

Fourth Grade
Trailblazers Unit 3

“Numbers and Number Operations”

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 review the multiplication facts for fives and tens.
- Students learn about an ancient number system, Roman Numerals, and compare it to their own.
- Students use connecting cubes to review place value concepts.
- Students work with base-ten pieces to review and expand their understanding of place value.
- Angles review and expand their understanding of addition and subtraction algorithms.
- Students explore negative numbers in contexts such as temperature, altitudes, and bank balances.
- Students solve word problems based on concepts in this and previous units.

Unit Vocabulary

dividend	division sentence	divisor	fact family	factors
product	quotient	turn-around facts	Roman numerals	subtractive principle
Base-ten pieces	Bits	Fewest Pieces Rule	place value	Skinnies
Base-ten shorthand	Flats	Packs	Skinnies	Positive number
Negative number				

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

Unit Manipulatives/Supplies

1 or 2 envelopes/student for storing flash cards	70 connecting cubes/student pair	Base-ten pieces	Scissors	Glue or tape
Calculator				

Unit Assessment Indicators

- Can students name the value of a digit based on its place in a number?
- Can students represent two-, three-, and four-digit numbers using base-ten pieces?
- Can students add multidigit numbers using paper and pencil?
- Can students subtract multidigit numbers using paper and pencil?
- Can students determine the reasonableness of a solution?
- Do students demonstrate fluency with the multiplication facts for the 5s and 10s?
- Can students write the four number sentences in the fact families for the 5s and 10s?

Unit Literature

- *The I Hate Mathematics! Book* Marilyn Burns
- *Count Your Way through the Arab World*, Jim Haskins
- *The Universal History of Numbers: From Prehistory to the Invention of the Computer*, George Ifrah
- *The History of Counting*, Denise Schmandt-Besserat
- *How to Count Like a Martian*, Glory St. John

Unit Software

- *Ice Cream Truck* develops problem solving, money skills, and arithmetic operations.
- *Math Arena* is a collection of math activities that reinforces many math concepts.
- *Math Workshop Deluxe* develops math facts proficiency.
- *Mighty Math Calculating Crew* poses short answer questions about number operations and money skills.
- *Schoolhouse Rock: Math Rock* develops number sense and math facts skills.

Websites to Explore

- Rainforest Math – Click on level E or F and choose any of the areas on the top row. <http://www.rainforestmaths.com/>
- Gamequarium – Choose any of the “Place Value” games. <http://www.gamequarium.com/placevalue.html>

You Can Help Your Child

- Give your child a number to write down. Then, ask for the value of each digit in the number. For example, ask your child to write “three hundred twenty-four.” Then ask, “What is the value of the 3?” Your child should say, “three hundred.”
- Encourage your child to listen to the weather report on the news. He or she may notice temperatures that are below zero in certain parts of the country. Look in the newspaper for daily temperatures reported around the world.
- Help your child study the multiplication facts for the fives and tens using the *Triangle Flash Cards*.
- Count at home by 5’s and 10’s out loud together
- Discuss temperature and how to use a thermometer. What is the temperature outside now? Take readings at different times of the day and compare the temperature readings.