TEXAS TECH UNIVERSITY
TTU K-12

Mathematics, Grade 6 (MATH) 6B
Syllabus

Course Name

MATH 6B

Mathematics, Grade 6 – Semester B

Course Information

MATH 6B is the second semester of this two-semester course.

Welcome to Math 6B. This course will provide you with basic real-world mathematical concepts and prepare you for 7th grade mathematics. Each lesson contains examples that you will commonly use in your academic and everyday lives. Most people don't realize that we use math everyday. Think about it. We use math when we cook, sew, bank, build, measure, and on and on. Any time numbers are involved, we use math and calculations. Your number sense allows you to reason and problem solve. Life would be pretty boring without numbers.

Before beginning the lessons, take the time to read and study the design of your textbook. There are 7 Units and 18 Modules in this book. This course will cover Units 4-7 and Modules 10-18. Be sure to read pages TX10 and TX11. These two pages will help you navigate through the sections in the book and know where to find extra help when needed. (One source of help is Holt McDougal Online; be sure to bookmark it in your web browser.) In the back of the book, you will also find sections labeled Selected Answers, Glossary, and Index.

Keep in mind that you need to have a positive attitude, study hard, read all the assignments in your textbook and course lessons, and never be afraid to ask for help or clarification. My hope in this course is to make each student feel confident understanding the math skills that they will use from now on in both their academic and personal lives. My favorite slogan comes from the National Council of Teachers of Mathematics. It says "Do MATH and you can do anything." I believe this and hope you will, too!

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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 TEKS and Objectives

TEKS

The objectives for MATH 6 are in the Texas Essential Knowledge and Skills (TEKS) as mandated by the Texas Education Agency. Each lesson has stated objectives. All lessons cover the mathematical process standards of the TEKS listed below:

Mathematical Process Standards

The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:

1. apply mathematics to problems arising in everyday life, society, and the workplace;
2. 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;
3. 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;
4. communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
5. create and use representations to organize, record, and communicate mathematical ideas;
6. analyze mathematical relationships to connect and communicate mathematical ideas; and
7. display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

Course Objectives

After completing this course, you should be able to:

1. generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization;

2. determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations;
3. generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties;
4. write one-variable, one-step equations and inequalities to represent constraints or conditions within problems;
5. determine if the given value(s) make(s) one-variable, one-step equations or inequalities true;
6. model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts;
7. represent solutions for one-variable, one-step equations and inequalities on number lines;
8. identify independent and dependent quantities from tables and graphs;
9. write an equation that represents the relationship between independent and dependent quantities from a table;
10. represent a given situation using verbal descriptions, tables, graphs, and equations in the form of $y = kx$ or $y = x + b$;
11. graph points in all four quadrants using ordered pairs of rational numbers;
12. extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle;
13. model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes;
14. write equations that represent problems related to the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers;
15. represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots;
16. summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution;
17. summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution;
18. interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots;
19. compare the features and costs of a checking account and a debit card offered by different local financial institutions;
20. explain why it is important to establish a positive credit history;
21. explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study; and

22. compare the annual salary of several occupations requiring various levels of post-secondary education or vocational training and calculate the effects of the different annual salaries on lifetime income.

MATH 6 addresses the required Texas Essential Knowledge and Skills (TEKS). These can be found at the Texas Education Agency website.

Textbook and Materials

Textbook(s)

The required digital textbook for this course is:

- Burger, et al. (2015). *Texas GoMath!, Grade 6.* Orlando, FL: Houghton Mifflin Harcourt Publishing Company. ISBN 978-0-544-10178-4.

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. Once you have purchased the digital textbook, you will receive a username and password via email. You will log in at Holt McDougal Online to access your textbook.

If you would like a printed book, you can purchase the optional printed text:

- Burger, et al. (2015). *Texas GoMath!, Grade 6.* Orlando, FL: Houghton Mifflin Harcourt Publishing Company. ISBN 978-0-544-05167-6.

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

Before you begin your course, take a few minutes and review the *Help Center* in the upper right-hand corner of your textbook dashboard. This section provides *Getting Started, Quick Start Guide,* and *Help* links. These resources will teach you how to navigate your digital textbook.

Open the *Student Online Edition*. This will provide you with all of the information that you will need for the course. This textbook was designed and chosen so that you can actively participate in your learning with your digital text, explore concepts, take notes, and answer practice questions in your digital textbook.

At the beginning of each module, you will find two sections labeled **Are YOU Ready?** and **Ready Start-Up** that prepare you for starting the module. Make sure that you complete these two pages. The answers to these pages are provided in the **Resources** section of the course.

You will also find a section titled **Unpacking the TEKS** at the beginning of each module. This section will give you an opportunity to understand the TEKS and the vocabulary terms in the TEKS that will help you know exactly what you are expected to learn in the module.

