

## San Diego Air & Space Museum Project Kit

Congratulations! You're going to the San Diego Air & Space Museum! Use these project ideas to enrich your educational experience. Read through them before you go to make sure you understand the terms and concepts, and to help you determine if you want to expand upon any of them. **You'll find fun facts and printable worksheets at the end of this packet.**

a- elementary level activity    b- middle school level activity    c- high school level activity

### **Language Arts**

The San Diego Air & Space Museum inspires the imagination. What would it have been like to work around or in one of these great planes or space crafts? What would it have been like to have lived on a carrier or air base, or around the launch pads? Use your surroundings and your imagination to create a piece of fictional writing.

- a. Draw a storybook or write a short story with illustrations inspired by the planes and crafts.
- b. Write a short story inspired by your visit, including a main character and the main elements of a story (setting, plot, conflict, and resolution).
- c. Choose between writing a fictional first-person narrative or a screenplay inspired by your visit.

Materials required: Notebook, pen/pencil

Submission: A copy of your writings/drawing, and any pictures/videos

Teaching or learning notes:

### **Applied Math**

The engineering and design of the planes and crafts is intricate and specific. Everywhere you look there is visual math. Notice the accuracy of the engineering, and all the application of math all around you. Everyone who worked on the planes and crafts had to be proficient in math. Find applications for mathematical thinking and calculation all around you.

- a. Go on a shape hunt. Draw and label the shapes you find. Also, draw a representation of at least two patterns you find.
- b. Look closer at one plane or spacecraft. Detail the math it would take to create it. Try to identify at least one part of your plane or craft which would require math or skill beyond your current understanding. What could you do to learn that skill?
- c. Math is everywhere. Imagine you are one of the people working on the planes or crafts. Describe your project and what you would need to know and do to complete it. Choose at least one application of math that you see, estimate measurements, and use calculations to show how the worker designed and created that element.

Materials required: Notebook, pen/pencil, calculator or smartphone (optional)

Submission: Your calculations, estimations, and conclusions, and any pictures/videos

Teaching or learning notes:

## **Science**

The science of flying is fascinating. What keeps a plane in the air? How does it turn or go up and down? What is Bernoulli's principle? Take a closer look at the planes to learn more about flying.

- a. Learn the physics of flying. What is Bernoulli's principle? Draw a plane and diagram the flow of air and how that keeps the plane in the air.
- b. Draw a diagram of what keeps a plane in the air. Write a short paragraph explaining the principle. Learn more about the names of plane movement. List and describe the following terms: pitch, roll, yaw, loop, climb, dive, and lift. Identify on your diagram which parts of the plane are responsible for these movements.
- c. Look closer at the moving parts on the plane. Draw a diagram of what keeps a plane in the air. Also, identify the parts of the plane which generate thrust, lift, and directional movement. Include the following terms: wings, ailerons, flaps, rudder, elevator, vertical stabilizer, horizontal stabilizer, fuselage, and engines.

Materials required: Notebook, pen/pencil

Submission: A copy of your drawings, diagrams, or designs, and any pictures/videos

Teaching or learning notes:

## **Social Studies**

The exhibits at the museum showcase many different time periods. How has flight changed over the years? How has other cultural and political events changed the course of flight history? How has the history of flight impacted our culture?

- a. Write or draw about the beginnings of flight. Who were the Wright Brothers? What did the first plane look like?
- b. Choose one of the planes or spacecraft and learn more about its historical significance. Write a brief report including when it was made, what it was used for, and why it was important.
- c. Create a timeline of air and space flight. Include major events, important people, and other significant moments which were shaped by the progress being made in flight. Write a brief essay about the importance of flight today to go along with your timeline.

Materials required: Notebook, pen/pencil, smartphone (optional)

Submission: A copy of your writings/drawings, and any pictures/videos


Teaching or learning notes:

# FUN FACTS

- In terms of annual attendance, San Diego Air & Space Museum is the second most visited museum in San Diego. The most popular museum in San Diego is San Diego Model Railroad Museum.
- The Museum is built in an old 1930's Ford Motor Company Exposition building, the only one remaining out of five originally built. "When everything seems to be going against you, remember that the airplane takes off against the wind, not with it." - Henry Ford
- San Diego has one of the richest aviation heritages of any city in the country. Convair, home of such famous aircraft as the B-24 Liberator and the PB5Y Catalina, was founded here. Ryan Aeronautical, home of Lindbergh's Spirit of St. Louis, was located here, and North Island Naval Air Station is the home of naval aviation. Much of that knowledge is captured and conveyed through the San Diego Air & Space Museum, a major institution unique to the region and one of the preeminent aviation museums in the nation.
- Before the move to this Ford building, the Museum used to live in the Electric Building. The building and most of its contents were destroyed by a devastating fire on February 22, 1978. More than fifty aircraft and the Museum's extensive artifact and archival collections were consumed in a matter of minutes.
- The Museum's Library & Archives houses one of the most extensive collections of aerospace-related books and archival materials in the country. Included in the collection are tens of thousands of books, aircraft and equipment manuals, personal and organizational papers, and more than 2 million images and videos of importance to aviation history.

