Name _____ Date _____

11 Constructing Graphs

Let's try making some charts and graphs! Each kind of display can be used to present certain kinds of information. For each exercise below, read the information given. Choose the best kind of display to present the information and construct your display. Be sure to label your displays clearly and correctly.

Exercise 1: Teens' Time

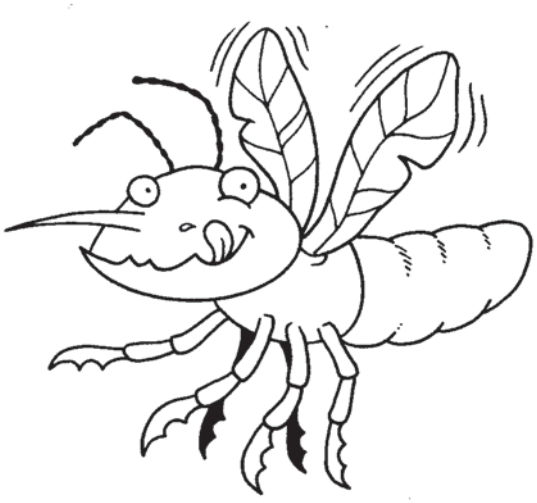
Claudia took a survey to see what teenagers do in their spare time. Here are the results of the survey. Construct a graph to show these results.

Activity	Amount of Time Spent
Playing sports	25%
Listening to music	10%
Playing video games	15%
Talking on phone	10%
Chilling	25%
Watching TV	15%

Exercise 2: Bug Bites

Timothy made a tally chart to keep track of how many bug bites he got during a camping trip. Make a display to show these results.

Day	Bug Bites
1	✓ ✓ ✓ ✓ ✓ ✓
2	✓ ✓ ✓ ✓
3	✓ ✓ ✓ ✓ ✓ ✓ ✓
4	✓ ✓ ✓ ✓ ✓
5	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

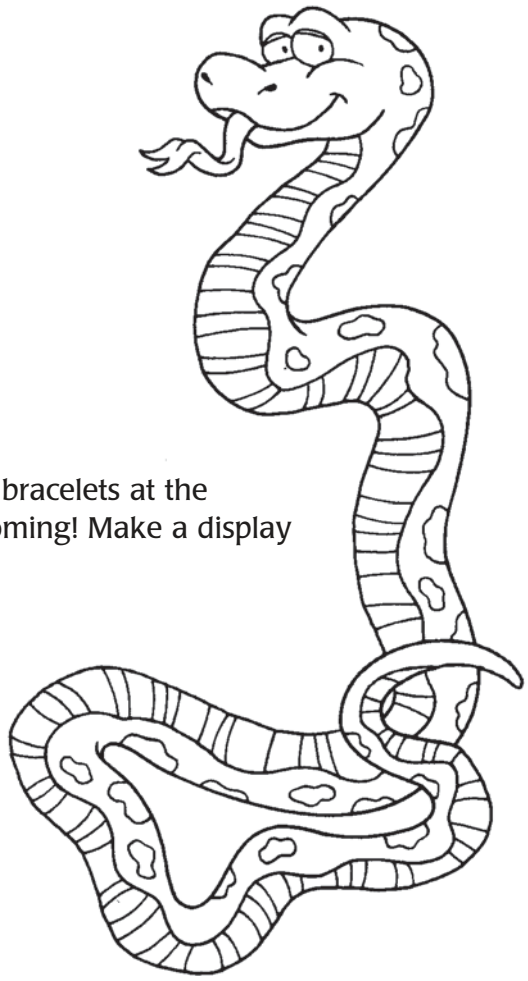


Name _____ Date _____

Exercise 3: Exotic Pet Sales

Margo's Pet Store sells exotic and unusual pets. The chart below shows how many pets Margo sold last month. Make a display to present these data.

