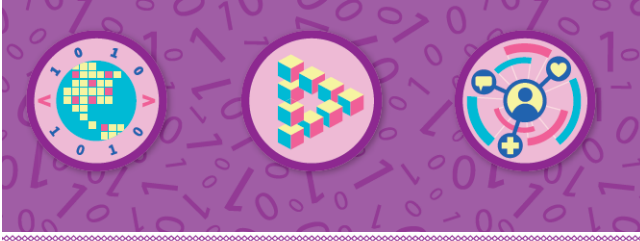


JUNIOR BADGES TO DO AT HOME



Find out how to create computer programs, games, and apps that solve problems and help others by earning these three badges.

Badge 1:
Coding Basics

Badge 2:
Digital Game Design

Badge 3:
App Development



Junior Coding for Good

To earn this badge, please complete all steps.

STEPS	BADGE REQUIREMENTS	Badge 2: Digital Game Design
<p>What makes your favorite video game fun? Have you ever wondered how the creators included all the different challenges and choices? They used algorithms and conditionals to tell the computer what to do. Use what you've learned about coding to create a game that is fun and helps solve a problem!</p>		
Step 1	Discover how game design can be used "for good"	You've learned how computers helped astronauts land on the moon. Did you know that video games can help people, too? Some jobs use video games to teach people new skills. Doctors and nurses use computer programs that show virtual medical situations to improve their skills. Pilots do the same thing using a simulated cockpit of an airplane. Games can teach us new things and even help us see things we may never experience. We can find out about places, people, and situations we might not otherwise know about! Through video games, you can visit the International Space Station , dive to the deepest parts of the ocean, or visit ancient cities. What kind of game could you create to teach someone a new skill?
Step 2	Explore tools used to develop digital games	What do you need to know to make a video game? Computer programmers use the same ideas in every kind of program, including video games. You already know how to write algorithms with sequence and loops. Loops let players practice skills and get better. You also know how conditionals create choices in the program. Game makers also use conditionals to make the game more exciting. Conditionals in games let players experience different things. Think about where there are conditionals and loops in your favorite video game. Then, brainstorm how you can add or adapt them for your own game.
Step 3	Plan a maze game	When you create a video game, you first need to decide what kind of game you want to make. Then, you plan, build, test, and improve it. When you're happy with the game you've created, you share it with others. These steps are parts of the game design process. You can use this process to create a level of a video game or to work on any big project.
Step 4	Build and test your maze game	Making anything new usually involves lots of trial and error. That means that the first version (or second, or third) probably won't work the way you want it to. You have to repeat the design process, practicing perseverance. Perseverance is when you keep working on a project, even though it's difficult. Each time you repeat steps in the design process is an iteration. If you're trying to improve a cookie recipe, every time you make a batch, taste test, and change the recipe is an iteration. Making a great video game also requires iteration and perseverance. As you test your game, you might find a mistake in your code that you need to fix. You might also think of a new feature you can add to make the game more fun. Remember, if at first you don't succeed, try, try again! Example : Coding a Lego Maze

Step 5

Share and improve your maze game

The best part of finishing a big project is sharing it with other people. When you share your game with others, you get to see how it works and how other people enjoy it. They might also give you ideas about how to make your game better. Even after game makers share their game with the public, they might still find mistakes or ways to make the game better. They'll send an update to game users to correct or improve the computer program. Game makers are always learning what works, what their players like, and making improvements.