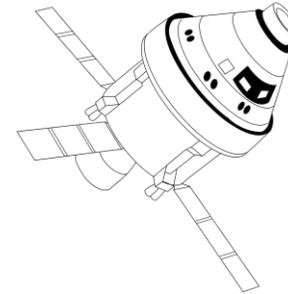


MISSION TASK CHECKLIST



- Entryway Discovery (page 2)
- Astronaut Encounter (page 3)
- ISS Live! (page 4)
- From Sketchpad To Launchpad (page 5)
- Touch The Moon (page 6)
- Mission Patch Design (page 7)
- Explorers Wanted! (page 8)
- NASA Speak (page 9)
- Wild Neighbors (page 10)
- Shuttle Launch Experience® (page 11)
- Bus Tour (page 12)
- Rocket Garden Rap (page 13)
- Rocket Search (page 14)

For more cool information and activities, visit www.nasa.gov and click on the “For Students” tab!



**3rd – 5th Grade
Edition**

The Orion spacecraft is the crew vehicle NASA is currently developing for future deep-space missions.

EXPEDITION LOGBOOK

Team Name: _____

Commander (teacher): _____

Pilot (chaperone): _____

Mission Specialist 1 (MS1): _____

Mission Specialist 2 (MS2): _____

Mission Specialist 3 (MS3): _____

Mission Specialist 4 (MS4): _____

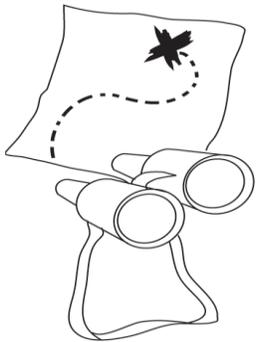
Expedition 321

YOU ARE GO FOR LAUNCH
Grades 3 - 5

Welcome to Kennedy Space Center Visitor Complex, the only place on Earth where human beings have left the planet, traveled to another planetary body, and then returned safely! No NASA mission is undertaken alone, and your expedition is no exception! You have been assigned to an Expedition Team where each **Crew Member** has important responsibilities:

- **Commander (the teacher):** Assign crew members to teams, prepare the teams for their mission tasks with advance training and debrief the teams after the mission.
- **Pilot (the chaperone):** Make sure the expedition stays on course, with all crew members accounted for at all times. Guide the team to the appropriate locations to complete mission tasks.
- **Mission Specialists (the students):** Each crew member will keep a record of the team's activities in his or her own Expedition 321 Logbook, but all Mission Specialists will work together to complete every mission task.

TEAMWORK MAKES THE DREAM WORK!



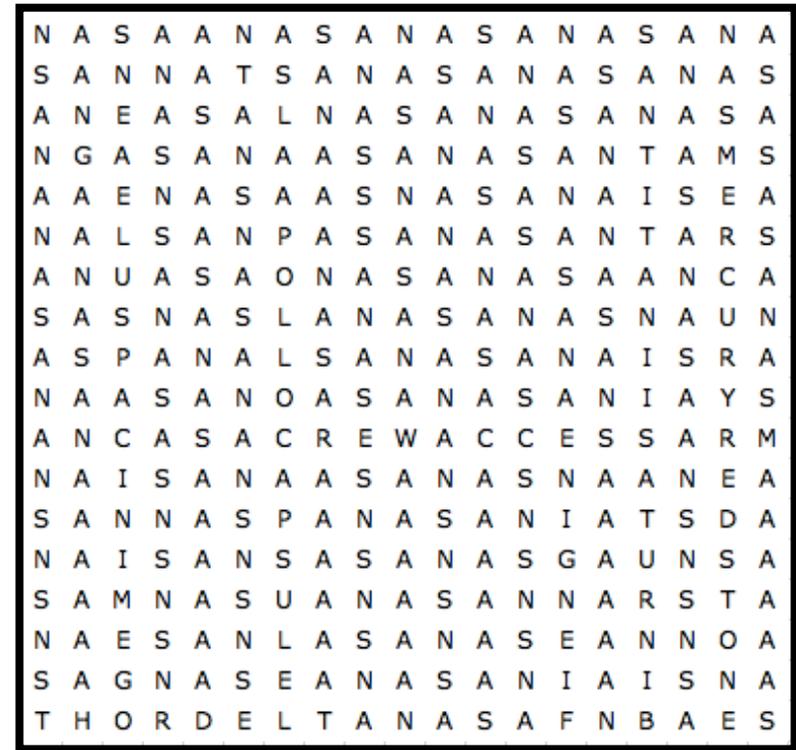
MISSION TASK: Rocket Search

LOCATION: Rocket Garden

The rockets on display here are real rockets left over from the early days of space exploration. Unlike the space shuttle, they are all “expendable” rockets, which means they were designed to be used only once. Some of these were surplus, while others were designed for missions that were later canceled.

