



Mathematics, Grade 4 (MATH) 4A Syllabus

Course Name

MATH 4A

Mathematics, Grade 4 – Semester A

Course Information

MATH 4A is the first semester of this two-semester course.

Welcome to Math 4A! This semester will help you master decimals, multiplying whole numbers, and dividing whole numbers. Take as much time as you need to understand multiplying and dividing whole numbers, and don't worry if it's a little difficult at first. Watch the videos as many times as you need before you try the homework assignments.

You'll take what you learn about decimals, multiplication, and addition and apply some of that to working with time and money. You'll also learn how to keep track of whole number and decimal information with tools like frequency tables and stem-and-leaf plots. By the end of the semester, you should have a lot experience thinking about decimals and whole numbers.

Course Delivery Method

Online

Contacting Your Instructor

You may contact your instructor through the Blackboard messaging system. Technical support is available 24/7 at www.k12.ttu.edu.

Course Objectives

After completing this course, you should be able to:

1. use mathematical processes to acquire and demonstrate mathematical understanding:

- a. apply mathematics to problems arising in everyday life, society, and the workplace;
- b. use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;
- c. select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
- d. communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
- e. create and use representations to organize, record, and communicate mathematical ideas;
- f. analyze mathematical relationships to connect and communicate mathematical ideas; and
- g. display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication;
2. apply mathematical process standards to represent and compare whole numbers and understand relationships related to place value:
 - a. interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left;
 - b. represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals;
 - c. compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols $>$, $<$, or $=$;
 - d. round whole numbers to a given place value through the hundred thousands place;
 - e. represent decimals, including tenths and hundredths, using concrete and visual models and money;
 - f. compare and order decimals using concrete and visual models to the hundredths;
 - g. relate decimals to fractions that name tenths and hundredths; and
 - h. determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line;
3. apply mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy:
 - a. add and subtract whole numbers and decimals to the hundredths place using the standard algorithm;
 - b. determine products of a number and 10 or 100 using properties of operations and place value understandings;

- c. represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15;
- d. use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties;
- e. represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations;
- f. use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor;
- g. round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers; and
- h. solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders;
- 4. apply mathematical process standards to analyze and create patterns and relationships:
 - a. represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity;
- 5. apply mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data:
 - a. represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions; and
 - b. solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.

MATH 4 addresses the required Texas Essential Knowledge and Skills (TEKS). These can be found at the [Texas Education Agency](http://www.tea.state.tx.us/teks/) website.

Textbook and Materials

Textbook(s)

The required textbook for this course is:

- *Texas Go Math!* (2015). Orlando, FL: Houghton Mifflin Harcourt Publishers.
ISBN: 978-0-544-36510-0

This digital textbook can only be purchased through the TTU K-12 partner bookstore. You can find the link to the bookstore on the [TTU K-12 website](http://www.ttu.edu/k12/). We strongly recommend that you purchase the digital version *and* a paper textbook.

Once you have purchased the digital textbook, you will receive a username and password via email. You will log in at the [ThinkCentral website](http://www.thinkcentral.com/) to access your textbook.

In addition to your username and password, you will need the following information to login:

- State: Texas
- District: College
- School: Texas Tech University, Lubbock 79409

The optional paper textbook is:

- *Texas Go Math!* Student Edition Bundle, Grade 4, Volumes 1 and 2 (2015).
Orlando, FL: Houghton Mifflin Harcourt Publishers. ISBN: 978-0-544-14242-8

Please note that you will not be able to access any of the digital resources if you purchase only the printed textbook.

All **Math on the Spot** videos in this course are provided by Houghton Mifflin Harcourt Publishers.

Materials

Other required materials:

- a scanner and software to create PDFs (see **Requirements for Creating PDFs** on the course home page for information on PDF-creation options)
- base-10 blocks
- clocks or watches, 2, one analog and one digital
- color pencils
- counters, at least 50, in 2 different colors (small pieces of 2 colors of paper or tiles, 2-color counters, red and white beans, etc.)
- envelope or paper pocket
- glue or tape
- index cards
- number cube (die)
- paper clips, 4 large
- paper: graph (1 cm), plain white, lined notebook
- pencils and erasers
- plastic zip-close bag
- scissors
- spiral notebook or three-ring binder for a math journal
- square tiles or dominos
- timer or stopwatch

PDF Assignments

You will submit all lessons for this course electronically. Your work for each lesson will need to be saved as a PDF in order to submit the lesson for grading. See

Requirements for Creating PDFs on the course home page for information on PDF-creation options. The options include the choice of scanning your notebook pages or taking pictures of each page, so you can decide what works best for you.

