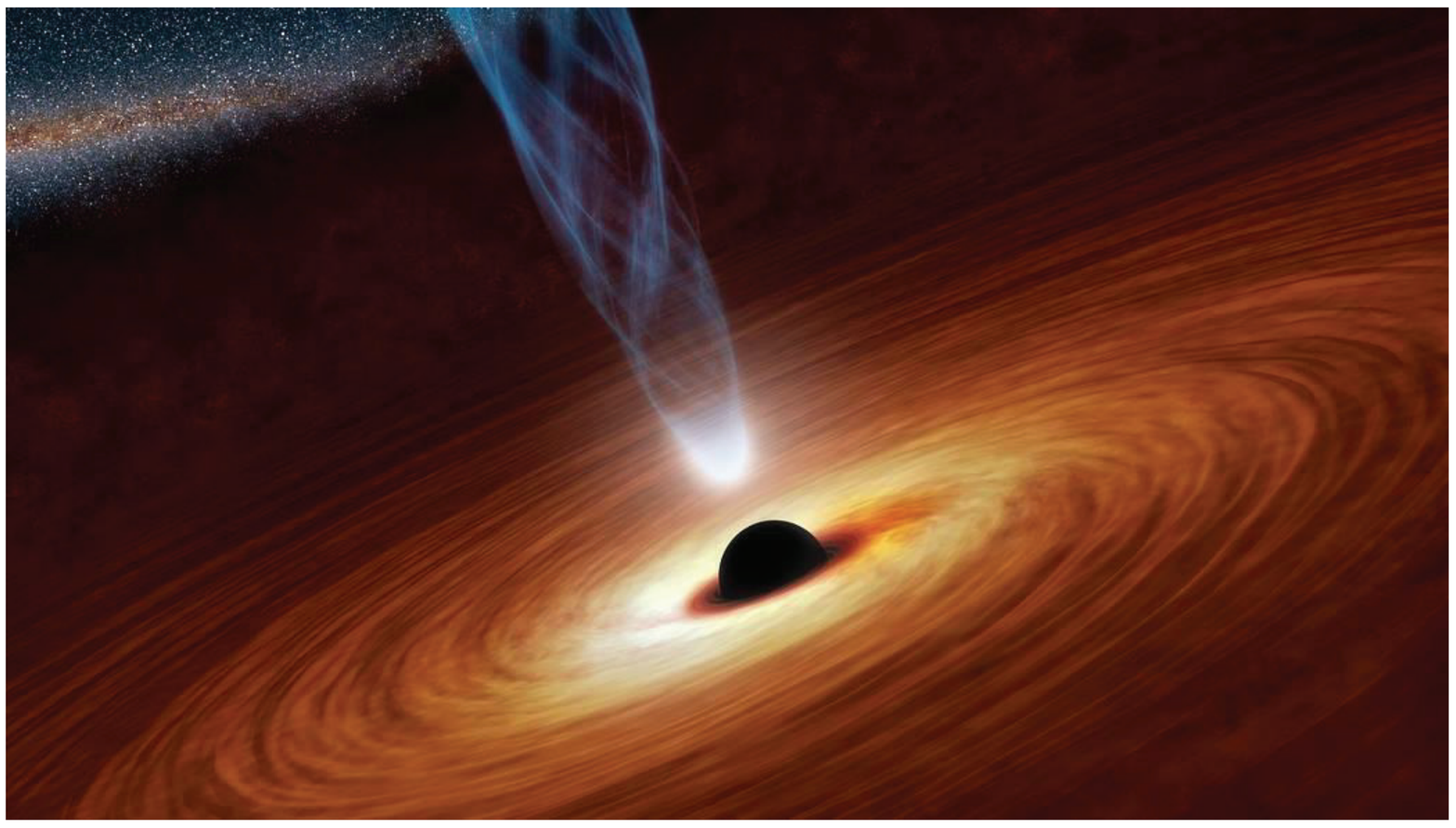
Artemis is the first journey back to the moon since the Apollo missions in 1969. Artemis will be humanity’s next frontier in the colonization outside of Earth. The first occurrence of a permanent structure in space happened with the International Space Station in Earth’s orbit. The next step will be to build a permanent structure on the moon. The Artemis missions have the goal of establishing a permanent base on the moon by the end of the decade. The first planned mission is Artemis 1, which is scheduled to be launched in 2024. New technology will allow scientists to explore more of the moon’s surface than has ever been possible. Knowledge gained during this time will also help with the next goal of sending humans to Mars. This is now all possible thanks to the advancements in technology and understanding of life outside of earth, made in large part by the discoveries at the International Space Station. Technology such as advanced AI will make the journey to the moon easier than it has ever been. This is the next frontier of space exploration and it is no longer just a dream; it has become a reality.

- Artemis was the twin sister of Apollo and so was a fitting name for the mission to go back to the moon and bring the first women there with it.
- The systems put in place with the Artemis missions will create sustainable exploration for the foreseeable future.
- While we explore the surface and subsurface of the Moon we will be able to discover just how much water there is and where it is located.

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Artist: Rebekah Tee

Timothy White
Class of 2022
Spring Woods HS
Houston, TX



Black Holes

A black hole is a region of space that has a gravitational pull so intense that no matter or radiation can escape them, not even light. Black holes form when the balance of radiation and gravity in a star breaks. Depending on the size of the star, it will collapse on itself and create a black hole. They are mostly located in the center of galaxies and many theories suggest there are mini universes within each black hole. Although there is still a lot we don't know about black holes, the one thing we do know is that it is the most powerful thing in the universe.

- There are about 100 million black holes in the universe
- There are 3 categories of black holes: Primordial black holes, Stellar black holes, and Supermassive black holes
- Black hole HR 6819 is about 1,120 light-years away, the closest to us.

#spacedoutart
#urbancanvas
#spacecenterhou
#visualartstigers

Artist: Jessany Cornejo
with Ella Guo &
Yazmine Jordan

Valeria Ayala
Class of 2021
Spring Woods HS
Houston, TX