TEAS Math

Course Overview

Test of Essential Academic Skills, Math is a comprehensive introduction to essential mathematical concepts. In this course, you will work with rational numbers to solve real-world situations. You will learn to work with ratio and proportion as well as understand the relation between fractions, decimals, and percentages. You will build linear equations and inequalities to represent real-world situations. You will calculate the area and volume of two-and three-dimensional objects. Toward the end of the course, you will learn about data representation and interpretation through scatter plots and two-way tables.

Course Goals

By the end of this course, you will be able to do the following:
- Order rational numbers in real-world situations.
- Add, subtract, multiply, and divide rational numbers to solve real-world problems.
- Convert between U.S. standard and metric weight measurements.
- Use ratio to convert measurement units.
- Understand proportional relationships and use them to solve ratio and percent problems.
- Build linear equations and inequalities to solve real-world problems.
- Solve mathematical problems that involve area, volume, and surface area of two- and three-dimensional objects.
- Interpret and describe data in scatter plots and fit lines to model data in scatter plots.
- Construct and interpret two-way tables.

Math Skills

For participating in the course, TEAS Math, you should be able to do the following:
- Solve problems involving operations with real numbers.
- Understand linear relationships through your work with ratios, proportions, and rates.
- Know the meaning of a line and be able to make predictions from linear relationships.
- Collect, analyze, and display data to solve problems.

General Skills

To participate in this course, you should be able to do the following:
- Complete basic operations with word processing software, such as Microsoft Word or Google Docs.
- Understand the basics of spreadsheet software, such as Microsoft Excel or Google Spreadsheets, but having prior computing experience is not necessary.
- Perform online research using various search engines and library databases.
- Communicate through email and participate in discussion boards.

For a complete list of general skills that are required for participation in online courses, refer to the Prerequisites section of the Plato Student Orientation document, found at the beginning of this course.

Credit Value

TEAS Math is a 1.0-credit course.

Course Materials

- Notebook
- Graphing calculator, recommend TI-83 or equivalent
- Computer with Internet connection and speakers or headphones
- Microsoft Word or equivalent
- Microsoft Excel or equivalent

Course Pacing Guide

This course description and pacing guide is intended to help you keep on schedule with your work. Note that your course instructor may modify the schedule to meet the specific needs of your class.

Unit 1: Rational Numbers

Summary

This unit focuses on rational numbers. In this unit, you will explain statements of order for rational numbers in real-world situations. You will add, subtract, multiply, and divide rational numbers to solve real-world mathematical problems. Lastly, you will convert between U.S. standard and metric weight measurements.

Day	Activity/*Objective*	Type
1 day: 1	**Syllabus and Plato Student Orientation** *Review the Plato Student Orientation and Course Syllabus at the beginning of this course.*	Course Orientation
3 days: 2–4	**Ordering Values in the Real World** *Write and explain statements of order for rational numbers in real-world situations.*	Tutorial
3 days: 5–7	**Adding Rational Numbers** *Find the sums of rational numbers.*	Tutorial
3 days: 8–10	**Subtracting Rational Numbers** *Find the differences of rational numbers.*	Tutorial
3 days: 11–13	**Multiplying Rational Numbers** *Find the products of rational numbers.*	Tutorial
3 days: 14–16	**Dividing Rational Numbers** *Find the quotients of rational numbers.*	Tutorial
3 days:	**Add, Subtract, Multiply, and Divide Rational Numbers to**	Tutorial

Day	Activity/*Objective*	Type
17–19	**Solve Real-World Problems** *Use the four operations to solve real-world and mathematical problems that contain rational numbers.*	
3 days: 20–22	**Solving Real-World Problems Involving Rational Numbers** *Solve real-world and mathematical problems that contain positive and negative rational numbers.*	Tutorial
3 days: 23–25	**Converting Weight Measurement** *Learn to convert between U.S. standard and metric weight measurement to solve problems.*	Tutorial
1 day: 26	**Posttest—Unit 1**	Assessment

Unit 2: Ratio and Proportion

Summary

This unit focuses on ratio and proportion. In this unit, you will use ratio to convert measurement units and decide whether two quantities are in a proportional relationship. You will then use proportional relationships to solve ratio and percent problems. Finally, you will solve real-life problems involving ratio and proportion, fractions, decimals, and percent.

Day	Activity / *Objective*	Type
3 days: 27–29	**Measurement Units and Ratio Conversions** *Use ratio reasoning to convert measurement units.*	Tutorial
4 days: 30–33	**Recognizing Proportional Relationships** *Decide whether two quantities are in a proportional relationship.*	Tutorial
4 days:	**Ratios and Rates as Percentages**	Tutorial

Day	Activity / *Objective*	Type
34–37	*Find a percentage of a quantity as a rate per 100 and solve problems that involve finding the whole, given a part and the percentage.*	
4 days: 38–41	**Applications of Ratio and Percent** *Use proportional relationships to solve ratio and percent problems.*	Tutorial
4 days: 42–45	**Solving Ratio, Proportion, and Percent Story Problems** *Solve real-life problems using: addition and subtraction, multiplication and division, fractions and decimals, and ratio, proportion, and percent.*	Tutorial
1 day: 46	**Posttest—Unit 2**	Assessment

Unit 3: Linear Equations and Inequalities

Summary

This unit focuses on linear equations and inequalities. In this unit, you will build linear equations and linear inequalities and then use them to solve word problems.

Day	Activity / *Objective*	Type
4 days: 47–50	**Building Equations to Solve Real-World Problems** *Use variables to represent quantities in a real-world or mathematical problem and write simple equations to solve the problem.*	Tutorial
4 days: 51–54	**Using Linear Equations to Solve Problems** *Use linear math sentences in one variable to solve practical problems.*	Tutorial
4 days:	**Linear Inequalities in 1 Variable, Part 1**	Tutorial

Day	Activity / *Objective*	Type
55–58	*Solve linear inequalities using addition and subtraction.*	
4 days: 59–62	**Linear Inequalities in 1 Variable, Part 2** *Solve linear inequalities for which multiplication and division are required.*	Tutorial
1 day: 63	**Posttest—Unit 3**	Assessment

Unit 4: Measurement and Data

Summary

This unit focuses on concepts related geometry and statistics. In this unit, you will learn how to calculate the area, volume, and surface area of two- and three-dimensional objects. Then, you will interpret and describe data in scatter plots and use lines of best fit to model data in scatter plots. Toward the end, you will learn to construct and interpret two-way tables.

Day	Activity / *Objective*	Type
4 days: 64–67	**Area and Circumference of a Circle** *Study the formulas for the area and circumference of a circle and use them to solve problems.*	Tutorial
4 days: 68–71	**Applications of Area, Surface Area, and Volume** *Solve real-world and mathematical problems that involve area, volume, and surface area of two- and three-dimensional objects.*	Tutorial
3 days: 72–74	**Introduction to Scatter Plots** *Interpret and describe data in scatter plots.*	Tutorial
4 days: 75–78	**Scatter Plots with Linear Associations** *Informally fit lines to model data in scatter plots.*	Tutorial

Day	Activity / Objective	Type
4 days: 79–82	**Applying Linear Equations from Scatter Plots** *Apply the linear equation found for a scatter plot with a linear association*	Tutorial
4 days: 83–86	**Two-Way Tables** *Construct and apply two-way tables*	Tutorial
1 day: 87	**Posttest—Unit 4**	Assessment
2 days: 88–89	**Semester Review**	Assessment
1 day: 90	**End-Of-Semester Exam**	Assessment