



East Hills 4-H Projects for the 2026-2027 4-H Year



Advanced Robotics

Description

For the last two years we have focused on electronics and sensors for robotics, and then added Lego bricks and robotics controllers. This project is designed to allow members to focus on their own advanced robotics projects, using concepts from the previous projects. The Lego Spike Prime sets are available to prototype and build with alongside microcontrollers and wheeled bases. We will still emphasize a cycle of planning, building, and testing. More advanced members are likely to focus on more complex designs, but the fundamentals remain the same. Project leader has 30+ years of experience in Silicon Valley running computer and media research projects, which included robot projects of course!

Location and day/time of meetings

- 2nd Thursdays from 12 - 2 pm
- We'll meet from October to May at Creekside Church in San Leandro

Age Requirement?

Age 9 and up

Any fees for materials?

No fees

Other Details:

- The size of the group will be 2-6 members
- This project is not open to county.

Archery

Description

The Archery project teaches the basics of archery for beginners and more advanced topics for those with experience. We teach shooting safety, communication on the range, shot mechanics, and practicing for better accuracy. We also cover the history and science of archery. Members can also do special projects, like a mail-in Archery competition, doing a presentation on Archery, or preparing an exhibit for the County Fair.

We have bows, arrows, and guards available for members to use, but members are also free to bring their own recurve bows and arrows (no compound bows, please). We meet at the Redwood Bowmen practice range in Redwood Park, south of the Chabot Observatory parking garage. Weather dictates when we can meet, but we shoot for late October to November, and then again in the spring, once it warms up.

Location and day/time of meetings

- Saturdays, 11-1pm, specific dates TBD
- Meets Oct – Nov, Feb, Mar, April, & May
- Meet at Redwood Bowmen Range near Chabot Space & Science Center.

Age Requirement?

Participants need to be 9 years of age by December 31st, 2026 (4-H liability reasons)

Any fees for materials?

The archery range at Bowman asks for a \$5 donation when you use the range, so if everyone could volunteer to take a meeting and make the donation at the little sign/box at the entrance, this is the only fee we are requesting.

Other Details:

- The size of the group will be 2-10 members
- This project will be open to county

Arts and Crafts

Description

This project will explore both "art" and "craft" with a variety of activities. For the art side, we'll be inspired by Matisse and Calder and make mixed media collages and wire sculpture. And for the craft side, we'll take a trip to before the Industrial Revolution and factory made cloth and lace to explore handcrafts that include Kumihimo (Japanese cord making), Nalbinding (Viking "knitting" with one needle), Victorian macrame (knotting craft), Kanzashi (Japanese fabric flowers), thread painting (quilt artistry), needle felting, mini-loom weaving, and if there's time, the Portuguese Arraiolos stitch (a kind of cross stitch for rugmaking). We'll learn about the history of these handcrafts and why they are still practiced today.

Please note that some of the activities require sewing with needle and thread (simple), so members should be comfortable with that.

Location and day/time of meetings

- 1st Thursday of month, 2:30-4pm
- We'll meet from October – May at Creekside Community Church in San Leandro

Age Requirement?

7 and up due to the manual dexterity needed.

Any fees for materials?

While the leader has plenty of yarn and thread; members will need to purchase a form for Kumihimo and Kanzashi (about 10\$ total), and wire supplies (5\$). Donations of appropriate supplies welcome!

Other Details:

- Group size is limited to 2-6 members
- Open to county 4-H clubs if there is room.

Baking

Description

We'll learn basic techniques for things like measuring and mixing, explore some kitchen chemistry, and make lots of tasty food along the way!

Location and day/time of meetings

- 3rd Wednesdays 1-3 pm
- October through May at the project leader's house in Castro Valley

Age Requirement?

All ages welcome

Any fees for materials?

Members may be asked to contribute ingredients, I will send out a list via email at least one week in advance of each meeting.

Other Details:

- Not open to county 4-H clubs

Beginning Nature Journaling

Description

Science meets Art meets Healthy Living. In Nature Journaling, we'll go outside, quietly observe nature, and record our observations by drawing and/or writing in a notebook or journal. Before each meeting, members will be asked to watch a short (~10 minute) video from John Muir Laws that introduces the skill we'll be working on. Then we'll meet at a local park and find someplace to practice that skill. Some light hiking may be involved, but it won't be anything strenuous.

