SONIC THE HEDGEHOG
ADVENTURES IN MATH

Common Core State Standards for Mathematics*

ACTIVITY 1: *THAT'S FAST!*
CCSS.MATH.PRACTICE.MP1 Make sense of problems and persevere in solving them.

GRADE 3

Operations & Algebraic Thinking: CCSS.MATH.CONTENT.3.OA.C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
Number & Operations in Base Ten: CCSS.MATH.CONTENT.3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
Number & Operations in Base Ten: CCSS.MATH.CONTENT.3.NBT.A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.
Measurement & Data: CCSS.MATH.CONTENT.3.MD.B.3 Represent and interpret data. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories.

GRADE 4

Number & Operations in Base Ten: CCSS.MATH.CONTENT.4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.
Number & Operations in Base Ten: CCSS.MATH.CONTENT.4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
Number & Operations in Base Ten: CCSS.MATH.CONTENT.4.NBT.B.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Measurement & Data: CCSS.MATH.CONTENT.4.MD.A.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

GRADE 5

Number & Operations in Base Ten: CCSS.MATH.CONTENT.5.NBT.B.5 Fluently multiply multi-digit whole numbers using the standard algorithm.

Number & Operations in Base Ten: CCSS.MATH.CONTENT.5.NBT.B.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

ACTIVITY 2: *DOES IT ADD UP?*

MATHEMATICAL PRACTICE: CCSS.MATH.PRACTICE.MP1 Make sense of problems and persevere in solving them.

GRADE 3

Operations & Algebraic Thinking: CCSS.MATH.CONTENT.3.OA.C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Number & Operations in Base Ten: CCSS.MATH.CONTENT.3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

Number & Operations in Base Ten: CCSS.MATH.CONTENT.3.NBT.A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.

GRADE 4

Number & Operations in Base Ten: CCSS.MATH.CONTENT.4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Number & Operations in Base Ten: CCSS.MATH.CONTENT.4.NBT.B.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Measurement & Data: CCSS.MATH.CONTENT.4.MD.A.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.

Measurement & Data: CCSS.MATH.CONTENT.4.MD.A.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

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Measurement & Data: CCSS.MATH.CONTENT.5.MD.A.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

ACTIVITY 3: *SOLVE IT!*

MATHEMATICAL PRACTICE: CCSS.MATH.PRACTICE.MP1 Make sense of problems and persevere in solving them.

GRADE 3

Number & Operations in Base Ten: CCSS.MATH.CONTENT.3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

GRADE 4

Number & Operations in Base Ten: CCSS.MATH.CONTENT.4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.

Number & Operations in Base Ten: CCSS.MATH.CONTENT.4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

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