

## 8.EE Choosing appropriate units

### Task

a. A computer has 128 gigabytes of memory. One gigabyte is  $1 \times 10^9$  bytes. A floppy disk, used for storage by computers in the 1970's, holds about 80 kilobytes. There are 1000 bytes in a kilobyte. How many kilobytes of memory does a modern computer have? How many gigabytes of memory does a floppy disk have? Express your answers both as decimals and using scientific notation.

b. George told his teacher that he spent over 21,000 seconds working on his homework. Express this amount using scientific notation. What would be a more appropriate unit of time for George to use? Explain and convert to your new units.

c. A certain swimming pool contains about  $3 \times 10^7$  teaspoons of water. Choose a more appropriate unit for reporting the volume of water in this swimming pool and convert from teaspoons to your chosen units.

d. A helium atom has a diameter of about 62 picometers. There are one trillion picometers in a meter. The diameter of the sun is about 1,400,000 km. Express the diameter of a helium atom and of the sun in meters using scientific notation. About many times larger is the diameter of the sun than the diameter of a helium atom?