Type of Pet	Number Sold
Lizards	12
Ferrets	6
Snails	5
Fighting fish	8
Snakes	9
Talking birds	11



Exercise 4: Friendship Bracelets

Tori and Megan started making and selling friendship bracelets at the beginning of the summer. Before long, sales were booming! Make a display to show their sales record for the first six weeks.

Week	Sales
1	$25
2	$30
3	$45
4	$80
5	$75
6	$90

Name _____ Date _____

13 Charts: Hollywood Winners and Losers

A movie makes money when ticket sales add up to more than the cost of making the movie. Big Hollywood hits rake in millions of dollars, but big duds *lose* millions. Take a gander at these charts to see the biggest winners and biggest losers in Hollywood. Then answer the questions.

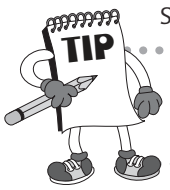
Big Money-Making Movies in U.S. Theaters (2003)

Title	Ticket Sales (millions)	Cost to Make (millions)	Net Earnings (millions)
Titanic	$600.8	$200	$400.8
Star Wars	$461	$11	$450
E.T.—the Extra-Terrestrial	$434.9	$10.5	$424.4
Star Wars: Episode 1— The Phantom Menace	$431.1	$115	$316.1
Spider-Man	$403.7	$139	$264.7
Lord of the Rings: The Return of the King	$377	$94	$283
Jurassic Park	$357.1	$63	$294.1
Lord of the Rings: The Two Towers	$341.7	$94	$247.7
Finding Nemo	$339.7	$94	$245.7
Forrest Gump	$329.7	$55	$274.7

Big Money-Losing Movies in U.S. Theaters (2003)

Title	Ticket Sales (millions)	Cost to Make (millions)	Net Loss (millions)
Heaven's Gate	$1.5	$44	$42.5
The Adventures of Pluto Nash	$4.4	$100	$95.6
Monkeybone	$5.4	$75	$69.6
Town & Country	$6.7	$90	$83.3
Cutthroat Island	$11	$92	$81
3000 Miles to Graceland	$15.7	$62	$46.3
Hudson Hawk	$17	$65	$48
Battlefield Earth	$21.5	$73	$51.5
The Postman	$27	$80	$53
Treasure Planet	$37	$140	$103

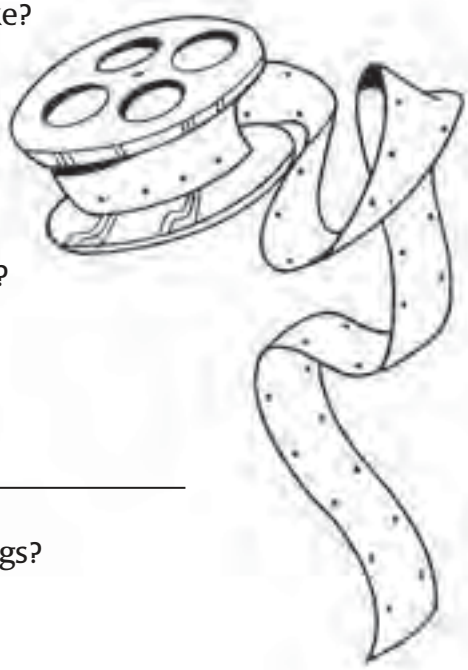
Source: worldwideboxoffice.com



When you are looking at two similar charts, make sure you look at the right one to find the information you need.

Name _____ Date _____

Hollywood Winners and Losers *(continued)*



1. Which three money-making movies cost the most to make?

_____

_____

_____

2. Which two money-making movies cost the least to make?

_____

_____

3. How much did *Titanic* collect in U.S. ticket sales? _____

4. Which movie ranks first in the total amount of net earnings?

_____

5. How much more did *Finding Nemo* make in ticket sales than *Forrest Gump*?

_____

6. Which two money-losing movies had the greatest net losses?

_____

_____

7. Of the ten money-losing movies listed, how many cost more than $40 million to make? _____

8. Which money-losing movie had the lowest ticket sales?

_____

9. How much did *Monkeybone* cost to make?

_____

10. How much more did *The Postman* make in ticket sales than *Hudson Hawk*?

_____

Name _____ Date _____

16 Tables: Feeling Sheepish

Are there more people or more animals where you live? If you live in a city this might be hard to imagine, but in some places the livestock far outnumber the people. Imagine if your town had more than 300 sheep per person, for example, as in the Falkland Islands. That's a lot of sheep's wool for sweaters! Look at the tables below to answer the questions on the next page.

