

## Computer (State Fair Entry)

- Enroll in 4-H, pay annual program fee, and enter project in V2.4online by May 15
- Enter exhibit(s) in FairEntry by last business day in June, which is June 30, 2021. See Page 7 Rule #23.
- Exhibits checked-in Saturday, July 24 from 9am-12 noon, judging starts at 12:30 pm

4-H member should complete 2 activities in their Computer Manual.

An Allen County 4-H General Record Sheet must be completed, signed and turned in at the beginning of check-in for All Exhibit Building Projects.

**Level 1: Grades 3, 4, 5**

**Level 2: Grades 6, 7, 8**

**Level 3: Grades 9, 10, 11, 12**

**ALL LEVELS:** The exhibit topics provide ideas/suggestions for exhibits. Other exhibit topics are acceptable as long as they are comparable in knowledge and skill. The exhibit topic each year must be different from the previous year's exhibit. See Allen County General 4-H Rules: Poster Rule & Label Rule. **Note: If you choose to develop a computer program, a poster or notebook report depicting the program will be necessary for display at the fair.**

All posters, notebooks, and display boards include a reference list indicating where information was obtained, giving credit to the original author when using outside sources, to complete the 4-H member's exhibit. This reference list should/might include web site links, people and professionals interviewed, books, magazines, etc. It is recommended this reference list be attached to the back of a poster or display board, be the last page of a notebook, or included as part of the display visible to the public. A judge is not to discredit an exhibit for the manner in which references are listed.

Exhibitors must provide their own computer.

Exhibits are to be skill appropriate for the member's grade level.

Youth enrolled in the computer project will select one of the below subject categories to study, regardless of grade. Youth may choose to create an exhibit demonstrating skills learned during the year. Check with your county Purdue Extension Office to determine if a computer will be available during judging and if there will be an opportunity to explain your exhibit to the judge. Exhibits qualifying for state fair are to be submitted on a thumb drive securely attached to a notebook/portfolio describing accomplishments, skills learned, design ideas, budget, a summary of what was done, etc. as the exhibitor will not be able to discuss their work with a judge. Poster exhibits are not acceptable. Youth may continue in the same subject category in subsequent years expand on the previous year's topic, or choose a new topic. Subject categories are:

- Block Based Programming
- Text Based Programming
- Web Design and Computer Entrepreneurship
- Computer Forensics
- Hardware and Networking Design/Install/Repair

Software must be compatible on both PC and Mac platform. If additional software other than Microsoft Office Suite is required to view the member's work, that software must be provided by the member and comply with all manufacturer copyright laws. Apps can be Android or IOS compatible.

All notebooks/portfolios must include a reference list indicating where information was obtained, giving credit to the original author, to complete the 4-H member's exhibit. This reference list should/might include web site links, people and professionals interviewed, books, magazines, etc. It is recommended this reference list be the last page of a notebook or included as part of the display visible to the public. A judge is not to discredit an exhibit for the manner in which references are listed.

A county may submit a total of three state fair entries, one entry per grade level division.

### **Blocked Based Programming:**

**Beginner Grades 3-5** – Create a block based program using Scratch, Code Studio, Alice, or another graphic programming language of your choice. You should comment your work and it must include at least ten different commands. Skills this program could use are: Sequence, Iteration, Conditionals, Variables, Loops, User input

**Intermediate Grades 6-8** – Create a block based program using Scratch, Code Studio, Alice, or another graphic programming language of your choice. You should comment your work and it must include at least ten different commands. Skills this program could use are: More robust demonstration of beginner skills, Modularization, Lists

**Advanced Grades 9-12** – Create a block based program using Scratch, Code Studio, Alice, or another graphic programming language of your choice. You should comment your work and it must include at least ten different commands. Skills this program could use are: More robust demonstration of Intermediate Skills, Parameters, Recursion

### **Text Based Programming**

**Beginner Grades 3-5** – This option is not available.

**Intermediate Grades 6-8** - Create a text based program of your choosing using any text based language you are comfortable in. The code should demonstrate an understanding of at least 4 of these skills:

