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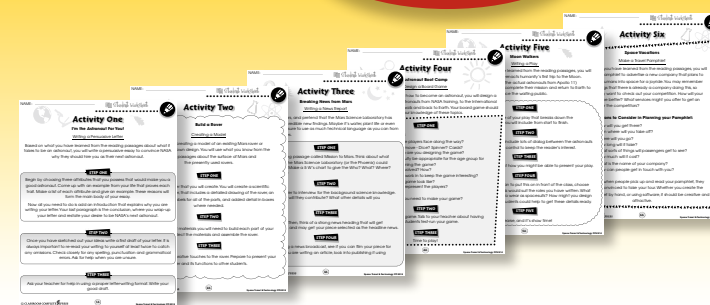
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# Becoming an Astronaut

- Before you read, you will need to complete the Anticipation Guide that is included on the next page. Follow the instructions given on the page. Be sure to go back and complete the page after you read the passage.
- Complete each sentence with a word from the list. Use a dictionary to help you.

**astronaut weightlessness aeronautics training extraordinary mission**

- The rescue dog was sent on an important \_\_\_\_\_ to find the skier who got lost in the storm.
  - When the volcano erupted, it was the most \_\_\_\_\_ sight she had ever seen in her life!
  - If you want to experience \_\_\_\_\_, you have to find a way to stop the effects of gravity so that you can float around.
  - A(n) \_\_\_\_\_ is a person who is trained to travel in space.
  - People who study \_\_\_\_\_ learn about the science of motion or travel in the air.
  - At Spring \_\_\_\_\_ camp, the baseball players learned many new skills and also how to improve the ones they already had.
3. Remember that big words often have smaller words hidden inside them. A prefix (before the base) or a suffix (after the base) may have been added on to change the original meaning or form of the word. For example, *careless* is the base word 'care' with the suffix '-less' added on to show it is someone who does *not* care.

Complete the diagram to show the prefix, base and suffix of each word. The first one is done for you.

Word	Prefix	Base	Suffix
training	---	train	-ing
a) extraordinary			---
b) exactly	---		
c) impossible			---
d) unforgettable			



# Becoming an Astronaut

**V**ery few people have ever been in space. Altogether, about 400 men and women have made the trip. The first **astronauts** were expert pilots. Now, scientists with many different backgrounds are sent into space. To become an astronaut, you must be very well educated, highly physically and mentally fit, and be able to train long and hard.



In the United States, the **National Aeronautics and Space Administration (NASA)** selects and trains all American astronauts. You have to be an extraordinary person to get into NASA's space program. Only one hundred people are chosen for training every two years. Astronauts need to have a strong background in Math and Science, even from elementary school. This may surprise you - did you know that 64% of all present and former astronauts have taken part in Scouting as a child?

Training to become an astronaut is very hard work. These students take classes to learn about space and **aeronautics**. They learn about the effects that space travel has on the human body. The astronauts-to-be also get flight training, where they get to experience **weightlessness**. They float in weightless cabins and practice climbing and diving. They can also practice by floating in swimming pools. The KC-135 jet aircraft can simulate weightlessness for 20-30 seconds in a fast dive toward earth. Astronauts who train in this jet call it the "vomit comet". You can probably figure out why!

**STOP** **CHECK YOUR PREDICTION: How did what you just read fit with the prediction you made in the Before Reading section?**

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Astronauts must also learn what to do in an emergency. Their shuttle could land in the ocean, the jungle or the desert, and they must be prepared for anything! They receive training in scuba diving and parachute landing. Teamwork is always very important.



# Becoming an Astronaut

- Circle the word **TRUE** if the statement is TRUE **OR** Circle the word **FALSE** if it is FALSE.
  - Almost anyone can be an astronaut.  
**TRUE FALSE**
  - A swimming pool can be used to teach astronauts what it is like to be in space.  
**TRUE FALSE**
  - Almost every major city has an astronaut training program. People who want to become an astronaut have many choices about where to go to school.  
**TRUE FALSE**
  - Today, it is important that you are an experienced pilot first, before you try to become an astronaut.  
**TRUE FALSE**
  - Astronauts must learn about the effects that space travel will have on the human body.  
**TRUE FALSE**
  - NASA is a type of school that trains people to be astronauts.  
**TRUE FALSE**
  - NASA is an *acronym*.  
**TRUE FALSE**
  - Luckily, astronauts do not have to plan for many emergencies. They have a special crew to handle emergency situations.  
**TRUE FALSE**
- ~~Cross out~~ the words that are *not* things that an astronaut would learn in training.  
aeronautics    space    poetry    flight    a new language
  - Circle the words that would be important qualities for someone who wanted to be an astronaut to have.  
Hard-working    Fast runner    Intelligent    Good-looking    Left-handed
  - Underline the words that mean 'having no weight'.  
Heavy    Weightless    Weighted    Weightlessness    Gravity



# Becoming an Astronaut

- Answer each question with a complete sentence.
  - What do you think is the most important quality for an astronaut to have? Give a good reason for your choice.  
\_\_\_\_\_
  - Why does it take over a year to be trained as an astronaut?  
\_\_\_\_\_
  - What one quality do you have that would make you a good astronaut? Explain why it would be important.  
\_\_\_\_\_

## Research & Extension

- You have just learned how difficult it is to become an astronaut. Research one astronaut that interests you and write a biographical paragraph of that person. Your paragraph should only include the main facts about this person, like: their name, age, gender, background, what missions they were involved in and when, their accomplishments, and where they are now. Your report should also include a visual representation of the astronaut.
- Conduct research to learn more about NASA. You should try to discover where it is, when it opened, what happens there, etc. Write a brief report to tell about this fascinating place. Visual representations of the place would add to your report.
- Knowing what you do now about becoming an astronaut, write a letter to the head of the astronaut training program at NASA explaining why you should be accepted into the school.



