



COLORADO STATE UNIVERSITY  
EXTENSION

4 - H



# COMPUTER POWER UNLIMITED SERIES

General/Natural  
Resources Projects



Computer Power Unlimited is a Computer Science Project for 4-H members interested in gaining experience in computer building, repairing, and networking, engaging young people and their project helpers in computer science activities and community service. A website provides links and resources to a variety of extended learning opportunities in topics such as open source software development and learning programming languages. Each guide in the series is designed with a specific purpose, and collectively the series supports youth and their adult helpers in the pursuit of technological competence and meaningful leadership.

## Resources

- MC0205A Disc. Computer Science Through Scratch Level 1
- MC0206A Disc. Computer Science Through Scratch Level 2
- MC0207A Disc. Computer Science Through Scratch Level 3
- LC0206A Disc. Computer Science Facilitator Guide
- Computer Tip Sheet
- Computer Score Sheet
- Computer e-Record
- State Fair Exhibit Requirements

Discovering Computer Science Level 1	Discovering Computer Science Level 2	Discovering Computer Science Level 3	Computers in 21st Century
<p>Discovering Computer Science and Programming Through Scratch Level 1 All age groups: Jr./Int./Sr.</p> <p>Learning Experiences</p> <ul style="list-style-type: none"> <li>• Interact with a series of tutorials and challenges withing the Scratch environment</li> <li>• Introduces youth to the five fundamental principles of computer programming</li> <li>• Beginning programming using Scratch (or other simple graphic programming language).</li> <li>• Exhibit should consists of 8 different commands including looping and getting input from the keyboard and mouse.</li> </ul>	<p>Discovering Computer Science and Programming Through Scratch Level 2 Int./Sr. Only</p> <p>Learning Experiences</p> <ul style="list-style-type: none"> <li>• Delves deeper into generalizations and modularity</li> <li>• Introduces additional features of Scratch such as clones and lists</li> <li>• Exhibit should consist of a program using Scratch (or other simple graphic programming language) that you have downloaded from the internet and modified. Compare the two programs and demonstrate the changes you have made or create an animated storybook or video game.</li> </ul>	<p>Discovering Computer Science and Programming Through Scratch Level 3 Int./Sr. Only</p> <p>Learning Experiences</p> <ul style="list-style-type: none"> <li>• Learning about recursive programming</li> <li>• Using recursion to help solve problems</li> <li>• Learning how to draw intricate fractals through recursive programming</li> <li>• Exhibit should consists of an original program using a higher level programming language such as Phython, Javacsript, C++, etc.</li> </ul>	<p>Computer in the 21st Century</p> <p>Learning Experiences</p> <ul style="list-style-type: none"> <li>• For youth who are 11-18 years old.</li> <li>• Gain knowledge on a variety of topics , for example: application design, operation and development, writing code to perform task and much more.</li> </ul>