

STEM Projects

2024 Project Completion Guidelines

Skill Level – Listed by Project

General Requirements

- ✿ Member must participate in Project Interviews (County or Club level) for the project to be considered completed for the 4-H year.
- ✿ Member must participate in a Project Interview during the Franklin County Fair, on the appropriate day, to be eligible to be considered for Ohio State Fair Selection.
- ✿ Member must display a representation of their project in their 4-H club fair booth.

Franklin County STEM Projects Completion Requirements

Rockets Away (2-Liter Bottles)- Beginner

1. All 3 Interest Areas.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Build and Launch a 2-liter bottle rocket.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.

Science Fun with Flight - Beginner

1. All 7 Interest Areas.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Build a glider or flyer, or a plastic model airplane or jet.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.



Rockets Away (Solid Fuel)- Beginner

1. All 3 Interest Areas.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Build and Launch a solid-fuel model rocket from a kit.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.

Solid Fuel Rocketry Master

1. All 3 Interest Areas.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Build and Launch a solid-fuel model rocket from a kit.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.

Science Fun with Kitchen Chemistry - Beginner

1. All 11 Interest Areas.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Educational Display on a selected topic from the project.
5. Be prepared to discuss your project experiences.



Magic of Electricity, Level 1 - Beginner

1. At least 7 activities per year (3 main activities and 4 Brain Boosters).
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Completed Planning Guide.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.

Investigating Electricity, Level 2 - Intermediate

1. At least 7 activities per year (3 main activities and 4 Brain Boosters).
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Completed Planning Guide.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.

Science Fun with Electricity - Beginner

1. All Interest Areas, including experiments and journals for each interest area.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Completed Project Summary.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.



Young Engineers in Solar Energy - Intermediate

1. All 9 Activities and all of the Talking It Over questions.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Completed Project Review.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.

Science Fun with Dairy Foods: The Case of the Missing Milk - Beginner

1. All 6 Activities.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Completed Project Review.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.

Not Just Knots – Skill Level: N/A

1. All 17 Activities, including a capstone project, and all of the Talking It Over questions.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Completed Project Review.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.



Science Fun with Physics - Beginner

1. All 12 Experiments.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Completed Project Review.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.

Robotics 1 with EV3 - Intermediate

1. All 12 Activities and all of the Talking It Over questions.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Completed Project Review.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.

Robotics 2: EV3N More – Advanced

1. All 7 Activities and all of the Talking It Over questions.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Completed Project Review.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.



Robotics Master - Advanced

1. One major robotics project.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Completed project records, interviews, budget, and photos.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.

Crank It Up, Level 1 - Beginner

1. At least 7 activities each year in either main activities sections or Race Ahead sections.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Completed Planning Guide.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.

Warm It Up, Level 2 - Intermediate

1. At least 7 activities each year in either main activities sections or Race Ahead sections.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Completed Planning Guide.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.



Tune It Up, Level 3 - Advanced

1. At least 7 activities each year in either main activities sections or Race Ahead sections.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Completed Planning Guide.
5. Educational Display on a selected topic from the project.
6. Be prepared to discuss your project experiences.

Starting Up: Getting to Know Your Tractor, Level A - Beginner

1. Complete all activities.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Educational Display on a selected topic from the project.
5. Be prepared to discuss your project experiences.

Tractor Operations: Gearing Up for Safety, Level B - Intermediate

1. Complete all activities.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Educational Display on a selected topic from the project.
5. Be prepared to discuss your project experiences.

Moving Out: Learning About Your Tractor and Farm Machinery, Level C - Intermediate

1. Complete all activities.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Educational Display on a selected topic from the project.
5. Be prepared to discuss your project experiences.



Learning More: Learning About Agricultural Tractors and Equipment, Level D – Advanced

1. Complete all activities.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Educational Display on a selected topic from the project.
5. Be prepared to discuss your project experiences.

Arcs and Sparks - Intermediate

1. Complete areas, skills, and knowledge questions according to the year in the project.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Build at least 2 weldments/or other items in the book.
5. Educational Display on a selected topic from the project and a one-page report.
6. Be prepared to discuss your project experiences.

ATV Safety – Advanced (No State Fair Event)

1. Complete all 9 areas, skills, and knowledge questions according to the year in the project.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Safety Pledge
5. Educational Display on a selected topic from the project and a one-page report.
6. Be prepared to discuss your project experiences.



Bicycling for Fun – Beginner (No State Fair Event)

1. Complete areas, skills, and knowledge questions according to the year in the project.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Educational Display on a selected topic from the project and a one-page report.
5. Be prepared to discuss your project experiences.

Wheels in Motion – Intermediate (No State Fair Event)

1. Complete areas, skills, and knowledge questions according to the year in the project.
2. At least 2 learning experiences.
3. At least 2 leadership/citizenship activities.
4. Educational Display on a selected topic from the project and a one-page report.
5. Be prepared to discuss your project experiences.

Ohio State Fair Exhibition Day – STEM Day, Engineering Excitement Days

- ✿ Selections for the Ohio State Fair will be made during the Franklin County Fair and will be based on Franklin County Project Completion Requirements.

