

Student: _____

Year: _____

Teacher: _____

**Indicates not taught this
9 weeks*

| Fifth Grade Math Checklist | | | | | 1st 9 Weeks | 2nd 9 Weeks | 3rd 9 Weeks | 4th 9 Weeks |
|---|--|--|--|--|----------------|----------------|----------------|----------------|
| Number and Operations | | | | | | | | |
| <i>M5N1: Students will further develop their understanding of whole numbers.</i> | | | | | | | | |
| a. Classify the set of counting numbers into subsets with distinguishing characteristics (odd/even, prime/composite). | | | | | | | | |
| b. Find multiples and factors. | | | | | | | | |
| c. Analyze and use divisibility rules. | | | | | | | | |
| <i>M5N2: Students will further develop their understanding of decimals as part of the base-ten number system.</i> | | | | | | | | |
| a. Understand place value. | | | | | | | | |
| b. Analyze the effect on the product when a number is multiplied by 10, 100, 1000, 0.1, 0.01, 0.001. | | | | | | | | |
| c. Use <, >, or = to compare decimals and justify the comparison. | | | | | | | | |
| <i>M5N3: Students will further develop their understanding of the meaning of multiplication and division with decimals and use them.</i> | | | | | | | | |
| a. Model multiplication and division of decimals. | | | | | | | | |
| b. Explain the process of multiplication and division, including situations in which the multiplier and divisor are both whole numbers and decimals. | | | | | | | | |
| c. Multiply and divide with decimals including decimals less than one and greater than one. | | | | | | | | |
| d. Understand that the relationships and rules for multiplication and division of whole numbers also apply to decimals. | | | | | | | | |
| <i>M5N4: Students will continue to develop their understanding of the meaning of common fractions and compute with them.</i> | | | | | | | | |
| a. Understand division of whole numbers can be represented as a fraction ($a/b = a \div b$). | | | | | * | | | |
| b. Understand the value of a fraction is not changed when both its numerator and denominator are multiplied or divided by the same number because it is the same as multiplying or dividing by one. | | | | | * | | | |
| c. Find equivalent fractions and simplify fractions. | | | | | * | | | |
| d. Model the multiplication and division of common fractions. | | | | | * | | | |
| e. Explore finding common denominators using concrete, pictorial, and computational models. | | | | | * | | | |
| f. Use <, >, or = to compare fractions and justify the comparison. | | | | | * | | | |
| g. Add and subtract common fractions and mixed numbers with unlike denominators. | | | | | * | | | |
| h. Use fractions (proper and improper) and decimals interchangeably. | | | | | * | | | |
| i. Estimate products and quotients. | | | | | * | | | |
| <i>M5N5: Students will understand the meaning of percentage.</i> | | | | | | | | |
| a. Explor and model percents using multiple representations. | | | | | * | | | |
| b. Apply percents to circle graphs. | | | | | * | | | |
| Measurement | | | | | | | | |
| <i>M5M1: Students will extend their understanding of area of geometric plane figures.</i> | | | | | | | | |
| a. Estimate the area of geometric plane figures. | | | | | * | * | | |
| b. Derive the formula for the area of a parallelogram. | | | | | * | * | | |
| c. Derive the formula for the area of a triangle | | | | | * | * | | |
| d. Find the areas of triangles and parallelograms using formulae. | | | | | * | * | | |
| e. Estimate the area of a circle through partitioning and tiling. | | | | | * | * | | |
| f. Find the area of a polygon (regular and irregular) by dividing it into squares. | | | | | * | * | | |
| g. Derive the formula for the area of a circle. | | | | | * | * | | |
| h. Find the area of a circle using the formula and $\pi \approx 3.14$. | | | | | * | * | | |
| <i>M5M2: Students will extend their understanding of perimeter to include circumference.</i> | | | | | | | | |
| a. Derive the formula for the circumference of a circle. | | | | | * | * | | |
| b. Find the circumference of a circle using the formula and $\pi \approx 3.14$. | | | | | * | * | | |
| <i>M5M3: Students will measure capacity with appropriately chosen units and tools.</i> | | | | | | | | |
| a. Use milliliters, liters, fluid ounces, cups, pints, quarts, and gallons to measure capacity. | | | | | * | * | * | |
| b. Compare one unit to another within a single system of measurement. | | | | | * | * | * | |

