

CAREERS

Learn
BRIGHT

ASTRONAUT

High-Interest Reading Comprehension



GRADE 3-5

- Teacher Guidelines** ▶ pages 1 – 2
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Classroom Procedure:

1. Introduce the lesson with the following: The microgravity environment is different in space, so astronauts actually grow up to 3% taller! They no longer have the same amount of pressure holding them onto the planet. Once they return to Earth, they return to their normal height within a few months.
2. Distribute the *Careers: Astronaut* Content Pages. Read and review with students. Point out the text features like numbered paragraphs, images, **bold** printed words, and insets. Explain to students that authors add text features to help readers comprehend and find information in the text more easily. Have your students annotate, take notes, highlight, or underline information as an additional practice.
3. Distribute the Activity Page. Pair or group students for the activity. In addition, several stations could be set up, and students could rotate through the stations.
4. Distribute the Practice Pages. Read and review the questions with students to check for understanding. The Practice Pages can be an independent, group, or summative assessment.
5. In closing, ask students what they learned about becoming an astronaut while reading or about something related to comprehension, annotations, or some other comprehension skill. What are text features? What is something they learned about astronauts that they didn't already know?

Lesson Title: Careers: Astronaut

Subject: High-Interest Informational Reading

Approximate Grade Level: 3 – 5

Objectives: The student will practice various close reading and comprehension skills. In addition, the student will learn about careers in space exploration.

State Educational Standards*:

LB.ELA-LITERACY.RI.4.2

LB.ELA-LITERACY.RI.4.4

NCSS.D2.ECO.6.3–5

CTE Career Cluster: STEM

Approximate Lexile Reading

Comprehension Level: 810L to 1000L

Class Sessions (45 minutes):

1 to 1½ class sessions

Teaching Materials/Worksheets:

Content Pages (3), Activity Page (1), Practice Pages (4)

Student Supplies:

Two pairs of gloves (one thick, one thin), an easy puzzle, screwdriver, screws, small block of wood (all for each group/pair of students)

Prepare Ahead of Time:

Copies of worksheets

*Lessons are aligned to meet the education objectives and goals of most states. For more information on your state objectives, contact your local Board of Education or Department of Education in your state.



Teacher Notes

The lesson allows teachers to teach and students to practice grade-appropriate reading comprehension, foundational reading, and reading fluency skills. These lessons are designed to be completed in one or two class settings. Each lesson is a high-interest content lesson that students want to read, which teachers will want to incorporate into their instruction. The lesson is appropriate as a whole-class, stand-alone lesson or as an independent small-group activity. Be sure to check out other Learn Bright lessons and videos!

Careers: Astronaut



¹You are probably thinking, "Why are you asking if I want to be an astronaut? I'm just a kid!" Well, it's never too early to think about what you want to do when you're all grown up. You will need to learn specific skills to become an astronaut. The same is true for lots of careers. So, it's good to think about what you might want to do later and begin planning now to be successful in the future.

²If you have ever seen people in spacesuits floating in space or working on the International Space Station (ISS), then you have one idea of what an astronaut does. An astronaut is trained to travel and work in space. They **conduct** scientific experiments, repair and maintain the space station, and explore the possibilities of living in space.

³Without astronauts, we would not have the discoveries and advancements in space technology that we enjoy today. The GPS in your phone, satellite TV, and weather forecasting rely on space technology.

Astronauts help develop and maintain these vital systems.

It's fair to say that space exploration is **essential** to our understanding of the universe and our place in it!

⁴There are only a few hundred astronauts worldwide. That might seem like a small number, but space missions require highly specialized and skilled individuals. NASA, the US space agency, has sent over 350 people into space since it began. However, the demand for astronauts is expected to grow as more countries and private companies, like SpaceX and Blue Origin, increase their space exploration efforts.





⁵Depending on their role and experience, astronauts can earn around \$104,000 annually. Highly experienced astronauts can earn much more, especially those who have flown multiple missions. Wages for astronauts will likely increase as space missions become more common and the need for their expertise grows.