Find the following items in the Rocket Garden **and** in the Word Search puzzle. When you have found all of the words, the search grid will form a picture. What is it? _____

Mercury Redstone	Saturn 1B	Atlas	Titan II
Apollo Capsule	Agena	Thor Delta	
Crew Access Arm	F-1 Engine	Gemini Capsule	



MISSION TASK: Astronaut Encounter

LOCATION: Astronaut Encounter Theater



What is the name of the astronaut you met today?

How many missions did he/she fly on? _____

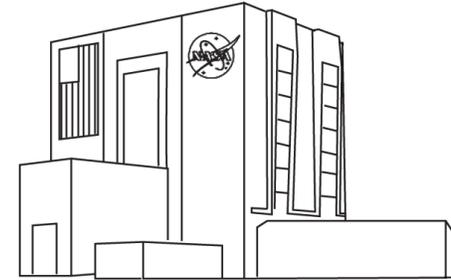
What is one thing you learned from the astronaut?

What is one question you would have asked the astronaut?

MISSION TASK: Bus Tour

LOCATION: Space Center Tours Bus Tour Boarding

Circle each of these things as you see them on your bus tour of Kennedy Space Center. How many did you spot?



Alligator

Eagle's Nest

Manatee

Wild Hog

NASA Logo

Launch Pad 39A

American Flag

Bald Eagle

Vehicle Assembly Building

Security Checkpoint

Crawler Transporter

Countdown Clock

Mobile Launch Platform

Launch Pad 39B

Crawlerway

Orbiter Processing Facility

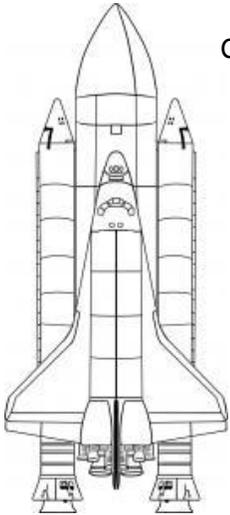
MISSION TASK: Shuttle Launch Experience

LOCATION: Space Shuttle AtlantisSM ground floor

Watch the pre-show, then either ride or observe the simulated launch.
List three facts or observations that made an impact on you.

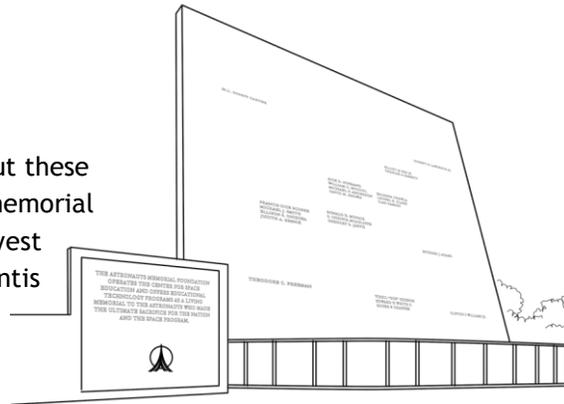
- 1) _____
- 2) _____
- 3) _____

As you exit the Shuttle Launch Experience, pay close attention to the plaques lining the spiral ramp. There is one for each shuttle mission. Find the mission closest to your own birthday; this is your “birth shuttle!”



In the space below, name all five shuttle orbiters.
Circle the two orbiters that have gold mission plaques.*
Put a star beside your birth shuttle.

*You can learn more about these missions by visiting the memorial Space Mirror on the hill west of the Space Shuttle Atlantis building.



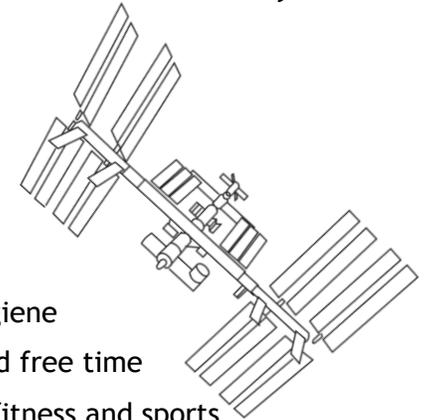
MISSION TASK: ISS Live!

LOCATION: Space Shuttle AtlantisSM ground floor

Using the touchscreens and displays, explore the life of the astronauts and cosmonauts onboard the International Space Station (ISS). Then compare and contrast their home and activities with your own. Rate each item on a scale of 1-5 checkmarks.

✓✓✓✓✓ = mostly the same
 ✎ = mostly different

- _____ Food and drinks
- _____ Holiday celebrations
- _____ School and work hours
- _____ Sleeping arrangements
- _____ Friends, family, and pets
- _____ Bathroom and personal hygiene
- _____ Entertainment, hobbies and free time
- _____ Exercise routine, physical fitness and sports



What would you like best about living in space?

