

Online Resources Reference Guide for Mathematics Support

The following list of free online resources provides additional mathematics assessments, instruction, grading advice, homework samples, and mathematics coaching insight. Visit go.SolutionTree.com/MathematicsatWork for the most recent updates.

Resources	Assessments	Instruction	Grading	Homework	Leading by Coaching
Institute for Mathematics and Education’s Illustrative Mathematics Project (http://illustrativemathematics.org): The main goal for this project is to provide guidance to states, assessment consortia, testing companies, and curriculum developers by illustrating the range and types of mathematical work that students will experience in implementing the Common Core State Standards for mathematics.	✓	✓	✓	✓	✓
National Council of Teachers of Mathematics’ Activities With Rigor and Coherence (www.nctm.org/ARCs): Each activity with rigor and coherence (ARC) is a series of lessons that addresses a mathematical topic and demonstrates the vision of Principles to Actions: Ensuring Mathematical Success for All. ARCs scaffold effective teaching and support enactment of the eight mathematics teaching practices. ARCs integrate a wide array of NCTM resources to optimize opportunities for learning, including Illuminations (https://illuminations.nctm.org) and Student Explorations in Mathematics (www.nctm.org/sem).	✓	✓	✓	✓	✓
Howard County Curriculum shares its open-source curriculum with exemplar mathematics tasks and assessment items. It features sites for: <ul style="list-style-type: none"> • Kindergarten (https://hcpss.instructure.com/courses/124) • Grade 1 (https://hcpss.instructure.com/courses/9414) • Grade 2 (https://hcpss.instructure.com/courses/106) • Grade 3 (https://hcpss.instructure.com/courses/97) • Grade 4 (https://hcpss.instructure.com/courses/107) • Grade 5 (https://hcpss.instructure.com/courses/108) • Grade 6 (https://hcpss.instructure.com/courses/125) • Grade 7 (https://hcpss.instructure.com/courses/127) • Grade 8 (https://hcpss.instructure.com/courses/161) • Algebra 1 (https://hcpss.instructure.com/courses/99) • Geometry (https://hcpss.instructure.com/courses/162) • Algebra 2 (https://hcpss.instructure.com/courses/163) 	✓	✓	✓	✓	✓
Mathematics Assessment Project (http://map.mathshell.org/materials/index.php): The project set out to design and develop well-engineered tools for formative and summative assessment that expose students’ mathematical knowledge and reasoning, helping teachers guide them towards improvement and monitor progress.	✓	✓			✓
Open Middle (www.openmiddle.com): Open Middle problems require a higher depth of knowledge than most problems that assess procedural and conceptual understanding. They support the Common Core State Standards and provide students with opportunities for discussing their thinking.	✓	✓		✓	✓

