**Ideas for Project Area Learning**

- Make paper airplanes.
- Develop an interest and understanding of science, engineering, and technology.
- Develop problem-solving and logical reasoning skills.
- Improve communication and teamwork skills by working the way scientists and engineers do, in teams.
- Develop responsible attitudes about science and how it relates to the real world.
- Gain experience in problem solving and decision making using science process skills.
- Develop knowledge and skills related to aerospace.
- Identify different types of aircraft.
- Learn how weather affects flying.
- Learn star constellations throughout the year, and the stories told about them.
- Make and launch model rockets.
- Learn the forces that act on a rocket and experiment with roll, pitch, and yaw.
- Use your investigation skills to discover the principles of flight, rocketry, and astronomy.
- Design an experiment and enter your results in science and technology fairs.
- Use engineering principles to design air and space crafts.
- Construct an altitude tracker.
- Learn pilot certification requirements.
- Learn about airport issues in your county or across Iowa.
- Learn the science behind science fiction.

**Communication**

- Do a presentation about life on the International Space Station.
- Prepare a working exhibit on the sizes of the planets in our solar system.
- Demonstrate what it takes to build a model airplane.

**Civic Engagement**

- Help clean up your local airport.
- Volunteer for a Young Eagles club.
- Give others tips to get through security in airports.

**Leadership**

- Teach younger kids to make model rockets.
- Bring your club to the local airport to learn more about airplanes and pilots.
- Lead a star-gazing session at an evening workshop or camp.

**Entrepreneurship**

- Start an online magazine about aviation topics or air travel.
- Start a radio show or podcast interviewing professionals in the industry.
- Write a book of safe and fun aerospace activities young people can do at home.
Goal Setting and Record Keeping
Goal setting is an ongoing process that guides your project area learning. Having goals is like having a road map to show you how to get you to where you want to go. Record keeping is also an ongoing process and another important life skill. In 4-H, you are encouraged to select from a variety of record keeping formats to meet your own personal needs and your preferred learning style. Keeping records of your learning experiences helps you determine how well you met your goals. Goal setting and record keeping improve your skills in organization, communication, planning, and evaluating.

Iowa 4-H Event Opportunities
- Participate in county and state fair exhibit classes.
- Check with your local county 4-H youth development staff to see if there are special events or workshops in your county that you want to attend to learn more about your project areas.
- Iowa 4-H members in grades 9–12 can apply for State Project Area Awards at State Recognition Day. Applications are open December through January.
- Meet young people from around the state who have completed grades 8–12, and share your interests at the Iowa 4-H Youth Conference held at Iowa State University in late June.
- Each March, hundreds of student researchers in grades 6–12 meet with professionals to discuss their findings and compete for scholarships during the State Science and Technology Fair of Iowa.

Share Your Learning With an Exhibit
- Make a poster on parts of an airplane or a rocket and their function.
- Create a display on different types of aircraft and what they are used for.
- Make a poster about the forces that act on an airplane or rocket.
- Chart the moon and make a display about how the moon affects the earth.
- Exhibit a model rocket.
- Demonstrate how weather affects flying.
- Create a display comparing birds and airplanes.

EDUCATION CONNECTIONS
- Aerospace engineering students research, design, and develop high-speed vehicles.
- Learn more about the planets, stars, galaxies, and how the universe has evolved with astronomy.
- Learn the behavior, life cycles, and materials of stars, planets, and galaxies with astrophysics.
- Obtain your pilot’s certificate if you’re interested in learning to fly and operate all types of aircraft.
- Students in atmospheric science learn about weather and climate events in outer space.

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