

Name: \_\_\_\_\_

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**This educational scavenger hunt will lead you through some of the NMUSAF's space exhibits. You will learn about space and your body, the space race, and (Blast Off) principles of rockets. To begin, follow a museum map to the connector/hallway just before the Missile Gallery. Use the map included in this scavenger hunt to help you find the location of each questions' answer.**

## Directions

This scavenger hunt does not take you through the galleries in order. This is a true hunt. **You must use the included map** to find each answer.

## Section 1: Space and Your Body

1. To study how humans might react to weightlessness, two mice named Mildred and Albert, and two monkeys named \_\_\_\_\_ and \_\_\_\_\_ were launched in the Aerobee rocket.
2. Which two projects shown here used water that was created on board to rehydrate the food? (hint: look closely at the display) \_\_\_\_\_ and \_\_\_\_\_.
3. The Mid Deck is where astronauts lived during their space mission. It is also where they would carry out space \_\_\_\_\_.
4. The Flight Deck is where the Commander and Pilot sat for launch and landing. It features about \_\_\_\_\_ different controls, switches and instruments!
5. \_\_\_\_\_ Spacesuit was used on the first moon landing mission, July 1969 on Apollo 11. This suit was designed to be primarily worn inside a spacecraft.
6. The Space Shuttle Extravehicular Mobility Unit (EMU) represents the most advanced system used in spacewalking. This space suit allowed astronauts to work for about \_\_\_\_\_ hours, either tethered to the spacecraft or attached to the Shuttle's robotic arm.

## Section 2: The Space Race

7. Which Apollo mission returned the moon rock that is on display (hint: look for a glass case) \_\_\_\_\_?
8. The Titan II (one of the missiles on display) was developed to carry weapons but also enjoyed a long career as a \_\_\_\_\_.
9. As a result of Russia's successful launch and orbit of Sputnik, the Eisenhower administration created what organization in 1958 \_\_\_\_\_?

10. What was the code name of this experimental early-warning sensor on the P80-1 satellite \_\_\_\_\_?
11. Twenty-four GPS satellites, plus at least six spares, orbit twice a day at about \_\_\_\_\_ miles above the Earth. This means at least four are visible all the time over most of the Earth.
12. Through the 1970s – 1980s, the United States Air Force became the lead organization for developing what would become GPS providing \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ services.
13. More than 5,000 satellites orbit the earth with about \_\_\_\_\_ of those being operational. In addition to satellites old rocket bodies and a huge variety of small debris orbit the earth.
14. AND 15. The Titan IVB was the USAF's (14) \_\_\_\_\_ and most (15) \_\_\_\_\_ expendable single-use rocket.

## Section 3: Blast Off

16. Look for the display on Rockets are Reaction Devices. Rocketry flight is based on Newton's Third Law of Motion that states for every \_\_\_\_\_ there is an equal and opposite \_\_\_\_\_.
17. Robert Goddard is considered the Father of Modern Rocketry based on his key developments and the fact that he launched the first successful \_\_\_\_\_ rocket.
18. The Thrust Chamber of the V-2 rocket was hot enough to \_\_\_\_\_.
19. The V-2 designers used two methods to cool the engine: \_\_\_\_\_ cooling and \_\_\_\_\_ cooling.
20. The first rockets were developed in ancient \_\_\_\_\_.

***CONGRATULATIONS! YOU HAVE FINISHED THE "SPACE" SCAVENGER HUNT. VISIT THE REST OF THE EXHIBITS TO LEARN MORE ABOUT THE AIR FORCE'S HISTORY OF SPACE.***

*"Space" Scavenger Hunt meets these Learning Objectives and the Ohio's Department of Education Learning Standards (OLS):*

### **Section 1: Space and your body**

- Understand the challenges scientists needed to solve when thinking about the effects of humans/animals in space (physiological response to low atmosphere/pressure environments) and the engineering controls and technology that allowed for humans to leave the Earth's atmosphere.

OLS: Design & Technology – grades 6 - 8:

6-8.DT.1.d. , 6-8.DT.1.f. , 6-8.DT.2.c. , 6-8.DT.2.e. , 6-8.DT.3.b.

### **Section 2: The Space Race**

- Identify key rockets, satellites and spacecraft used in the advent of extraterrestrial flight, and more importantly, the historical significance of the United States (NACA and NASA) and the USSR during the 'Space Race'.