What would be the hardest change to adapt to?

MISSION TASK: From Sketchpad to Launchpad

LOCATION: Space Shuttle Atlantis

Watch both videos about the development of the space shuttle. Number in order (from 1 to 7) the steps used by NASA to design and implement the Shuttle program.

___ A prototype orbiter, named *Enterprise*, was developed to test landing capabilities.

___ Dr. Maxime Faget shared his vision for the shuttle with the NASA team using a balsa wood model.

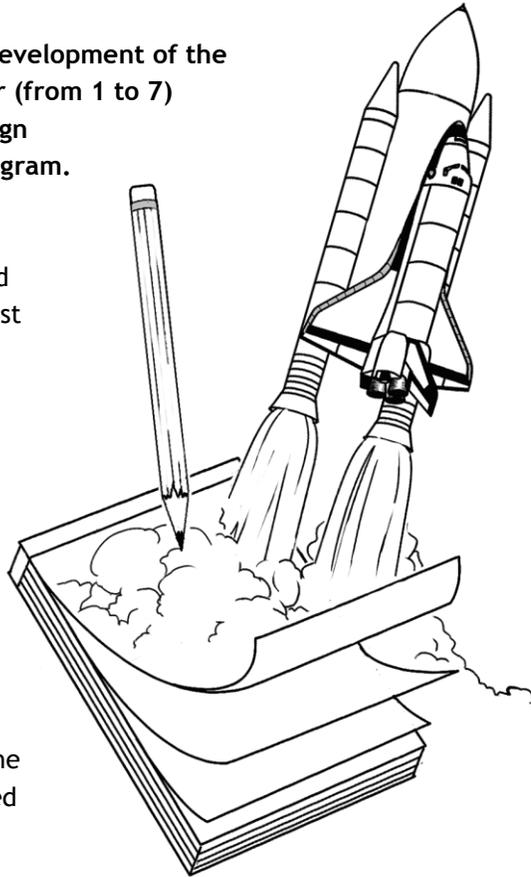
___ John Young commanded *Columbia* on the first shuttle mission in 1981.

___ Engineers met to discuss the four tasks the shuttle would need to perform.

___ The shuttle was used to launch the Hubble Space telescope and build the International Space Station.

___ The decision was made to use a disposable fuel tank separate from the other shuttle components.

___ Repeated heat shield failures caused a delay in the program.

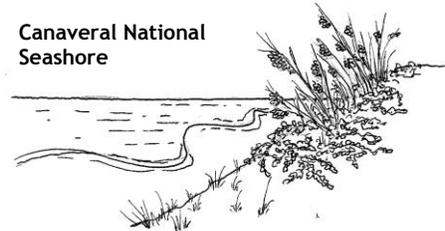


MISSION TASK: Wild Neighbors

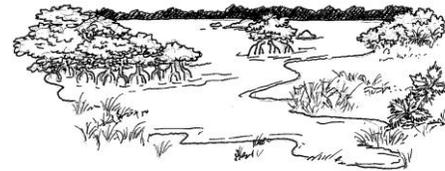
LOCATION: Nature and Technology

Find each of these animals in the Nature & Technology exhibit, then draw a line to match them to their habitats found on KSC property.
BONUS: Can you name them?

Canaveral National Seashore



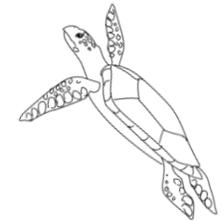
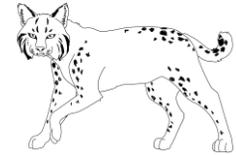
Indian River Lagoon and Mosquito Lagoon Estuary



Merritt Island National Wildlife Refuge



Mullethead Island Wading Bird Rookery



MISSION TASK: NASA-Speak

NASA uses a lot of acronyms and abbreviations.
Match each of these terms with the appropriate meaning:



- | | |
|--------|---|
| NASA | Capsule Communicator |
| SRB | Kennedy Space Center |
| VAB | Main Engine Cut-Off |
| KSC | Solid Rocket Booster |
| STS | Vehicle Assembly Building |
| CAPCOM | Space Transportation System |
| MECO | National Aeronautics and Space Administration |

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

MISSION TASK: Touch the Moon

LOCATION: Apollo/Saturn V Center

- If they were allowed in the building (they aren't), how many tour buses could park end-to-end beneath the Saturn V Rocket? _____
(Hint: The answer can be found near the engines.)
- Find the yellow cleat from the Crawler Transporter. How many cleats are on an operational Crawler Transporter? _____
- How many steps does it take for you to walk from one end of the Saturn V rocket to the other end? _____
- Based on this, estimate the length of the rocket. _____
- Find and touch a moon rock. Which mission brought this piece of rock back to Earth? _____
- Whose spacecraft and spacesuit are on display in the Treasures Gallery? (Hint: He was the commander for the Apollo 14 mission.) _____

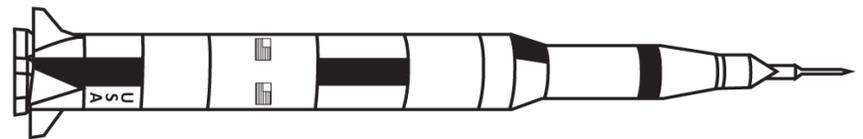
➤ What is the length of each stage?

