

Teacher Note

Questions That Promote Data Analysis

Any investigation of data does not end with the creation of a graph or other representation. In fact, much of the real work begins *after* the data have been organized and represented. Graphs and other representations are vehicles for communication. Thinking about what they communicate is an activity that even young students can and should experience.

One type of data analysis that is generally obvious to students is a *quantitative* approach. Observations such as “Six people like pizza” or “Four more people chose pizza than chose peanut butter” give particular numeric information about a graph.

Qualitative observations can give different information about the same data. Statements such as “A lot more people liked sweet desserts than liked fruit desserts” or “Most people chose either pizza or dessert as the favorite part of their lunch” capture important information about the data without using exact numbers.

Each time a graph or representation is created, it is important to engage students in some discussion of the information it communicates. The following questions can help promote data analysis in classroom discussions:

- What do you think this graph (or representation) is about?
- What does this graph tell us?
- What do you notice about this graph? What’s interesting about it?
- What can you say about the favorite part of our lunch by looking at this graph?
- If we asked the same question in another classroom, collected the data, and made a graph, do you think the graph would look the same as this one or different?

