

Represent and solve problems involving multiplication and division within 100

Standard 3.OA.7 Fluently multiply and divide.

- A.** Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations. (For example, knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$).
- B.** By the end of Grade 3, know from memory all products of two one-digit numbers.

Key Elements: Multiplying two single-digit numbers can be done using models and counting strategies. By the end of third grade, students should be in the stage of “I just know it” when solving multiplication and division problems within 100.

“There are many good teaching strategies for encouraging fluency in math, but the ones that are effective are those that simultaneously develop number sense – the flexible use and understanding of number and quantities – without instilling fear and anxiety. Strategies that involve reasoning about numbers and operations, such as the pedagogical approach called “number talks,” are ideal for developing fluency with understanding.”

- Jo Boaler

Fluency has 3 key elements: Accuracy, efficiency, and flexibility. Focusing too much on one element can be detrimental to students’ math confidence.

Setting fluency goals can motivate students to learn their multiplication and division facts by memory. While timed multiplication tests are a valuable tool, keep in mind that they are NOT the only way to practice fluency. If using a fluency quiz, make it part of your daily routine and make sure students know that the quizzes are for their benefit only, and will not be graded in any way. Placing too much stress on these types of tests gives students feelings of anxiety. Give your students a recording sheet (attached) where they can make goals and record their scores from fluency quizzes. This will give your quizzes a clear purpose and eliminate some of the dread that often comes with them.

Grade	Standard	Required Fluency
K	K.OA.5	Add/subtract within 5
1	1.OA.6	Add/subtract within 10
2	2.OA.2 2.NBT.5	Add/subtract within 20 Add/subtract within 100
3	3.OA.7 3.NBT.2	Multiply/divide within 100 Add/subtract within 1000
4	4.NBT.4	Add/subtract within 1,000,000
5	5.NBT.5	Multi-digit multiplication
6	6.NS.2,3	Multi-digit division Multi-digit decimal operations

Instead of teaching your students multiplication facts based on number, (learning 0's, 9's, 5's, etc.) introduce them by strategy instead. **See 3.OA.9 for a strategy chart and powerpoint.**

Find multiplication and division games [here](#).