## **Unit 4: Multi-Digit Multiplication**

Content Area: Mathematics
Course(s): Mathematics 4
Time Period: December
Length: Dec 14 - Jan 15
Status: Published

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Enduring Understandings
Computational fluency requires efficient, accurate, and flexible methods for computing.
Success in all future math learning is contingent upon acquisition of multiplication.
Essential Questions
What does it mean to be computationally fluent?
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Why is it important to use a strategic approach for acquisition of the basic multiplication facts?
Content
Vocabulary
Array
Multiplication
Commutative property
Associative property
Estimate
Grid
Multiple
Partial products
Table
Units

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http://www.mathplayground.com/common core state standards for ma	nameman	tor mathemat	is grade '	4.numi
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Tenmarks.com

k5learning.com

http://nextgen.apps.sparcc.org/math/3-5

 $\underline{http://www.insidemathematics.org/common-core-resources/mathematical-content-standards/standards-by-definition and the standard of the stan$ 

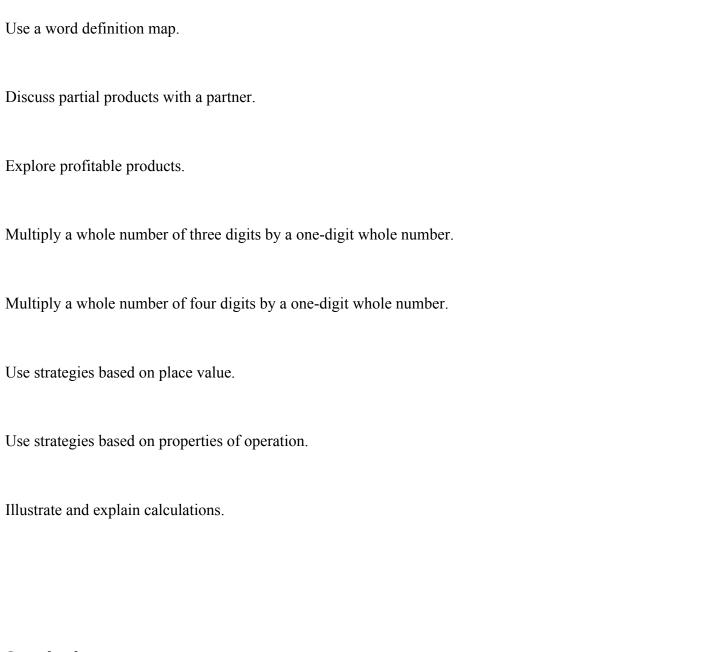
grade/4th-grade

Create a word web.

https://learnzillion.com/resources/17036-math-lesson-plans-4th-grade

http://www.mathgoodies.com/standards/alignments/grade4.html

Skills
Use base ten blocks to show that numbers are multiples of 10.
Use an array and a chart to model multiplication.
Use simpler problems to solve multi-digit multiplication problems.
Find products using various methods.
Use Guess and Check as a problem solving strategy.
Persevere in problem solving by solving multistep word problems.
Solve word problems by representing the unknown quantity with a letter.
Describe what a digit represents in a multi-digit number compared to the same digit in a different place.



## **Standards**

CCSS.Math.Content.4.OA.A.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
CCSS.Math.Content.4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
CCSS.Math.Content.4.NBT.A	Generalize place value understanding for multi-digit whole numbers.
CCSS.Math.Content.4.NBT.A.1	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.
CCSS.Math.Content.4.NBT.B	Use place value understanding and properties of operations to perform multi-digit arithmetic.

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.

CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.

CCSS.Math.Practice.MP2 Reason abstractly and quantitatively.

CCSS.Math.Practice.MP3 Construct viable arguments and critique the reasoning of others.

CCSS.Math.Practice.MP4 Model with mathematics.

CCSS.Math.Practice.MP5 Use appropriate tools strategically.

CCSS.Math.Practice.MP6 Attend to precision.

CCSS.Math.Practice.MP7 Look for and make use of structure.

CCSS.Math.Practice.MP8 Look for and express regularity in repeated reasoning.