Be sure your pencil marks, handwriting, and answers are clear for your instructor.

Technical Requirements

- Internet access – preferably high speed (for accessing Blackboard)
- Email
- Word processing software such as Microsoft Word
- Adobe Reader (download from Adobe.com)
- Audio and video capabilities (for watching/listening to course content)
- PDF app (free options available)

Technical Skill Requirements

Be comfortable with the following:

- using a word processor
- Internet search engines and browsers
- creating PDFs (see **Requirements for Creating PDFs** on the course home page)

Course Organization

This course consists of nine modules and a final examination. Each module is itself divided into lessons. Each lesson contains the following:

- Introduction and Instructions
- Learning Objectives and Curriculum Standards
- Learning Activities
- Assignments

Each module includes several activities that present content knowledge. Each module also includes multiple graded assignments to ensure that you learn the content that has been presented in the activities. Some of the assignments are automatically-graded quizzes, and some are written assignments or activities that your instructor will grade. Be sure you read all instructions carefully and ask your instructor for help if something is not clear.

About This Course

This course doesn't follow the sequence of the textbook. By now you are probably familiar with fractions, so we start with decimals to give you plenty of time to master

decimals concepts. We will go back over fractions in the second semester after you've learned to work with decimals.

We also want to make sure you have plenty of time with multiplying and dividing whole numbers, so we cover these modules in the first semester, too, rather than waiting.

The course is designed to remind you of things you already know and help you build on that knowledge. Each section starts with a **Lesson Check** quiz from the textbook. Be sure to complete the quiz to help you review those skills. You can find the answers to these quizzes in the **Resources** section of the course.

Next, look at the textbook page numbers and become familiar with the concepts we will cover. The course will help you pick out the key ideas you need to learn. You'll have a chance to work on practice exercises and watch **Math on the Spot** videos to help you check your understanding.

When you're ready, you can complete the assignment problems on your own notebook paper. Your instructor will be excited to see your work, so you'll scan or take a picture of it and upload it for grading (see **Requirements for Creating PDFs** on the course home page for more information). Your instructor will be able to check all of your work and help you if you have any problems.

Math on the Spot Videos

To watch the videos, log into the [Houghton Mifflin Harcourt ThinkCentral website](#). Follow the links to find the module and lesson number you are studying. The videos will walk you through concepts associated with problems in your textbook.

Course Outline

Please note that some assignments will be hidden from you when you start the course. As you move through the lessons and complete assignments, more will unlock for you.

Lesson	Topic	Approximate Time for Completion
Module 1	Whole Number Place Value	One week
Module 2	Decimal Place Value	One week
Module 6	Add and Subtract Whole Numbers and Decimals	Two weeks
Module 7	Multiply by 1-Digit Numbers	Two weeks
Module 8	Multiply by 2-Digit Numbers	Two weeks
Module 9	Division Strategies	Two weeks
Module 10	Divide by 1-Digit Numbers	Two weeks

Lesson	Topic	Approximate Time for Completion
Module 16	Time and Money	Two weeks
Module 17	Represent and Interpret Data	Two weeks
Final Exam		

Assignment Schedule

Each of the following must be completed to complete the course. Items with an asterisk (*) indicate that these are summative assessments for the course.

