

Math Lesson

Lesson Title: Getting the Bugs Out with Division Grade: 4th/5th
Content Standard: 4.NBT6 Find the whole # quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
Materials: 4 Game boards, uni fix cubes, letter cards, post it notes, number board and markers, bugs
Shared Experience and procedure details: Game is set up for 2-4 players. 1st player draws 1 letter (dividend) card for all players to see. Players fill in each space on their path with uni fix cubes, starting from the center point, until they get to the letter on the card. Students examine the cubes on their path and determine the # of equal size groups of cubes they can remove. The goal is to remove equal sized groups that will get them as close as possible to the center (bug jar). They write the group size they chose on a post it note without sharing it. The players take turns removing one of his/her groups and stacks on the side. Players continue to remove groups until they are no longer able to remove a complete group. They leave the remaining cubes on the board. When all complete groups have been removed, the player with the fewest cubes on the board wins. If there is a tie, the player with the larger group size wins. If this is the same, each of those players get a point (bug).
Possible Picture: Some may draw their path, like it is on the board. Some may individually number the path or show it being split into the group number that they chose. Some may just show the towers of cubes after they have removed them, and show if there were any left over.
Possible People Talk: We drew a number, placed that number of cubes on the board. Then we had to pick a group size to remove. We took turns removing our groups. As we removed groups we stacked the cubes. Any cubes not removed by a complete group got left on the board. The person with the least number of cubes left on the board wins.
Feature Talk: Add, Subtract, Multiply, Divide, take away, cubes, group, game, left over, remain, numbers, letters, guess, counting, stack, factors, bugs Dividend
Possible Symbolic Representation: Repeated subtraction representation such as $24 - 4 - 4 - 4 - 4 - 4 = 0$, Repeated addition $4 + 4 + 4 + 4 + 4 + 4 = 24$, $24 - 5 - 5 - 5 - 5 = 4$ 4 with a remainder of 4. They may use multiplication $4 \times 6 = 24$. They may use division $24/6 = 4$. They may be using pictures of cubes to represent the numbers.
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