Edgenuity

Warm-Up | Analyzing Data

Lesson Question

Lesson Goals

Analyze data.

Examine charts and graphs to predict _____ in data.

Use data to draw inferences and formulate _____.

Words to Know

Write the letter of the definition next to the matching word as you work through the lesson. You may use the glossary to help you.

_____ quantitative data	A. a type of numerical data that can be measured
_____ linear	B. not forming a straight line
_____ nonlinear	C. forming a straight line
_____ analyze	D. a visual representation of data
_____ qualitative data	E. to examine in detail
_____ graph	F. a type of nonnumerical, descriptive data

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Warm-Up | Analyzing Data

Data

Data are the information obtained through a _____ investigation.

- Can be used as _____ to answer a question or support a conclusion
- Must be reliable and _____

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Valid vs. Invalid Data

Valid data can be _____ and _____ by the researcher and other scientists.

- Invalid data may result from:
  - lack of enough _____.
  - false data.
  - measurement or recording _____.
  - the inability to reproduce data.

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Types of Data

There are two ways to classify data.

- _____ **data** are nonnumerical, descriptive data.
  - Can be observed but not _____
- _____ **data** are numerical data that can be measured.

Data Analysis

Quantitative data can be displayed in different ways.

_____ | 2 1/2 | _____ %

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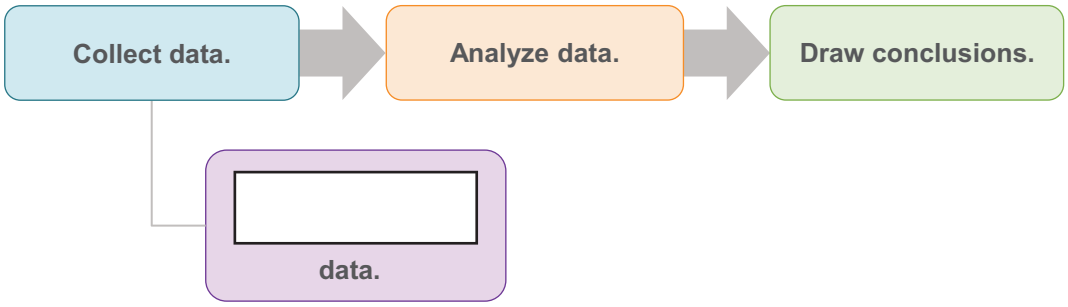
Data Analysis



Types of Graphs

A **graph** is a _____ representation of data.

- Communicates complicated facts
- Presents _____ in a way that is easy to understand
- Displays data in a variety of ways

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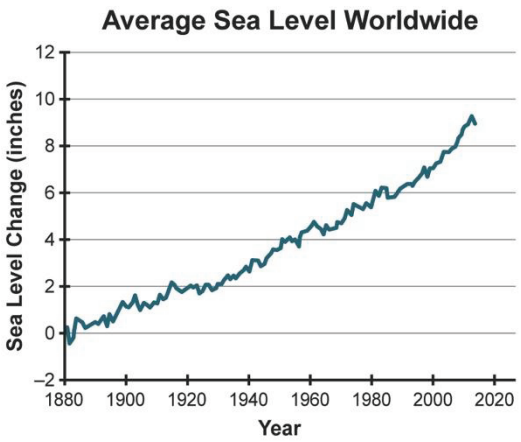
Line Graphs

Line graphs often show _____ over a period of time.

- The *x*-axis displays the _____ period.
- The *y*-axis shows what is being measured.
- Line graphs may be _____ or _____.
- _____ can be made from the data.



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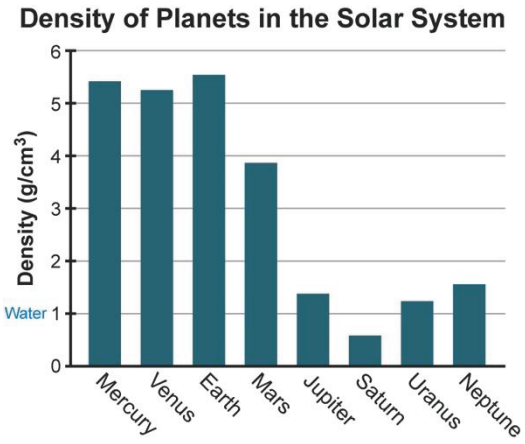
Bar Graphs

Bar graphs compare _____ for particular categories.

- Used to see _____ quickly



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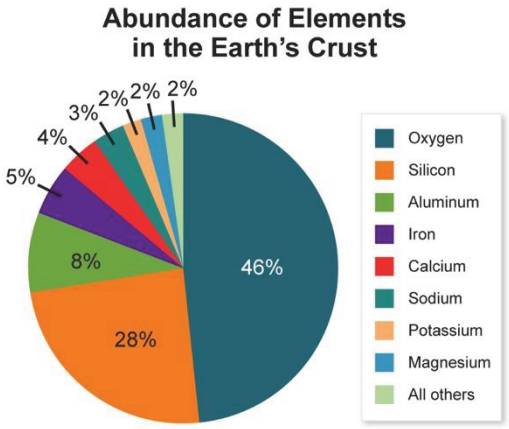
Pie Graphs

Pie graphs show the relationship among [ ] of a [ ].