Table 1: Ten Countries Where Sheep Outnumber People (2000)

Country	Number of Sheep	Human Population	Sheep per Person
Falkland Islands (part of the U.K.)	717,000	2,121	338.05
New Zealand	47,144,000	3,494,300	13.49
Uruguay	22,685,000	3,116,800	7.28
Australia	120,651,000	18,114,000	6.66
Mongolia	13,719,000	2,363,000	5.81
Mauritania	5,288,000	2,217,000	2.39
Kazakhstan	33,524,000	16,963,600	1.98
Iceland	470,000	266,800	1.76
Namibia	2,620,000	1,500,000	1.75
Somalia	13,500,000	9,077,000	1.45

Source: *The Top 10 of Everything: 1998* (DK Publishing)

Now, what about in the United States? Do sheep outnumber people? No, but the numbers of sheep and numbers of people have changed considerably over the last 100 years or so—as you can see in the table below.

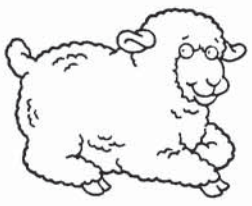
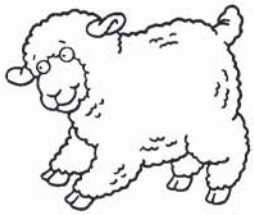
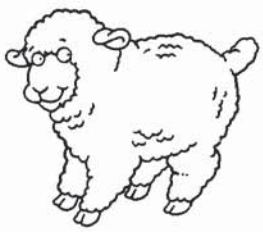


Table 2: U.S. Populations of Sheep and Humans (1900–2000)

Year	Number of Sheep (in millions)	Number of People (in millions)
1900	48.1	76.2
1920	40.7	106.0
1940	52.1	132.2
1960	33.2	179.3
1980	12.7	226.5
2000	7.0	281.4

