MATH, COLLEGE AND CAREER READINESS, AND NEW HIGH SCHOOL EQUIVALENCY EXAMS

Recent emphasis on College and Career Readiness and changes in high school equivalency exams have transformed the way math is learned and taught. Instead of requiring students to memorize and compute a multitude of mathematical formulas, math education now emphasizes students’ deep understanding of a few mathematical concepts and the ability to flexibly apply these concepts to real-life situations.

The GED mathematical reasoning test focuses on two major content areas: quantitative problem solving and algebraic problem solving. The test will focus more on deeper, more conceptual understanding of mathematics, including procedural skill and fluency and the ability to apply these fundamentals in realistic situations.

In the 20-minute Math Webcast, instructor Connie Rivera from Capital City YouthBuild describes how she uses college and career readiness standards, practices, and instructional shifts to create relevant, engaging lesson plans for her students.

COMMON CORE-ALIGNED MATH ACTIVITIES AND LESSONS

YouthBuild teachers are integrating Common Core State Standards, 2014 GED, TASC, and HiSET math standards into their lessons and classroom activities and finding that these new standards promote more powerful and relevant learning experiences for their students. Below are lesson plans and activities developed by YouthBuild USA Teacher Fellows that you can use to facilitate deeper learning in your classrooms.

Understanding Order of Operations, Connie Rivera, Capital City YouthBuild
In this multi-week math unit, students will connect their prior real-world knowledge to the concept of order of operations in mathematics.
24, A Mental Math Game, Roeann Nelson, YouthBuild Columbus
This math game allows students to practice and increase their fluency with and automaticity of basic math skills. Students practice multiplication, division, addition, and subtraction in a fun and engaging way that encourages friendly competition and improved math skills.

Challenging Students to Understand the Pythagorean Relationship, Richard Singer, St. Louis YouthBuild
In this lesson, students will be able to determine the length of the hypotenuse of a right triangle if given the lengths of the two legs by implementing the Pythagorean Theorem.

Math Madness, Rashamella Walcott, Paterson Great Falls YouthBuild
In this group activity, students will learn key mathematical concepts through several games while promoting peer-to-peer collaboration and communication. Games and activities relate to doing decimals, geometry, definitions/memory, and operations.

Improving Attendance though Math, Aaron Scholl, YouthBuild Charter School of California
This is an interactive activity that encourages students to monitor their attendance goals using percentages. Watch the instructor implement this activity in a YouthBuild classroom.
YOUTHBUILD EDUCATORS' FAVORITE MATH RESOURCES

These websites offer a wealth of free lesson plans, classroom ideas, and games to develop students’ math reasoning skills.

**AAA Math** offers thousands of interactive arithmetic lessons for grades K-8 that are relevant for many YouthBuild students. The website has both learning and review exercises and covers a wide variety of math subjects.

**Achieve the Core** is a robust site with tools and resources for immediate use in the classroom and featuresexamples of Common Core-aligned lessons.

**Building Literacy and Numeracy in YouthBuild** outlines the stages of students’ reading and math development and offers instructional strategies to support students at each of these developmental stages.

**Brain Pop Games** contains animated, fun, and challenging games to strengthen students’ math skills.

**Dan Meyer’s Three-Act Math Tasks** is a list of links to engaging hands-on math lessons, videos and essential questions.

**Connierivera.Weebly.com** is a website developed by 2013-14 YouthBuild Teacher Fellow Connie Rivera. The site contains a wealth of ideas for activities and games to improve students’ math skills.

**EngageNY** is the official New York State Education Department’s website for college and career readiness instruction. Here you can find examples of math lesson plans and free professional development resources.

**Hess' Cognitive Rigor Matrix & Curricular Examples** offers a rubric that allows teachers to apply Webb's Depth of Knowledge Levels to Bloom's Cognitive Process Dimensions.

**Illustrative Mathematics**, developed by an author of the Common Core State Standards for Mathematics, offers numerous strategies and resources to support math educators as they implement state standards.
Inside Mathematics is a website specially designed for math teachers. Although it is geared toward K-12 educators, YouthBuild teachers can find quality videos and other professional resources to support their math instruction.

LearnZillion provides a wealth of math lesson plans that align to college and career readiness standards.

Mathalicious offers a rich library of standards-based math activities addressing real-world topics that students care about. Topics include sports and music trends, exercise and nutrition habits, video games, TV shows, and much more.

The Math Forum contains free curricula, worksheets, and classroom activity ideas. The forum also provides links to professional development opportunities to help instructors improve their instructional approaches.

PBS TeacherLine offers high quality STEM and math courses aligned to college and career readiness standards.

PBS Learning Media specializes in using media to help educators develop tools and resources for conceptual math instruction. Browse topics by grade level and/or subject.

Teaching Channel contains information for educators and real classroom videos of college and career readiness-aligned instruction.

TERC Adult Numeracy Center provides links to curriculum to help Adult Basic Education instructors improve students’ math abilities. TERC also offers links to professional development workshops so that GED instructors can improve their math instruction.

Radical Math is a free resource that offers ideas for ways to integrate social justice concepts into a math curriculum. A powerful tool for YouthBuild educators!

STEMfinity contains project-based resources for grades K-16 and professional development for educators and administrators looking to implement strong STEM instruction into their classrooms.

We are Teachers contains applications, organized by grade level and subject matter, to aid teaching math in the classroom and beyond. The site features blogs, articles, and other resources.

Working Hands, Working Minds - Construction-Related Math and Measurement is a construction training curriculum developed by YouthBuild USA which includes activities, community research projects, workplace exploration, group projects, role-plays, and games.