



# DynaMath® Meets TEKS

DynaMath is not just an engaging source of captivating nonfiction and motivating activities that feature real-world math, it also supports the Texas Essential Knowledge and Skills for grades 3 through 5. Subscriptions come with a Teacher’s Guide, which includes lesson plans for each feature article, a chart describing how each article correlates with the standards, additional reproducible activities, and an answer key. Also included are digital editions of each issue for use with whiteboards, LCD projectors, classroom computers, iPads®, and other computer tablets.

<b>MATHEMATICAL PROCESS STANDARDS (3.1, 4.1, 5.1)</b>	<b>DYNAMATH’S APPROACH</b>
<p>(A) apply mathematics to problems arising in everyday life, society, and the workplace;</p>	<ul style="list-style-type: none"> <li>• Every article and activity explores how curricular math applies to real-world situations, and provides practice in using relevant skills. The Engagement section of each lesson plan suggests questions the teacher can pose to get students considering how the editorial content connects with their daily lives. Feature articles and related videos provide real-world context for enhanced learning opportunities for the classroom and at home.</li> </ul>
<p>(B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;</p>	<ul style="list-style-type: none"> <li>• Probing questions in problem sets and skills sheets encourage students to develop strategies to solve real-world problems. Related lesson plans include question and discussion prompts that can be asked by the teacher to encourage students to justify, evaluate, think, and debate.</li> </ul>
<p>(C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;</p>	<ul style="list-style-type: none"> <li>• Example problems show multiple ways that models and other tools can be used to solve an article’s math problems. The Homework Helper tool in the digital edition of the magazine suggests strategies and techniques that can be used in a given situation. Materials lists in the lesson plans suggest what manipulatives and materials the teacher may want to use in the lesson or provide to students for the activity.</li> </ul>
<p>(D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;</p>	<ul style="list-style-type: none"> <li>• Problem sets and skills sheets require students to express word problems as expressions and equations, and/or to create graphs, deciding on appropriate scale, titles, etc., in order to best communicate the information in a data set. The lesson plans provide teachers with questions that prompt students to explain their thinking verbally while drawing upon multiple representations of information.</li> </ul>

<b>MATHEMATICAL PROCESS STANDARDS (3.1, 4.1, 5.1)</b>	<b><i>DYNAMATH'S APPROACH</i></b>
(E) create and use representations to organize, record, and communicate mathematical ideas;	<ul style="list-style-type: none"> <li>• Problem sets and skills sheets require students to use appropriate words, numbers, and mathematical symbols to solve problems and organize data in new ways.</li> </ul>
(F) analyze mathematical relationships to connect and communicate mathematical ideas; and	<ul style="list-style-type: none"> <li>• Critical-thinking questions in the magazines and online have students discuss the merits of different problem-solving strategies, and work their way towards mastering standard algorithms. The Concept Development sections of lesson plans offer scaffolding opportunities to help students call on prior knowledge needed to succeed at the magazine activity.</li> </ul>
(G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.	<ul style="list-style-type: none"> <li>• Critical-thinking questions in the magazine and online provide students with opportunities to solve a given problem, explain reasoning, and adjust problem-solving approaches based on feedback. The Applications sections of lesson plans encourage students to justify their reasoning and compare with the reasoning of others in order to determine which methods provide the most effective and efficient means of calculation.</li> </ul>

**ESSENTIAL KNOWLEDGE AND SKILLS**

<b>KNOWLEDGE AND SKILLS (Focal Area and Codes)</b>	<b>WHAT THE STANDARD SAYS</b>	<b>WHAT <i>DYNAMATH</i> OFFERS</b>
<b>Numbers and Operations</b> Place Value (3.2, 4.2, 5.2)	Students represent and understand relationships related to place value.	<ul style="list-style-type: none"> <li>• Problem sets that accompany feature articles model place value comparisons and challenge students to compare whole numbers, order whole numbers and decimals, and compare and order positive rational numbers.</li> <li>• Feature articles and related videos provide real-world contexts for understanding place value in an engaging way for students.</li> <li>• Downloadable skills sheets reinforce knowledge of place value by using what they know about multiplicative reasoning, e.g., “10 times as much.”</li> <li>• DynaDash skills sheets provide leveled practice opportunities for 3rd, 4th, and 5th grade. Students complete as many place value problems as they can in one minute.</li> </ul>