Stage 1: _____

Stage 2: _____

Stage 3: _____

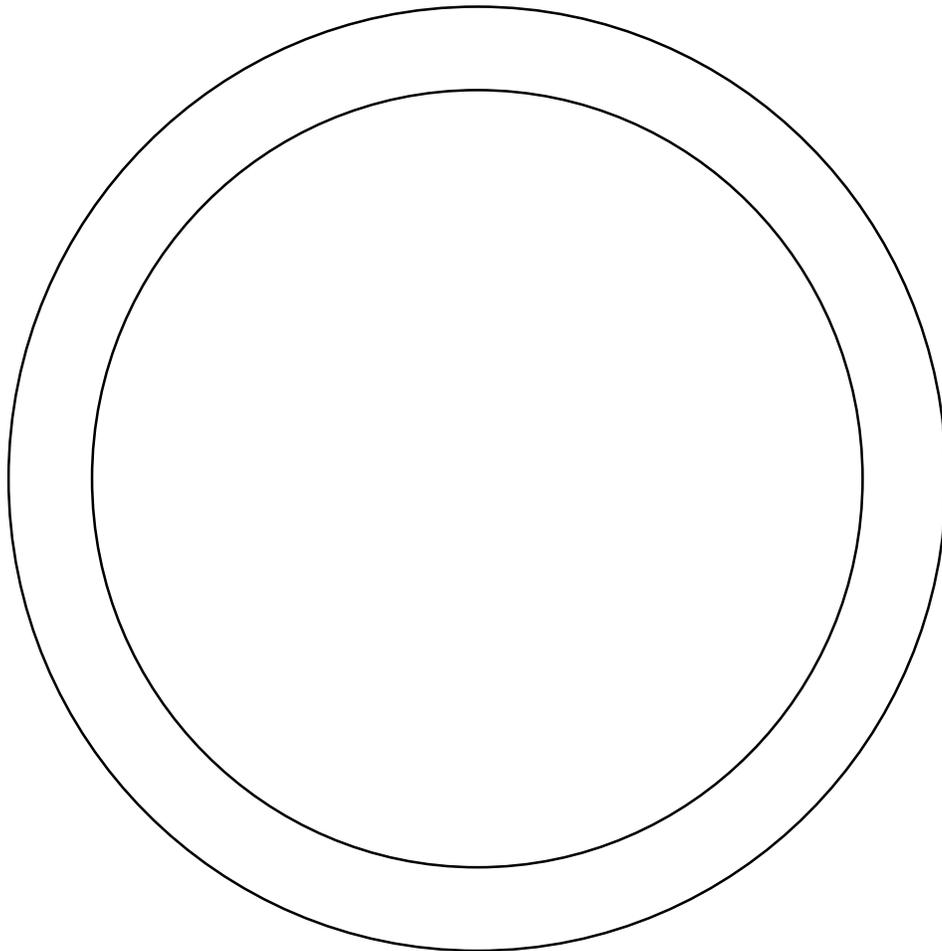
➤ What is the total length of the 3 stages?: _____



MISSION TASK: Mission Patch Design

LOCATION: Space Shuttle AtlantisSM second floor ramp

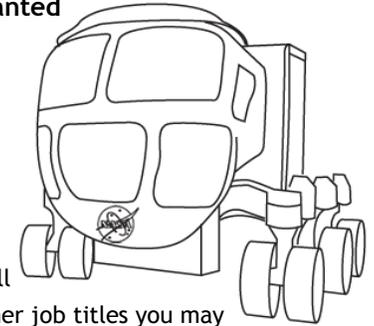
Beginning with Project Gemini, astronauts have designed patches for each of their missions. A typical patch includes the last names of the crew members, the mission number and a picture that represents the spacecraft and the mission. In the space below, design your own mission patch. Who will be on your crew? Where will you go? What spacecraft will take you there?



MISSION TASK: Explorers Wanted!

LOCATION: Journey To Mars: Explorers Wanted

Watch one of the live presentations (see show schedule for times) and use that information and the displays to complete the following task:



There are 7 cutouts of different people that are Engineers throughout the exhibit. Locate them all and write their job title down along with any other job titles you may see during the presentation. When complete, circle the one you would be most interested about. Be sure to be able to talk about why!

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____