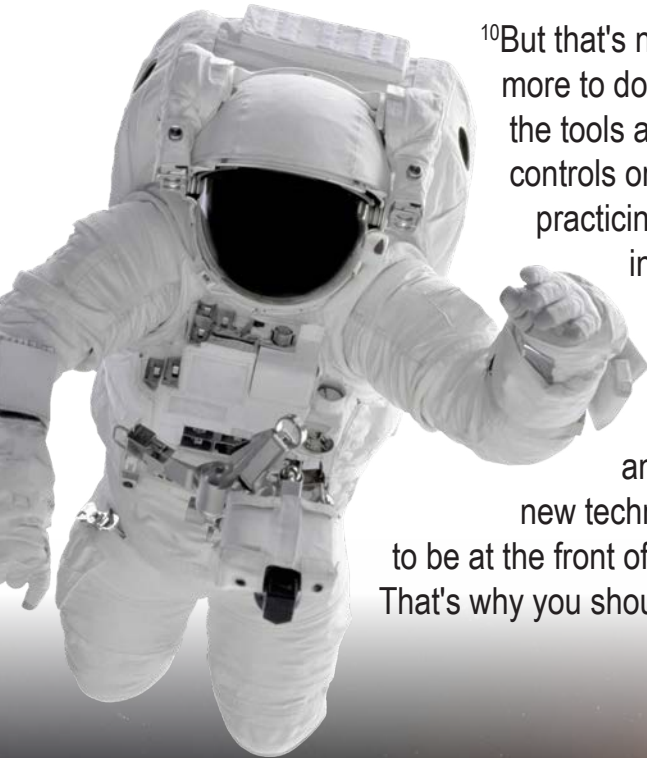
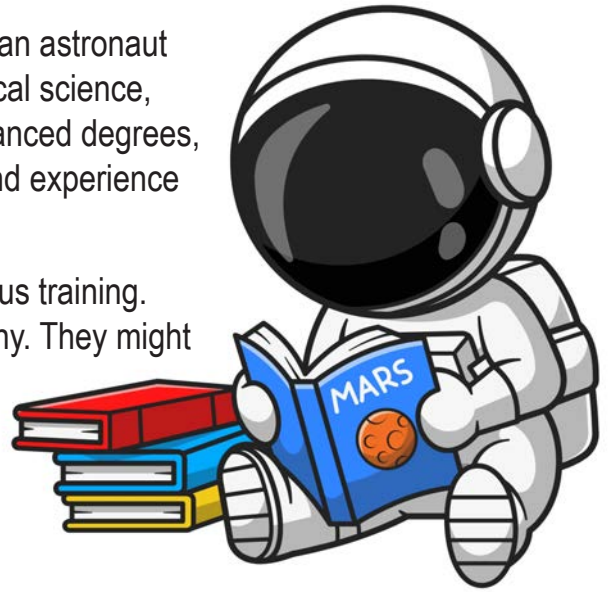
⁶Most astronauts work full-time. They spend months training on Earth for their missions, often working with scientists, engineers, and other specialists. In space, they work on experiments, maintain the spacecraft, and sometimes conduct spacewalks. If you like variety and exploring the unknown, being an astronaut may be your perfect career!

⁷As an astronaut, you get to work in different environments—from training centers on Earth to floating around the Moon in space. On Earth, you practice using special equipment to prepare for your mission. You might even train in swimming pools that are deep enough to feel like you're floating, just like you would in space! On the Moon, you could explore craters, collect rocks, and set up science experiments. And you would wear a special spacesuit to keep you safe and help you breathe. You could float around in space, inside a spaceship, or in a space station, because there's no gravity! Plus, you would get to do cool experiments, take amazing pictures of Earth, and maybe even fix things outside the spaceship.



⁸What about education? The minimum requirement to become an astronaut is a bachelor's degree in engineering, biological science, physical science, computer science, or mathematics. Many astronauts have advanced degrees, and some are medical doctors or pilots. The more education and experience you have, the more in demand you will be!

⁹In addition to completing education, astronauts undergo rigorous training. Physical fitness training helps astronauts stay strong and healthy. They might run, lift weights, and do special exercises. **Survival** training is where they learn how to stay safe in emergencies, like if they land in the ocean or a desert after returning to Earth. They learn how to find food and water and stay warm.



¹⁰But that's not all—they still have more to do! During **technical** skills training, they practice using the tools and equipment they'll need in space, like operating a spaceship's controls or fixing broken things. Finally, they **simulate** space missions, practicing what it would be like to live and work in space. This might include using a giant pool to practice spacewalks or virtual reality to pretend they're on the Moon. All this training helps astronauts get ready for anything they might face on their missions!

