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| **Arranging Students**  **4.NBT.2-Task 1** | |
| **Domain** | **Numbers and Operations in Base Ten** |
| **Cluster** | **Generalize place value understanding for multi-digit whole numbers.** |
| **Standard(s)** | **4.NBT.2** Read and write multi-digit whole numbers using numerals, number names and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, = and < symbols to record the results of comparisons. |
| **Materials** | Paper and pencil, Activity sheet, Base ten blocks, Virtual base ten blocks can be found here: <http://nlvm.usu.edu/en/nav/frames_asid_152_g_1_t_1.html> |
| **Task** | **Arranging Students**  For a field trip, 4th grade students will visit North Carolina State University’s Millennial Campus. Students are in groups of 10. Each building can accommodate 10 groups at a time. Based on this information:   1. How many students would be in 4 buildings? 2. All of the students in 2 buildings and 13 other groups on the field trip visit the electron microscope before lunch. How many students saw the microscope? 3. There were 346 students from Hickory Elementary School. If they all were sent to the same buildings how many buildings were completely full of students from Hickory School? How many whole groups would go to another building? How many students from that school would be leftover without a group? 4. Students from New Hanover Elementary School take up 2 whole buildings, 14 whole groups in other buildings, and 9 students in different groups. Do they have more or less students than Hickory Elementary? How do you know? |

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| **Rubric** | | |
| **Level I** | 1. **Level II** | **Level III** |
| Limited Performance   * Students do not provide correct answers to more than 2 parts. | Not Yet Proficient   * Students do not provide correct answers to 1 or 2 parts. | Proficient in Performance   * Students provide correct answers for parts 1 through 4. Answers: 1) 400 students; 2) 330 students; 3) 3 whole buildings, 4 whole groups in another building, and 6 left over students; 4) New Hanover- 349 students. New Hanover has more students than Hickory. |

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| **Standards for Mathematical Practice** |
| **1. Makes sense and perseveres in solving problems.** |
| **2. Reasons abstractly and quantitatively.** |
| 3. Constructs viable arguments and critiques the reasoning of others. |
| 4. Models with mathematics. |
| 5. Uses appropriate tools strategically. |
| 6**.** Attends to precision. |
| 7. Looks for and makes use of structure. |
| 8. Looks for and expresses regularity in repeated reasoning. |

**Arranging Students**

For a field trip, 5th grade students will visit North Carolina State University’s Millennial Campus. Students are in groups of 10. Each building can accommodate 10 groups at a time. Based on this information:

1. How many students would be in 4 buildings?
2. All of the students in 2 buildings and 13 other groups on the field trip visit the electron microscope before lunch. How many students saw the microscope?
3. There were 346 students from Hickory Elementary School. If they all were sent to the same buildings how many buildings were completely full of students from Hickory School? How many whole groups would go to another building? How many students from that school would be leftover without a group?
4. Students from New Hanover Elementary School take up 2 whole buildings, 14 whole groups in other buildings, and 9 students in different groups. Do they have more or less students than Hickory Elementary? How do you know?