

Name: _____

Welcome to the National Museum of the United States Air Force!

Your first stop will be the Space Gallery. Enter the 4th building and locate the large space shuttle directly ahead. This is the Crew Compartment Trainer (CCT) Shuttle Trainer.

1. Crew members used the CCT to practice on-orbit tasks training for _____ escapes and evaluate _____ issues.

Turn to your right and walk past the Space/Research and Development STEM Learning Node and locate the Global Position System (GPS) on your right.

2. The GPS provides positioning, navigation, and timing information free to users _____?

Locate the large booster rocket straight ahead. This is the Titan IVB.

3. First launched in 1959, the Titan family of boosters served for nearly 50 years putting _____ and _____ into orbit.

Ahead and to your right locate the spacecraft surrounded by Plexiglas. This is the Apollo 15.

4. Apollo 15’s mission focused mainly on _____ science and was the 1st mission to use a lunar rover vehicle.

Continue walking toward the end of the hangar and notice several artifacts to your right. This is the HEXAGON KH-9 Film Recovery Vehicle. Next to it is the HEXAGON KH-9 Reconnaissance Satellite.

5. During the Cold War, 19 HEXAGON missions imaged _____ million square miles of Earth’s surface between 1971 and 1986.

Turn around and look for the orange and white propellant tanks on this aircraft. Go toward the front of the plane. This is the X-15A-2.

6. What was the purpose of the X-15 aircraft _____?

Continue to follow the path under the large white aircraft tail. Look in the corner of the building on the right. Locate the small silver plane. This is the McDonnell XF-85 Goblin

7. The McDonnell Aircraft Corporation developed the XF-85 Goblin “_____” fighter to protect B-36 bombers flying far beyond the range of conventional escort fighters.

*Turn left and continue through the Research and Development Gallery. The large white plane that extends from the end of the hangar is the **XB-70 Valkyrie**. Notice the words located on the plane itself.*

8. List the names of two United States Air Force pilots that flew the XB-70 Valkyrie

*Locate the black plane under the nose of the XB-70. This is the **YF-12A***

9. The YF-12 was developed in the 1960s as a high-altitude, Mach 3 interceptor to defend against _____ bombers.

*Proceed right and locate the smooth gray plane on the left hand corner. This is the **Tacit Blue**.*

10. Using advanced sensors, Tacit Blue could continuously monitor enemy forces (even through _____) and provide timely information through data links to a ground command center.

*Next, locate the flying saucer look alike located on the right. This is the **VZ-9AV Avrocar**.*

11. The Avrocar was the result of a/an _____ effort to develop a supersonic vertical and landing (VTOL), later taken over by the United States Army and United States Air Force.

*Continue through the Research and Development Gallery and locate the **X-45A** on your left.*

12. The Boeing X-45A Joint Unmanned Combat Air System came to the Museum in August of what year _____?

*Continue through the Research and Development Gallery until you enter the Global Reach Gallery. Turn right and locate the **Fairchild C-82A Packet**.*

13. The Fairchild C-82A Packet was used primarily to transport two things, what were they? _____ and _____.

*Turn around and walk around to the back of the **Lockheed C-130E**.*

14. List two missions the Lockheed C-130E was used for:

*Turn right and walk across the Global Reach Gallery to the open end of a large cargo plane. This is the **“Hanoi Taxi”**.*

15. The Starlifter originated from a 1959 requirement for a fast, strategic transport aircraft that would serve as a “_____” for moving US Army troops rapidly anywhere in the world.

Turn around and enter the Presidential Gallery. To your left is the “Sacred Cow”. Enter the airplane and move towards the back.

16. What is located to your left when facing the exit stairs from inside the “Sacred Cow”?

Exit the Sacred Cow and turn right towards the entrance of the “Independence”.

17. Which president named this plane the “Independence?”

Walk through the Independence and turn left. Approach the plane located directly ahead. This is the Lockheed VC- 140B Jetstar.

18. What did President Lyndon B. Johnson sometimes refer to the Jetstars as?

Locate the “Columbine III” on your right.

19. President Eisenhower named his third Constellation, “Columbine III”, after the state flower of _____ in honor of his wife Mamie.

Enter and explore the “Columbine III”. When you exit turn left and locate the entrance of the SAM 26000 and climb the stairs to enter. Continue through the plane until you reach the conference room and take note of the sign that accompanies it.

20. Inside the SAM 26000, what color is the phone that allowed the president to make phone calls anywhere in the world while in flight?

(Bonus) Space Suit Questions: Before leaving the 4th building look at the Space Suit display cases in front of the Shuttle Trainer.

21. Why was the Space Shuttle Advanced Crew Escape Suit (ACES) orange in color? _____

22. The ACES suits were designed to allow crewmembers to escape a damaged shuttle between _____ ft. altitude?

23. The Space Shuttle Extravehicular Mobility Unit (EMU) was a modular system made to _____?

24. Each Shuttle EMU allowed astronauts to work for about how many hours _____?

25. The Shuttle EMU had an outer layer of Ortho Fabric, a very sturdy material made from _____, _____, and _____?

Answers

1. Emergency; Engineering
2. Worldwide
3. Astronauts; Satellites
4. Lunar
5. 877
6. To subject pilots to conditions that future astronauts would face
7. Parasite
8. Answers may include: Col. Joe Cotton; Maj. Carl Cross; Lt. Col. Emil Sturmthal; Lt. Col. Fitz Fulton
9. Supersonic
10. Clouds
11. Canadian
12. 2006
13. Cargo; Troops
14. Answers may include: Aeromedical Evacuation; Reconnaissance; gunship; mid-air refueling of helicopters; mid-air space capsule recovery; search and rescue
15. Work Horse
16. Elevator
17. Harry Truman
18. Air Force One Half
19. Colorado
20. Beige
21. So that astronauts could be easily spotted in the water in case rescue was required
22. 10,000-25,000
23. Fit any astronaut
24. Seven
25. Gore-Tex, Kevlar, and Nomex

This Space, Research & Development, Global Reach, and Presidential Galleries Scavenger Hunt meets these Learning Objectives and the Ohio's Department of Education Learning Standards (OLS):

- Explore technology through the different missions for both aircraft and spacecraft
OLS: Society & Technology (ST) – grades 6 – 8
6-8.ST.1.b, 6-8.ST.2.b, 6-8.ST.3.a, 6-8.ST.3.b, 6-8.ST.3.c.

- Discover the tested and tried designs of different generations of aircraft and spacecraft
OLS: (ST) – grades 6 – 8
6-8.ST.1.b, 6-8.ST.2.b, 6-8.ST.3.a, 6-8.ST.3.b, 6-8.ST.3.c.

- Distinguish that developments in technology, design and science have expanded future aircraft and spacecraft growth and expansion
OLS: Design & Technology (DT) – grades 6 – 8
6-8.DT.1.d, 6-8.DT.1.e, 6-8.DT.1.f.