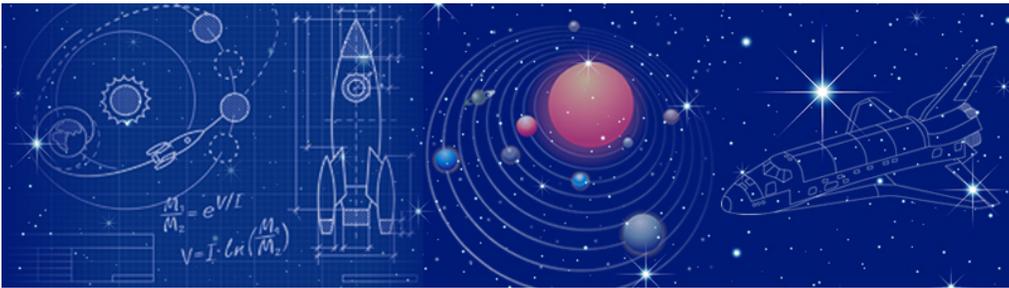


4-H AEROSPACE PROJECT



Step It Up!

Pass it on! Now that you know how, share it with others. Here are ideas to get you started.

Communication

- Do a presentation about life on the International Space Station
- Prepare a working exhibit on sizes of and distances between the planets of our solar system
- Demonstrate what it takes to build a model airplane
- Compare paper airplanes, how to make them and how they work

Citizenship

- Help cleanup your local airport.
- Volunteer for a Young Eagles club.
- Give others tips to fly smoothly and 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

4-H
GROWING TOGETHER

Are You Into It?

Do you want to learn about flight or space? It's all about the moving through air and space in this project. Whether you're flying kites, hot air balloons, airplanes, or rockets, or reaching for the stars with astronomy. Learn about our universe, galaxy, and what's beyond the Milky Way.

- 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 science relates to the real world and people's lives.
- Gain experience in problem solving and decision-making using science process skills.
- Develop knowledge and skills related to Aerospace.

Here's what you can do all year!

Starting Out Basic / Level 1

- Make paper airplanes
- Identify different types of aircraft
- Learn how weather affects flying
- Learn star constellations throughout the year ... and the stories that are told about them

Learning More Intermediate / Level 2

- Make and launch model rockets
- Learn the forces that act on a rocket and experiment with roll, pitch, and yaw
- Build a balloon shuttle
- Use your investigation skills to discover the principles of flight, rocketry, and astronomy
- Design your own experiment and enter your results in science and technology fairs

Expanding Horizons Advanced / Level 3

- Use engineering principles to design your own 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



Take Aerospace further!

Here are other opportunities to explore aerospace field:

- Attend a star-gazing program at a local planetarium.
- Attend Iowa 4-H Youth Conference and participate in workshops, motivational speakers and a community service project, bringing ideas back to your community.
- Is it county fair time? Consider taking an exhibit, a piece of your project learning to the fair for judging and to show off what you've learned throughout the year. It might get selected to go to the Iowa State Fair.
- Enter your science experiment or engineering design in the a local science fair or the State Science + Technology Fair of Iowa <http://www.sciencefairiowa.org/>
- Contact your county ISU Extension Office for other local workshops, activities, and events.
- Meet others interested in aerospace. Check out camps at the Iowa 4-H Center.
- Interested in a college education in the area of science or engineering? Schedule a visit with Iowa State University to explore those majors. www.iastate.edu

Resources

4-H Resources	More Resources	Record Keeping	Exhibit Ideas
<ul style="list-style-type: none"> • Aerospace Adventures: Levels 1- 4 and Helper's Guide. http://www.4-hmall.org/Category/4-hcurriculum-aerospace.aspx • Rockets Away! http://estore.osu-extension.org/productdetails.cfm?PC=2413 • Rockets Away! Leader's Guide http://estore.osu-extension.org/productdetails.cfm?PC=2766 • Flyable Paper Airplanes http://4h.uwex.edu/pubs/pubdetails.cfm?publicationid=4170 • Wisconsin 4-H Aerospace Activities http://4h.uwex.edu/onlinpro/aerospace.cfm#plans • Contact your local Extension Office to find out if kits, workshops, or activities are available. http://www.extension.iastate.edu/content/county-offices 	<ul style="list-style-type: none"> • National Aeronautics and Space Administration (NASA) For Students http://www.nasa.gov/audience/forstudents/index.html • NASA Science http://science.nasa.gov/ • NASA Kids' Club http://www.nasa.gov/audience/forkids/kidsclub/flash/index.html • Space Camp http://www.spacecamp.com/camp/sc • Iowa State Engineering Kids www.isek.iastate.edu/ • Team America Rocket Challenge http://rocketcontest.org/ • Young Eagles http://www.young eagles.org/programs/young eagles/ • Federal Aviation Administration http://www.faa.gov/education/ 	<p>Find all your record keeping tools at: http://www.extension.iastate.edu/4h/page/record-keeping</p> <ul style="list-style-type: none"> • 4-H Yearly Summary (4H 0096) • Basic 4-H Project Record (4H 0096A) • Experienced 4-H Project Record (4H 0096B) • Advanced 4-H Project Record (4H 0096C) • Recordkeeping Self-Evaluation (4H 98, PDF) 	<ul style="list-style-type: none"> • 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 a rocket • Chart the moon and make a display about how the moon affects the earth • Make a poster about constellations and when you can see them • Exhibit a model rocket • Demonstrate how whether affects flying • Create a display comparing birds and airplanes • Create a typical pilots log and explain why it's important • Demonstrate different types of aerodynamics on kite flying • Research hot air balloons and how they work • Engineer a model glider and create a display of your engineering process and outcomes.