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Teaching Elementary Mathematics - Multiplication

Using Concrete Materials to Explore Abstract Concepts

EDUO 9520 1-3 Semester Credit(s)/Unit(s)

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You must be currently teaching students to successfully complete this course.

Note: This is a Public syllabus of the course. For a full detailed syllabus please email the instructor.

Public Syllabus

Course Overview

“**Multiplication**” gives greater meaning to multiplication concepts through interactive activities that the teacher may use with their whole class or in learning centers with small groups. Most of the activities have extensions or modifications that allow the teacher to “tailor” the materials to the needs of their students. This is a hands-on, experience-based course for teaching multiplication concepts.

Course Objectives:

The teacher will:

1. Develop engaging student mathematical materials.
2. Prepare/construct interactive activities that can be used in learning centers or with the whole class.
3. Model multiplication concepts in a variety of presentations, in particular using equal additions, arrays, and factor trees.

Course Relation to CCS or other Professional Standards

This course aligns to the standards for: *K-12 California’s Common Core Content Standards for Mathematics:*

Grade two – Operations and Algebraic Thinking

5. Use repeated addition and counting by multiples to demonstrate multiplication.

Grade Three – Operations and Algebraic Thinking

7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Geometric Measurement

7. Relate area to the operations of multiplication and addition.

Grade Four – Operations and Algebraic Thinking

4. Find all factor pairs for a whole number in the range 1-100.

Grade Five – Operations and Algebraic Thinking

- 2.1 Express a whole number in the range 2-50 as a product of its prime factors. For example, find the prime factors of 24 and express 24 as $2 \times 2 \times 2 \times 3$.

Measurement and Data

5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.
 - a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths...

Course Assignments

B1 Staff Training Component: Teaching Multiplication

- Read a five page illustrated section on teaching multiplication and answer three questions.
- Draw a map of your current classroom. Draw a map of your room set up for learning centers.

B2 Student Activities and Extensions

There are eighteen activities for teaching multiplication concepts. Many of the activities have additional extensions suggested for further exploration. There are more activities provided than are needed to meet the requirements for this course. You will need to choose the activities that are appropriate for you and your students.

For a number of activities you will need to write a paragraph reflecting on your experiences in teaching each of those activities. (What went well? What would you do differently next time? Etc.)

The requirements listed below define what is necessary for earning one, two, or three credit(s)/unit(s). (The staff training component is required regardless of how many units are taken.)

Credits/Units	One	Two	Three
Student Activities	4	7	11
Extensions	1	3	5
Reflections	1	3	4

Course Assessment Rubric

Excellent: Meets or exceeds course assignments

A to A-

Acceptable: Majority of work meets course requirements

B+ to B-

Not Acceptable: Needs considerable improvement
Unacceptable/Resubmit

Staff training sections B1a and B1b completed. Classroom maps neatly done with labels easy to read.	Staff training sections B1a and B1b completed. Classroom maps show minimal information with few labels.	Staff training sections B1a and B1b incomplete or missing.
All student activities completed, with photo-documentation showing student participation and examples of their work.	All student activities completed. Photo-documentation is incomplete, with some examples missing.	Student activities missing. No photo-documentation.
Complete heading at the top of each completed assignment.	Incomplete or incorrect headings at the top of several assignments.	Missing headings at the top of assignments.
All completed assignments organized following the order of the checklist, with the checklist included at the top of the submission.	Poor organization of completed assignments. Checklist not placed at the top of the submission.	Unorganized submission- did not follow directions. No checklist included.
Clear, relevant, detailed, and thoughtful reflections.	Relevant reflections, but lacking in detail and insight.	Reflections are missing, or if present are irrelevant.
Submission has no spelling and/or grammatical errors.	Submission has several spelling and/or grammatical errors.	Submission has numerous spelling and/or grammatical errors.

- You are allowed 9 months to complete the course.
- For questions involving your registration please contact us at support@dominicanCAonline.com or call (800) 626-5080. To change your address, link to your Dominican Store account at https://www.dominicancaonlinestore.com/store/index.php?main_page=login
 - For Dominican Self-Guided course information, link to <http://dominicancaonline.com/Dominican-CA-Online-FAQ>