

Grade 4 Computational Mathematics Fluency Lesson

Elementary Lesson	
A fourth-grade class of twenty-two students includes eight students who do not know their basic multiplication facts. Several students also have a difficult time attending to tasks, staying organized, and handing in assignments on time. One-third of the class has higher computational fluency and is able to multiply two-digit factors by three-digit factors.	
Learning Goal	Students apply multiplication concepts and strengthen computational fluency.
Resources	Students need mathematics manipulatives, handheld items (for example, graph paper, Cuisenaire rods, and hundredths charts), and virtual tools such as times table at NCTM Illuminations (http://illuminations.nctm.org) and Rectangle Multiplication of Integers at the National Library of Virtual Manipulatives (http://nlvm.usu.edu/en/nav/vlibrary.html).
Cross-Curricular Connections	The subjects this lesson uses: Music—Students listen to multiplication songs as models, such as Flocabulary’s “Multiplication and Division” (www.flocabulary.com/topics/multiplication-division) and then create their own multiplication-related songs. Reading and writing—Students read Jerry Pallotta’s (2002) <i>The Hershey’s Milk Chocolate Multiplication Book</i> , and use the resource as a model to create their own multiplication book.
Multitiered System of Supports	The following occurs at Tiers 1, 2, and 3. Tier 1: During whole-class instruction, all students practice mathematics facts individually and in small groups. They graph and record scores and compete against prior performances. Students collaboratively solve word problems that involve multiplication skills. Tier 2: Informal multiplication assessment reveals that there are five students who are not evidencing progress after three weeks of mathematics practice and application. They require extra monitoring to be certain that the class and homework assignments are written in their homework trackers and completed with accuracy. The teacher provides these students with additional feedback and increased computational practice during thirty-minute pullout sessions three times a week. He or she monitors them daily for time on task and for multiplication fluency in small- and whole-group instruction. Tier 3: Three additional students require more practice to achieve automaticity. These students complete daily five-minute multiplication mathematics drills, while other students in the class increase fluency with multidigit multipliers and create their own multiplication word problems. Students skip count and record patterns on hundreds charts with guided daily forty-five-minute instruction from the mathematics specialist.

References

Pallotta, J. (2002). *The Hershey’s milk chocolate multiplication book*. New York: Scholastic.