



UW-MADISON EXTENSION

# Aerospace Project

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## What is it All About?

Think about the excitement that accompanies dreams of sending a rocket into space, making a first solo flight, becoming an astronaut, or someday visiting other planets. In the aerospace projects, you will enjoy learning more about your dreams through hands-on experiences. Members can explore their fascination with flying an airplane, launching a rocket, conquering space, and becoming an astronaut or pilot with this project.

## Grow in Your Project

### Starting Out

- Make paper airplanes
- Identify different types of aircraft
- Learn how weather affects flying
- Learn star constellations and their stories

#### Resources

- Pre-Flight, Level 1 (06842)\*
- Lift Off, Level 2 (06843)\*

### Learning More

- Make and launch model rockets
- Learn the forces that act on a rocket
- Experiment with roll, pitch, and yaw
- Build a balloon shuttle

#### Resources

- Reaching New Heights, Level 3 (06844)\*

### Going Further

- Use engineering principles to design your own air- and space-crafts
- Construct an altitude tracker
- Learn pilot certification requirements
- Learn about airport issues in across Wisconsin

#### Resources

- Pilot in Command, Level 4 (06845)\*

### Resources for All Three Levels

- Aerospace Adventures Helper's Guide (06846)\*

## Take Your Project Further!

- Attend a star-gazing program at a planetarium.
- Explore an aerospace career using online resources
- Shadow an airline employee for one day
- Attend an aerospace event or camp
- Visit a local airport and have a pilot and/or mechanic talk about flying
- Look for opportunities to take the ground school portion of a flight training class
- Visit with an aircraft maintenance engineer to learn about aircraft maintenance
- Take a flight with a flight instructor.
- Compete in the Rocket Launch Contest at Showcase Showdown



\*Resources available at your local Extension office or [shop4-H.org](http://shop4-H.org).

## Applying Project Skills to Life

### ***Enhance Your Communication Skills***

- Do a presentation about life on the International Space Station
- Demonstrate what it takes to build a model airplane
- Compare paper airplanes, how to make them and how they work
- Demonstrate glider flight capabilities
- Interview a pilot

### ***Get Involved in Citizenship and Service***

- Organize a rocket launch
- Organize a kite-flying contest
- Volunteer at an airport or airshow
- Create a model airplane display for a showcase at a public location like an airport, library, museum, nursing home

### ***Learn about 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



## Showing What You've Learned

- 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 you built from a kit.
- Exhibit a model rocket you build from your own design
- Demonstrate how weather 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
- Build a model airplane from a kit or your own design
- Create a poster with pictures of places you've visited, your first plane ride, programs you've participated in, types of planes, etc.
- Build any other model (helicopter, etc.).
- Design, make, and display your own paper airplanes.
- Design and build a kite from a kit.
- Design and build a kite on your own without using a kit.
- Make a model of the cockpit of an airplane. Build and fly a remote control airplane.

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