Grade: 5 Subject: Mathematics	Unit 11: Ratio, Proportion and Percent
Big Idea/Rationale	• In this unit students begin by using multiplication tables and factor puzzles to build the link between multiplication and equivalent ratios. They learn to distinguish between proportion and non-proportion situations. They investigate percent and use percent to describe probabilities. Finally, students explore similar figures and develop an understanding of scale. They then use ratios and proportional reasoning to analyze and create scale drawings and to read maps.
Enduring Understanding (Mastery Objective)	Students will understand that: • A ratio is a special relationship between two quantities. • A percent is a special kind of ratio in which a part is compared to a while with 100 parts. • A part of a whole or a part of a set can be represented by a fraction, a decimal and a percent.
Essential Questions (Instructional Objective)	• What are ratios and when are they equal? • What does percent mean? • How are percents related to fractions and decimals? • How can you find percent of a given number?
Content (Subject Matter)	• Distinguish multiplication situations from non-multiplication situations. • Make a table to show a multiplication situation (to prepare for making ratio tables). • Differentiate between proportion problems. • Understand unit rate and totals made from rates. • Apply unit rate to all multiplication situations. • Describe multiplication column situations. • Distinguish multiplication column situations from non-multiplication column situations. • Pose questions about multiplication situations. • Understand that a ratio describes a relationship between two quantities. • Label tables and fill in numbers so that they accurately represent a real-world situations. • Solve proportion problems using various strategies. • Differentiate between proportion problems and non-proportion problems. • Understand how multiplication column tables, factor puzzles and ratio tables relate to each other. • Differentiate proportion from non-proportion problems. • Solve proportion word problems. • Match ratio and non-ratio tables to word problems. • Differentiate proportion from non-proportion problems.

	• Solve numeric and word proportion problems/ • Create stories for numeric problems and match tables to problems. • Solve word and numeric proportion problems. • Find basic ratios. • Differentiate proportion problems and non-proportion problems. • Match tables to problems. • Create proportion problems for numeric problems. • Write and solve proportion problems. • See relationships among fractions, decimals and percents. • Identify fractions, decimals and percents represented by parts of geometric figures. • Solve problems involving percents. • Use percent concepts in probability situations. • Solve probability problems by finding a percent. • Identify similar figures. • Use similarity to find missing measurements. • Use a scale to determine distances on a map. • Analyze and make simple scale drawings. • Use scale drawings to interpret measurements. • Make a scale drawing. • Solve a variety of problems using mathematical concepts and skills.
Skills/ Benchmarks (CCSS Standards)	• **Standards for Mathematical Practices 1-8** • **Foundational skills/introduction for Grade 6.**
Materials and Resources	• Math Expressions, Student Journals, Manipulatives, Math themed literature, BrainPop, IXL Mathematics