

Free Summer Enrichment Ideas for Math, Science, and Technology Grades 9-12

If you would like to practice some of the math skills you've learned so far at Arthur L Johnson High School or get ahead during the summer, here are a few websites you can try. The websites below all have free options, some may have additional features that cost money.

Site: www.khanacademy.org

Type of learning tools: video tutorials, practice printouts

Subjects: Math and science

One of the first and still the largest source for free, online learning video tutorials. You can browse the website's content by grade and subject, quickly finding material to supplement in-class instruction. For example, there are articles you can share or print to review skills before tests. These skills are rooted in algebra, geometry, statistics and other topics. In total, the online academy has more than 20,000 closed-captioned videos and material covering more than 5,000 topics.

Site: <https://code.org/learn>

Type of learning tools: Coding tutorials, Coding Games

Subjects: Computer Science, Computer logic, critical thinking

Code.org® is a nonprofit dedicated to expanding access to computer science in schools and increasing participation by women and underrepresented minorities. Our vision is that every student in every school has the opportunity to learn computer science, just like biology, chemistry or algebra. Code.org provides the leading curriculum for K-12 computer science in the largest school districts in the United States and Code.org also organizes the annual Hour of Code campaign which has engaged 10% of all students in the world.

Site: www.edX.org

Type of learning tools: Video tutorials, interactive problems, quizzes/tests, other varying by course

Subjects: Math, Science, Computer Science, including AP and College coursework

EdX courses consist of weekly learning sequences. Each learning sequence is composed of short videos interspersed with interactive learning exercises, where students can immediately practice the concepts from the videos. The courses often include tutorial videos that are similar to small on-campus discussion groups, an online textbook, and an online discussion forum where students can post and review questions and comments to each other and teaching assistants. Where applicable, online laboratories are incorporated into the course.

Site: www.coursera.org

Type of learning tools: Video tutorials, interactive problems, quizzes/tests, other varying by course

Subjects: Math, Science, Computer Science, including AP and College coursework

Coursera courses last approximately four to ten weeks, with one to two hours of video lectures a week. These courses provide quizzes, weekly exercises, peer-graded assignments, and sometimes a final project or exam. Courses are also provided on-demand, in which case users can take their time in completing the course with all of the material available at once. As of May 2015 Coursera offered 104 on-demand courses.

Site: www.WolframAlpha.com

Type of learning tools: Powerful online calculator, random problem generator, step-by-step solution demonstrations.

Subjects: Math, limited science

Wolfram alpha is a powerful tool for students and professionals alike. Learning to use Wolfram alpha will help students in all of their math and science coursework because of the sites ability to calculate complex equations and problems. The site also includes tutorials on how to use the program efficiently as well as tutorials to show how to solve many types of math problems.

Site: <https://www.ck12.org/student/>

Type of learning tools: Animations, readings, discussion forums, downloadable worksheets

Subjects: Math and science

The CK-12 Foundation is a California-based [non-profit](#) organization whose stated mission is to reduce the cost of, and increase access to, K-12 education in the United States and worldwide.^[2] CK-12 provides free and fully customizable [K-12 open educational resources](#) aligned to state curriculum standards and tailored to meet student and teacher needs. The foundation's tools are used by 38,000 schools in the US, and additional international schools.^[2]