Source: *World Almanac and Book of Facts*, 2004





Name _____ Date _____

Feeling Sheepish *(continued)*

1. Which country in Table 1 has the largest number of sheep?

_____

2. Which country in Table 1 has the smallest human population?

_____

3. How many sheep are there per person in Mongolia? _____

4. How many countries listed in Table 1 have more than 10 million sheep? _____

5. Which countries have more than 10 sheep per person?

_____

6. According to Table 2, how many sheep were there in the United States in 1900? _____

7. In 1920, how did the population of sheep compare with the number of people in the United States?

_____

8. What was the U.S. population (of humans) in 1940? _____

9. What has happened to the sheep and human populations in the United States since 1900?

_____

10. In 2000, which countries listed in Table 1 had more sheep than the United States?

_____

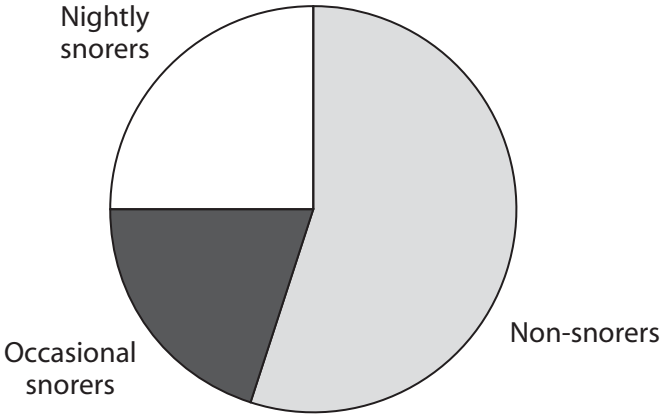
_____

Name _____ Date _____

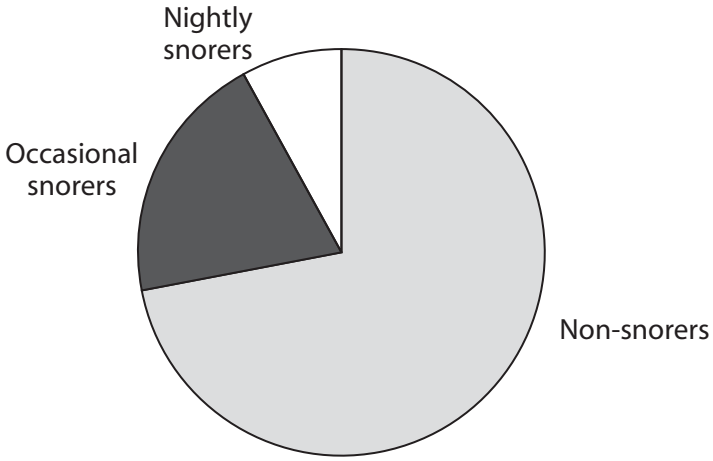
18 Circle Graphs: Sawing Wood

Have you ever been kept awake all night because someone was snoring—which is sometimes called "sawing wood"? Or maybe *you* are the one who snores and keep other people awake! Don't worry, though, because many people snore. Compare the graphs below to see how snoring is different for kids and adults. Then answer the questions.

Percentage of Adults Who Snore



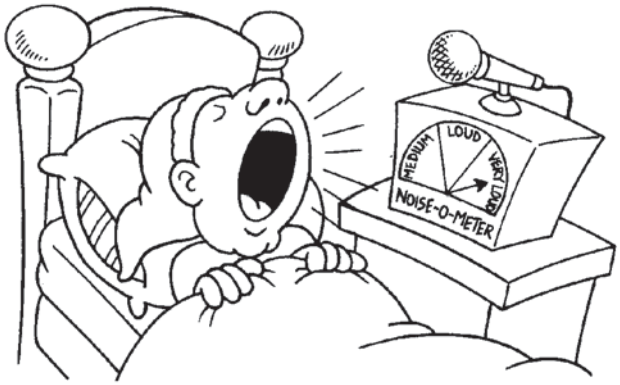
Percentage of Kids Who Snore



Source: Scientific American (www.sciam.com)

