

# FLYING HIGH WITH THE 2025 OHIO 4-H CLOVERBUD ENGINEERING ADVENTURE



Up, up and away with the 2025 Ohio 4-H Cloverbud Engineering Adventure. This year's adventure will get Cloverbuds thinking about the science of flight whether in an airplane, a helicopter or even a hot air balloon. They will have opportunities for discovery, creativity and problem solving as they explore this year's challenge.



## EXPLORE

Cloverbuds will think about...

- What are the different types of aircraft that fly within earth's atmosphere?
- How are aircraft able to fly?
- Who are the pioneers of flight?

## THE CHALLENGE

Let your Cloverbud's imaginations soar as they explore different types of aircraft that fly within earth's atmosphere. Use the questions above and other learning opportunities to narrow down to one type of aircraft. Create a model of your aircraft in action.

## EXAMPLE

Your Cloverbud team visits the WACO Learning Center and Air Museum in Troy, Ohio and are excited about these biplanes. You select them as your aircraft. Your Team builds a replica of a WACO plane with a propeller that turns.

## CHALLENGE GUIDELINES

- Teams must have at least two, but no more than eight members. All participants must be 4-H Cloverbud members
- Models must be constructed in an area no larger than 15"x15". A baseplate is recommended.
- Any type and quantity of interlocking bricks (i.e.: Mega Blocks, LEGOS) may be used.
- Models must feature a moving part or simple machine (lever, wedge, incline, wheel and axel, pulley, screw).
- Poster/Tri-fold must include team name and members' names. Use the poster to highlight the overall experience.
- Rewards will be presented to all teams. Teams must be present at the Showcase in order to receive rewards.



THE OHIO STATE  
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[www.ohio4h.org](http://www.ohio4h.org)

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## TEAM REGISTRATION

### Cost

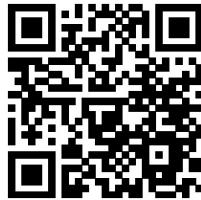
There is no cost for clubs to register.

### ALL TEAMS MUST REGISTER HERE:

[www.go.osu.edu/2025cloverbudengineeringadventure](http://www.go.osu.edu/2025cloverbudengineeringadventure)

Deadline to register:

**April 18, 2025**



### Questions?

Contact Christy Millhouse - [millhouse.10@osu.edu](mailto:millhouse.10@osu.edu)



## Need Interlocking Blocks?

*Ordering kits is not required to participate in the Cloverbud Engineering Adventure.*

**Returning teams** may use kits from previous years.

**New teams** may use their own interlocking blocks and base plates or may purchase a kit at a reduced cost.

### ORDER A KIT

Teams needing a kit may order one at a reduced rate thanks to funding from the Ohio 4-H Foundation!

Reduced Kit Cost: \$170 (maximum of 12 kits available)  
Order Deadline: Checks must be received by April 18 to receive a kit at the discounted rate.

**Make Check Payable To:** OSU Extension, Montgomery County Mail to: Ohio 4-H Cloverbud Engineering Adventure c/o Erin Miller 580 Calumet Lane, Dayton OH 45417

Include: Club Name, County, Team Advisor Name, Contact Phone Number, Email Address



## Project Showcase - Choose Your Location!

### Date: Tuesday, June 3

Time: 6:00 p.m.

Crawford County Fairgrounds

Questions: Crawford County Extension Office – 419-562-8731

### Date: Tuesday, June 3

Time: 6:00 p.m.

Medina County Fairgrounds

Questions: Medina County Extension Office – 330-725-4911

### Date: Thursday, June 12

Time: 6:30 p.m.

Robert Fulton Agriculture Center

Questions: Fulton County Extension Office – 419-337-9210

### Date: Wednesday, June 18

Time: 6:30 p.m.

Where: Washington Co Fairgrounds – Jr Fair Bldg.

Questions: Washington Co Extension Office 740-376-7431

### Date: Friday, June 20

Time: 5:00 p.m.

Hocking County Extension Office

Questions: Hocking County Extension Office – 740-385-3222

### Date: Saturday, June 21

Time: 10:00 a.m.

Steubenville High School

Questions: Jefferson County Extension Office- 740-264-2212

### Date: Wednesday, June 25

Time: 6:00 p.m.

Clinton County Extension Office

Questions: Clinton County Extension Office- 937-382-0901

### Date: Saturday, June 28

Time: 10:00 a.m.

Where: Nationwide & Ohio Farm Bureau 4-H Center 2201 Fred Taylor Dr. Columbus, OH

Questions: [millhouse.10@osu.edu](mailto:millhouse.10@osu.edu)

### Date: Tuesday, July 1

Time: 5:00 p.m.

Perry County Fairgrounds

Questions: Perry County Extension Office – 740-743-1602

# 2025 Ohio 4-H Cloverbud 4-H Engineering Adventure: RESOURCES FOR CLUBS

## Meeting Timeline

### First Meeting

- Explain the Cloverbud Engineering Adventure
- Find out what children know about the topic.
- Facilitate an activity related to the topic
- Distribute a parent handout explaining the Cloverbud Engineering Adventure. Include the dates of your meetings, field trip information, and the date, time, place of the event.

