Classroom Activities

Activity 1

Have your students collect feathers from as many different birds as possible. Let them examine the feathers. Compare the shapes of the feathers with the wings of airplanes. Have the student make a drawing, showing how they are alike. Mount and label the collection of feathers. Share the story of Daedalus and Icarus with the class.

Activity 2

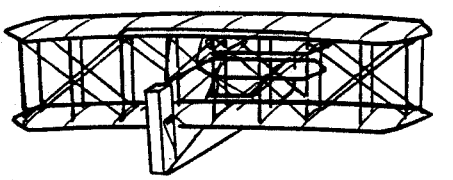
Hot-air balloons have been used for everything—sports, travel, and warfare. Have the students write an adventure story using a hot-air balloon. Another approach might be to create a "chain" adventure story with several friends. Have one person start the story, telling a short part, then have the next person add to it, and so on. You may want to tape-record the "chain" story. (Choose an "ending" person!)

Activity 3

On the museum tour the class will visit briefly the Balloons and Airships Gallery to see a model of a **lighter-than-air** craft used for people's first voyages in the atmosphere. In the classroom watch the drifting of materials that float on air, such as cotton, hair, dandelion seeds, milkweed seeds, etc. Sprinkle a small amount of talcum powder or cornstarch a few inches above a hot light bulb. The students should observe the currents caused by the rising heated air. Ask: How can **balloonists** control their craft? What problems might they encounter?

Activity 4

Ask the students the following questions: Have you ever heard the saying, "Two heads are better than one"? What does it mean? Why does working together often get better results than working alone? When might it be best to work alone?



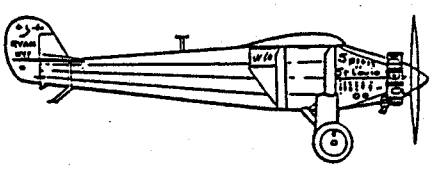
Have students tell about a time they worked with someone on a project. Ask: Did you have any problems? How did you work them out?

Tell the students to imagine they are one of the Wright brothers or Montgolfier brothers. Then ask them: What problems do you think the Wright or Montgolfier brothers might have had to solve about working together? Have students team up in pairs and act this out.

Activity 5

Students may role-play by pretending they are pilots of early aircraft and have just landed in a foreign country where airplanes have never been seen. The pilots cannot speak the language of the natives. Have students write a story about the country, the people, and how the pilots will communicate what they are doing in the foreign country.

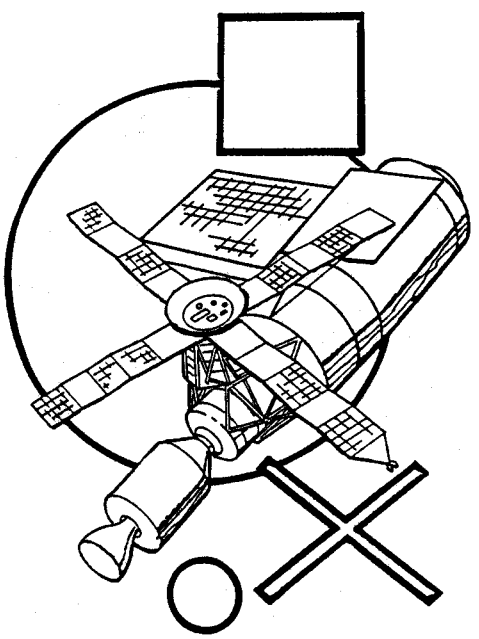
Activity 6

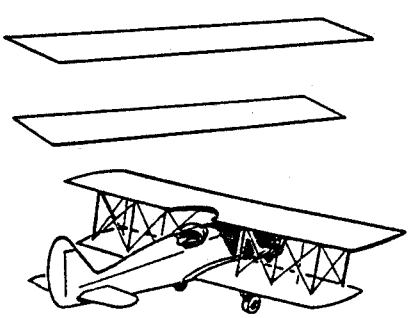


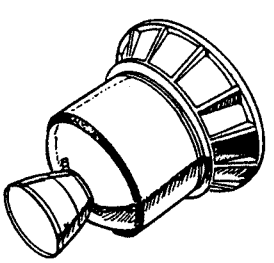
Charles Lindbergh's flight across the Atlantic lasted 33½ hours. Space inside his plane, the Spirit of St. Louis, was very crowded. Have the students make a list of what they think he took with him. He took a life raft but not a parachute. Why did he make this decision? Have the students try to find out what Lindbergh actually took along with him.

