



# Mastering Basic Facts (Math) Course Syllabus

## Course Description

This course will cover terms, strategies, and practical applications to help you master basic addition and multiplication facts. There are five modules of content with a quiz at the end of each. You'll need to score at least 80% to pass each test and pass the course. This is not an overall average of all test scores, but rather on each test. Be sure to thoroughly study the lesson concepts and materials in order to be prepared for taking the assessments. Upon completion of the fifth test, you have finished the course. There are no assignments or papers.

## Course Objectives:

- Understand that math fact mastery is developed as a process
- Understand that addition and multiplication facts are best developed through reasoning strategies
- Recognize classroom instruction that could be elevated to improve fact development

## Module 1 :

### **Focus: Understanding the Developmental Nature of Basic Math Facts Objectives:**

- Understand the difference between memorization and automaticity
  - Understand 3 phases in math fact development
  - Understand approaches to fact mastery and that not all are equally effective
- Quiz 1

## Module 2

### **Focus: Mastering Basic Math Facts Objectives:**

- Understanding effective drill for practice
  - Understand how games support practice by building fluency
  - Understand that speed doesn't represent mastery
- Quiz 2

## Module 3

### **Focus: Reasoning Facts for Addition/Subtraction Facts Objectives:**

- Understand the addition and subtraction facts should be taught through patterns, rather than sequentially.
  - Understand that subtraction facts are mastered by understanding the corresponding addition fact.
  - Understand that time spent diagnosing what individual students have mastered and their gaps will help plan
- Quiz 3



## Module 4

### **Focus: Reasoning Strategies for Multiplication/Division Facts Objectives:**

- Recognize that multiplication facts should be taught through patterns, rather than sequentially.
- Understand that multiplications facts can and should be mastered by relating new facts to existing facts
- Understand that the commutative property cuts the basic facts to be memorized in half. Therefore, the commutative property should be completely understood through visualization.

Quiz 4

## Module 5

### **Focus: Remediation and Assessment Objectives:**

- Recognize 5 key ideas to help develop older students
- Understand what to do and not to do when teaching math facts
- Become familiar with several assessment strategies for assessing math facts

Quiz 5

## Grading

### **Required Scores for Passing each test:**

Quiz 1	5 points	4 points
Quiz 2	5 points	4 points
Quiz 3	5 points	4 points
Quiz 4	6 points	4.8 points
Quiz 5	5 points	4 points
<b>Total Possible:</b>	<b>26 points</b>	<b>20.8</b>