## San Diego Air and Space Museum

1. Draw a picture of your favorite part of the museum.



2. Describe your favorite part and why you love it.

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3. Which craft is the oldest at the museum? How old is it?

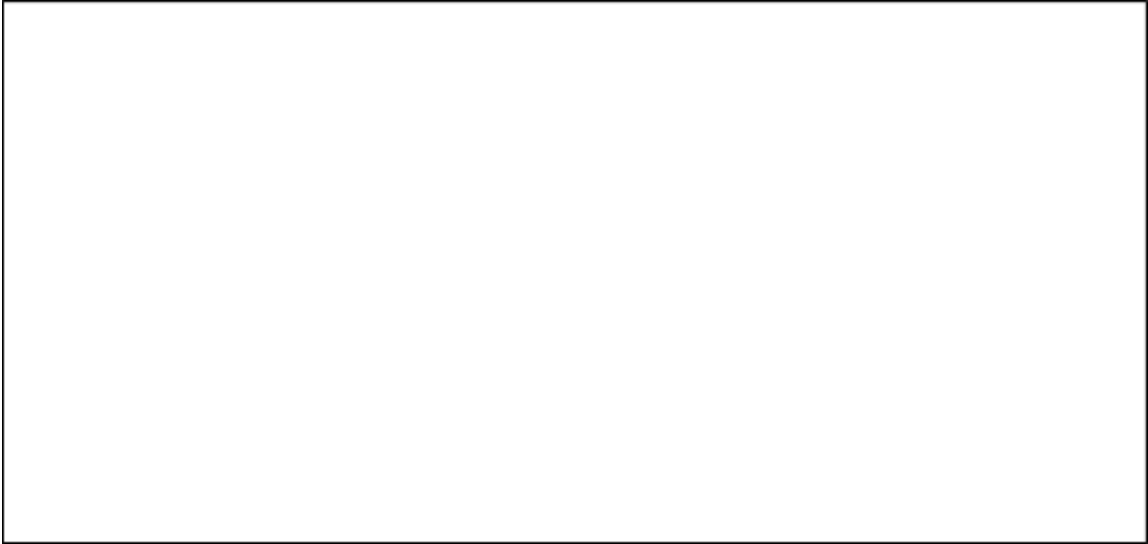
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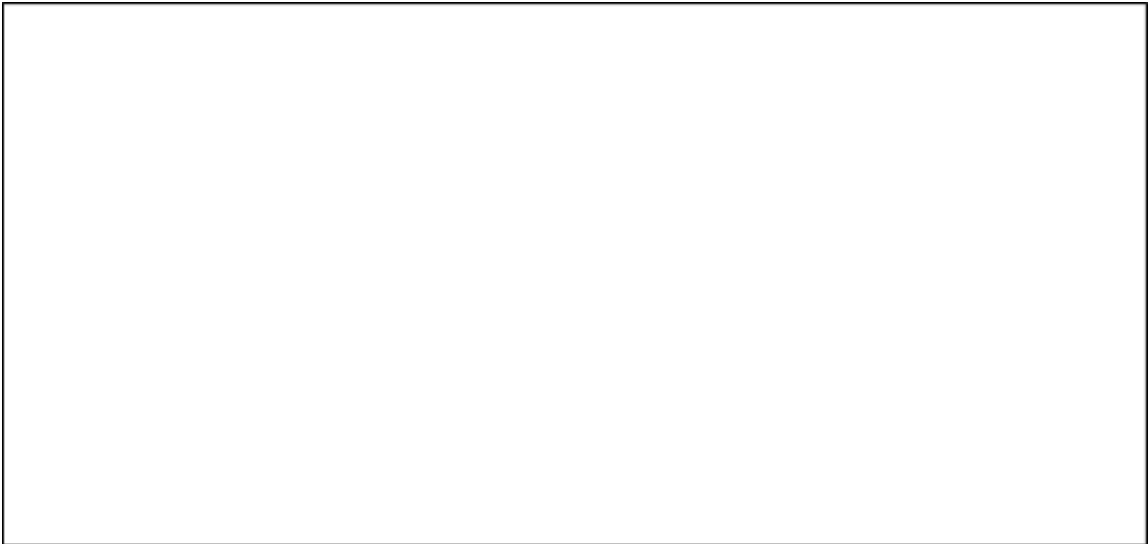
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4. Draw or describe one plane you saw.



5. Describe or draw one spacecraft you saw.



6. What was the first craft to go into space? When was that?

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