5TH GRADE MATH CURRICULUM MAP
3rd QUARTER- 40 DAYS

Days	Standard	practices	explanation	resources
8 days	5.NF.B.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.	5.MP.2. Reason abstractly and quantitatively. 5.MP.4. Model with mathematics. 5.MP.6. Attend to precision. 5.MP.7. Look for and make use of structure.	3/4 ×7 is less than 7 because 7 is multiplied by a factor less than 1 so the product must be less than 7. 2 2/3 x 8 must be more than 8 because 2 groups of 8 is 16 and 2 2/3 is almost 3 groups of 8. So the answer must be close to, but less than 24. 3 5 X 3 because multiplying 3 by 5 is the same as multiplying by 1. 4 5 X 4 4 5	Engage NY 21-24 envisions topic 11 galileo

6 days	5.NF.B.7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. (Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division, but division of a fraction by a fraction is not a requirement at this grade.) 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.	5.MP.1. Make sense of problems and persevere in solving them. 5.MP.2. Reason abstractly and quantitatively. 5.MP.3. Construct viable arguments and critique the reasoning of others. 5.MP.4. Model with mathematics. 5.MP.5. Use appropriate tools strategically. 5.MP.6. Attend to precision. 5.MP.7. Look for and make use of structure. 5.MP.8. Look for and express regularity in repeated reasoning.	In fifth grade, students experience division problems with whole number divisors and unit fraction dividends (fractions with a numerator of 1) or with unit fraction divisors and whole number dividends. Students extend their understanding of the meaning of fractions, how many unit fractions are in a whole, and their understanding of multiplication and division as involving equal groups or shares and the number of objects in each group/share. In sixth grade, they will use this foundational understanding to divide into and by more complex fractions and develop abstract methods of dividing by fractions. Example: Knowing the number of groups/shares and finding how many/much in each group/share • Four students sitting at a table were given 1/3 of a pan of brownies to share. How much of a pan will each student get if they share the pan of brownies equally? The diagram shows the 1/3 pan divided into 4 equal shares with each share equaling 1/12 of the pan. 	Engage Ny 25-31 envisions topic 11 galileo

9 days	5.MD.C.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.	5.MP.2. Reason abstractly and quantitatively. 5.MP.4. Model with mathematics. 5.MP.5. Use appropriate tools strategically. 5.MP.6. Attend to precision. 5.MP.7. Look for and make use of structure.	Students’ prior experiences with volume were restricted to liquid volume. As students develop their understanding volume they understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. This cube has a length of 1 unit, a width of 1 unit and a height of 1 unit and is called a cubic unit. This cubic unit is written with an exponent of 3 (e.g., in3, m3). Students connect this notation to their understanding of powers of 10 in our place value system. Models of cubic inches, centimeters, cubic feet, etc., are helpful in developing an image of a cubic unit. Student’s estimate how many cubic yards would be needed to fill the classroom or how many cubic centimeters would be needed to fill a pencil box	ngage NY 1-9 envisions topic 12 galileo

5 days	5.MD.C.4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units	5.MP.2. Reason abstractly and quantitatively. 5.MP.4. Model with mathematics. 5.MP.5. Use appropriate tools strategically. 5.MP.6. Attend to precision.	Students understand that same sized cubic units are used to measure volume. They select appropriate units to measure volume. For example, they make a distinction between which units are more appropriate for measuring the volume of a gym and the volume of a box of books. They can also improvise a cubic unit using any unit as a length (e.g., the length of their pencil). Students can apply these ideas by filling containers with cubic units (wooden cubes) to find the volume. They may also use drawings or interactive computer software to simulate the same filling process. Technology Connections: http://illuminations.nctm.org/ActivityDetail.aspx?ID=6	ngage NY 1-9 envisions topic 12 galileo

12 days	5.MD.C.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 ´ w ´ h and V = b ´ 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	5.MP.1. Make sense of problems and persevere in solving them. 5.MP.2. Reason abstractly and quantitatively. 5.MP.3. Construct viable arguments and critique the reasoning of others. 5.MP.4. Model with mathematics. 5.MP.5. Use appropriate tools strategically. 5.MP.6. Attend to precision. 5.MP.7. Look for and make use of structure. 5.MP.8. Look for and express regularity in repeated reasoning	Students need multiple opportunities to measure volume by filling rectangular prisms with cubes and looking at the relationship between the total volume and the area of the base. They derive the volume formula (volume equals the area of the base times the height) and explore how this idea would apply to other prisms. Students use the associative property of multiplication and decomposition of numbers using factors to investigate rectangular prisms with a given number of cubic units. Examples: • When given 24 cubes, students make as many rectangular prisms as possible with a volume of 24 cubic units. Students build the prisms and record possible dimensions. Length Width Height 1 2 12 2 2 6 4 2 3 8 3 1 • Students determine the volume of concrete needed to build the steps in the diagram below. • A homeowner is building a swimming pool and needs to calculate the volume of water needed to fill the	Engage Ny 4-9 envisions Topic 12 galileo