Name _____ Date _____

Sawing Wood *(continued)*



1. Do more adults or more kids snore nightly?

   _____

2. About what percentage of adults are nightly snorers?

   _____

3. Are there more adults who are nightly snorers or more who are occasional snorers?

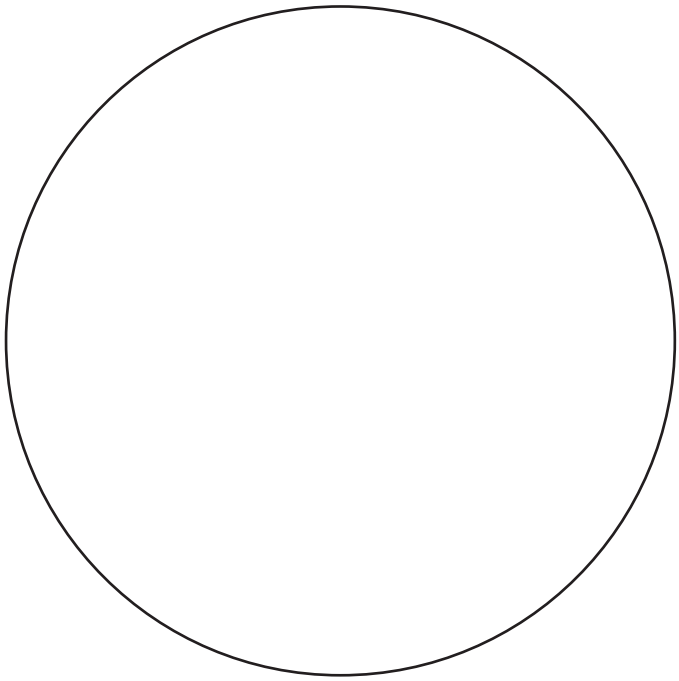
   _____

4. Approximately what percentage of kids snore sometimes or all the time? _____

5. In a group of 1,000 kids, approximately how many of them generally do not snore? _____

6. If you combined the information from both of these graphs in a new graph for people of all ages, what would it look like? Complete the new graph below. Remember to label each part.

Percentage of People Who Snore



Name _____ Date _____

21 Pictograph: On Vacation—Wish You Were Here!

Do you think Americans take a lot of vacation time? Not really. Compared with people of many other countries, Americans are workaholics. Take a look at the pictograph below to see how we compare. Then answer the questions.

Vacations in Different Countries

Country	Average Days of Paid Vacation Per Year
Australia	5
Britain	5
China	3
Germany	6
Japan	4
Netherlands	5
Spain	6
United States	2

Key: = 5 days

Source: *U.S. News and World Report* (June 28/July 5, 2004)

1. In which two countries do people have the most vacation time?

   _____ _____

2. How many days of vacation do people take in Japan? _____

3. Which country has the least vacation time?

   _____

4. How long is the average vacation in China? _____

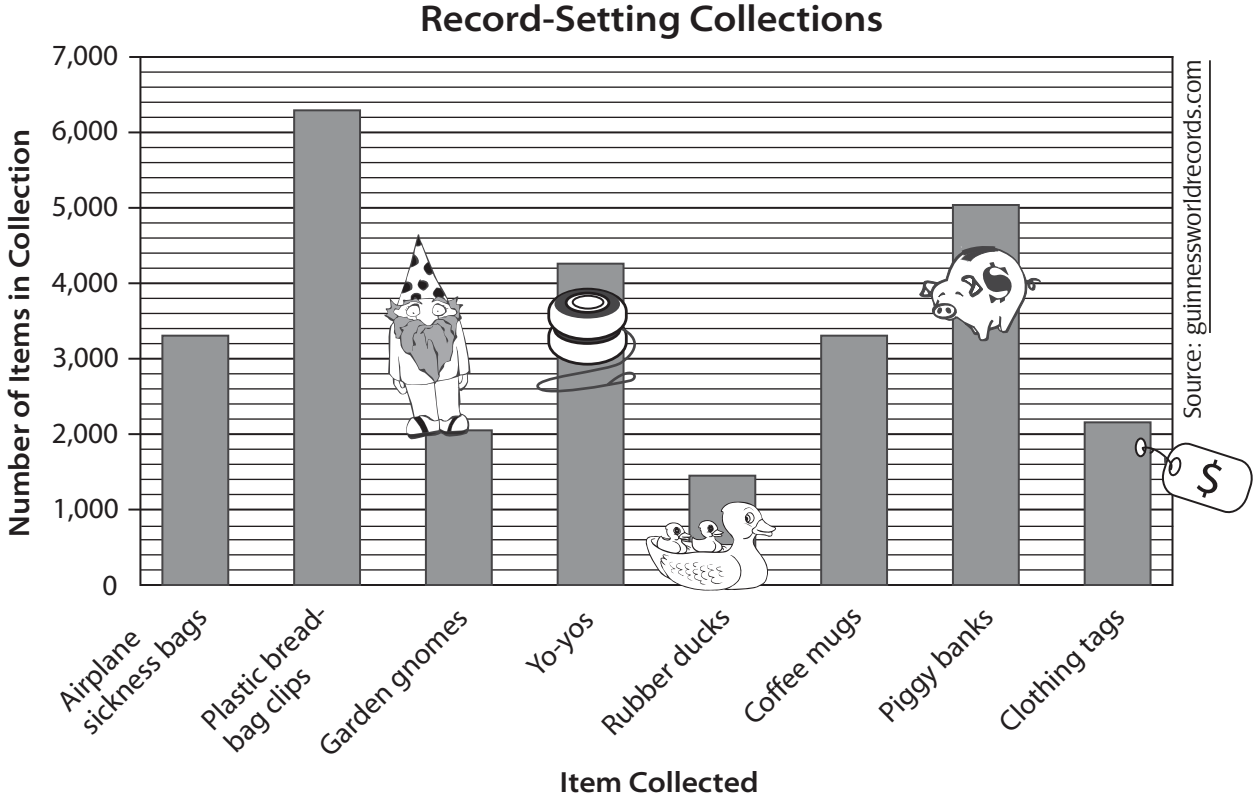
5. In which countries do people take an average of 25 vacation days per year?

