

Fourth Grade  
Trailblazers Unit 4

“Products and Factors”

**North Carolina Standard Course of Study**

<http://www.ncpublicschools.org/curriculum/mathematics/scos/2003/k-8/24grade4>

**MTB Correlation to NCSCOS**

<http://www.kendallhunt.com/uploads/2/CORR-NC-MTB2.pdf>

**Unit Activities**

- Students investigate the dimensions of rectangles that can be made with a specified number of square-inch tiles. They use their rectangles to investigate multiples, prime numbers, and square numbers. Using exponents to write square numbers is introduced.
- Using rectangular arrays of square-inch tiles, students discuss factors and prime numbers
- Students play a game that provides practice with the multiplication facts.
- Students use factor trees to find the prime factorization of numbers. They use exponents as a shortcut for writing repeated factors.
- Students use two spinners to generate multiplication problems.
- Students solve a variety of word problems on content from this and previous units.

**Unit Vocabulary**

Array	Commutative property of multiplication	Turn-around rule	Composite number	Even number
Exponent	Multiple	Odd number	Prime number	Square number
Factor	Product	Exponent	Factor tree	Prime factor
Prime factorization				

Fourth grade glossary link: <http://www.kendallhunt.com/index.cfm?PID=234&PGI=0>

**Unit Manipulatives/Supplies**

50 square-inch tiles per group	Scissors	Zip-lock plastic bags – 15	Tape	Envelopes (for storing flash cards)
Calculators	Clear plastic spinners – 15	Crayons or markers	Beans to use as markers on Bingo Board	

### Unit Assessment Indicators

- Can students represent multiplication and division problems using arrays?
- Can students determine whether one number is a multiple of another number?
- Can students determine whether one number is a factor of another number?
- Can students identify prime, composite, and square numbers?
- Can students find the prime factorization of a number?
- Can students explain their mathematical reasoning?
- Do students demonstrate fluency with the multiplication math facts for the 2s and 3s?
- Can students write the four number sentences in the fact families for the 2s and 3s?

### Unit Literature

- *Sea Squares* Joy N. Hulme

### Unit Software

- *Math Arena* is a collection of math activities that reinforces many math concepts.
- *Mighty Math Calculating Crew* poses short answer questions about number operations and money skills.
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- *Mighty Math Number Heroes* poses short answer questions about fractions, number operations, polygons, and probability.
- *Math Munchers Deluxe* provides practice with basic facts, factors, and multiples in an arcade-like game.
- *Math Mysteries: Advanced Whole Numbers* is a series of structured word problems dealing with whole numbers.
- *Number Sense – Puzzle Tanks* develops logical thinking while practicing math facts.
- *Schoolhouse Rock: Math Rock* develops number sense, math facts and geometry skills.

### Websites to Explore

- Rainforest Math – Click on level C or D - Choose *Operations and Calculations – Multiplication*  
<http://www.rainforestmaths.com/>
- Multiplication Mystery  
<http://www.harcourtschool.com/activity/mult/mult.html>

### You Can Help Your Child

- Flash cards for the multiplication facts for the 2s and 3s will be sent home. Help your child study the 2s and 3s by using the flash cards.
- Your child will learn some words in this unit such as factor, multiple, prime numbers, and square numbers. Ask your child what these words mean.
- Play *Product Bingo* with your child.
- Play *Floor Tiler* with your child.
- Have your child teach you how to play any of the games he/she brings home.