Lesson	Weeks	Assignments
Mod.1	1	Checkpoint 1 (Non-graded) Assignment 1.1 Quiz: Daily Assessment Task Assignment 1.1 Upload: Homework and Practice Assignment 1.2 Activity: Problem Solving Assignment 1.2 Quiz: Daily Assessment Task Assignment 1.2 Quiz: Homework and Practice Assignment 1.2 Activity: Expanded Notation Assignment 1.3 Activity: Problem Solving Assignment 1.3 Quiz: Daily Assessment Task Assignment 1.3 Quiz: Homework and Practice Assignment 1.4 Activity: Problem Solving Assignment 1.4 Quiz: Daily Assessment Task Assignment 1.4 Activity: Homework and Practice Assignment 1.4 Upload: Riddle *Module 1 Upload: Review and Summative Assessment
Mod.2	2	Assignment 2.1 Upload: Unlock the Problem Assignment 2.1 Quiz: Daily Assessment Task Assignment 2.1 Activity: Homework and Practice Assignment 2.2 Activity: Problem Solving Assignment 2.2 Quiz: Daily Assessment Task Assignment 2.2 Activity: Homework and Practice Assignment 2.2 Activity: Number Forms Assignment 2.3 Upload: Problem Solving Assignment 2.3 Quiz: Daily Assessment Task Assignment 2.3 Upload: Homework and Practice Assignment 2.4 Quiz: Daily Assessment Task Assignment 2.4 Upload: Homework and Practice Assignment 2.5 Upload: Problem Solving

Lesson	Weeks	Assignments
		Assignment 2.5 Quiz: Daily Assessment Task Assignment 2.5 Upload: Homework and Practice Assignment 2.6 Upload: Unlock the Problem Assignment 2.6 Quiz: Daily Assessment Task Assignment 2.6 Quiz: Homework and Practice Assignment 2.7 Upload: Unlock the Problem Assignment 2.7 Quiz: Daily Assessment Task Assignment 2.7 Upload: Homework and Practice Assignment 2.7 Upload: Ordering Decimals *Module 2 Upload: Review and Summative Assessment
Mod.6	3-4	Assignment 6.1 Upload: Problem Solving Assignment 6.1 Quiz: Daily Assessment Task Assignment 6.1 Upload: Homework and Practice Assignment 6.2 Quiz: Problem Solving 1 Assignment 6.2 Quiz: Daily Assessment Task Assignment 6.2 Upload: Homework and Practice Assignment 6.2 Upload: Problem Solving 2 Assignment 6.3 Upload: Problem Solving Assignment 6.3 Quiz: Daily Assessment Task Assignment 6.3 Upload: Homework and Practice Assignment 6.4 Quiz: Daily Assessment Task Assignment 6.4 Upload: Homework and Practice Assignment 6.4 Upload: Problem Solving Assignment 6.5 Quiz: Daily Assessment Task Assignment 6.5 Upload: Homework and Practice Assignment 6.5 Upload: Problem Solving 1 Assignment 6.5 Upload: Problem Solving 2 *Module 6 Upload: Review and Summative Assessment Checkpoint 2 (Non-graded)
Mod.7	5-6	Assignment 7.1 Upload: Share and Show Assignment 7.1 Quiz: Daily Assessment Task Assignment 7.1 Upload: Homework and Practice 1 Assignment 7.1 Upload: Unlock the Problem Assignment 7.1 Activity: Homework and Practice 2 Assignment 7.2 Upload: Problem Solving Assignment 7.2 Quiz: Daily Assessment Task Assignment 7.2 Upload: Homework and Practice Assignment 7.3 Upload: Problem Solving Assignment 7.3 Quiz: Daily Assessment Task

Lesson	Weeks	Assignments
		Assignment 7.3 Upload: Homework and Practice Assignment 7.4 Upload: Problem Solving Assignment 7.4 Quiz: Daily Assessment Task Assignment 7.4 Upload: Homework and Practice Assignment 7.5 Quiz: Daily Assessment Task Assignment 7.5 Upload: Homework and Practice Assignment 7.7 Quiz: Daily Assessment Task Assignment 7.7 Upload: Homework and Practice Assignment 7.7 Upload: Partial Product Problem Assignment 7.8 Activity: Problem Solving Assignment 7.8 Quiz: Daily Assessment Task Assignment 7.8 Upload: Homework and Practice *Module 7 Upload: Review and Summative Assessment
Mod.8	7-8	Assignment 8.1 Quiz: Daily Assessment Task Assignment 8.1 Quiz: Homework and Practice Assignment 8.1 Upload: Problem Solving Assignment 8.2 Quiz: Daily Assessment Task Assignment 8.2 Upload: Homework and Practice Assignment 8.3 Quiz: Daily Assessment Task Assignment 8.3 Upload: Homework and Practice Assignment 8.4 Upload: Problem Solving Assignment 8.4 Quiz: Daily Assessment Task Assignment 8.4 Upload: Homework and Practice Assignment 8.5 Quiz: Problem Solving Assignment 8.5 Quiz: Daily Assessment Task Assignment 8.5 Upload: Homework and Practice Assignment 8.5 Upload: Unlock the Problem Assignment 8.6 Quiz: Daily Assessment Task Assignment 8.6 Upload: Homework and Practice Assignment 8.7 Quiz: Daily Assessment Task Assignment 8.7 Quiz: Lesson Check 2 Assignment 8.7 Upload: Homework and Practice *Module 8 Upload: Review and Summative Assessment
Mod.9	9-10	Assignment 9.1 Quiz: Daily Assessment Task Assignment 9.1 Upload: Homework and Practice Assignment 9.2 Upload: Problem Solving Assignment 9.2 Quiz: Daily Assessment Task Assignment 9.2 Upload: Homework and Practice Assignment 9.3 Activity: Problem Solving 1