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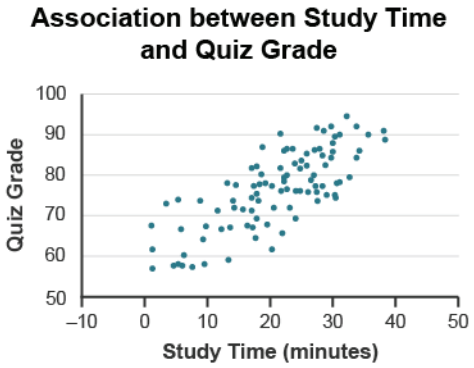
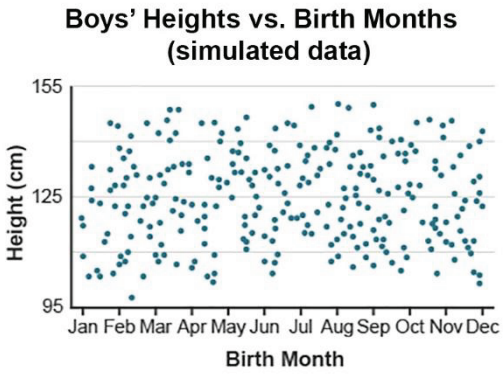
Scatterplots

Scatterplots show the relationship between two [ ].





Scatterplots are another way to display [ ]. Scatterplots are a [ ] of [ ] that each show how one variable is affected by another variable.

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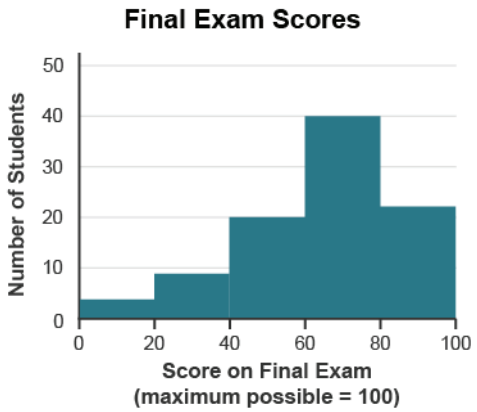
Histograms

A histogram represents the _____ of data.

- Groups numbers into _____



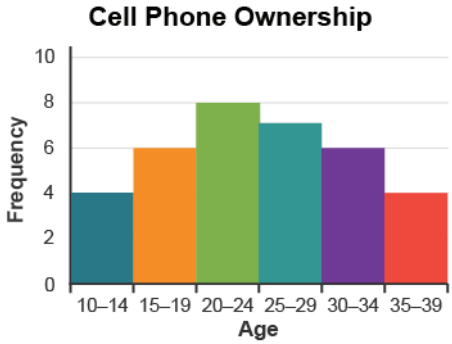
They are similar to bar graphs, but they group numbers into ranges. In other words, histograms show _____ data.

This is why there are no _____ between the bars like there often are in a bar graph.

Frequency Distributions

Frequency distributions group data into _____ and show how often a particular _____ occurs.

Age	Frequency
10–14	4
15–19	
20–24	8
25–29	
30–34	6
35–39	4



The information is often displayed in a _____ or a bar graph or a _____, but it can be organized in other ways.

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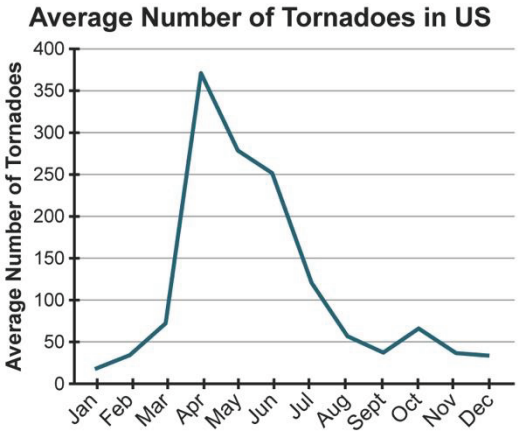
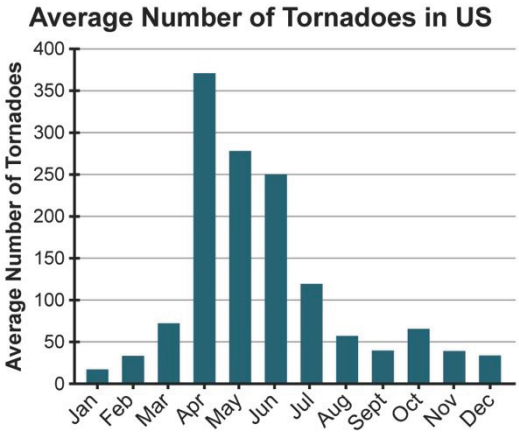
Comparing and Contrasting Graphs

We can see that data can be represented in multiple graphical interpretations.

Here we have a line graph and a bar graph. It's the _____ information, but it's displayed _____.





This could be also represented using a _____. April would have the _____ slice of the _____ with above 350 tornadoes.

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Summary | Analyzing Data

Lesson Question How are data analyzed?

Answer

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Key Concepts

Valid data can be verified and reproduced by the researcher and other scientists.

- _____ data may result from inadequate data, false data, measurement or recording errors, or the inability to reproduce data.

Key Concepts

Graphs are visual representations that display data in a variety of ways.

- _____ **graphs** show changes over time.
- **Bar graphs** _____ quantities for particular categories.
- **Pie graphs** show the relationship among parts of a whole.
- **Scatterplots** show the relationship between two _____.
- _____ represent the distribution of data.
- **Frequency distributions** group data into categories and show how often a particular value occurs.

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Use this space to write any questions or thoughts about this lesson.

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