










# Lesson 9.4:

## Choosing a Data Display

### Essential Question

How can you display data in a way that helps you make decisions?

## Key Idea

Data Display	What does it do?	
<b>Pictograph</b>	shows data using pictures	
<b>Bar Graph</b>	shows data in specific categories	
<b>Circle Graph</b>	shows data as parts of a whole	
<b>Line Graph</b>	shows how data change over time	
<b>Histogram</b>	shows frequencies of data values in intervals of the same size	
<b>Stem-and-Leaf Plot</b>	orders numerical data and shows how they are distributed	
<b>Box-and-Whisker Plot</b>	shows the variability of a data set by using quartiles	
<b>Dot Plot</b>	shows the number of times each value occurs in a data set	
<b>Scatter Plot</b>	shows the relationship between two data sets by using ordered pairs in a coordinate plane	

Choose an appropriate data display for the situation. Explain your reasoning.

a. the number of students in a marching band each year

Bar graph: Categories = years

Line graph: over time

b. a comparison of people's shoe sizes and their heights

Scatter plot: relationships

Choose an appropriate data display for the situation. Explain your reasoning.

1. the population of the United States divided into age groups

Bar graph: Categories

Circle graph: parts of whole

2. the percents of students in your school who play basketball, football, soccer, or lacrosse

Histogram: frequencies

Circle graph: percents

You record the number of hits for your school's new website for 5 months. Tell whether the data display is appropriate for representing how the number of hits changed during the 5 months. Explain your reasoning.

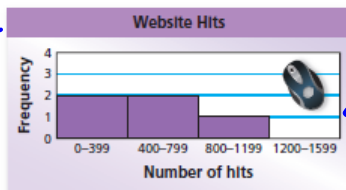
Month	Hits
August	250
September	320
October	485
November	650
December	925

a.



Yes, broken up by month

X



No, can't distinguish between months

c.



Yes, shows change over time

Tell whether the data display is appropriate for representing the data in Example 2. Explain your reasoning.

3. dot plot

No, #s are too large

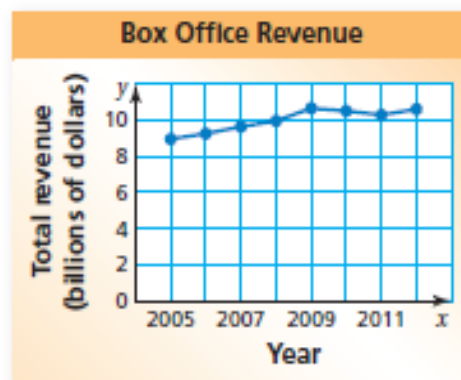
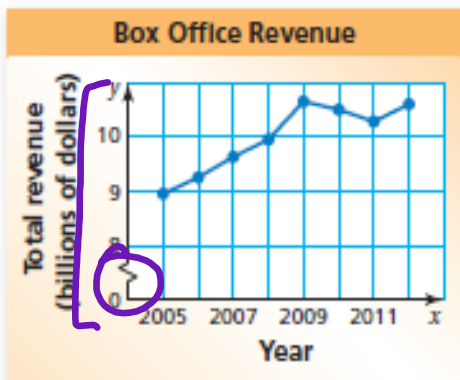
4. circle graph

Yes, each month is a part of the 5-month period

5. stem-and-leaf plot

No, can't distinguish between months

Which line graph is misleading? Explain.



↑  
Break in graph and scale make the change look more dramatic

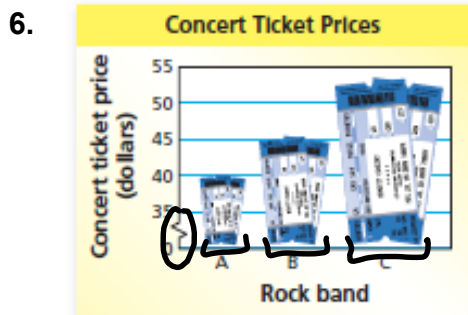
A volunteer concludes that the numbers of cans of food and boxes of food donated were about the same. Is this conclusion accurate? Explain.



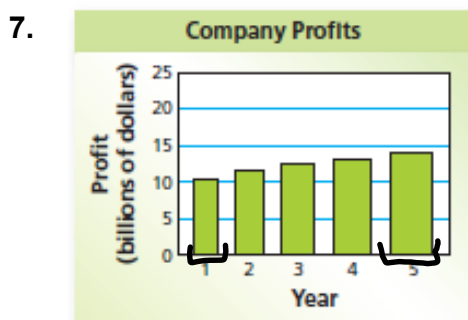
No! Each image is worth 20 items, but they are not the same size.

11 cans = 220  
 6 boxes = 120 } 100 apart is not "about the same"

Explain why the data display is misleading.



Different sizes, break in y-axis



bars get wider along the x-axis