

Technology in Action

Guide

Secondary Mathematics

Practice Standards Connections

MP1—Make sense of problems and persevere in solving them.

MP2—Reason abstractly and quantitatively

MP3—Construct viable arguments and critique the reasoning of others

MP4—Model with mathematics

MP5—Use appropriate tools strategically

MP6—Attend to precision

MP7—Look for and make use of structure

MP8—Look for an express regularity in repeated reasoning

Social Emotional Learning Standards Connections— SEL Goal 2– Use social-awareness and interpersonal skills to establish and maintain positive relationships—directly connects to MP3. Many of these resources can be used in a group or partner situation to build on both MP3 and SEL 2.

Online Activities



Illustrations (from NCTM) website has a large collection of interactive activities/games for all grade levels and all standards. Educators can search by standard or grade level. Many of the activities can be used on an interactive whiteboard (smart-board or Promethean). No login is required to use the activities. There are also lesson plans available on the website to work in conjunction with the interactive platform. <http://bit.ly/2woYEqr>



Zombie Math (From Northern Illinois University) is making math horrifically interesting and it isn't hard at all...with ZOMBIES! Prepare for the zombie apocalypse and the ACT exam by playing the ACT prep math game and watching the zombie videos to help liven up math skills. (Also a version of the game for 8th grade PARCC!) There are also lesson plans for educators to help breathe a little life into the math curriculum. <http://www.smartspace.niu.edu/zombiemath/>



Wolfram|Alpha is a free online computational knowledge engine that generates answers to questions in real time by doing computations on its own vast internal knowledge base. Our long-term goal is to make all systematic knowledge immediately computable and accessible to everyone. The website can guide you step by step through the process of solving many mathematical problems, from solving a simple quadratic equation to taking the integral of a complex function. When trying to find the roots of $3x^2 + x - 7 = 4x$, the website can break down the steps for you if you click the "Show steps" button in the Result pod. This is also a Chrome Extension that will work with ChromeBooks. <http://www.wolframalpha.com/>



Get the Math (Thirteen.org) is about algebra in the real world. See how professionals use math in music, fashion, video games, restaurants, basketball, and special effects. Then take on interactive challenges related to those careers. There are 9 challenges on the platform, each have a teacher resource with standards aligned lesson plans. There are great student centered- real world - applications used to bring understanding of the use of algebraic concepts. <http://www.thirteen.org/get-the-math/>



Pixar in a box is designed to help students answer an age old question: Why do I need to learn this stuff? Their answer to this question is a series of interactive lessons, each of which demonstrate how a concept introduced in school is used for creative benefit at Pixar. Within the platform educators can choose the grade level mathematics of the lesson...some lessons have multiple options. EX- Lesson on geometric transformations could be grades 7-8 or High school rotation. <https://www.khanacademy.org/partner-content/pixar>



Math Playground-This is the page for Interactive Tape Diagrams. There is a "tool" part of the way down the web page - THINK BLOCK TOOL. (There is NEW version that will play on a Chromebook.) One of the best parts of this website is actually further down the page. There are video steps -Six different examples for each of the concepts - Addition/Subtraction, Multiplication/Division, Fractions, Decimals/Percent and Ratios. Students can watch the videos on one open browser while having the tool open in another until they get comfortable with the use of the tool. <https://www.mathplayground.com/thinkingblocks.html>

Mathematical Videos



Mathematics in Movies - This is a collection of movie clips in which Mathematics appears. The site is now in HTML5 video and should be accessible by all devices. If not, chose the direct video links. To include a clip into a presentation, chose the quicktime version. A wide variety of genres and decades, some that students won't recognize but will certainly enjoy the connection. <http://www.math.harvard.edu/~knill/mathmovies/>



WatchKnowLearn is a video platform that has educational videos curated not only by the website developers, but users can also upload videos. The subcategory MATHEMATICS splits into every math content available, from math for young learners to calculus. Educators can create accounts and save videos to a playlist so they are ready when needed in the classroom. Most all are hosted on YouTube and educators are encouraged to review first. <http://bit.ly/2wp01W6>



Safe Share TV is a platform to watch YouTube without any additional videos or advertisements appearing on the screen. By copying and pasting the YouTube link into the box on the home page, the website will generate a new LINK to the video. This link will never expire and now will direct to a video display that removes all the unwanted items. Educators can now place this link in a PowerPoint or an assignment in GAFE (Google Apps For Education) that the students can select and they will not be shown "other" items. <http://safeshare.tv/>

