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| **Task 5 Comparing Objects of Different Lengths**    **Lesson Goal (Big Ideas):**  Measurement   * We use units to to make measurement comparisons simpler. This is only effective if the same unit is used for both objects and the unit is uniform. * Familiarity with known benchmark measurements can help you estimate and calculate other measurements.   Related Big Ideas  NS&N   * A number tells how many or how much * Difference (subtraction) can be found by removal, comparison, or adding on.   Data management and probability   * Graphs are powerful displays because they quickly reveal a great deal of information. | |
| **Materials:**   * Centicubes * Snapcubes/ unifix * Graph chart paper * Metre stick * Exit ticket task #5 * Exit ticket task #5 with graph | **Math Words:**   * Unit * Length * Size * Number * Appropriate * Accurate * About |
| **Getting Started:**  Option A :  Hold up 5 unifix cubes. Ask students to find an object in the room about 5 cubes long.  Compare the object to the 5 cubes.  Discuss the estimates. How close were our choices to 5 cubes?  Repeat with 10 unifix cubes.  Option B :  Have the 4 corners labelled (1st corner 5 unifix cubes long, 2nd 10 unifix cubes long, 3rd corner 15 unifix cubes long and 4th corner 20 unifix cubes long).  Choose an object around the room and return to your desk. Discuss the benchmark corners with students. Have students go the corner that is the closest in length to their object. Next have them go to a corner that is longer than their object, compare. Then shorter than their object, compare. | |
| **Working On It:**  Everyone uses unifix cubes to measure objects   * Each student chooses an appropriate object to measure with the unifix cubes (if not enough cubes divide half the class measuring using unifix and half use centicube). Discuss why we must all use unifix cubes to measure our objects if we want to compare our measurements.   Problem: Estimate, Measure, then compare your objects within your table group.   |  |  |  | | --- | --- | --- | | Object | Estimate | Measurement | | 1. |  |  | | 2. |  |  | | 3. |  |  | | 4. |  |  | | 5. |  |  | | |
| **Consolidation:**   |  |  | | --- | --- | | **Guiding Questions** | **Big Ideas to Highlight** | | How did your estimate compare to your measurements? | **Estimates are useful for checking calculations** | | If you say one object is longer than another, how can you explain to someone else how much bigger that object is? | **Numbers tell us how many or how much** | | How did your measurement compare to your groups? | **We use units to to make measurement comparisons simpler. This is only effective if the same unit is used for both objects and the unit is uniform.** | | If one person in your group used centicubes and another used unifix cubes, why would it be difficult to compare our measurements? | We use units to to make measurement comparisons simpler. This is only effective if the same unit is used for both objects and the unit is uniform. | | Who had the longest objects? How do you know from looking at the graph? | Graphs are powerful displays because they quickly reveal a great deal of information. | | Looking at the graph, What is the difference between\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_ . How can you tell? | Difference (subtraction) can be found by removal, comparison, or adding on. | | |
| **Independent Practice:**  Choose 2 different objects. Estimate and measure them using the same measuring tool.   |  |  |  | | --- | --- | --- | | Object: | Estimate | Measurement | |  |  |  | |  |  |  |   Which is longer? How much longer? How do you know?  Or  Choose exit ticket task #5 with graph. | |
| **Assessment:**  Can the student measure and compare objects using non-standard units of measurement?  Does the student choose appropriate non-standard units to measure objects?  Does the student measure end to end? No gaps or overlaps?  Can the student organize the objects into categorical units and read and display the data in a graph? | |
| **Expectations:**  **Measurement:**  Overall Expectations:  -compare, describe, and order objects, using attributes measured in non-standard units  Specific Expectations:  -demonstrate an understanding of the use of non-standard units of the same size for measuring  -estimate, measure (i.e., by placing nonstandard units repeatedly,without overlaps or gaps), and record lengths, heights, and distances (e.g., a book is about 10 paper clips wide; a pencil is about 3 toothpicks long).  **Data Management:**  Overall Expectations:  -collect and organize categorical primary data and display the data using concrete graphs and pictographs, without regard to the order of labels on the horizontal axis  - read and describe primary data presented in concrete graphs and pictographs  Specific Expectations:  -read primary data presented in concrete graphs and pictographs, and describe the data using comparative language  -demonstrate an ability to organize objects into categories by sorting and classifying objects using one attribute (e.g., size).  **Number sense:**  -represent, compare, and order whole numbers to 50, using a variety of tools  -demonstrate, using concrete materials, the concept of one-to-one correspondence between number and objects when counting | |