¹¹Astronauts are very important to our understanding of space and new technology. They conduct **vital** research, help develop new technologies, and inspire people worldwide. As an astronaut, you get to be at the front of the exploration while working in a field you are passionate about. That's why you should reach for the stars and consider a career as an astronaut!



DEXTERITY TRAINING

Supplies: Two pairs of gloves (one thin, one thick), an easy puzzle, screwdriver, screws, small wood block

Instructions: Your crew will be blasting to Mars in only a few weeks. Today, your training is to 1) put together a puzzle and 2) successfully use a screwdriver, both while wearing space gloves. Follow the steps to complete your dexterity training.

Step 1: Empty out the puzzle pieces onto the desk or table. Put on the thin pair of gloves. Then put the puzzle pieces together.

How were the gloves different than just using your hands?

Step 2: Break apart the puzzle back into the pieces. Put on the thick pair of gloves. Solve the puzzle again.

How were these gloves different than the other gloves?

Is putting the pieces together harder or easier with the thicker gloves? _____

Step 3: Place the screwdriver and screw on the desk/table with the wood block. Put on the thin pair of gloves. Twist the screw into the wood with the screwdriver.

How were the gloves different than just using your hands?

Step 4: Get another screw. Put on the thick pair of gloves. Twist the screw into the wood with the screwdriver.

How were these gloves different than the other gloves?

Why is it important for astronauts to train using gloves to do simple tasks?



Practice

Name _____ Date _____



Instructions: Show what you know!

1) Why did you choose this career to read about? (Perspective)

2) What are three text features in the article? Explain how they help readers comprehend the article. (Text feature)

3) In paragraph 3, the author uses the word *essential*. What is the meaning of essential? (Vocabulary)

4) What is the potential income from this career? Where did you find the information? (Comprehension)

5) What do you need to know to work as an astronaut? Where did you find the information? (Comprehension)



Practice

Name _____ Date _____

6) Why is space exploration necessary or important? (Inference)

7) How many people has NASA sent to space since it began? Where did you find the information? (Close reading)

8) Choose the word the author would say **least** describes the career of an astronaut. (Point of view)
a. specialized b. ordinary c. skilled d. scientific e. adventurous

9) The author uses an idiom in paragraph 11. What is it? (Figurative language)

10) Does the article encourage you to consider a career as an astronaut? Explain why or why not.





Practice

Name Answer Key Date _____



Instructions: Show what you know!

1) Why did you choose this career to read about? (Perspective)

(Answers will vary.) Sample response: I thought it would be interesting to learn about what it would be like to live and work in outer space.

2) What are three text features in the article? Explain how they help readers comprehend the article. (Text feature)

(Answers may vary.) Text features in this article include numbered paragraphs, images, and bold print. Text features help readers find information quickly and comprehend the text more easily.

3) In paragraph 3, the author uses the word *essential*. What is the meaning of *essential*? (Vocabulary)

Essential means very important or necessary. For instance, food is essential to the survival of all living things.

4) What is the potential income from this career? Where did you find the information? (Comprehension)

The average salary for astronauts is around \$104,000 per year. Many astronauts are former military pilots and may be compensated more for that skill. The information is in paragraph 5.

5) What do you need to know to work as an astronaut? Where did you find the information? (Comprehension)

You need to have a college degree, an advanced degree, and lots of experience. You should also enjoy physical training. The information is in paragraphs 8 and 9.



Practice

Name Answer Key Date _____

6) Why is space exploration necessary or important? (Inference)

An astronaut helps us learn about space by conducting experiments and developing new technologies that benefit us on Earth.

7) How many people has NASA sent to space since it began? Where did you find the information? (Close reading)

NASA has sent over 350 people into space since it began. The information is in paragraph 4.

8) Choose the word the author would say **least** describes the career of an astronaut. (Point of view)

a. specialized b. ordinary c. skilled d. scientific e. adventurous

9) The author uses an idiom in paragraph 11. What is it? (Figurative language)

The author states, "That's why you should reach for the stars and consider a career as an astronaut!"

The phrase "reach for the stars" is an idiom that means try really hard to accomplish a difficult but fulfilling purpose.

10) Does the article encourage you to consider a career as an astronaut? Explain why or why not.

(Answers will vary.) Sample response: Yes, because I love the thought that I can someday travel in space and explore distant planets. [OR] No, because I don't see the point of traveling in space when we can send drones or robots to do it for us.

