SYLLABUS 2019-2020

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Course Name	5th grade Math
Course Number	5AB
Grade Level	5th
Textbooks	McGraw-Hill Mathematics, GoMath
Resources	www.mhschool.com
Required Materials	Daily Homework Practice Workbook & 5 subject notebook

Course Description:

Mathematics: Fifth grade mathematics guides students to write and interpret numerical expressions, and analyze patters and relationships. They will understand the place value system, and perform operations with multi-digit whole numbers and with decimal to hundredths. They will use equivalent fractions as a strategy to add and subtract fractions, and apply and extend previous understandings of multiplication and division to multiply and divide fractions. They will convert like measurement units within a gain measurement system, represent data, and understand concepts of volume and relate volume to multiplication and to addition. They will also graph points on the coordinate plane to solve real-world mathematical problems, and classify two-dimensional figures into categories based on their properties.

Assessment Methods: Daily homework practice, daily written practices, the four steps of problem solving, individual and group projects, individual demonstration on the board, and chapter quizzes and test.

Schoolwide Learner Outcomes (SLO)				
A-a A-b A-c	R-a R-b R-c	M-a M-b M-c	E-a E-b E-c	N-a N-b Nc
Re-enter in the following boxes the designated SLOs numbers, which are addressed by this course				
		M-a M-b M-c		

Content Standards

Operations and Algebraic Thinking
 5.OA Write and interpret numerical expressions.
1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product. 2.1 Express a whole number in the range 2–50 as a product of its prime factors. For example, find the prime factors of 24 and express 24 as $2 \times 2 \times 2 \times 3$. CA Analyze patterns and relationships.
3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.

Number and Operations in Base Ten
5.NBT Understand the place value system.
1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
 2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
3. Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$. b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
4. Use place value understanding to round decimals to any place.
Perform operations with multi-digit whole numbers and with decimals to hundredths.
 5. Fluently multiply multi-digit whole numbers using the standard algorithm.
6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
 7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Number and Operations—Fractions
 5.NF Use equivalent fractions as a strategy to add and subtract fractions.
1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)
 2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
 3. Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?

4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. Interpret the product (a/b) × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b. For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.) b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

5. Interpret multiplication as scaling (resizing), by: a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence a/b = (n × a)/(n × b) to the effect of multiplying a/b by 1.

6. Solve real-world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.1

a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.

b. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.

c. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?

Measurement and Data

5.MD Convert like measurement units within a given measurement system.

1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real-world problems. Represent and interpret data.

2. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.

b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

5. Relate volume to the operations of multiplication and addition and solve real-world and mathematical problems involving volume.

a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems.

c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems.

Geometry

5.G Graph points on the coordinate plane to solve real-world and mathematical problems.

1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

2. Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. Classify two-dimensional figures into categories based on their properties.

3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.

4. Classify two-dimensional figures in a hierarchy based on properties.

If need be please use additional pages

Subject Matter Covered

Please, include the textbook chapters and additional resources to be used

Semi-Quarter 1	
Week 1	Chapter 1 Lessons 1-2 Place Value and Patterns; Place Value of Whole Numbers
Week 2	Chapter 1 Lesson 3-4 Properties; Power of 10 and Exponents
Week 3	Chapter 1 Lessons 5-6 Multiplication Patterns; Multiply by 1-Digit Numbers Mid-Chapter Checkpoint Quiz
Week 4	Chapter 1 Lessons 7-8 Multiply by 2-Digit Numbers; Relate Multiplication and Division
Week 5	Chapter 1 Lessons 9-10 Multiplication and Division; Numerical Expressions

Semi-Quarter 2	
Week 1	Chapter 1 Lessons 11-12 Evaluate Numerical Expressions; Grouping Symbols Chapter 1 Test
Week 2	Chapter 2 Lessons 1-2 Place the First Digit; Divide by 1-Digit Divisors
Week 3	Chapter 2 Lessons 3-5 Division by 2-Digit Divisors; Partial Quotients; Estimate Mid-Chapter Checkpoint Quiz
Week 4	Chapter 2 Lessons 5-7 Divide by 2-Digit Divisors; Interpret the Remainder
Week 5	Chapter 2 Lessons 8-10 Adjust Quotients; Problem Solving Chapter 2 Test