Lesson	Weeks	Assignments
		Assignment 9.3 Quiz: Daily Assessment Task Assignment 9.3 Quiz: Homework and Practice Assignment 9.3 Upload: Problem Solving 2 Assignment 9.4 Upload: Problem Solving Assignment 9.4 Quiz: Daily Assessment Task Assignment 9.4 Upload: Homework and Practice Assignment 9.5 Quiz: Daily Assessment Task Assignment 9.5 Upload: Homework and Practice Assignment 9.5 Quiz: Lesson Check 2 *Module 9 Upload: Review and Summative Assessment
Mod.10	11-12	Assignment 10.1-10.2 Quiz: Daily Assessment Task Assignment 10.1-10.2 Upload: Homework and Practice Assignment 10.2 Upload: Problem Solving Assignment 10.2 Quiz: Daily Assessment Task Assignment 10.2 Upload: Homework and Practice Assignment 10.3 Quiz: Daily Assessment Task Assignment 10.3 Upload: Homework and Practice Assignment 10.4 Quiz: Problem Solving Assignment 10.4 Quiz: Daily Assessment Task Assignment 10.4 Upload: Homework and Practice Assignment 10.5 Upload: Problem Solving Assignment 10.5 Quiz: Daily Assessment Task Assignment 10.5 Upload: Homework and Practice *Module 10 Upload: Review and Summative Assessment
Mod.16	13-14	Assignment 16.1 Quiz: Problem Solving 1 Assignment 16.1 Quiz: Daily Assessment Task Assignment 16.1 Quiz: Homework and Practice Assignment 16.1 Upload: Problem Solving 2 Assignment 16.2 Quiz: Daily Assessment Task Assignment 16.2 Upload: Problem Solving Assignment 16.2 Upload: Homework and Practice Assignment 16.3 Upload: Problem Solving Assignment 16.3 Quiz: Daily Assessment Task Assignment 16.3 Upload: Homework and Practice Assignment 16.4 Upload: Problem Solving Assignment 16.4 Quiz: Daily Assessment Task Assignment 16.4 Upload: Homework and Practice *Module 16 Upload: Review and Summative Assessment

Lesson	Weeks	Assignments
Mod.17	15-16	Assignment 17.1 Quiz: Daily Assessment Task Assignment 17.1 Upload: Homework and Practice Assignment 17.2 Quiz: Daily Assessment Task Assignment 17.2 Upload: Homework and Practice Assignment 17.3 Quiz: Daily Assessment Task Assignment 17.3 Upload: Homework and Practice Assignment 17.3 Upload: Dot Plot Assignment 17.4 Quiz: Daily Assessment Task Assignment 17.4 Quiz: Homework and Practice Assignment 17.4 Upload: Problem Solving Assignment 17.5 Quiz: Daily Assessment Task Assignment 17.5 Upload: Homework and Practice Assignment 17.5 Upload: Stem-and-Leaf Plot Assignment 17.6 Quiz: Problem Solving Assignment 17.6 Quiz: Daily Assessment Task Assignment 17.6 Quiz: Homework and Practice *Module 17 Upload: Review and Summative Assessment Checkpoint 3 (Non-graded)
		Final Exam

Course Credit

The course grade will be calculated as follows:

- 50% coursework average;
- 50% summative assessment average, including the final exam;
- A passing course grade is 70 or higher.

Students must attempt all assignments in the course. The final exam will not be available until all assignments have been accepted and graded by the teacher.

Students who score below 70% on the final exam will be eligible for one re-exam opportunity.