   _____

Name _____ Date _____

22 Bar Graph: Crazy Collections

Have you ever thought about collecting something odd—such as chamber pots or bags of potato chips or refrigerator magnets? People collect all these things and many more. Take a look at this bar graph of odd stuff. Then answer the questions.



1. Which collection has the greatest number of items? _____

2. How many rubber ducks are in the world's largest rubber-duck collection? _____

3. Which collection has about the same number of items as the world's largest collection of clothing tags? _____

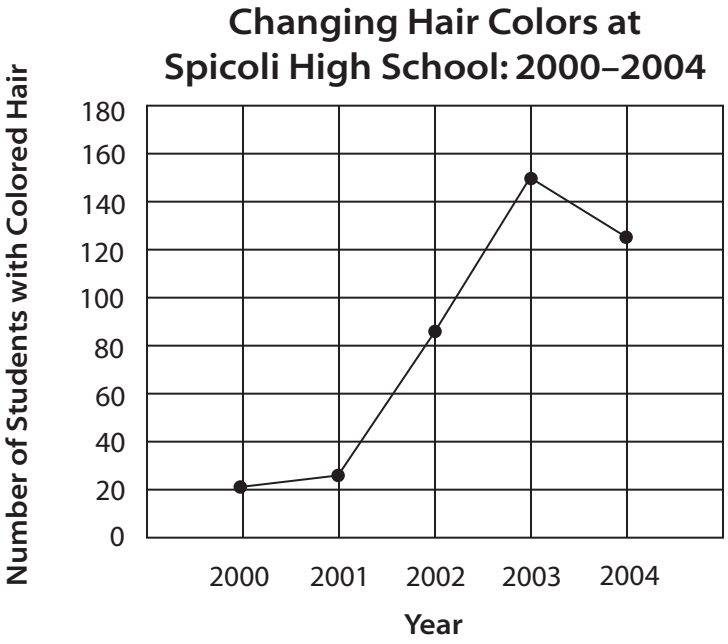
4. About how many more piggy banks are there than yo-yos in the record-setting collections? _____

5. How many items are there in the "airplane sickness bags" collection? (Let's hope those bags are empty!) _____

Name _____ Date _____

25 Line Graph: Colors to Dye For

At Spicoli High School, students' hair colors have been changing in recent years. Dozens of students now have orange, purple, green, or blue hair! Could it be something in the local water supply? Scan the line graph below to see what has been happening. Then answer the questions.



