

Fifth Grade  
Trailblazers Unit 3

“Fractions and Ratios”

**North Carolina Standard Course of Study**

<http://www.ncpublicschools.org/curriculum/mathematics/scos/2003/k-8/27grade5>

**MTB Correlation to NCSCOS**

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

**Unit Key Concepts**

- Students use pattern blocks to model fractions, to review the concept of a whole, and to write fractions.
- Using pattern blocks, students write number sentences for a whole divided into parts. They also write number sentences that equate mixed numbers with improper fractions.
- Students investigate equivalent fractions using pattern blocks and number lines. They write equivalent fractions for a given number.
- Students compare fractions using 0,  $\frac{1}{2}$ , and 1 as benchmarks. They also compare fractions with like numerators or like denominators.
- Students use ratios to find the cost of items at a school fun fair. They express the ratios in words, tables, graphs, and symbols.
- Students use ratios to investigate the walking speed of a fifth grader. They review measurement, graphing, and data collection skills.
- Students solve a variety of multistep word problems.

**Unit Key Vocabulary**

denominator	numerator	improper fraction	mixed number	proper fraction
equivalent fractions	benchmarks	ratio	best-fit line	speed
fixed variable				

Fifth grade glossary link: [http://www.kendallhut.com/uploads/2/MTB\\_Gr5\\_Glossary.pdf](http://www.kendallhut.com/uploads/2/MTB_Gr5_Glossary.pdf)

**Unit Manipulatives/Supplies**

pattern blocks	overhead pattern blocks	Rulers	Three stopwatches	1-2 metersticks
tape	calculators	cups	beakers	Small objects that float
rulers	Steel spheres			

## Unit Assessment Indicators

- Can students represent fractions using pattern blocks and number lines?
- Can student find equivalent fractions?
- Can students name fractions greater than one as mixed numbers or improper fractions?
- Can students compare and order fractions?
- Can students collect, organize, graph, and analyze data?
- Can students draw and interpret best-fit lines?
- Can students use ratios to solve problems?
- Can students measure length in yards?
- Do students demonstrate fluency with the multiplication and division facts for the 2s and 3s?

## Unit Literature

- *Xiong, Blip. Nine in One, Grr! Grr!* Children's Book Press

## Unit Software

*Comparing with Ratios* introduces students to recognizing and using ratios.

*Fraction Attraction* develops understanding of fractions using fraction bars, pie charts, hundreds blocks, and other materials.

*Graph Master* allows students to collect data and create their own graphs.

*Math Arena* is a collection of math activities that reinforces many math concepts.

*Math Munchers Deluxe* provides practice in basic facts and finding equivalent fractions, decimals, percents, ratios, angles and identifying geometric shapes, factors, and multiples in an arcade-like game.

*Mighty Math Number Heroes* poses short answer questions about fractions, number operations, polygons, and probability.

## Websites

Who Wants Pizza: A Fun Way to Learn About Fractions

<http://math.rice.edu/%7Elanius/fractions/index.html>

Rainforest Math – Click on Level E or F and choose “fractions” located on the top row of the menu.

<http://www.rainforestmaths.com/>

Visual Fractions – A tutorial that models fractions with number lines or circles.

<http://www.visualfractions.com/>

Fractions

[http://www.bgfl.org/bgfl/custom/resources\\_ftp/client\\_ftp/ks2/maths/fractions/index.htm](http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/maths/fractions/index.htm)

Fraction Games

<http://www.gamequarium.com/fractions.html>

## Fraction Activities

[http://www.bgfl.org/bgfl/custom/resources\\_ftp/client\\_ftp/ks2/maths/fractions/index.htm](http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/maths/fractions/index.htm)

### **You Can Help Your Child**

- You can increase your child's awareness and understanding of fractions by looking for places where fractions are used outside of school. Examples: recipes, fabric sizes, drill bits, measurements for a garden, yards of fabric for clothes
- Share examples of part to whole relationships such as: divide 8 slices of pizza among four family members.
- Compare the number of males and females in your family.
- Use the *Triangle Flash Cards* to help your child with the multiplication and division facts for the 2s and 3s.