



Cadette

Digital Game Design



Age-level: Cadette

Pillar: STEM

Badge Description: Lots of things go into making a great video game: the story, the challenges, the characters, the graphics, even the music! Game makers use their coding skills to bring the worlds and characters to life for players. Some game makers even go the extra step and design their games to make a difference in the real world.

1. Create your avatar.

- An avatar is a digital image that represents someone or something and can be manipulated by a computer. Create your avatar using characteristics about you. If your avatar has any special abilities, make sure to include that in your drawing. To practice with pixels, use this [worksheet](#) to draw your avatar.

2. Learn how to use arrays to create images.

- Computers make images with pixels, little squares of color that are the smallest elements of a digital image. To make an image, like your avatar, it takes lots of pixels. In coding, the pixels that make up an image are called an array. Learn and practice with arrays by completing this [worksheet](#).

3. Write an array to create an icon.

- Icons are small images that represent other things. The little trash can on your screen where you put files you want to delete is called an icon. Using post-it notes, to recreate your avatar from step one on a blank wall. This will represent your array for the avatar. It may help to use two different colored sets of post-it notes to show the entirety of the grid, and the contrast of your outline.

4. Develop a game scenario.

- Think of the situations you have to navigate and the problems you need to solve while playing a video game. Think of the situations and problems you encounter in your daily life. These are scenarios, and they set the scene for any good game. Brainstorm some scenarios for your avatar to navigate in your game, then complete the [What's the Scenario Activity](#).

4. Play your game.

- Have a friend or family member create a scenario for your character. In thirty seconds, try to come up with a solution your character would do in your game. Utilize your character's special abilities and character traits. Then switch roles and present a different scenario to your partner, and give them thirty seconds to create a solution to the scenario.

Earned the badge? Purchase it [here](#).