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| Teacher: Helen Krasnow | Subject(s): Math Grade 3 | Month: December |
| Unit: Understanding MULTIPLICATION | | |

| ESSENTIAL QUESTIONS | CONTENT | SKILLS | ASSESSMENTS | LESSONS |
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| <ul style="list-style-type: none"> Where does multiplication occur in real life? How can I apply multiplication to my life? How can I show that I understand the meaning of multiplication? | <p>WHOLE NUMBER OPERATIONS</p> <ul style="list-style-type: none"> Concrete/Manipulative <ul style="list-style-type: none"> Combining or separating sets Counting & measuring Representational/Pictorial <ul style="list-style-type: none"> Objects & actions pictured, counted, or measured Abstract/Symbolic <ul style="list-style-type: none"> Numerals, symbols, and relationship signs used to represent objects & actions SETS IN LIFE & NATURE WHOLE NUMBER MULTIPLICATION <ul style="list-style-type: none"> Using a 9 X 9 multiplication grid <p>Read Aloud: <i>Amanda Bean's Amazing Discovery</i> by M. Burns <i>Sea Squares</i> by J. Hulme</p> <ul style="list-style-type: none"> MEMORIZING MULTIPLICATION FACTS SOLVING MULTIPLICATION IN WORD PROBLEMS SOLVING AREA GRIDS WITH MULTIPLICATION (up to 9 X 9) MULTIPLYING BY 10 SOLVING LARGE AREAS GRIDS with the aid of 10 x 10 base 10 blocks | <ul style="list-style-type: none"> Count objects to make <i>SETS</i> of equal amounts Arrange objects into a row and column <i>ARRAY</i> Arrange small blocks into rows and columns to make a <i>MEASURED MODEL</i> Move from concrete to abstract: 5 sets of 4 objects = 20 objects $5 \times 4 = 20$ Identify things in life and nature that occur in sets of different numbers (5 toes, 4 wheels on a car, 9 players on a baseball team) Be able to explain how an array represents multiplication problems Be able to complete 1 digit multiplication problems without the use of manipulatives Be able to read and solve math word problems requiring multiplication Solve area grids using multiplication (up to 9 X 9) Solve large area grids using a 10 X 10 block and multiplication by 10's Work collaboratively with others Use listening skills Participate meaningfully in class discussions | <ul style="list-style-type: none"> Guided class discussions with observer notes Observation with observer notes of small group problem solving activities Use of manipulatives to solve problems (observer notes) Worksheets Homework Solving word problem Solving area grids | <ul style="list-style-type: none"> How is multiplication related to addition? Three or more lessons: Using manipulatives to create sets, arrays, and measured models Converting word sentences to number sentences Sets by the Number Scavenger Hunt: Find things that occur in sets of 2, 3, 4, etc. Reading and solving word problems Solving area grids with multiplication Multiplying by 9 (What's the trick?) Multiplying by 10 Solving large areas grids with the aid of 10 x 10 base 10 blocks |