Activity 7

Using basic shapes, have the students make model airplanes from salt-dough clay, or self-hardening clay. After the models are dry, let students paint the models with tempera or enamel. Hangers may be added before drying so models can be used as ornaments, or hung from the ceiling. Boxes, cans, and other scraps may be used to construct a model airport. Tell the students to park their planes at the airport.







Classroom Activities

Activity 8

There are three divisions, or kinds, of **aviation:** (1) general aviation, (2) military, and (3) commercial. General aviation includes aircraft used for business, air taxi, rental, personal transportation, sport flying, flight instruction, air ambulance, and agriculture. Ask the students if they know what airports are in the area. Let them make a list and identify which kind of aviation each uses. (An airport may serve more than one kind of aviation.) Let the students collect items related to aviation—models, photos, magazine pictures, etc. Then let them group the items according to the three divisions. The students may want to make posters and label the items.

Activity 9

Ask the students: Have you or any of your friends flown in an aircraft? What kind was it—general, military, or commercial? Let students discuss with their friends how big the different airplanes are, how they look inside, what they carry, how many people may be aboard, and how fast they travel. Have students draw a picture of an aircraft they have flown in or one in which they would like to fly.

Activity 10

Many people work hard to make flights on a commercial aircraft safe, easy, and pleasant. Brainstorm with the class to make a list of these people and what they do. With several students, role-play these jobs. Discuss what happens. Have students draw a picture showing some of the different people at work.

Activity 11

Since 1962, U.S. military aircraft have used the same letter identification system. For example, the Bell X-1 was an experimental (X) aircraft that was part of a cooperative program initiated in 1944 by the **National Advisory Committee for Aeronautics (NACA)** and the U.S. Army Air Force.

The students should collect articles or headlines from newspapers and magazines that mention aircraft using such identification. (Some of the more familiar are A-attack; B-bomber; C-cargo; F-fighter; T-trainer; and X-experimental/research.)

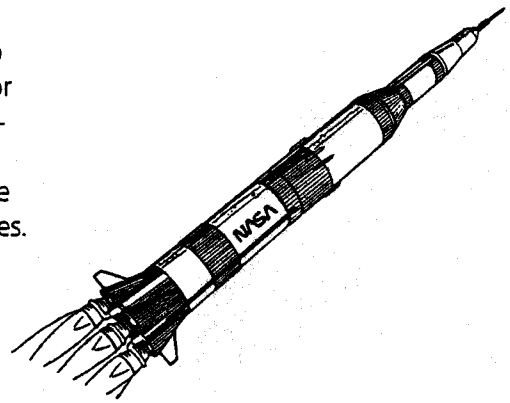
Activity 12

In 1920 many countries agreed to a civilian aircraft identification system that also used letters. Have the students look for letters identifying countries when visiting a commercial airport. Some to look for are: N-United States; F-France; C or CF-Canada; D-Germany; JA-Japan; CCCP-Russia; G-Great Britain; B-China. Have students record sightings in a log book.

The students could conduct research to find out what type of identification is used on spacecraft and draw a sketch.

Activity 13

The Saturn V rocket was used to launch the Apollo spacecraft. As an art lesson have the students build small models of the Saturn V launch vehicle. Use cardboard tubes for the body, a cone-shaped paper cup for the nose, light cardboard for fins, and pieces of plastic drinking straws for the engines. If they want to make a multistage rocket, they may use more tubes. The students may write a story or play about launching their rockets and what it carried (payload) or helped to launch.



Activity 14

Have students interview an older adult such as a grandparent and ask about Neil Armstrong's first steps on the Moon on July 20, 1969. Students might ask the adult: Where were you? How did you feel? Have the students tape their interview so it can be shared with the class later.

Activity 15

Discuss why some astronauts need to wear spacesuits. Have one student trace around another student's body while he or she lies flat on a large piece of paper. Have students design a spacesuit on this tracing, labeling all the different parts of the suit. Remind students to be sure not to forget any important items! Then have them color the suit and add their nametags.

Activity 16

Astronauts are confined in small spaces for long periods of time. Ask the students: What would you take with you if you were going to be in Skylab for three months? Then let students make a "To Pack" list and try to find out what some astronauts took along.