Subject Matter Covered

Please, include the textbook chapters and additional resources to be used

Semi-Quarter 3	
Week 1	Chapter 3 Lessons 1-2 Thousandths; Place Value of Decimals
Week 2	Chapter 3 Lessons 3-4 Compare and Order Decimals; Round Decimals
Week 3	Chapter 3 Lessons 5-6 Decimal Addition and Subtraction Mid-Chapter Checkpoint Quiz
Week 4	Chapter 3 Lessons 7-9 Estimate Decimal Sums and Differences; Add and Subtract Decimals
Week 5	Chapter 3 Lessons 10-12 Patterns with Decimals; Add and Subtract Money; Choose a Method Chapter 3 Test

Semi-Quarter 4	
Week 1	Chapter 4 Lessons 1-2 Multiplication Patterns with Decimals; Multiply Decimals and Whole Numbers
Week 2	Chapter 4 Lessons 3-5 Multiply Using Expanded Form; Multiply Money Mid-Chapter Checkpoint Quiz
Week 3	Chapter 4 Lessons 6-8 Decimal Multiplication; Multiply Decimals; Zeros in the Product Chapter 4 Test
Week 4	Chapter 5 Lessons 1-4 Division Patterns with Decimal; Divide Decimals by Whole Numbers Mid-Chapter Checkpoint Quiz
Week 5	Chapter 5 Lessons 5-8 Write Zeros in the Dividend; Decimal Operations Chapter 5 Test

Subject Matter Covered

Please, include the textbook chapters and additional resources to be used

Semi-Quarter 5	
Week 1	Chapter 6 Lessons1-3 Addition and Subtraction with Unlike Denominators; Estimate
Week 2	Chapter 6 Lessons 4-6 Factors; Common Denominators; Add and Subtract Fractions Mid-Chapter Checkpoint Quiz
Week 3	Chapter 6 Lessons 7-9 Add and Subtract Mixed Numbers; Subtraction with Renaming
Week 4	Chapter 6 Lessons 10-11 Patterns of Fractions; Use Properties of Addition Chapter 6 Test
Week 5	Chapter 7 Lessons 1-3 Find Part of Group; Multiply Fractions and whole Numbers

Semi-Quarter 6	
Week 1	Chapter 7 Lessons 4-5 Multiply Fractions; Compare Fraction
Week 2	Chapter 7 Lessons 6-7 Fraction Multiplication; Area and Mixed Numbers Mid-Chapter Checkpoint Quiz
Week 3	Chapter 7 Lessons 8-10 Compare Mixed Numbers; Multiply Mixed Numbers; Chapter 7 Test
Week 4	Chapter 8 Lessons1-3 Divide Fractions and Whole Number; Use Multiplication; Connect Fractions to Division Mid-Chapter Checkpoint Quiz
Week 5	Chapter 8 Lesson 4-6 Fraction and Whole Number Division; Interpret Division Chapter 8 Test

Subject Matter Covered

Please, include the textbook chapters and additional resources to be used

Semi-Quarter 7	
Week 1	Chapter 9 Lessons 1-2 Line Plots; Ordered Pairs
Week 2	Chapter 9 Lessons 3-4 Graph Data; Line Graph Mid-Chapter Checkpoint Quiz
Week 3	Chapter 9 Lessons 5-7 Numerical Patterns; Find a Rule; Graph and Analyze Relationships Chapter 9 Test
Week 4	Chapter 10 Lessons 1-2 Customary Length and Capacity
Week 5	Chapter 10 Lessons 3-4 Weight; Multistep Measurement Problems Mid-Chapter Checkpoint Quiz

Semi-Quarter 8	
Week 1	Chapter 10 Lessons 5-7 Metric Measures; Customary and Metric Conversions; Elapsed Time Chapter 10 Test
Week 2	Chapter 11 Lessons 1-3 Polygons; Triangles; Quadrilaterals
Week 3	Chapter 11 Lessons 4-6 3-D Figures; Unit Cube and Solid Figures; Volume Mid-Chapter Checkpoint Quiz
Week 4	Chapter 11 Lessons 7-9 Estimate Volume; Volume of Rectangular Prisms
Week 5	Chapter 11 Lessons 10-11 Compare Volume; Find Volume of Composed Figures Chapter 11 Test