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National Council of Supervisors of Mathematics’ (NCSM) Illustrating the Standards for Mathematical Practice: Module Index (www.mathedleadership.org/ccss/itp/index.html): This site offers a collection of exemplar tasks for illustrating the mathematical practice.	✓				✓
NCSM’s Coaching Corner (www.mathedleadership.org/coaching): Coaching Corner offers a collection of coaching tools in the form of books, articles, and other resources.					✓
Engage NY curriculum (www.engageny.org): Curriculum modules include mid-module and end-of-module assessments and tasks.	✓	✓			✓
Partnership for Assessment of Readiness for College and Careers’ Mathematics Practice Tests (https://parcc.pearson.com/practice-tests/math): PARCC offers sample web-based mathematics practice assessment tasks.	✓		✓	✓	
Smarter Balanced Assessment Consortium’s Sample Items (http://sampleitems.smarterbalanced.org/BrowseItems): Smarter Balanced offers sample higher-level-cognitive-demand tasks and student performance tasks.	✓		✓	✓	
Mathematics Vision Project (www.mathematicsvisionproject.org): This project features mathematics curriculum modules that include performance tasks.	✓				
Dan Meyer’s “Category: 3acts” (http://blog.mrmeyer.com/category/3acts): On his blog dy/dan, former high school mathematics teacher and chief academic officer of Desmos Dan Meyers offers mathematical tasks in context following a three-act format.		✓			
Robert Kaplinsky’s Lessons (https://robertkaplinsky.com/lessons): This webpage offers problem-based lessons and sample questions to use in class.		✓			
Texas Instruments activities (https://education.ti.com/en/resources/math): Texas Instruments presents free, ready-to-use, standards-aligned classroom activities for middle grades through high school. Activities include student worksheets and teacher notes to support both content and process standards using graphing technology.		✓			
Estimation 180’s Lessons (www.estimated180.com/lessons.html): This page offers sample lessons to build number sense and K–5 problem-solving skills.		✓			
Desmos Classroom Activities (https://teacher.desmos.com): Desmos offers a collection of free mathematics activities and lessons.		✓			
Desmos calculator (www.desmos.com/calculator): Desmos offers a free, online graphing calculator for students to use.	✓	✓			✓
K–5 Math Teaching Resources (www.k-5mathteachingresources.com): K–5 Math features classroom activities and tasks to use in lessons.	✓	✓		✓	
GeoGebra (www.geogebra.org): GeoGebra is a tool for constructing and making sense of shapes and geometry concepts.	✓	✓		✓	✓
Formative (www.goformative.com): Formative offers teachers a tool to use as a formative assessment or check for understanding.	✓	✓	✓		

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All Things PLC (www.allthingsplc.info): This site offers a collaborative, objective resource for educators and administrators who are committed to enhancing student achievement.					✓
National School Reform Faculty (2014) NSRF Protocols and Activities ... From A to Z (http://bit.ly/1s2LLqK): NSRF offers protocols for teams to use as they engage in the work of collaborative teams.					✓
The Mathematics Improvement Network (http://mathnic.org): The site presents tools for schools and school districts to become more effective in organizing for improvement, supporting teaching and learning, and communicating with parents and the community.					✓
ACT's (n.d.) Practice Test Questions: Math—Test Tips (http://bit.ly/2xNBPcW): ACT offers examples of assessment items it uses.	✓			✓	
CollegeBoard's (n.d.a) SAT Practice Tests (http://bit.ly/1lrm1Ob): CollegeBoard offers examples of the assessment items SAT uses.	✓			✓	
CollegeBoard's (n.d.b) AP Calculus AB: Exam Practice (http://bit.ly/1BYYYnT): CollegeBoard presents a resource teachers and students can use to prepare for the advanced placement exam.	✓	✓		✓	
CollegeBoard's (n.d.c) AP Statistics: Exam Practice (http://bit.ly/1TC986B): CollegeBoard presents a resource teachers and students can use to prepare for the advanced placement exam.	✓	✓		✓	
K–8 Coherence Map (https://achievethecore.org/coherence-map): Standards relate to one another, both within and across grades. Coherence Map illustrates the coherent structure of the Common Core State Standards for Mathematics grades K–8 and for each grade level.	✓	✓	✓		✓

References

ACT. (n.d.). *Practice test questions: Math—Test tips*. Accessed at www.act.org/content/act/en/products-and-services/the-act/test-preparation/math-practice-test-questions.html?page=0&chapter=1 on January 29, 2018.

CollegeBoard. (n.d.a). *SAT practice tests*. Accessed at <https://collegereadiness.collegeboard.org/sat/practice/full-length-practice-tests> on January 29, 2018.

CollegeBoard. (n.d.b). *AP calculus AB: Exam practice*. Accessed at <https://apstudent.collegeboard.org/apcourse/ap-calculus-ab/exam-practice> on January 29, 2018.

CollegeBoard. (n.d.c). *AP statistics: Exam practice*. Accessed at <https://apstudent.collegeboard.org/apcourse/ap-statistics/exam-practice> on January 29, 2018.

National School Reform Faculty. (2014). *NSRF protocols and activities ... from A to Z*. Accessed at www.nsrffharmony.org/free-resources/protocols/a-z on January 29, 2018.