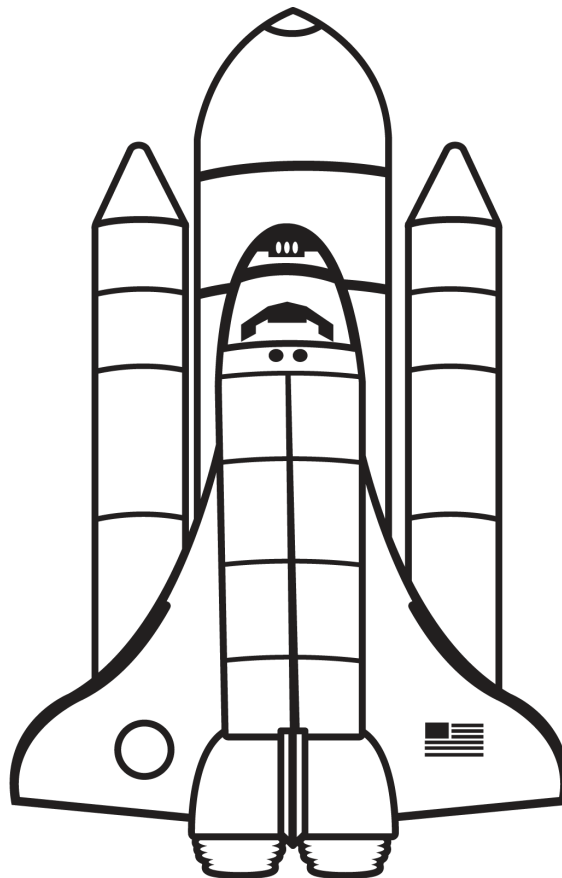


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How to Use This Book

Welcome to the Space Exploration Puzzle and Quiz Pack! This book includes thirteen puzzles and quizzes along with one research prompt to help your student better understand the space program. An answer key is included.

There are many ways to use this pack in your studies:

- Enjoy the puzzles as stand-alone worksheets to sharpen math and language skills.
- It is perfect for review after students have studied space exploration.
- Parents and teachers can use the pack to help create a list of ideas or areas you wish to explore as you plan your study.
- Students can use the book as a starting point for independent study. Have students take the quizzes to the library or use them at the computer to search for the answers to the questions. Allow plenty of time for rabbit trails so students can investigate facts and stories they discover as they complete their pack.
- It can also be used as a tool to help students practice and sharpen research and notetaking skills. Have students record where they find the answers to each question as they would if they were doing research for a paper or presentation. You can also use this record of sources to help them dig deeper into the topics that interest them.

However you use the pack in your curriculum, I hope you find many fascinating details to discuss with your students!

Timeline to Space Travel

Write the facts from the following page in the correct places to complete the timeline.

1783

1784

1804

1903

1907

1915

1926

1927

1943

1957

1958

1961

1962

1963

1964

1966

1969

1981

1983

1984

10. First American in space
 - a. Neil Armstrong
 - b. Alan Shepard
 - c. John Glenn

11. Founder of the U.S. Institute for Aeronautical Sciences and co-founder of the present NASA Jet Propulsion Laboratory
 - a. Mikhail Tikhonravov
 - b. Robert Goddard
 - c. Theodore von Karman

12. His team built the world's first liquid-fueled rocket
 - a. Robert Goddard
 - b. Wernher von Braun
 - c. Otto Lilienthal

13. First woman in space
 - a. Sally Ride
 - b. Valentina Tereshkova
 - c. Eileen Collins

14. First person in space
 - a. Alan Shepard
 - b. Yuri Gagarin
 - c. Buzz Aldrin

15. First man to walk on the moon
 - a. Buzz Aldrin
 - b. Michael Collins
 - c. Neil Armstrong

16. Developed the V-2 rocket, the predecessor of the rockets used in the space programs
 - a. Wernher von Braun
 - b. Otto Lilienthal
 - c. Samuel P. Langley

17. First person to perform a space walk
 - a. Yang Liwei
 - b. Alexei Leonov
 - c. Norm Thagard

18. First American to orbit the earth
 - a. John Glenn
 - b. Alan Shepard
 - c. Virgil Grissom

19. First American to serve on the Russian space station Mir
 - a. Eileen Collins
 - b. Michael Collins
 - c. Norm Thagard

