

8-7**Real-Life Career Activity****Consumer Safety Inspector**

Consumer safety inspectors inspect items such as food, animal feeds, pesticides, cosmetics, and pharmaceuticals. Inspectors visit manufacturing facilities that produce, handle, store, or market consumer products. Part of their job is to ensure that products are labeled correctly and that weights and contents are accurate. They also check for contamination that could have resulted from unsterilized processing equipment or unsanitary food handling.

The health laws that inspectors follow were created to protect consumers. The laws were written from information gathered in studies using samples and populations. For example, a law could state that only 1% of a sample of cereal boxes may be underweight for the boxes to pass inspection. The inspector checks a random sample of cereal boxes and calculates what percent of the sample is underweight.

Suppose an inspector checks the weight of 200 boxes of cereal in a sample. One box is lighter than it should be. What percent of the sample is too light?

$$\frac{1}{200} = 0.005 \text{ or } 0.5\%$$

Of the sample, 0.5% are too light. Therefore, the cereal boxes pass inspection.

Solve.

1. Calculate what percent of a sample is contaminated if 3 candy bars out of a sample of 500 are contaminated.
2. Calculate what percent of a sample is contaminated if 2 gallons of milk out of a sample of 800 are contaminated.
3. One percent of a sample of 1,200 cans of beans did not pass inspection. How many cans of beans did not pass inspection?

