COMPUTER SCIENCE PROJECT AREA

Get connected with hardware and software! Explore the digital side of life by building computers or learning how to use or program them for gaming, staying connected, solving problems, and building virtual networks.

Ideas for Project Area Learning

- Develop an interest in and understanding of computers and networking.
- 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 world and people's lives.
- Gain experience in problem-solving and decision-making using science process skills.
- Develop knowledge and skills related to computer hardware and software.
- Learn about computers and the internet, how they work, and how you use them.
- Teach your grandparents how to use a digital device or Internet application you like.
- Learn and practice electronic etiquette.
- Use computer hardware and software tools and skills to build a computer network, simple program, or social network tool.
- Learn about the proper care of your computer and computer accessories.
- Learn about the history of computers.
- Find out how computers are used in various industries.
- Keep a notebook with computing terms to reference.
- Learn the function keys or shortcut keys for a favorite program you use.
- Learn a proper technique for keyboarding.
- Discover the elements of proper email etiquette.
- Create your own database to track a collection.
- Learn about consumer skills when buying a computer.
- Discover the various safety and security issues related to computers.

APPLY WHAT YOU'VE LEARNED

Communication
- Prepare an educational presentation on computer programming.
- Practice using technology with presentations.
- Practice essential skills for having an interview through video chat.

Civic Engagement
- Use a computer and network hardware media and skills to address personal or community issues.
- Offer to manage social media for a local nonprofit.
- Create an app to help people find volunteer opportunities.

Leadership
- Teach younger kids how to be safe when using social media.
- Organize a field trip to a local lab business to learn how computers and technology inform what they do.
- Lead a workshop on a computer program or platform at your local senior center.

Entrepreneurship
- Design websites for businesses.
- Create open source mobile apps.
- Sell digital items through a print-on-demand platform online.

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Goal Setting and Record Keeping

Goal setting is an ongoing process that guides your project area learning. Having goals is like having a road map to show you how to get you to where you want to go. Record keeping is also an ongoing process and another important life skill. In 4-H, you are encouraged to select from a variety of record keeping formats to meet your own personal needs and your preferred learning style. Keeping records of your learning experiences helps you determine how well you met your goals. Goal setting and record keeping improve your skills in organization, communication, planning, and evaluating.

Iowa 4-H Event Opportunities

- Participate in **county and state fair** exhibit classes.
- Check with your local county 4-H youth development staff to see if there are special events or **workshops in your county** that you want to attend to learn more about your project areas.
- Iowa 4-H members in grades 9–12 can apply for **State Project Area Awards** at State Recognition Day. Applications are open December through January.
- Meet young people from around the state who have completed grades 8–12, and share your interests at the **Iowa 4-H Youth Conference** held at Iowa State University in late June.
- Each March, hundreds of student researchers in grades 6–12 meet with professionals to discuss their findings and compete for scholarships during the **State Science and Technology Fair of Iowa**.
- Work with your 4-H club or county council maintaining databases or helping with social media posts.

Share Your Learning With an Exhibit

- Make a poster on the parts of the computer.
- Create a display of social media etiquette and safety.
- Exhibit a simple computer game that you wrote.
- Do an educational presentation on the history of computer languages.
- Build a computer.
- Use a computer program to design a quilt or wall hanging or make a digital model of an item you are creating or engineering.

CAREER CONNECTIONS

- **Information technology support** works to install and configure computer hardware, software, systems, networks, and scanners.
- **Software engineers** work to test software development, provide maintenance, design and develop tests, and more!
- **Web developers** are responsible for designing, coding, and modifying websites.
- **Database administrators** work to modify existing database software and secure data.
- **Computer systems analysts** assess technology systems and recommend changes.

EDUCATION CONNECTIONS

- If you are interested in how to make computers and understanding software and web design, **computer programming** may be for you!
- Students who study **computer science** learn about programming systems, software development, and math related to computers.
- Learn **software engineering** if you're interested in designing, implementing, and testing software systems.
- Students in **management information systems** learn office telecommunications and perform system analysis.