Classroom Rules

- Students must be in the classroom and seated at their desks when the bell rings
- Students must work quietly in a low tone during group activities
- Students must not chew gum, eat, or drink in the classrooms
- Students must follow teachers' directives without challenge at all times
- Students must address the school personnel as Mr. (Baron), Mrs. (Digin), Ms./Miss (Oryort)
- Students must raise a hand to request permission to talk or to ask questions
- Students must be highly attentive to class instructions
- Students must avoid sleeping in the classroom
- Students must be under supervision at all times
- Students may not be in a classroom without the presence of a teacher
- Restroom visits must be done at recesses only, except in emergency situations
- Students cannot visit other classrooms
- Students may not have incomplete or missing homework assignments
- Students must bring the required workbooks and textbooks to classroom
- Students must be prepared for classroom work
- Students must not miss parental signatures in assignment book or on tests.

The Cooperation Grade reflects a student's behavior and work habits in the classroom. Therefore, the Cooperation Grade is assigned based on the number of violations committed relative to the above-mentioned Classroom Rules. If a student frequently violates the above-mentioned Classroom Rules, the teacher must submit a "Referral Form" to the Office for proper action. Teachers are responsible in dealing with the above-mentioned classroom infractions as follows:

Classroom Infractions & Cooperation Grade		
4	Excellent	Exemplary conduct and no infractions
3	Good	Good behavior and no infractions
2	Needs Improvement	1-5 infractions
1	Unsatisfactory	6-10 infractions

At the end of each quarter, two and more "Unsatisfactory" grades in Cooperation will lead the Administration to issue the student a probation contract. If the performance of the student has not improved in the following quarter, then the student will be denied registration the ensuing year or face expulsion process.

This section includes additional classroom rules set by the teacher

1. Be in your assigned seat and ready to work.
2. Take out required books and materials in every class, unless told otherwise by the teacher.
3. Listen and stay seated when someone is speaking.
4. Follow directions the first time they are given.
5. Turn assignments in on time.
6. Treat everyone and their property respectfully

Assessment Method

Test/Quiz Policy
Students take at least TWO tests and two quizzes per class or course per semi-quarter. Two to four quizzes may be counted as one test. It is up to the individual teacher to adopt a policy to drop the lowest test grade of a student in calculating the quarter grade. No more than two tests are scheduled on the same day. The test scheduled last will be automatically dropped.

Test/Quiz Make-Up
Students with **excused** absences shall have the opportunity to complete missed class work and make up all tests receiving full credit. The student is responsible to arrange for the make-up.

Students who miss a test/quiz because of an **unexcused** absence will receive a failing grade on that test/quiz, except when the teacher decides to offer the chance for make-up.

If a student misses a test/quiz while on suspension, he/she will not have the opportunity to make up the test/quiz and will receive an "F".

Cheating
Acts of cheating or plagiarism will result in suspension and the student will receive an "F" (20/100) on the test or the assigned work.

This section includes additional grading rules set by the teacher

The grades assigned to students are based on their **academic progress** and their **classroom behavior**. Students receive **Academic** and **Cooperation** grades for every quarter of the four-quarter academic year. Students also receive a mid-term progress report for each of these 9-10 weeklong quarters. Besides the quarter grades, students are assigned semester grades for each class or course.

Academic Grade Scale - Grades K-5			
Letter Grade	Scale of 100	Scale of 4	
A+	100-97	4.0	
A	96-93	4.0	Exceeds grade level standards
A-	92-90	3.7	
B+	89-87	3.3	
B	86-83	3.0	Meets grade level standards
B-	82-80	2.7	
C+	79-77	2.3	

C	76-73	2.0	Partially meets grade level standards
C-	72-70	1.7	
D+	69-67	1.3	
D	66-63	1.0	Below grade level standards
D-	62-60	0.7	
F	59-0	0	Fail

Tests   50%
Quiz   10%
Homework 15%
Classwork   15%
Participation 10%