1. How many students at Spicoli High School had colored hair in 2000? _____

2. In 2002, how many students colored their hair? _____

3. Can you tell from this graph how many students had purple hair in 2001? Explain.

_____

4. What happened to the number of students with colored hair from 2003 to 2004?

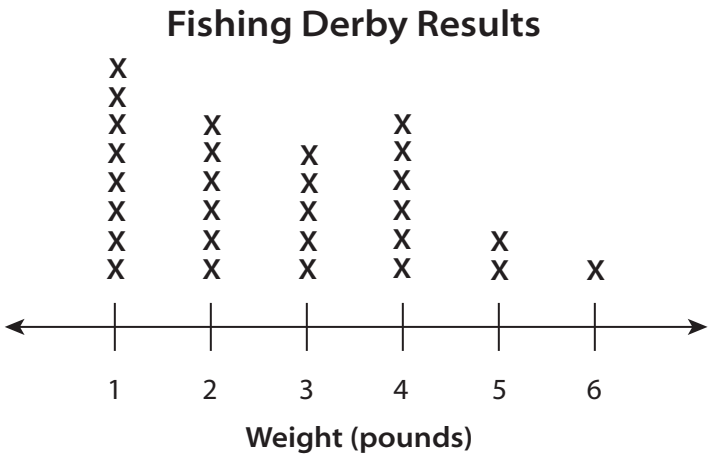
_____

5. Based on the information in this graph, how many students do you think will have colored hair in 2005? _____

Name _____ Date _____

29 Line Plot: Fish Stories

In a recent fishing derby, contestants caught a whole kettleful of fish. Look at the line plot below to see the weights of the fish that were caught. Then answer the questions.



1. What was the most common weight of the fish caught at the derby?

_____

2. How many of the fish caught weighed 3 pounds?

_____

3. Which two weights appear with the same frequency?

_____

4. What was the least common weight?

_____

5. How many of the fish caught at the derby weighed more than 2 pounds?

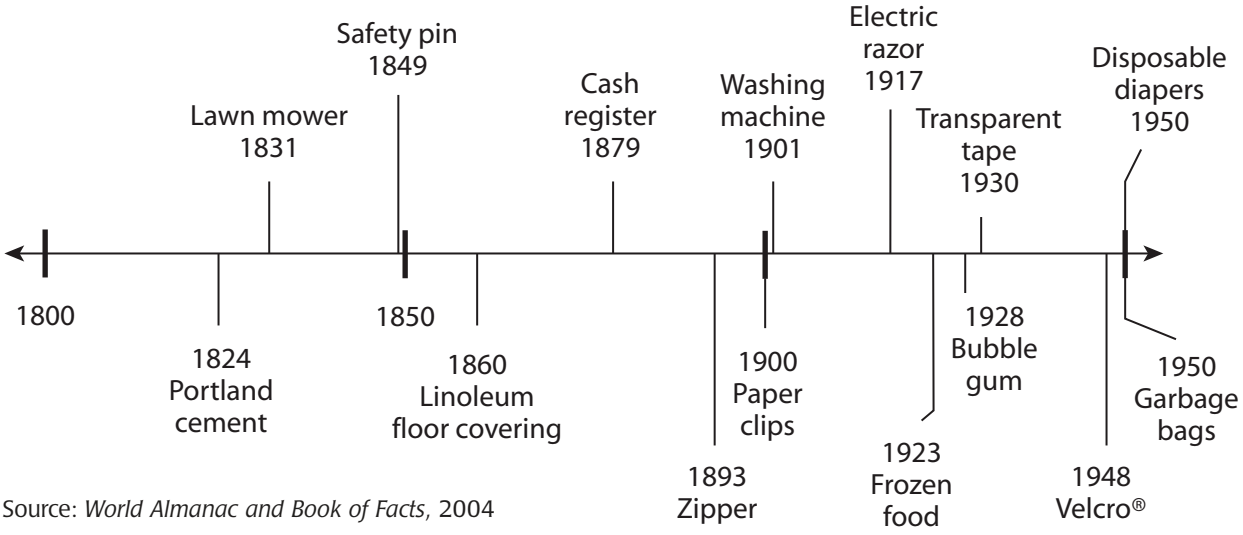
_____

Name _____ Date _____

32 Time Line: When Was That Invented?

Everybody learns about really famous inventions, such as the lightbulb and the automobile, but what about the really important stuff—like Velcro® or the zipper? Do you know when those were invented? Look at the time line below to find out. Then answer the questions.

