

Common Core Math—A Work in Process: Improving a Play Dough Process

Engineering is Elementary units are designed primarily to teach engineering skills and habits of mind. In doing so, all units also reinforce and link to other content areas. The math practices and standards addressed by this unit are listed below.

Math Practices Embedded Throughout the Unit:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.

Grade	Lesson #	Common Core Math Cluster or Practice	Common Core Math Standard
1	2, 4	Operations and Algebraic Thinking 1.OA: <ul style="list-style-type: none"> • Represent and solve problems involving addition and subtraction. • Add and subtract within 20. Numbers and Operations in Base Ten 1.NBT: <ul style="list-style-type: none"> • Extend the counting sequence. Measurement and Data 1.MD: <ul style="list-style-type: none"> • Represent and interpret data. • Tell and write time. 	1.OA1: Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions. 1.OA2: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA6: Add and subtract within 20, demonstrating fluency of addition and subtraction within 10. 1.NBT1: Count to 120, starting at any number less than 120. 1.MD3: Tell and write time in hours and half-hours using analog and digital clocks. 1.MD4: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

Common Core Math—A Work in Process: Improving a Play Dough Process

Grade	Lesson #	Common Core Math Cluster or Practice	Common Core Math Standard
2	2, 4	<p>Operations and Algebraic Thinking 2.OA:</p> <ul style="list-style-type: none"> • Represent and solve problems involving addition and subtraction. • Add and subtract within 20. <p>Measurement and Data 2.MD:</p> <ul style="list-style-type: none"> • Represent and interpret data. • Work with time and money. 	<p>2.OA1: Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.</p> <p>2.OA2: Fluently add and subtract within 20 using mental strategies.</p> <p>2.MD.7: Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.</p> <p>2.MD.10: Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.</p>
3	2, 3, 4	<p>Measurement and Data 3.MD:</p> <ul style="list-style-type: none"> • Solve problems involving measurement and estimation. • Represent and interpret data. 	<p>3.MD2: Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).¹ Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.</p> <p>3.MD3: Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “How many less” programs using information presented in scaled bar graphs.</p>