20. First astronaut China launched into space
 - a. Norm Thagard
 - b. Yang Liwei
 - c. Alexei Leonov

Space Shuttle Decoding

Find the names of some of the parts of the space shuttle by finding each letter in the graph, then writing the letter. Follow the directions for finding each letter. For example, if the directions say Across 4, Down 3, (A4-D3) you would follow the Down row 3 over to Across column 4 and find the letter **e**. In the instructions, we will use A for Across and D for Down.

| | | Across | | | | |
|------|---|--------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| Down | 1 | j | d | i | w | x |
| | 2 | u | l | n | y | p |
| | 3 | k | q | o | e | m |
| | 4 | t | v | h | c | r |
| | 5 | g | a | f | b | s |

1. A3-D2 A3-D3 A5-D5 A4-D3 A2-D2 A2-D5 A3-D2 A2-D1 A3-D1 A3-D2 A1-D5 A1-D5 A4-D3 A2-D5 A5-D4
2. A4-D5 A3-D3 A2-D1 A4-D2 A3-D5 A2-D2 A2-D5 A5-D2
3. A5-D3 A3-D1 A5-D5 A5-D5 A3-D1 A3-D3 A3-D2 A5-D5 A1-D4 A2-D5 A1-D4 A3-D1 A3-D3 A3-D2
4. A5-D5 A5-D2 A4-D3 A4-D3 A2-D1 A4-D5 A5-D4 A2-D5 A1-D3 A4-D3
5. A4-D3 A2-D2 A4-D3 A2-D4 A3-D3 A3-D2 A3-D2 A5-D5

Which Shuttle Am I?

Read each fact below. Decide which shuttle the fact belongs to. Then write the number of the fact under the name of the correct shuttle in the chart on the next page.

1. I flew the crew of the STS-1 on the first space shuttle mission.
2. My STS-48 mission launched the Upper Atmosphere Research Satellite.
3. On my first flight, STS-6, the first spacewalk of the shuttle program occurred.
4. I carried the crew of the STS-61 mission to service the Hubble Space Telescope; my crew spent a total of 35 hours and 28 minutes on spacewalks.
5. STS-49 was my first mission and the first mission to use a drag chute during landing.
6. On mission STS-30, my crew launched the *Magellan* spacecraft toward Venus.
7. I carried the first European Space Agency astronaut and the first Skylab mission on STS-9.
8. I flew the first Department of Defense mission, STS-51C, due to problems with *Challenger's* thermal tiles.
9. My STS-47 mission had a lot of firsts—the first Japanese astronaut to fly aboard the shuttle, the first African-American woman to fly in space, and the first married couple on the same mission.
10. My STS-37 mission deployed the Gamma Ray Observatory.
11. I carried the crew of the STS-7 mission, which included the first United States woman in space.
12. My STS-60 mission carried the first Russian cosmonaut on a U.S. space shuttle.
13. On my STS-32 mission, my crew retrieved NASA's Long Duration Exposure Facility and deployed Syncom IV-F5 defense communications satellite.
14. My STS-41G mission carried two women, one of whom became the first United States woman to walk in space.

8. Served in the U.S. Navy during World War II
Piloted the first manned U.S. spacecraft, *Friendship 7*
Became the oldest person to travel in space when I flew on STS-95 at age 77
Who Am I? _____

9. Studied space propulsion systems at the Institute of Space and Astronautical Science
Installed the Experiment Logistics Module-Pressurized Section onto the International Space Station
Professor at Kyoto University
Who Am I? _____

10. Backup pilot for the *Gemini VII* mission
Command module pilot on *Apollo 11*
Former Director of the National Air & Space Museum
Who Am I? _____

11. Flew on the last Gemini mission
Second person to set foot on the moon
My autobiography is called *Return to Earth*.
Who Am I? _____

12. Worked as a scout for the Soviet army in World War II
Flew on *Voskhod 1*, the first spacecraft to carry more than one man
Played a role in designing the Salyut and Mir space stations
Who Am I? _____

13. Flew 100 combat missions during the Korean War
Became the third man to travel in space, on the *Liberty Bell 7*
Died during a fire in *Apollo 1* during a launch simulation
Who Am I? _____

14. Flew on the first mission with a five-person crew
First American woman in space
Former Director of the University of California's California Space Institute
Who Am I? _____