Coursework

The graded assignments within each lesson are formative in nature. This means that they are designed to assist you in applying and demonstrating the lesson concepts, as well as identifying areas in which you need additional review. You may use all the lesson's learning activities to assist you as you complete the graded assignments.

Summative Assessments

Summative assessments are those that allow you to demonstrate mastery of the course objectives. For summative assessments, you will NOT be allowed to use the learning materials. These are opportunities for you to show what you have learned by that point in the course. Summative assessments may be proctored using the online proctoring system Proctorio. Information about Proctorio is provided in **Remote Proctoring** in the Syllabus section of your course. The summative assessments for this course are as follows:

- **Summative Assessments (20% of Course Grade)**
 - Module 1 Upload: Review and Summative Assessment (48 points)
 - Module 2 Upload: Review and Summative Assessment (60 points)
 - Module 6 Upload: Review and Summative Assessment (42 points)
 - Module 7 Upload: Review and Summative Assessment (48 points)
 - Module 8 Upload: Review and Summative Assessment (54 points)
 - Module 9 Upload: Review and Summative Assessment (54 points)
 - Module 10 Upload: Review and Summative Assessment (42 points)
 - Module 16 Upload: Review and Summative Assessment (72 points)
 - Module 17 Upload: Review and Summative Assessment (54 points)
- **Summative Final Exam (30% of Course Grade)**

Course Completion and Extensions

- Students may not complete the course in less than 30 days.
- All courses expire six months after the enrollment date. Student may purchase a single three-month extension for a fee.
- Extensions are non-refundable and non-transferrable.

Academic Integrity

It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and high standard of integrity. The attempt of students to present as their own any work not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offenders liable to serious consequences, possibly suspension.

“Scholastic dishonesty” includes, but is not limited to, cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, and any act designed to give unfair academic advantage to the student (such as, but not limited to, submission of essentially the same written assignment for two courses without the prior permission of the instructor) or the attempt to commit such an act.

Student Expectations

You will be expected to log into the Blackboard course regularly to be aware of possible announcements/reminders and to pace your progress in the course.

Students are expected to maintain an online environment conducive to learning, which includes “netiquette” (Internet etiquette). Please review the basic rules for [Online Discussion Netiquette](#). Ensure that your email messages, discussion board postings, and other electronic communications are thoughtful and respectful. Diverse opinions are welcome in this course, and you are expected to demonstrate an open mind and courtesy when responding to the thoughts and ideas of others.

The following are prohibited:

- making offensive remarks in email or the discussion board;
- using inappropriate language or discussing inappropriate topics online;
- spamming;
- hacking;
- using TTU or Blackboard email or discussion boards for commercial purposes;
- using all caps (considered shouting in online communications); and
- cyber-bullying or online harassment of any type.

Inappropriate behavior shall result in consequences ranging from a request to correct the problem, to removal from the course or even the university, depending on the severity of the behavior. Disciplinary actions will be taken according to the TTU K-12 Student Handbook.

Communication

- You can expect a reply from your instructor within 2 business days.
- Use the Blackboard Course Messages tool for sending messages to your instructor.

Submitting Assignments

You will submit all assignments through the Blackboard Assignment Tool, rather than by email. For assignments that require you to upload a PDF or other document, please title your assignment files “lastName_firstName_assignmentName.xxx (.pdf, .doc, .xl, .jpg, etc.)”.

Technical Difficulties

Getting Help

For student assistance with Blackboard, visit [TTU K-12 Support](#).

Computer Problems

A working computer is necessary for online coursework. Computer problems will not be accepted as a valid reason for failure to complete course activities within the allotted time frame. Identify a second computer, before the course begins, that you can use if you experience computer problems.

Server Problems

When the Blackboard server needs to be taken down for maintenance, the Blackboard administrator will post an announcement in your course informing you of the time and date. If the server experiences unforeseen problems, your course instructor will notify you.

Lost or Corrupted Files

You must keep/save a copy of every project/assignment on an external disk or personal computer. In the event of any kind of technology failure (e.g., Blackboard server crash or virus infection, students' own computer problems, loss of files in cyberspace, etc.) or any disputes, the instructor may request or require you to resubmit the files. In some instances, the instructor may need to open another attempt within Blackboard, so communication with your instructor is critical in these circumstances.