Performance Task Plan

Title	Explanation of Multiplication
Grade	4
Time Line	One week
Designer(s)	Patricia Cox

Project Sketch
(a short summary of the unit including expected/possible products)

Students will discuss and explore multiplication through use of arrays and the standard algorithm. Expected outcome will be a group project with emphasis on explaining the process of multiplication using math vocabulary and illustrations.

Instructional Focus

Compelling Question:	How can I effectively explain my mathematical thinking and reasoning about the process of multiplication to others?

Standards	*Focus*	*Complementary*	*NETS-s*
	MCC4NBT.5 Multiply a whole number of up to four digits by one digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays and/or area models.	**ELACC4W2** Write informational/explanatory texts to examine a topic and convey ideas and information clearly. d. Use precise language and domain specific vocabulary to inform or explain the topic.	**1b**. Create original works as a means of personal or group expression. **2d**. Contribute to project teams to produce original works or solve problems. **6b**.Select and use apps effectively and productively.

Assessment (Milestones)

Diagnostic	*Formative*	*Summative*
4 Question Pre-Test	Array Formative Math Journal Prompt 4 Question Pre-Test (after instruction) Group Project	Q1 Assessment 4 – Multiplication Summative

Instructional Plan

	Teacher Role	*Student Role*	*Milestones*	*Resources/Materials*
Introduction	Administer the 4-Question Pre-Test Whole group discussion: Pose the questions • What is multiplication? • How can we solve multiplication problems? Record information on Anchor Chart Facilitate Discussion	Complete Pre-Assessment Participate in learning through discussion and note-taking.	Pre-Test	Copy of Pre-Test for each student. Chart paper/markers, sticky notes Math Journals *BYOT options*: note-taking apps such as Notes, Note Ledge, Sticky Notes, Evernote, etc.

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Instruction & Activities	Day 1 – Mini-lesson on Arrays Day 2 – Mini-lesson on multi-digit x 1 digit. Day 3 – Mini-lesson on 2 digit x 2 digit Teachers are working with small groups and providing interventions as necessary. Day 4 – Introduce the group project. Place students in groups and have them begin working on presentations. Script First!!!!	**Independent Multiplication Fact Practice**: use flashcards/classroom games/Math Magician online to practice facts. **Intervention group** (with Mrs. Claudia) : Arrays – Guided Practice with Mrs. Claudia and then complete formative independently. **Guided Practice** (with Mrs. Cox) with multi-digit x 1 digit and 2 digit by 2 digit - Whiteboards **Math Journaling**: Students will complete journal prompt in their Math Journals **Early Finishers**: Students will choose and complete one or more of the More Multiplication Fun Activities	Array Formative End of Day 3: Administer Pre-test again as a formative.	Copies of Array Formative for each student. Copies of Pre-Test for each student (will be used as formative) Group Formative Rubric. Laptops, Desktops, Devices Multiplication Fun Activities (extension) Multiplication Explorations with Gizmo
Closure & Reflection	Monitor groups as they prepare their presentations. Check for understanding. Provide support. Facilitate reflection by providing guidelines for commenting on other students' projects. Facilitate reflection by providing guiding questions for student journaling.	Students will work collaboratively in groups to create a presentation that explains the process of multi-digit multiplication. Completed projects will be posted to Edmodo. Students will provide appropriate feedback to other students regarding projects. Students will reflect on their own work by completing Guiding Questions in their Math Journals.		Group Presentation-Rubric *BYOT options:* presentation apps such as Skitch, Educriations, Story Kit, Screen Chomp, Explain Everything, Doddle Buddy, Show Me, Max Doddle, etc.

Differentiation

(How will you differentiate content and process to accommodate various learning styles and abilities? How will you help students learn independently and with others? How will you provide extensions and opportunities for enrichment?)

Students will work in ability-based groups as they complete the rotations. Manipulatives are provided for the array lesson. Co-taught setting provides additional support for students who are struggling. Students who grasp the content and complete the formatives appropriately will be provided with meaningful extended activities to complete.

Teacher Reflection/Notes

(As you were implementing this project in the classroom, what worked well? What needed to be changed, adjusted? What would you do differently next time?)