Louisiana STUDENT STANDARDS MATHEMATICS

| MATH	3	F
MATHEMATICS	GRADE	FOCUS

This focus document shows where students and teachers should spend the large majority of their time in order to meet the expectations of the Louisiana Student Standards for Mathematics.

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Louisiana Standards for Mathematical Practice.

To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade.
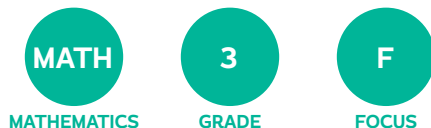
MAJOR, SUPPORTING, AND ADDITIONAL CLUSTERS FOR GRADE 3

Emphases are given at the cluster level. Refer to the Louisiana Student Standards for Mathematics for the specific standards that fall within each cluster. Students should spend the large majority[1] of their time on the major work of the grade.[2]

■ Major Clusters ☐ Supporting Clusters ○ Additional Clusters

3.OA.A	■	Represent and solve problems involving multiplication and division.
3.OA.B	■	Understand properties of multiplication and the relationship between multiplication and division.
3.OA.C	■	Multiply and divide within 100.
3.OA.D	■	Solve problems involving the four operations, and identify and explain patterns in arithmetic.
3.NBT.A	○	Use place value understanding and properties of operations to perform multi-digit arithmetic.
3.NF.A	■	Develop understanding of fractions as numbers.
3.MD.A	■	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
3.MD.B	☐	Represent and interpret data.
3.MD.C	■	Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
3.MD.D	○	Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
3.MD.E	☐	Work with money.
3.G.A	☐	Reason with shapes and their attributes.

HIGHLIGHTS OF MAJOR WORK IN GRADES K–8

K–2	Addition and subtraction – concepts, skills, and problem solving; place value
3–5	Multiplication and division of whole numbers and fractions – concepts, skills, and problem solving
6	Ratios and proportional relationships; early expressions and equations
7	Ratios and proportional relationships; arithmetic of rational numbers
8	Linear algebra and linear functions

REQUIRED FLUENCIES FOR GRADE 3

3.OA.C.7	Single-digit products and quotients (Products from memory by end of Grade 3)
3.NBT.A.2	Add/subtract within 100

1 At least 65% and up to approximately 85% of class time, with Grades K–2 nearer the upper end of that range, should be devoted to the major work of the grade.

2 Note, the critical areas are a survey of what will be taught at each grade level; the major work is the subset of topics that deserve the large majority of instructional time during a given year to best prepare students for college and careers.

EXAMPLES OF KEY ADVANCES FROM GRADE 2 TO GRADE 3

This section highlights some of the major grade-to-grade steps in the progression of increasing knowledge and skill detailed in the standards. Each key advance in mathematical content also corresponds to a widening scope of problems that students can solve. Examples of key advances are highlighted to stress the need to treat topics in ways that take into account where students have been in previous grades and where they will be going in subsequent grades.

- Students in grade 3 begin to enlarge their concept of number by developing an understanding of fractions as numbers. This work will continue in grades 3-6, preparing the way for work with the complete rational number system in grades 6 and 7.

- Students in grades K-2 worked on number; place value; and addition and subtraction concepts, skills and problem solving. Beginning in grade 3, students will learn concepts, skills, and problem solving for multiplication and division. This work will continue in grades 3, 4 and 5, preparing the way for work with ratios and proportions in grades 6 and 7.

FLUENCY EXPECTATIONS OR EXAMPLES OF CULMINATING STANDARDS

This section highlights individual standards that set expectations for fluency or that represent culminating masteries. Fluency standards are highlighted to stress the need to provide sufficient supports and opportunities for practice to help students meet these expectations. Wherever the word "fluently" appears in a content standard, it is used to mean "quickly and accurately." A key aspect of fluency in this sense is that it does not happen all at once in a single grade, but requires attention to student understanding as they progress towards college/career readiness. It is important to ensure that sufficient practice and extra support are provided at each grade, to allow all students to meet the standards that call explicitly for fluency. Fluency is not meant to come at the expense of understanding but is an outcome of a progression of learning and sufficient thoughtful practice. It is important to provide the conceptual building blocks that develop understanding in tandem with skill along the way to fluency; the roots of this conceptual understanding often extend to one or more grades earlier in the standards than the grade when fluency is finally expected. Culminating standards are highlighted to help give a sense of critical foundations needed to maintain progressions from grade to grade.

3.OA.C.7 Students fluently multiply and divide within 100. By the end of grade 3, they know all products of two one-digit numbers from memory.

3.NBT.A.2 Students fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. (Although 3.OA.C.7 and 3.NBT.A.2 are both fluency standards, these two standards do not represent equal investments of time in grade 3. Note that students in grade 2 were already adding and subtracting within 1000, just not fluently. That makes 3.NBT.A.2 a relatively small and incremental expectation. By contrast, multiplication and division are new in grade 3, and meeting the multiplication and division fluency standard 3.OA.C.7 with understanding is a major portion of students' work in grade 3.)

EXAMPLES OF MAJOR WITHIN-GRADE DEPENDENCIES

This section highlights cases in which a body of content within a given grade depends, conceptually or logically, upon another body of content within that same grade. Examples of within-grade dependencies are highlighted to stress the need to organize material coherently within the grade. (Because of space limitations, only examples of large-scale dependencies are described in this section, but coherence is important for dependencies that exist at finer grain sizes as well.)

- Students must begin work with multiplication and division (3.OA) at or near the very start of the year to allow time for understanding and fluency to develop. Note that area models for products are an important part of this process (3.MD.C.7). Hence, work on concepts of area (3.MD.C.5–6) should likely begin at or near the start of the year as well.

EXAMPLES OF OPPORTUNITIES FOR CONNECTIONS AMONG STANDARDS, CLUSTERS OR DOMAINS

This section highlights opportunities for connecting content in assessments, as well as in curriculum and instruction. Examples of connections are highlighted to stress the need to avoid approaching the standards as merely a checklist.

- Students' work with partitioning shapes (3.G.A.2) relates to visual fraction models (3.NF).

- Scaled picture graphs and scaled bar graphs (3.MD.B.3) can be a visually appealing context for solving multiplication and division problems.