On-Level 7th Grade Math Parent Guide

1st Six Weeks

Unit 1 Concepts:
In this unit students will study in the real number system. Contextual setting and visual representations are used to develop students' understanding and give meaning to the study of operations of rational numbers.

Learning Goals:
Students will fluently apply mathematical properties to solve real world problems, perform mathematical operations on real numbers, and solve problems with solutions that may be positive, negative, or neither (zero).
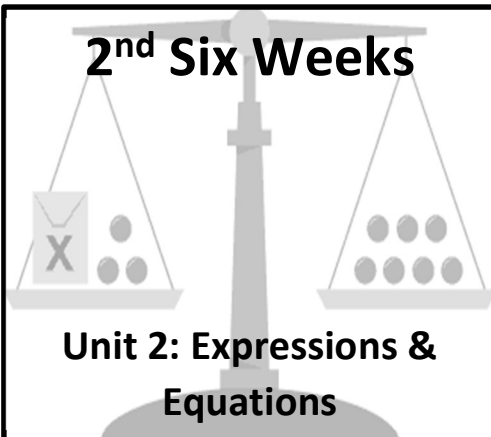
Why? – Being able to use all decimal operations when dealing with money and use fractions when cooking and measuring is an important part of daily life. Also, students' understanding of positive and negative numbers can be used when calculating changes in elevation, recording temperatures, and creating sports statistics.

Unit 1: Number Concepts

2nd Six Weeks

Unit 2: Expressions & Equations

Unit 2 Concepts:
Students write and solve equations and inequalities from verbal descriptions as well as represent equations and inequalities on number lines.

Learning Goals:
Students will identify and apply properties of operations and understand the procedures for setting up and solving two step equations and inequalities.

Why? – When shopping with a budget or trying to find the minimum or maximum amount of something you need to calculate, being able to solve inequalities and equations will help students process these concepts.

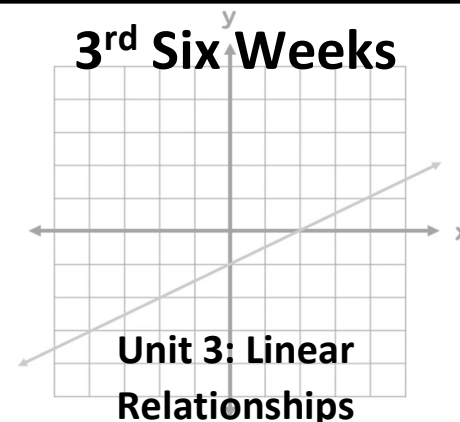---

3rd Six Weeks

Unit 3 Concepts:
In this unit, students find constant rates of change given pictorial, tabular, verbal, numeric, graphical, and algebraic representations. They will determine the constant of proportionality and represent linear relationships

Learning Goals:
Students will make predictions about situations utilizing a constant rate of change, understand the procedures for setting up and solving linear equations, and use graphs to interpret solutions of real-world problems.

Why? – Unit 4 will help students find a constant rate of change to plan for gas milage on a trip, set up budgets, purchase specific quantities of items, set financial goals, and set up business plans to charge for services.

Unit 3: Linear Relationships

4th Six Weeks

Unit 4: Proportional Reasoning & Financial Literacy

Unit 4 Concepts:
Students will learn about ratios, unit rates, percentages, applications of tax, commission, mark-ups, discounts, and analyzing personal budgets including simple and compound interest. They will analyze the ratio that exists between similar figures using scale drawings, graphs, tables, and verbal descriptions.

Learning Goals:
Students will describe relationships between two quantities, summarize relationships among data using percentages, make predictions about situations utilizing the constant rate of change, understand that proportions are statements of equality.

Why? – Knowing how to with ratios and budgets will be a necessity in students' adult lives.

Unit 5 Concepts:
Students will learn how to select random samples from populations and how to use that data to compare and make predictions. They also learn the difference between variability in a population and sampling variability.

Learning Goals:
Students will represent probability in decimal, fraction, and percent form. Examine theoretical and experimental probabilities, design and carry out simulations, and create graphs to describe and generalize data.

Why? – Probability and statistics are used to make informed decisions in everyday situations. For example, chances of winning a game of paper, rock, scissors, or the chances of winning a scratch off lottery ticket.

5th Six Weeks

Unit 5: Data Analysis & Probability

6th Six Weeks

Unit 6: Geometry & Measurement

Unit 6 Concepts:
Students will study a variety of topics from geometry including angles, triangles, polygons, and circles. They will use formulas to calculate area of 2-dimensional figures and volume of 3-dimensional figures.

Learning Goals:
Students will find the circumference and area of circles, determine the area of composite figures, calculate lateral and total surface area of prisms and pyramids, and calculate volume of prisms and pyramids.

Why? – The amount of paint needed to cover a wall, or the amount of paper needed to wrap a gift can be calculated using the area formulas that students learn in this unit.

Questions? Please contact your On-Level 7th Grade math teacher. **Additional Support:** We recommend Khan Academy and VarsityTutors.com and remember campus tutoring is also available.