### WEB CONNECTION

To learn more about American astronauts, read the biographies at: [www.hightechscience.org/biographies.htm](http://www.hightechscience.org/biographies.htm)





## Show It!

### PACK YOUR BAGS FOR A TRIP TO MARS!

It can take between 6 -11 months just to get to Mars. When you are there, you will have to stay nineteen months until Mars and Earth are closest again. The entire journey would take about 2 ½ years! What would you take with you?

Assume that all of your basic needs will be met by the supplies on the spacecraft. You will have just one box within which to pack your personal effects for the trip. The box can be no larger than one cubic meter.

Construct a box that fits these dimensions using cardboard or Bristol board. Then, make a list of your items and begin collecting them. Try to fit what you want to take into the box, but leave out anything that does not fit. The box must close for shipping.

#### Some things to consider:

- For electronics that require batteries, you must take enough batteries to last 2 ½ years.
- There is no cell phone or internet service in space.
- There is no cable or satellite television in space.
- You may want to pack things that can be taken apart and reassembled to save space.
- For one year, you will be in zero gravity. The rest of the time you will be in gravity that is only 1/3 as strong as it is on Earth.
- The weight of the box does not matter.
- Consider leaving out things that you may get tired of or grow out of quickly.

Prepare an oral presentation for your class with your Mars box. Have each item ready for unpacking and explaining to the class why you chose it.



## Crossword Puzzle!

#### Word List

Assemble · Astronaut · Astronomer  
Crew · Disintegrate · Hospitable  
Launch · Lunar · Monitor  
Satellites · Telescope · Terrain  
Training · Transmit · Weightlessness

#### Across

1. A scientist trained to make flights in space
4. To send (as in a signal)
6. Describes conditions that will support life
7. Term given to the members who work together on a shuttle
9. To watch or observe
10. To put parts together
11. A \_\_\_\_\_ pad is where shuttles take off from
12. The result of being in zero-gravity
15. Objects that orbit around another object

#### Down

2. A scientist who studies the stars and planets
3. Relating to the moon
5. A tract or expanse of land
8. To break up into parts
13. The instruction or lessons needed to prepare for a task
14. A magnification tool used to see objects that are far away



## Comprehension Quiz

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1. Put a check mark (✓) next to the answer that is most correct.

a) Which of the following is NOT part of astronaut training?

- A studying space  
 B flight training  
 C astrology  
 D aeronautics

b) Which of the following is a type of telescope?

- A refractor  
 B retractor  
 C refresher  
 D reducer

c) Which one of the following statements about spacecraft is true?

- A A flyby mission is a manned mission.  
 B An orbiter spacecraft probes into the planet's surface.  
 C Lander spacecraft are always manned missions.  
 D Rover spacecraft are steered from Earth.

d) Which one of the following statements about satellites is true?

- A A satellite is an object that orbits around a planet.  
 B The Earth is a satellite of the moon.  
 C Satellites are always man-made.  
 D none of the above are true

e) Which of the following is NOT a function of a satellite?

- A To send and receive internet and cell phone signals.  
 B To send supplies to the International Space Station.  
 C To broadcast radio and television.  
 D To observe weather patterns.

## An Astronaut's Weightlessness







# Becoming an Astronaut

### 3. Answer each question with a complete sentence.

a) What do you think is the most important quality for an astronaut to have? Give a good reason for your choice.

\_\_\_\_\_

b) Why does it take over a year to be trained as an astronaut?

\_\_\_\_\_

c) What one quality do you have that would make you a good astronaut? Explain why it would be important.

\_\_\_\_\_

### Research & Extension

1. You have just learned how difficult it is to become an astronaut. Research one astronaut that interests you and write a biographical paragraph of that person. Your paragraph should only include the main facts about this person, like: their name, age, gender, background, what missions they were involved in and when, their accomplishments, and where they are now. Your report should also include a visual representation of the astronaut.
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3.

a) answers will vary, possibilities include: brave, smart, quick-thinking, diligent; must have reasons

b) They have many things to learn. (flight, aeronautics, teamwork, emergency plans, etc.)

c) answers will vary

### Crossword Puzzle!



The crossword puzzle grid contains the following words:

- Across: CREW, WEIGHTLESSNESS, HOSPITABLE, LAUNCH, TRANSMIT, SATELLITES, ASTRONAUT, MONITOR, ASSEMBLE
- Down: T, E, R, A, N, I, G, U, N, A, S, T, R, O, N, A, U, T, M, R

# EASY MARKING ANSWER KEY

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