

# Assessment Guidelines

Use the following questions to assess students' understanding of measurement and the mathematical concepts:

1. Can the student use an appropriate tool to measure accurately?
  - Have a variety of measuring tools available, and ask students to determine which tool would best assist them in this task. The choice of some tools might be obvious, such as a scale for measuring the weight of the ostrich's egg. However, in other statistics the choice may be less clear, such as, "Do I use a trundle wheel or a measuring tape to measure the 30 feet of a Siberian tiger?" Both tools could be used, but the trundle wheel might be less cumbersome to use. Do the students use a calculator appropriately to solve their problem? For instance, how could they use the calculator to figure out 20 times their body length? It is helpful to discuss these choices later as students share their results.
2. How well does the student do in measuring accurately?
  - For instance, do they know how to balance a scale, convert inches to feet, or determine the 13-foot height of an Alaskan brown bear using the outside wall of their school?
  - Encourage students to write about how they know their measurements are correct.
3. Can the student use an appropriate and familiar comparison so that the statistic is more accessible to the reader?
  - For instance, the weight of the ostrich egg might be compared to the weight of certain textbooks because the students are used to that measure.
4. Can the student illustrate this comparison so that readers better understand the meaning of this statistic?
  - For instance, how might a student represent twice the width of its head (to show how a snake swallows prey according to that ratio)?
5. Can the student write a commentary on how he/she figured out what to do in solving this problem?

Challenge students to defend the decisions they made along the way by asking questions like those below. In this way they summarize their decision-making processes.

  - Why did you choose that measuring tool?
  - How did you use that tool to help you?
  - What calculations did you perform, and why did you do them in that way?
  - Why do you feel that the comparison you made was an appropriate one?