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|--|---|---|---|-------------|-------------|-------------|-------------|
| Measurement | | | | | | | |
| <i>M5M4: Students will understand and compute the volume of a simple geometric solid.</i> | | | | | | | |
| a. Understand a cubic unit (u^3) is represented by a cube in which each edge has a length of 1 unit. | * | * | * | | | | |
| b. Identify the units used in computing volume as cubic centimeters (cm^3), cubic meter (m^3), cubic inches (in^3), cubic feet (ft^3), and cubic yards (yd^3). | * | * | * | | | | |
| c. Derive the formula for finding the volume of a cube and a rectangular prism using manipulatives. | * | * | * | | | | |
| d. Compute the volume of a cube and a rectangular prism using formulae. | * | * | * | | | | |
| e. Estimate the volume of a simple geometric solid. | * | * | * | | | | |
| f. Understand the similarities and differences between volume and capacity. | * | * | * | | | | |
| Geometry | | | | | | | |
| <i>M5G1: Students will understand congruence of geometric figures and the correspondence of their vertices, sides, and angles.</i> | * | * | | | | | |
| <i>M5G2: Students will understand the relationship of the circumference of a circle to its diameter is pi ($\pi \approx 3.14$).</i> | * | * | | | | | |
| Algebra | | | | | | | |
| <i>M5A1: Students will represent and interpret the relationship between quantities algebraically.</i> | | | | | | | |
| a. Use variables, such as n or x , for unknown quantities in algebraic expressions. | * | * | | | | | |
| b. Investigate simple algebraic expressions by substituting numbers for the unknown. | * | * | | | | | |
| c. Determine that a formula will be reliable regardless of the type of number (whole numbers or decimals) substituted for the variable. | * | * | | | | | |
| Data Analysis and Probability | | | | | | | |
| <i>M5D1: Students will analyze graphs.</i> | | | | | | | |
| a. Analyze data presented in a graph. | * | | | | | | |
| b. Compare and contrast multiple graphic representations (circle graphs, line graphs, line plot graphs, pictographs, Venn diagrams, and bar graphs) for a single set of data and discuss the advantages and disadvantages of each. | * | | | | | | |
| c. Determine and justify the mean, range, mode, and median of a set of data. | * | | | | | | |
| <i>M5D2: Students will collect, organize, and display data using the most appropriate graphs.</i> | * | | | | | | |
| Process Skills | | | | | | | |
| <i>M5P1: Students will solve problems (using appropriate technology).</i> | | | | | | | |
| a. Build new mathematical knowledge through problem solving. | | | | | | | |
| b. Solve problems that arise in mathematics and in other contexts. | | | | | | | |
| c. Apply and adapt a variety of appropriate strategies to solve problems. | | | | | | | |
| d. Monitor and reflect on the process of mathematical problem solving. | | | | | | | |
| <i>M5P2: Students will reason and evaluate mathematical arguments.</i> | | | | | | | |
| a. Recognize reasoning and proof as fundamental aspects of mathematics. | | | | | | | |
| b. Make and investigate mathematical conjectures. | | | | | | | |
| c. Develop and evaluate mathematical arguments and proofs. | | | | | | | |
| d. Select and use various types of reasoning and methods of proof. | | | | | | | |
| <i>M5P3: Students will communicate mathematically.</i> | | | | | | | |
| a. Organize and consolidate their mathematical thinking through communication. | | | | | | | |
| b. Communicate their mathematical thinking coherently and clearly to peers, teachers, and others. | | | | | | | |
| c. Analyze and evaluate the mathematical thinking and strategies of others. | | | | | | | |
| d. Use the language of mathematics to express mathematical ideas precisely. | | | | | | | |
| <i>M5P4: Students will make connections among mathematical ideas and to other disciplines.</i> | | | | | | | |
| a. Recognize and use connections among mathematical ideas. | | | | | | | |
| b. Understand how mathematical ideas interconnect and build on one another to produce a coherent whole. | | | | | | | |
| c. Recognize and apply mathematics in contexts outside of mathematics. | | | | | | | |
| <i>M5P5: Students will represent mathematics in multiple ways.</i> | | | | | | | |
| a. Create and use representations to organize, record, and communicate mathematical ideas. | | | | | | | |

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|---|--|--|--|--|
| b. Select, apply, and translate among mathematical representations to solve problems. | | | | |
| c. Use representations to model and interpret physical, social, and mathematical phenomena. | | | | |