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| **Task 2 b Sizes of Units**    **Lesson Goal (Big Ideas):**  NS&N   * Numbers tell how many or how much   Measurement   * A measurement is a comparison of the size of one object with the size of another * The same object can be described by using different measurements * **The use of standard measurement units simplifies communication about the size of objects.** * **The larger the unit the fewer units required. The smaller the unit the more units required (proportional reasoning)** * Units of different sizes and tools of different types allow us to measure with different levels of precision.   Related Big Ideas:  DM&P   * Graphs are powerful data displays because they quickly reveal a great deal of information | |
| Materials:   * Cuisenaire rods * Photo cards of objects to measure * Graph Handout 2b * Exit Ticket 2b | Math Words:   * Unit * Length * Size * Number * Accurate |
| Getting Started:  Day One:  Distribute bags of mixed up cuisenaire rods to pairs of students and have them sort the rods. Discuss the attribute they chose to sort by (e.g, colour, size).  Teacher may choose to allow students to explore cuisenaire rods and continue on “Working On It” the following day. | |
| Working On It:  Distribute photo cards and cuisenaire rods to pairs of students. Ask students to measure their object using one colour of rod at a time. Record rod colour and number of rods used on a tally chart. Repeat with other cuisenaire colours and record so that all partners have at least 2 colours recorded within approximately 15 minutes.  Have students graph results using handout provided (or blank graph paper). | |
| **Consolidation:**   |  |  | | --- | --- | | **Guiding Questions** | **Big Ideas to Highlight** | | What information does our graph tells?  Compare the tally chart to the graph. Why was displaying the data on a graph a good idea?  Which colour was the fewest? Why?  Which colour was the most? Why?  Which colour was the most accurate? | **Graphs are powerful data displays because they quickly reveal a great deal of information.**  **The larger the unit the fewer units required. The smaller the unit the more units required.**  **Units of different sizes and tools of different types allow us to measure with different levels of precision.** |   Create an anchor chart with students:  The larger the unit, the \_\_\_\_\_\_\_\_\_\_ units required.  The smaller the unit, the \_\_\_\_\_\_\_\_\_\_\_ units required. | |
| **Independent Practice:**  Give students a different object to measure. Estimate and measure using one colour cuisenaire rod. Repeat with another colour. See Exit Ticket 2b. | |
| **Assessment:**  The Exit Ticket will inform the teacher if the student understands the Big Idea -The larger the unit, the fewer units required and the smaller the unit the more units required.  Teachers may use the graph as assessment for learning data management skills. | |
| Expectations:  **Measurement**  Overall Expectations:   * Estimate, measure, and describe the length using non-standard units of the same size * Compare, describe, and order objects, using attributes measured in non-standard units   Specific Expectations:   * Demonstrate and understanding of the use of non-standard units of the same size (e.g., straws, index cards) for measuring * Estimate, measure (i.e., by placing non-standard units repeatedly, without overlaps or gaps), and record lengths, and distances * Compare two or three objects using measurable attributes (e.g., length, height, width) and describe the objects using relative terms * Compare and order objects by their linear measurements, using the same non-standard unit * Describe, through investigation using concrete materials, the relationship between the size of a unit and the number of units needed to measure the length   **Data Management**  Overall Expectations:   * Collect and organize categorical primary data and display the data using concrete graphs, pictographs, without regard to the order of labels on the horizontal axis   Specific Expectations:   * Demonstrate an ability to organize objects into categories by sorting and classifying objects using one attribute (e.g., colour, size), and by describing informal sorting experiences * Collect and organize primary data that is categorical and display the data using one-to-one correspondence, prepared templates of concrete graphs and pictographs, and a variety of recording methods * Read primary data presented in concrete graphs and pictographs, and describe the data using comparative language * Pose and answer questions about data collected   **Number Sense and Numeration**  Overall Expectations:   * Read, represent, compare and order whole numbers to 50   Specific Expectations:   * Represent, compare, and order whole numbers to 50, using a variety of tools and contexts | |