The World's Most Important Inventions



Source: *World Almanac and Book of Facts*, 2004

1. When was the safety pin invented? _____

2. When was frozen food invented? _____

3. What important item was invented in 1928? _____

4. Paper clips were invented in 1900. How long had linoleum floor covering been available before then? _____

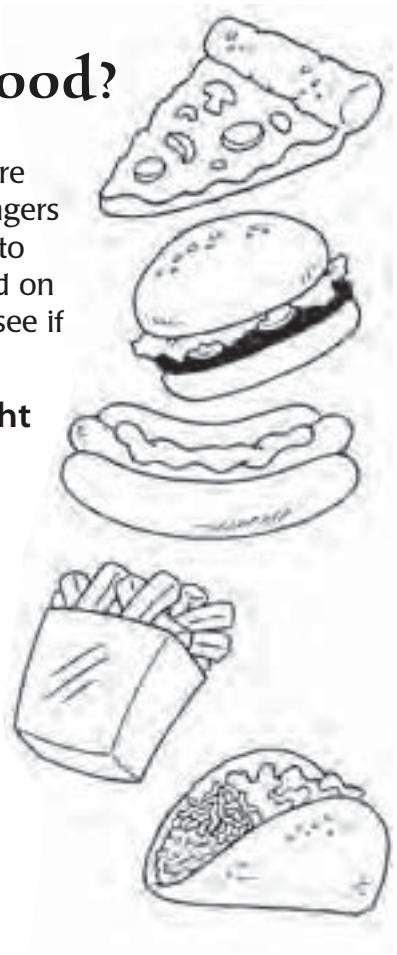
5. Name two things invented in 1950. (Hmm, do you think these were coincidental?)

_____

_____

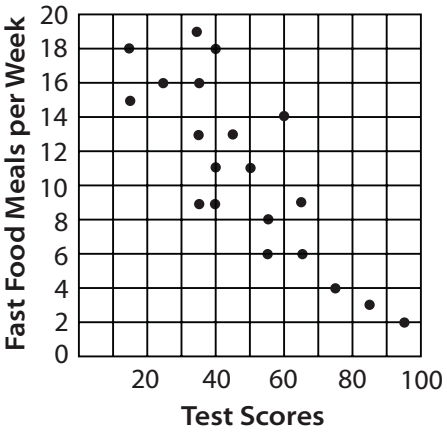
Name _____ Date _____

36 Scatterplots: Fast Food or Slow Food?

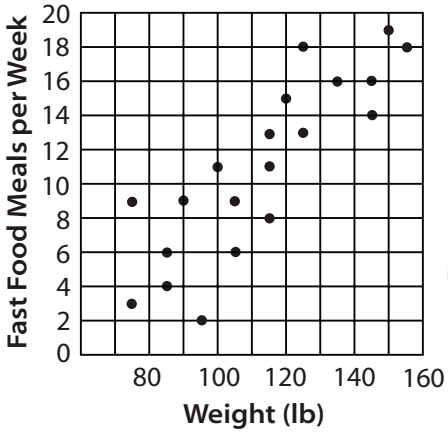


Does "fast food" make you smart? Does it help you run faster? These are interesting questions to think about as you munch on some chicken fingers and French fries. Professor Quisling conducted a survey of 20 students to see how many fast food meals they ate in a week, how they performed on a test, and how much they weighed. Look at the scatterplots below to see if these factors are related. Then answer the questions.

Fast Food and Test Scores



Fast Food and Body Weight



1. For the two students who got the highest test scores, how many fast-food meals did they eat in a week? _____

2. One student got a test score of 50. How many fast-food meals did the student eat? _____

3. How much does the heaviest student weigh, and how many fast-food meals did he or she eat? _____

4. How many students had more than ten fast-food meals during the week? _____

5. Describe the data shown on these scatterplots. Tell whether each plot shows a trend and, if so, what kind of trend.

_____

_____

_____

_____