Once you begin a module, each section provides examples that will assess your understanding. Remember the helpful tools that can be found at Holt McDougal Online.

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 course home page for information on PDF-creation options.

Other required materials

- lined notebook paper
- pencils and erasers
- ruler
- graph paper
- notebook/folder

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 (to scan hand-written documentation for graded assignments)

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 five lessons and a final examination. Each lesson contains the following:

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

Each lesson includes several activities that present content knowledge. Each lesson also includes multiple graded assignments to ensure that you learn the content that has been presented in the activities. Be sure you read all instructions carefully and ask your instructor for help if something is not clear.

Lessons One through Five cover 1-3 modules in the textbook. Each module is, in turn, divided into sections. You should proceed through each lesson in the order in which it is written — one section at a time. This will make it easier for you to understand, as each section builds on earlier ones.

For each lesson, you should read the Introduction and Lesson Objectives. The **Introduction** prepares you for the content of each chapter, and the **Lesson Objectives** explain the skills and concepts you'll learn from the lesson. The **How to Proceed** section provides step-by-step instructions on how to complete your lessons. Follow the instructions in the How to Proceed carefully. Make sure you grasp the concept before reading any further. **It is very important that you read the course material before proceeding to the assigned problems.**

Finally, you must complete and send in the **Module Assignments** for grading (see **Submitting Assignments** in this Syllabus). You must submit ***all*** of the Assignments before you can take the final examination.

Submitting Assignments

Be sure to follow the instructions below when preparing your module assignments for grading.

- Complete your work in pencil. Make sure the pencil mark is dark enough that it can read by a scanner or photographed.

- Begin each lesson's assignment on a clean sheet of notebook paper.

- Show your work process **down** your paper, **not across**. However, you may make two columns. **Do not write on the back of your paper.**

- Skip a line after each problem, and circle your answer(s).

- When you have completed the assignment, you will scan it or take a photograph of the pages and assemble the images into a ***single*** **PDF** to submit for grading (see **Requirements for Creating PDFs** on the course home page for information on PDF-creation options). Instructions are included in each lesson.

- Don't go too fast through a lesson or you will miss important information. *Don't forget — math takes time and practice, so don't give up!*

- You will find a **Sample Lesson Assignment** in the **Resources** section of the course. Look at this sample before you begin Lesson One. Refer to it each time you begin a lesson until you are familiar with the format.

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
Lesson 1	Expressions, Equations, and Relationships, Part 1	Three weeks
Lesson 2	Expressions, Equations, and Relationships, Part 2	Three weeks
Lesson 3	Relationships in Geometry	Three weeks
Lesson 4	Measurement and Data	Three weeks
Lesson 5	Becoming a Knowledgeable Consumer and Investor	Four 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
1	1-3	Checkpoint 1 (Non-graded) Module 10-1 Assignment Upload Module 10-2 Assignment Upload Module 10-3 Assignment Upload *Module 10 Summative Assignment Module 11-1 Assignment Upload Module 11-2 Assignment Upload Module 11-3 Assignment Upload *Module 11 Summative Assignment Module 12-1 Assignment Upload Module 12-2 Assignment Upload Module 12-3 Assignment Upload *Module 12 Summative Assignment

Lesson	Weeks	Assignments
2	4-6	Module 13-1 Assignment Upload Module 13-2 Assignment Upload Module 13-3 Assignment Upload Module 13-4 Assignment Upload *Module 13 Summative Assignment Module 14-1 Assignment Upload Module 14-2 Assignment Upload Module 14-3 Assignment Upload Module 14-4 Assignment Upload *Module 14 Summative Assignment
3	7-9	Module 15-1 Assignment Upload Module 15-2 Assignment Upload Module 15-3 Assignment Upload *Module 15 Summative Assignment Module 16-1 Assignment Upload Module 16-2 Assignment Upload Module 16-3 Assignment Upload Module 16-4 Assignment Upload *Module 16 Summative Assignment Checkpoint 2 (Non-graded)
4	10-12	Module 17-1 Assignment Upload Module 17-2 Assignment Upload Module 17-3 Assignment Upload Module 17-4 Assignment Upload Module 17-5 Assignment Upload *Module 17 Summative Assignment
5	13-16	Module 18-1 Assignment Upload Module 18-2 Assignment Upload Module 18-3 Assignment Upload Module 18-4 Assignment Upload *Module 18 Summative Assignment 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 10 Summative Assignment (58 points)
    - Module 11 Summative Assignment (40 points)
    - Module 12 Summative Assignment (52 points)
    - Module 13 Summative Assignment (34 points)
    - Module 14 Summative Assignment (38 points)
    - Module 15 Summative Assignment (30 points)
    - Module 16 Summative Assignment (22 points)
    - Module 17 Summative Assignment (26 points)
    - Module 18 Summative Assignment (24 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.