### Second Meeting

- Facilitate an activity related to the topic
- Review the Challenge Problem
- Brainstorm a list of possible projects; select a focus

### Subsequent Meetings

- Field trip/ Videos.
- Construct project model and create a project poster
- Continue activities related to the topic
- Practice presentation and sample interview questions



## Project Showcase – What to Expect

### When You Arrive

- Check In at the Registration Table. Prior to checking in, complete the registration form with list of participants. You will receive this ahead of the event.
- Set up your poster/trifold and project in your club's designated area. Allow your Cloverbuds to set up as much as possible. Practicing in your meeting prior to the showcase will give them confidence.

### During the Showcase

- Your club will be called to your display when it is your turn to present.
- An adult interviewer will listen to your Cloverbuds share about their project and will ask questions. Help your Cloverbuds be prepared by practicing a short presentation and answering questions. Questions will relate to what has been shared and activities done during meetings.
- When your club is not presenting, there will be fun activities available to participate in.



# 2025 Ohio 4-H Cloverbud 4-H Engineering Adventure: RESOURCES FOR CLUBS

## FROM THE BIG BOOK OF 4-H CLOVERBUD ACTIVITIES

### **Making Air Work - page 12**

- "What Am I?" Riddles about Air & Wind
- Balloon Rockets
- Try a Little Lift

## CLOVERBUD READING ADVENTURES DESIGNED TO GO WITH THE 2025 CHALLENGE

- Wood, Wire Wings by Kirsten Larson
- Violet the Pilot by Steve Breen



## VIDEOS

### **How Airplanes Fly! Airplane Science**

<https://www.youtube.com/watch?v=VLpSxHwfU04>

### **My First Time on an Airplane**

<https://www.youtube.com/watch?v=1DvFLiBmdTQ>

### **How Do Hot Air Balloons Work?**

<https://www.youtube.com/watch?v=ABsVP41-EeY>

### **Authors Connect: Wood, Wire, Wings**

<https://www.youtube.com/watch?v=hN0rSBmF4X0>

Watch this short video to learn more about the Cloverbud Engineering Adventure:

<https://youtu.be/xrOrb3N37p0>



## BOOKS TO READ

- Amelia Earhart: A Kids Book About Flying Against All Odds by Mary Nhin
- We're Going on an Airplane! by Rachel Scott
- Hello, World! Planes and Other Flying Machines by Jill McDonald
- Newton and Curie Take Flight by Daniel Kirk
- Wind Flyers by Angela Johnson
- Hot Air: The (Mostly) True Story of the First Hot-Air Balloon Ride by Marjorie Priceman
- Where Do Jet Planes Sleep at Night? by Brianna Capian Sayres



## WEB RESOURCES

### **Johnny's Airport Adventure**

Activities about going on a plane flight.

[https://www.grc.nasa.gov/www/k-12/UEET/StudentSite/images/jaa/B-1055\\_Book\\_2.pdf](https://www.grc.nasa.gov/www/k-12/UEET/StudentSite/images/jaa/B-1055_Book_2.pdf)

### **NASA Aeronotics With You When You Fly**

[https://www.nasa.gov/wp-content/uploads/2015/06/aero\\_with\\_you\\_when\\_you\\_fly.pdf?emrc=0e7148](https://www.nasa.gov/wp-content/uploads/2015/06/aero_with_you_when_you_fly.pdf?emrc=0e7148)

### **AIRBUS Foundation**

Videos and Activities

<https://discovery.space-foundation.airbus.com/en/discover/science-of-flight>

### **Fun Hot Air Balloon Craft Idea**

<https://www.artwithmrsfilmore.com/1st-grade-hot-air-balloons/>

### **Hot Air, Cold Air Science Activity (related to Hot Air Balloons)**

<https://www.learning4kids.net/2015/01/15/hot-air-cold-air-science-activity/>

### **Create and Fly a Kite**

[https://www.museumofflight.org/user\\_area/uploads/TMOFBoeingAcademyatHome\\_GoFlyAKite.pdf](https://www.museumofflight.org/user_area/uploads/TMOFBoeingAcademyatHome_GoFlyAKite.pdf)

## FIELD TRIP IDEAS

### **The Ohio State University Airport**

Columbus, Ohio

<https://osuairport.org/community/visit-airport>

Website features coloring pages, scavenger hunt for the airport, Virtual Flight video

### **WACO Learning Center & Air Museum**

Troy, Ohio

<https://www.wacoairmuseum.org/>

### **National Museum of the U.S. Air Force**

Dayton, Ohio

<https://www.nationalmuseum.af.mil/>

### **Armstrong Air & Space Museum**

Wapakoneta, Ohio

<https://www.armstrongmuseum.org/>

**The 2025 Ohio 4-H Cloverbud Meeting Menu has lesson plans and activities related to flight. Find it at**

<https://u.osu.edu/cloverbudconnections/>