

Curriculum Correlation

Data Management and Probability Cluster 1: Data Management

ON

Kindergarten

- 19.1 ask questions that can be answered through data collection (e.g., “What is your favourite ...?”; “How many pets do our classmates have?”; “Which month had the most snowy days – January or February?”), collect data, and make representations of their observations, using graphs (e.g., concrete graphs such as people graphs or graphs using representational objects; picture graphs)
- 19.2 interpret data presented in graphs (e.g., “There are more children in the pizza line than in the hot dog line – that means more children like pizza”; “The blue bar is twice as long as the yellow bar”; “There were twice as many snowy days in January as snowy days in February”) and draw conclusions (e.g., “There are more blue cubes than yellow cubes”; “January was more snowy than February”)
- 19.3 respond to and pose questions about data collection and graphs
- 20.5 investigate and describe how objects can be collected, grouped, and organized according to similarities and differences (e.g., attributes like size, colour)

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ON (con't)

Grade 1

Data Management and Probability

Collection and Organization of Data

- 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 (e.g., helping to put away groceries) (Sample problem: Sort a collection of attribute blocks by colour. Re-sort the same collection by shape.) (Activities 2, 4)
- collect and organize primary data (e.g., data collected by the class) that is categorical (i.e., that can be organized into categories based on qualities such as colour or hobby), and display the data using one-to-one correspondence, prepared templates of concrete graphs and pictographs (with titles and labels), and a variety of recording methods (e.g., arranging objects, placing stickers, drawing pictures, making tally marks) (Sample problem: Collect and organize data about the favourite fruit that students in your class like to eat.). (Activities 2, 3, 4)

Data Relationships

- read primary data presented in concrete graphs and pictographs, and describe the data using comparative language (e.g., more students chose summer than winter as their single favourite season) (Activities 1–4)
- pose and answer questions about collected data (Sample problem: What was the most popular fruit chosen by the students in your class?). (Activities 1–4)

Cross Strands:

Patterning and Algebra

Patterns and Relationships

- determine, through investigation using a “balance” model and whole numbers to 10, the number of identical objects that must be added or subtracted to establish equality

Measurement

Attributes, Units, and Measurement SENSE

- demonstrate an 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, heights, and distances.

Measurement Relationships

- compare and order objects by their linear measurements, using the same non-standard unit

Number

Quantity Relationships

- represent, compare, and order whole numbers to 50, using a variety of tools and contexts
- demonstrate, using concrete materials, the concept of one-to-one correspondence between number and objects when counting

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Grade 2**Data Management and Probability****Collection and Organization of Data**

- demonstrate an ability to organize objects into categories, by sorting and classifying objects using two attributes simultaneously (e.g., sort attribute blocks by colour and shape at the same time)
- gather data to answer a question, using a simple survey with a limited number of responses (e.g., What is your favourite season? How many letters are in your first name?)
- collect and organize primary data (e.g., data collected by the class) that is categorical or discrete (i.e., that can be counted, such as the number of students absent), and display the data using one-to-one correspondence in concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers (e.g., tally charts, diagrams), with appropriate titles and labels and with labels ordered appropriately along horizontal axes, as needed (Sample problem: Record the number of times that specific words are used in a simple rhyme or poem.).

Data Relationships

- read primary data presented in concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers (e.g., tally charts, diagrams), and describe the data using mathematical language (e.g., “Our bar graph shows that 4 more students walk to school than take the bus.”)
- pose and answer questions about class-generated data in concrete graphs, pictographs, line plots, simple bar graphs, and tally charts (e.g., Which is the least favourite season?)
- distinguish between numbers that represent data values (e.g., “I have 4 people in my family.”) and numbers that represent the frequency of an event (e.g., “There are 10 children in my class who have 4 people in their family.”)
- demonstrate an understanding of data displayed in a graph (e.g., by telling a story, by drawing a picture), by comparing different parts of the data and by making statements about the data as a whole (e.g., “I looked at the graph that shows how many students were absent each month. More students were away in January than in September.”).

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BC/YT

Kindergarten
Concrete or pictorial graphs as a visual tool for the class <ul style="list-style-type: none"> Teachers may create concrete and pictorial graphs with their students to model the purpose of graphs and provide opportunities for mathematical discussions (e.g., survey the students about how they got to school, then represent the data in a graph and discuss together as a class)
Grade 1
Concrete graphs using one-to-one correspondence <ul style="list-style-type: none"> creating, describing, and comparing concrete graphs (Activities 1, 2, 4) <p>Cross Strands:</p> <p>Number concepts to 20</p> <p>– comparing and ordering numbers to 20</p> <p>Meaning of equality and inequality</p> <p>– demonstrating and explaining the meaning of equality and inequality</p> <p>Direct measurement with non-standard units (non-uniform and uniform)</p> <p>– non-uniform units are not consistent in size (e.g., children’s hands, pencils); uniform units are consistent in size (e.g., interlocking cubes, standard paper clips)</p> <p>– understanding the importance of using a baseline for direct comparison in linear measurement</p>
Grade 2
Pictorial representation of concrete graphs using one-to-one correspondence <ul style="list-style-type: none"> collecting data, creating a concrete graph, and representing the graph using a pictorial representation through grids, stamps, drawings one-to-one correspondence