Location and day/time of meetings

- Saturdays, 11 am – 1 pm, specific dates TBD.
- We'll meet in October and November, and then March – May, alternating weeks with the Archery project.
- We'll meet at local parks

Age Requirement?

All ages welcome

Any fees for materials?

Members will bring their own art supplies. They will need a notebook, pencil, and eraser and can bring other art supplies (e.g. colored pencils, ruler) as desired. Some parks may charge for parking.

Creative Math

Description

“Mathematics is a creative subject. It involves spotting patterns, making connections, and finding new ways of looking at things. Creative mathematicians play with ideas, draw pictures, have the courage to experiment and ask good questions.”

This is what we try to do in this project using mathematical games, puzzles and problems. Some of the activities will be pencil and paper, but many will involve hands-on manipulatives like blocks/polyominoes, Cuisenaire Rods, an abacus, Polydrons, Zome tools, pegboards, and even paper mini-computers. Resources for activities and problems include puzzle and logic books, the Exp11 site, myriad Math Circle sites and blogs, and the Nrich (Cambridge) website. Leader will also post resources and links to online math applets and sites for further play at home.

Math is not a competitive subject, and we approach our problems and puzzles with a spirit of cooperation and having fun, and fun is exactly what happens!

Location and day/time of meetings

- 2nd Thursdays, 10 – 11:30 am
- We'll meet from October to May at Creekside church.

Age Requirement?

All ages welcome, but activities will be geared toward 5 – 11 years old.

Any fees for materials?

No fee or supplies needed.

Other Details:

Group size is 2-6 kids.
Open to county.

Hands-On Astronomy

Description

Fun hands-on astronomy activities best suited for ages 5-12. We'll learn about the sun, earth, moon, solar system, and beyond.

Location and day/time of meetings

- First Thursdays, 10 – 11:30 am
- We'll meet from October to May at Creekside Church in San Leandro

Age Requirement?

Best for ages 5-12.

Any fees for materials?

No fees or supplies needed by members

Other Details:

Limited to 4 - 8 kids in the project.

Lego Engineering

Description

Last year's Maker Robotics project focused on using Lego's Prime Robotics kits to build Lego robots and program them. This year, the Lego Engineering project will focus on building simple machines out of Lego and combining them to do interesting things. We will start with bridges and simple wheeled vehicles and move up to using electric motors, gears, arms/booms/levers. There will be plenty of Lego parts to build with, and older members will be able to plan and build more complicated designs. Project leader has too many years of Lego experience and 30+ years of experience in Silicon Valley running computer and media research projects, which included robot projects.

Location and day/time of meetings

- 1st Thursdays from 12:30 – 2 pm
- We meet from October to May at Creekside Church in San Leandro

Age Requirement?

Age 7 and up

Any fees for materials?

No fees

Other Details:

- The size of the group will be 3-6 members
- This project is not open to county.

Environmental Stewardship: Microplastics

Description

This project will focus on attending Coastal Cleanup on September 19th at a local shoreline, where we'll clean up trash as well as collecting smaller plastics and a water sample for later examination. We'll meet at another local shoreline in October to study a square foot of sand/soil for microplastics as well as taking another water sample. Then we'll meet in November for a water testing lab: everyone will bring tap water samples from their homes, as we use filtration and microscopes to analyze our water samples and washing machine lint samples for the presence of microplastics. We'll learn to differentiate plastic from organic material as well as quantifying the amounts of plastic present. Finally, we'll meet in the late winter or spring a few more times to learn more about plastic pollution and to work on a poster for the Alameda County Fair in June about microplastics, as well as any presentations members might want to do for Presentation Day.

Location and day/time of meetings

- Sept. 19th Coastal Cleanup, one Sat. in October, and 2-3 Sats. in Nov., Jan and Feb. (specific dates TBD by group).

Age Requirement?

Age 8 and up

Any fees for materials?

No fees or supplies needed.

Other Details:

- The size of the group will be 2-5 members
- This project is open to county.