Unit 1a-Understanding Multiplication And Division of Whole Numbers

Content Area: **Mathematics**
Course(s): **Math 3**
Time Period: **Marking Period 1**
Length: **MP1 Topic 1 1-1 to 1-6**
Status: **Published**

Essential Questions

- What are different meanings of multiplication and division?

Big Ideas

- **Equal Groups:** Students interpret multiplication and division as equal groups.
- **Skip Counting**: Students use skip counting to generate lists of multiples involving the multiplication facts with 2, 5, and 9.
- **Diagrams**: Students will use bar diagrams to represent both multiplication and division situations.
- **Patterns and Properties**: Students will use patterns in multiplication.

Cross-Curricular Integration

Integration Area: Social Studies

6.1.5.GeoSV.1 : Identify the maps or types of maps most appropriate for specific purposes, (e.g., to locate physical and/or human features in a community, to determine the shortest route from one town to another town, to compare the number of people living at two or more locations).

Activity:

Topic 1 Pick-a-Project- Draw a Neighborhood-

Students will design a neighborhood map using at least 12 blocks. The blocks will be arranged in an array. They will label the blocks with street names and items such as houses, stores, or parks in the neighborhood. Then they will use multiplication and division to describe the blocks in your neighborhood.

CSDT Technology Integration

8.1.5.AP.4: Break down problems into smaller, manageable

Activity:

Students will use technology and create a graph

Enduring Understandings

Operations and Algebraic Thinking

3.OA.A [M] Represent and solve problems involving multiplication and division

3.OA.A.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each.For example,describe and/or represent a context in which a total number of objects can be expressed as 5 × 7.

3.OA.A.2 Interpret whole number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example,describe and/or represent a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.

3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

3.OA.B.5 Apply properties of operations as strategies to multiply and divide.

Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5+ 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)

3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table),and explain them using properties of operations.For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.

Mathematical Practices Focus

5. Use appropriate tools strategically.