

Basic Fact Fluency Standards

Math fact fluency is the ability to recall the answers to basic math facts automatically and without hesitation. Fact fluency is defined as “quick recall without the use of tools”. Fluent in the Common Core Standards means “fast and accurate”. Students are expected to have speed and accuracy in calculation. It is very important that all students understand the **concepts** of addition, subtraction, multiplication and division.

Common Core Required Fluencies K-5th Grade:

Grade	Grade Level Expectations	Common Core Standards
K	Sums (+) and minuends (-) to 5	K.OA.5
1st	Sums (+) and minuends (-) to 10	1.OA.6
2nd	Sums (+) and minuends (-) to 20	2.OA.2
3rd	Products (×) and Dividends (÷) to 100	3.OA.7
4th	Maintain fluency (+, -, ×, ÷)	
5th	Maintain fluency (+, -, ×, ÷)	

Instructional Recommendations:

It is imperative that teachers spend time teaching and practicing the strategies as well as spend time practicing to develop automatic retrieval of facts.

- Devote about 10 minutes daily to **teaching** basic facts
- Use explicit and systematic instruction, guided practice, corrective feedback, and frequent cumulative review
- Facts should be taught in an interrelated context which emphasizes the connections between addition and subtraction and the connection between multiplication and division.
- For students in K through grade 2, teach efficient counting strategies to derive facts
- For students in grades 2 – 5, use properties of numbers to derive facts
- Utilize visual representations
- Utilize motivational strategies (i.e. graphing results, filling in fact squares to show mastered facts, sticker charts, prize tickets, privileges, note home, class reward, etc.)

Addition Strategies	Subtraction Strategies	Multiplication Strategies	Division Strategies
1. Adding zero 2. Counting on by 1 or 2 3. Sums to 5 4. Sums to 10 5. Make or using a ten 6. Doubles 7. Doubles plus 1 8. Doubles plus 2 9. Nines	1. Fact families 2. Count backwards by 1, 2, or 3 3. Zeros 4. Sames 5. Recognizing doubles 6. Make a ten 7. Subtracting nines	1. Skip counting 2. Counting up or down from known fact 3. Multiplication by zero, by one, by two, by five, by ten, by nine 4. Squaring 5. Distributive property	1. Fact families

Assessing student knowledge of basic math facts(+, -, ×, ÷):

In order to assess if a student knows their basic facts, there are a variety of assessment strategies that should be utilized. In general, the response time expectation is 2 – 3 seconds per fact. In K and 1st grade, the majority of time is spent working with strategies versus automatic recall. Students need to become fluent in their use of and understanding of each strategy. Strategies for assessment include:

- Game play (i.e. teacher plays the hand game with 5 objects. Teacher hides objects and student must fluently guess how many are hiding.)
- Oral assessment
- Timed and Untimed

Kindergarten	4	1 st grade expectation (95 -100%)	The Progress Report summary should include performance on math fluency under computation along with other grade level computational expectations. At the end of the 3 rd trimester, teachers will input final assessment results for fact fluency in to the Student Portfolio System for each fact type.
	3	90 – 100%	
	2	50 – 89%	
	1	0 – 40%	
Grades 1 - 5	4	100%	
	3	95 - 99%	
	2	50 - 94%	
	1	0 - 49%	

Note: Accuracy % based on 20 problems in one minute for 1st – 5th and 10 problems in one minute for Kindergarten. District measures (4 of each type) have been created for teacher use. Measures can be ordered from the print shop.

Resources for Mastery:

1. Match Facts in a Flash (Renaissance Learning)
2. Flash card activities (available for order from printshop)
3. Fact games (around the world, dice, spinner, bingo, worksheet games, addition or subtraction war)
4. Systematic fact timings
5. SuperSpeed Math from WBT
6. Computer based practice
 - Fun Brain: <http://www.funbrain.com/kidscenter.html> (Math Baseball, Soccer Shootout, Tic Tac Two Squares, Math Car Racing)
 - The Arithm Attack: <http://www.dep.anl.gov/aattack.htm> (one minute timing)
 - A Plus Math: <http://www.aplusemath.com/Flashcards/index.html> (games, flashcards, worksheets)
 - Multiplication.com: http://www.multiplication.com/interactive_games.htm (interactive math games)
 - XtraMath: <https://www.xtramath.org/> (Help kids master basic math facts)
 - Math Snack: <http://mathsnack.com/> (educational mini games)
 - Learn Zillion: <http://learnzillion.com/> (2,000 common core lessons)