OLS: Social Studies – High School: American History Content Statements

25, 26

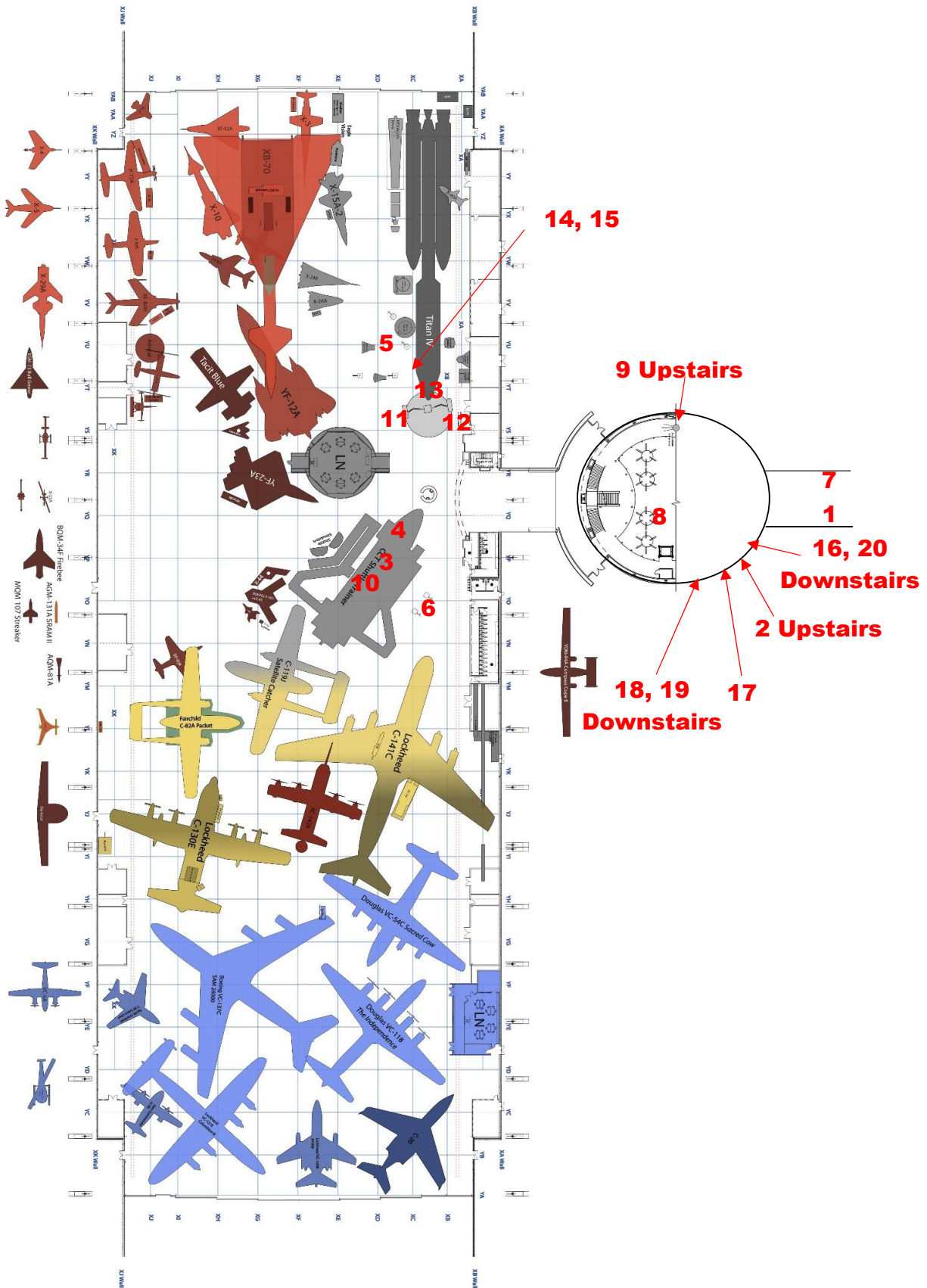
### **Section 3: Blast Off**

- Explain principles of rocketry flight and Newton's third law of motion.

OLS: Science – High School: Physics

P.M.3, P.F.1, P.F.2, P.F.5, P.F.6, P.F.7

# "Space" Scavenger Hunt Map



# "Space" Scavenger Hunt

## Answer Key

1. Patricia and Mike	6. Seven	11. 12,550	16. Action / reaction
2. Gemini and Apollo	7. Apollo 16	12. Position, navigation & timing	17. Liquid-fueled
3. Experiments	8. Space launch vehicle	13. 2,000	18. Melt steel
4. 2,000	9. NASA	14. Largest	19. Regenerative / film
5. Model A7L	10. "Teal Ruby"	15. Powerful	20. China