Classroom Activities

Activity 17

One Skylab crew spent Christmas in Skylab. Form student groups and let them choose a holiday and plan a celebration for a Skylab crew. Remind them to think of the small area, limited storage, and weightlessness.

Activity 18

Have student groups form companies. The companies have been contracted to design a new spacecraft to be launched 40 years from now. Designs of the outside and inside of the spacecraft can be drawn and displayed in the classroom.

Activity 19

The students can pretend it is 40 years into the future and they have just been launched on a space voyage. Looking out their spacecraft window, they may draw a picture of what they see in space. Be sure they label and color their pictures.

Activity 20

The class can prepare a time capsule filled with student predictions about future space travel and the space station. Students may want to include some present-day artifacts such as photos, news clippings, and drawings in the capsule. Label the capsule with the students' names, the date, and a class photograph, and seal the capsule. Put it away to be opened after 25 years.

Activity 21

Students can pretend they are reporters covering one or more of the important events listed below. A news article reporting what actually happened can be written or told. Remind them that a good reporter tells only facts and writes as clearly as possible, including the answers to *who, what, when, where, why,* and *how.*

—The Montgolfier brothers' early balloon flights
—The Wright brothers' first flight
—Charles Lindbergh's crossing of the Atlantic to Paris, France
—Chuck Yeager's flight in the Bell X-1
—John Glenn's first Earth orbital flight
—Neil Armstrong's first steps on the Moon
—John Young and Robert Crippin's first Space Shuttle flight

An interview with one or more of these pioneers can be videotaped "live" in front of the class.

Activity 22

Students can create "Who Am I?" riddles about famous people in aviation history. The students will write or tell several riddles and make a class book or video. Share the class riddles with other classes.

Activity 23

In the Discovery activities or tour, students learned about many important people and the role they played in the development of air and space flight. They worked very hard to succeed and their successes have changed lives in many ways. Discuss with classmates how their own lives have been changed by these successes. Have them discuss with an older adult how his or her life has been changed by these accomplishments. Letters of appreciation could be written to one of the people students learned about on the tour or in the activities.

Activity 24

Have students create paper bag puppets of the famous people they learned about in their Discovery activities or tour. Let them act out a puppet show. Invite parents to visit the class and see the show.

Activity 25

From the library the students should select a biography about one of the famous people from the Discovery activities or tour. Have students write a short report, turning it into an autobiography. The students can dress like famous persons and share their reports with classmates.

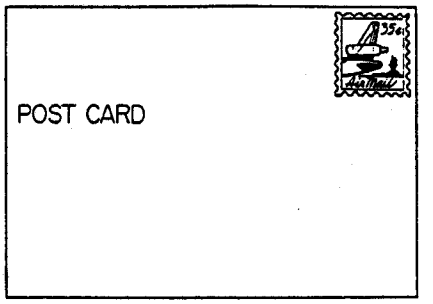
Activity 26

Have students use a shoebox without a lid, or a cardboard box with one side cut away, to make a diorama of an aircraft or spacecraft from the Discovery activities or tour. Then have the students cover the remaining sides and bottom with construction paper to look like sky. A picture of an aircraft can be drawn and colored, cut out, and suspended by thread over the top. Encourage the students to use their imagination and be as creative as possible.

Classroom Activities

Activity 27

Sometimes instead of writing letters, people send postcards. Let the students design a postcard. On the front, they can draw or paste a picture of something they really enjoyed from the Discovery activities. The back of the postcard is divided into two parts. On the left half, students should write a message about what they learned or saw. On the right half, students may address the card to a friend. They may want to design their own postcard stamp.



Activity 28

Let students think of songs that tell about flying. They may use a simple song learned in music class and give it new words that tell about flying, aircraft, spacecraft, or some of the important people in aviation history. Sing the song in class.

Example for composing
new words to an old tune,
(Row, Row, Row Your Boat):

Fly, fly, fly your plane
High up in the sky
Fly around, fly around
Fly just like a bird!

Activity 29

Students may plan a parade to show to the rest of the school the important historical aviation events from the Discovery activities or tour. Small floats (bicycle or red-wagon size) will be in the parade. A prize will be awarded for the most original entry. Let a group of students create their floats and enter them in the parade.