- Commenting, Correct syntax, Variables, Loops, Conditionals, User Input,
- Lists, Functions, Algorithms

**Advanced Grades 9-12** - Create a text based program of your choosing using any text based language you are comfortable in. The code should demonstrate an understanding of at least 8 of these skills:

- A more robust understanding of the intermediate skills, Interact with databases, Classes, Objects, Methods, Inheritance, Integrate multiple languages into one program

### **Web Design and Computer Entrepreneurship**

**Beginner Grades 3-5** - Build a businesslike website demonstrating a knowledge of:

- Use a website builder to create your website
- Insert non-stock image into your site
- Use a template to achieve a unified look
- Explain CSS in your documentation, what CSS is and why it's important
- Must have at least two pages and include all items listed above

**Intermediate Grades 6-8** - Build a businesslike website demonstrating a knowledge of:

- Create your own site or use a website builder
- Modify existing HTML
- Use HTML5
- Modify existing CSS
- Have a unified theme throughout

Use a photo editing software to create custom images  
Must have at least five pages and include all items listed above

**Advanced Grades 9-12** - Build a businesslike website demonstrating a knowledge of:

Create a custom site using appropriate industry tools  
Have a responsive website  
Add useful and appropriate plugins  
Test for and eliminate bugs  
Include links for social media  
Include custom audio/video  
Must have at least ten pages and include all items listed above

**Computer Forensics (id theft, online bullying, ethical use of technology, responsible social media use)**

**Beginner Grades 3-5** – Research and create a 3-5 minute presentation on one of the following topics. Present to a group of peers and have an adult leader verify, create a YouTube or MP4 instructional video, or printed slides and notes using PowerPoint or similar presentation software.

Media Balance and Well Being  
Privacy and Security  
Digital Footprint and Identity  
Relationships and Communication  
Cyberbullying, Digital Drama and Hate Speech  
News and Media Literacy

**Intermediate Grades 6-8** – Research and create a 6-8 minute presentation on one of the following topics. Present to a group of peers and have an adult leader verify, create a YouTube or MP4 instructional video, or printed slides and notes using PowerPoint or similar presentation software.

Digital Citizenship, Media Balance and Well Being, Privacy and Security, Digital Footprint and Identity, Relationships and Communication, Cyberbullying, Digital Drama and Hate Speech, News and Media Literacy, Cyber Security, Ethics and Society, Security Principles, Classic Cryptography, Malicious Software, Physical Security, Web Security

**Advanced Grades 9-12** – Research and create a 10-12 minute presentation on one of the following topics. Present to a group of peers and have an adult leader verify, create a YouTube or MP4 instructional video, or printed slides and notes using PowerPoint or similar presentation software.

Digital Citizenship, Media Balance and Well Being, Privacy and Security, Digital Footprint and Identity, Relationships and Communication, Cyberbullying, Digital Drama and Hate Speech, News and Media Literacy, Cyber Security, Ethics and Society, Security Principles, Classic Cryptography, Malicious Software, Physical Security, Web Security

**Hardware and Networking Design/Install/Repair**

**Beginner – Grades 3-5** – Choose 1-2 items from the list and create a report/presentation (including images) of what you did.

Deconstruct and reconstruct a computer  
Learn and report how binary works and how computers use numbers  
Troubleshoot hardware problems  
Explore operating systems  
Investigate open source resources  
Install/upgrade operating systems  
Design a dream machine (give reasons)

**Intermediate – Grades 6-8** – Choose 1-2 items from the list and create a report/presentation (including images) of what you did.

Identify network hardware  
Design a computer network  
Explain Internet Protocol  
Explain different types of servers  
Use different protocols to communicate  
Add peripherals to a network  
Secure a networked computer  
Share applications simultaneously  
Setup a Raspberry Pi or other micro-controller

**Advanced – Grades 9-12** - Choose one or two items from the list and create a report/presentation (including images) of what you did.

Design and implement a computer network  
Secure your network  
Understand technology needs in your community.  
Help to solve these needs by organizing a committee or team to work on identified issues.  
Teach a computer science class to younger 4-Hers.  
Build your dream computer  
Network multiple micro-controllers  
Research careers in technology