

101+ AMAZING Science Project Ideas: COMPUTER GAMES



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The Gaming Master

Oh no! Mom and Dad have only given you a half-hour to play your video game before you have to go do your homework. You need to maximize your score before your friends do. Learn to use ergonomics to your benefit! Investigate how different body postures and changes to the gaming environment can affect a person's score. By the end of this project, *you* can be *the* Gaming Master.

[Difficulty](#) = 3

Image Compression vs. Image Quality: Finding the Best Tradeoff

In this project you'll learn about how digital image files are encoded, and how digital images can be compressed so that the files take up less storage space and can be transmitted more quickly. You will also measure the quality of compressed and uncompressed images, which will give you important insights into the tradeoffs between file size and image quality.

[Difficulty](#) = 5

Follow the Bouncing Ball: A Web Animation Project

This project is a fun way to try your hand at programming. You'll learn how to create some simple animations, and you'll perform tests and make measurements to help you create more realistic-looking animations. All you need to get started is a Web browser and a text editor (like Notepad).

[Difficulty](#) = 5 – 6

Programming NANORGs in a Virtual World

Imagine yourself as a software engineer, a decade and a half from now. You are called upon to help solve the world energy crisis by programming nano-organisms (NANORGs) to extract energy from industrial sludge. Your program must be small enough to fit in the NANORGs' tiny processors, yet at the same time meet several challenges. First and foremost, your NANORGs need to navigate on their own, extract energy from the sludge, and find collection points to deliver the harvested energy. Second, you must figure out how to deal with the fraction of the sludge that is radioactive. This sludge damages random locations in your NANORGs' processor memory when consumed. Third, your program must also fend off attacks by malicious nano-drones that are also present in the virtual world. The drones consume energy from the sludge, but never deliver it to the collection points. They will attempt to copy their program to your NANORGs, turning them into useless drones. If you're up for a real programming challenge, this is the project

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for you! (This project was adapted from Symantec's 2006 University Programming Contest.)



Difficulty = 8 – 10