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<b>Numbers and Operations</b> Fraction Conceptualization (3.3, 4.3)	Students represent and conceptualize fractions.	<ul style="list-style-type: none"> <li>• Lesson plans in the Teacher’s Guide provide classroom examples to help you explain fractional units so students can generate fractions and solve problems. Students will explore fractional parts in various real-world contexts and in part-to-part and part-to-whole relationships.</li> <li>• Online instructional videos model how to compare and order fractions with like and unlike denominators.</li> <li>• Online games challenge students to order fractions according to their value, by drawing fractions on a number line and by analyzing and generating visual representations of fractions.</li> <li>• The issue archive provides engaging expository articles showing how fractions are used in the real world in numerous contexts.</li> </ul>
<b>Numbers and Operations</b> Computation (3.4, 4.4, 5.3)	Students use strategies and methods in order to solve problems with efficiency and accuracy.	<ul style="list-style-type: none"> <li>• Articles and accompanying problem sets provide real-world examples of whole number computations, rational number computations, as well as decimal sums and differences. They both model effective strategies for problem solving and prompt students to use their own.</li> <li>• Videos related to feature articles provide real-world examples of dynamic mathematical problem solving, stimulating student interest in the classroom and at home.</li> <li>• DynaDash skills sheets provide leveled practice opportunities for 3rd, 4th, and 5th grade. Students complete as many computation problems as they can in a minute.</li> </ul>
<b>Algebraic Reasoning</b> Expressions and Equations (3.5, 4.5, 5.4)	Students develop concepts of expressions and equations.	<ul style="list-style-type: none"> <li>• Online Homework Helpers explain the concepts of expressions and equations, including analyzing and modeling patterns and relationships.</li> <li>• Skills sheets push rigor and challenge students to create and solve expressions and equations with numbers and variables.</li> <li>• Online instructional videos model how to solve math word problems with equations and expressions, relating these concepts to situations in the real world.</li> <li>• News articles in every issue reinforce this concept and ask students to solve expressions and equations based on the math mentioned in the story.</li> </ul>

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<p><b>Geometry and Measurement</b></p> <p>Attributes of Geometric Figures (3.6, 4.6, 5.5)</p>	<p>Students analyze attributes of geometric figures to develop generalizations about their properties.</p>	<ul style="list-style-type: none"> <li>• Online Homework Helpers model how to define two- and three-dimensional figures based on their attributes, so students can identify, analyze, and classify figures in a hierarchy of sets and subsets using graphic organizers.</li> <li>• Related online games provide fun ways to assess students' knowledge of regular and irregular polygons, asking them to classify lines, angles, and shapes based on real-world photos of architecture and historic structures.</li> <li>• Lesson plans in the Teacher's Guide provide classroom examples you can use to represent geometric concepts and encourage students to recognize geometry in the world around them.</li> </ul>
<p><b>Geometry and Measurement</b></p> <p>Customary and Metric Measurement (3.7, 4.8, 5.7)</p>	<p>Students select appropriate units, strategies, and tools to solve problems involving customary and metric measurement.</p>	<ul style="list-style-type: none"> <li>• Related feature articles and online Homework Helpers explain how and why units of measurement are used to describe mathematical amounts. They then model how to easily convert between units within measurement systems.</li> <li>• Downloadable skills sheets help strengthen conceptual understanding of customary and metric measurement, having students convert quantities into different units using conversion tables.</li> <li>• Problem of the Day skills sheet in the Teacher's Guide include questions that test students' knowledge of the customary and metric system of measurement and how to convert between larger and smaller units.</li> <li>• Feature articles explain the real-world applications of measurement units, and accompanying problem sets involve choosing appropriate units, computations with units, identifying appropriate tools for measuring units, and converting between units of measure.</li> </ul>

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<p><b>Geometry and Measurement</b></p> <p>Angles, Volume, and the Coordinate Plane (3.7, 4.8, 5.7)</p>	<p>Students solve problems involving angles less than or equal to 180 degrees, recognize and quantify volume, and identify locations on a coordinate plane.</p>	<ul style="list-style-type: none"> <li>• Downloadable skills sheets provide opportunities for students to solve rigorous problems involving angles less than or equal to 180 degrees.</li> <li>• Problem sets that accompany feature articles challenge students to understand, recognize, and quantify volume. Students are prompted to demonstrate conceptual knowledge in a variety of forms—in words, equations, and model drawings.</li> <li>• Online Homework Helpers explain geometry and measurement concepts, including identifying locations on a coordinate plane.</li> <li>• Videos provide real-world context for enhanced learning opportunities in the classroom and at home.</li> </ul>
<p><b>Data Analysis</b></p> <p>(3.8, 4.9, 5.9)</p>	<p>Students solve problems by collecting, organizing, displaying, and interpreting data.</p>	<ul style="list-style-type: none"> <li>• Problems within feature article and skills sheets challenge students to create their own bar graphs, line graphs, and pictographs from real-world data displayed in charts.</li> <li>• Feature articles use information and data to tell stories about math, science, and social studies, providing real-world context.</li> <li>• Lesson plans and Problem of the Day questions in the Teacher’s Guide provide classroom examples to help explain concepts of data analysis and encourage students to solve problems.</li> <li>• Short news articles in every issue allow students to interpret data based on the information mentioned in the story.</li> </ul>
<p><b>Personal Financial Literacy</b></p> <p>(3.9, 4.10, 5.10)</p>	<p>Students apply mathematical process standards to manage their financial resources effectively for lifetime financial security.</p>	<ul style="list-style-type: none"> <li>• Problem of the Day skills sheets include questions testing knowledge of financial literacy, problem-solving ability, and reasoning skills.</li> <li>• Problem sets and downloadable skills sheets help students analyze money mistakes and correct errors. Students also practice budgeting using tables, charts, and other mathematical modeling tools.</li> <li>• Online instructional videos explain how to add and subtract decimal money values, using situations a student might encounter in the real world.</li> </ul>

To order *DynaMath*, for additional editorial information, or to receive product samples:

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