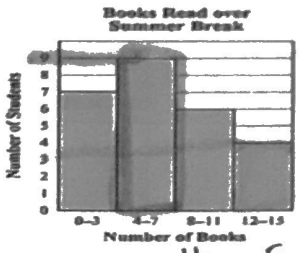
Histograms

A **histogram** is a bar graph used to display the frequency of data divided into equal intervals, called **bins**. The bars must be of equal width and should touch, but not overlap. The height of each bar gives the frequency of the data.

An example of a histogram is below:



# of students

# of books

How many students read 4-7 books? 9 students

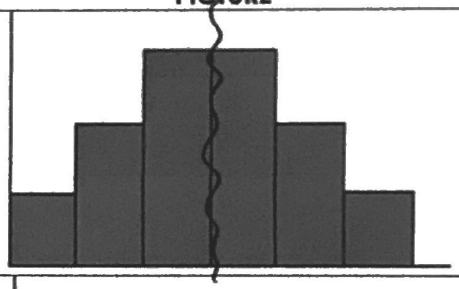
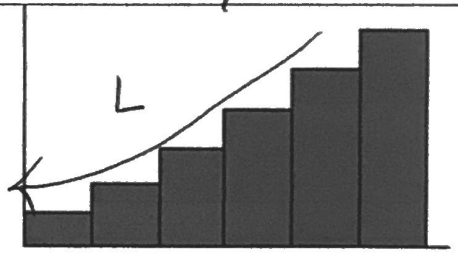
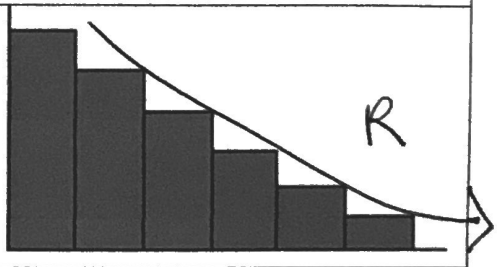
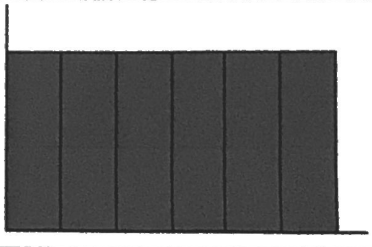
How many more students read 4-7 books than 12-15 books?

9 − 3 = 6

Advantages of Histograms: Good for determining the shape of data
Convenient for representing large quantities of data

Disadvantages of Histograms: Cannot read exact values because data is grouped into categories
More difficult to compare two data sets because measures of center and spread cannot be determined

range median

TYPE	DESCRIPTION	PICTURE
SYMMETRIC	When graphed, a vertical line drawn at the center will form mirror images. This shape is referred to as the bell shaped curve or normal curve The median will be in or close to the center of the number line.	
SKEWED LEFT (NEGATIVE SKEW)	Fewer data points are found to the left of the graph (towards the smaller data values). The "tail" of the graph is to the left. The median will be shifted right and the "tail" on the left. Typically, the mean is less than or to the left of the median.	
SKEWED RIGHT (POSITIVE SKEW)	Fewer data points are found to the right of the graph (towards the bigger data values). The "tail" of the graph is to the right. The median will be shifted left and the "tail' on the right. Typically the mean is greater than or to the right of the median	
UNIFORM	The data is spread equally (or very close to equally) across the range. Uniform distributions are a type of symmetric distributions. The median will be in or close to the center of the number line.	

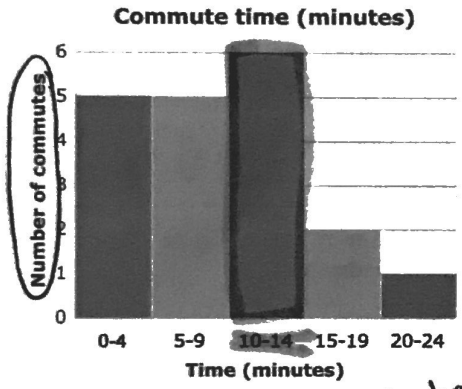
For educators affected by school closures, check out IXL's resource center with everything you need! At-home Learning Hub

IXL's Spring Learning Showdown has started! The classrooms that answer the most questions on IXL through April 30 will be rewarded with a prize—register your class today >>

Tuesday 4/14

Learn with an example

A business magazine surveyed its readers about their commute times.



highest bar?

Which range has the most commutes?

- 0-4 minutes
- 5-9 minutes
- 10-14 minutes
- 15-19 minutes

Submit

Not feeling ready yet? This can help: N.1 CC.11

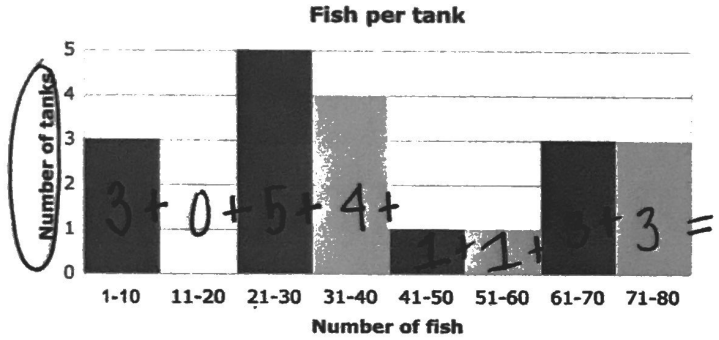
Interpret bar graphs

IXL LEARNING © 2020 IXL Learning. All rights reserved. Follow us

For educators affected by school closures, check out IXL's resource center with everything you need! At-home Learning Hub

IXL's Spring Learning Showdown has started! The classrooms that answer the most questions on IXL through April 30 will be rewarded with a prize—register your class today >>

A pet store owner had his staff count the number of fish in each tank.



How many tanks are there in all?

3+0+5+4+1+1+3+3=20 tanks

20 tanks

Submit

Not feeling ready yet? This can help: N.1 CC.11

Interpret bar graphs

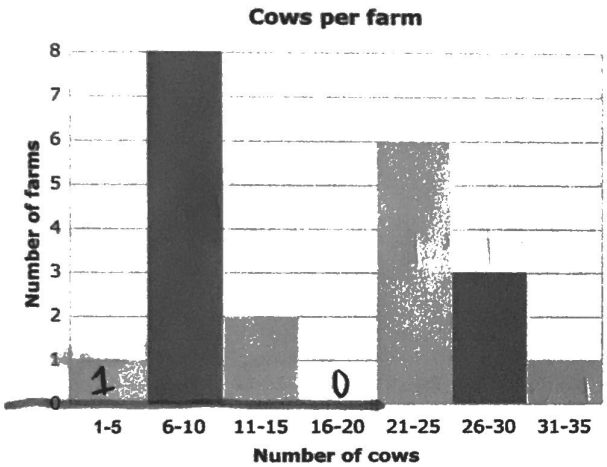
Company | Membership | Blog | Help center | Tell us what you think | Testimonials | Careers | Contact us | Terms of service | Privacy policy

IXL LEARNING © 2020 IXL Learning. All rights reserved. Follow us

For educators affected by school closures, check out IXL's resource center with everything you need! At-home Learning Hub

IXL's Spring Learning Showdown has started! The classrooms that answer the most questions on IXL through April 30 will be rewarded with a prize—register your class today >>

A researcher recorded the number of cows on each farm in the county.



1 > 0

Are there more farms that have 1-5 cows or farms that have 16-20 cows?

1-5 cows | 16-20 cows

Submit

Not feeling ready yet? This can help: N.1 CC.11

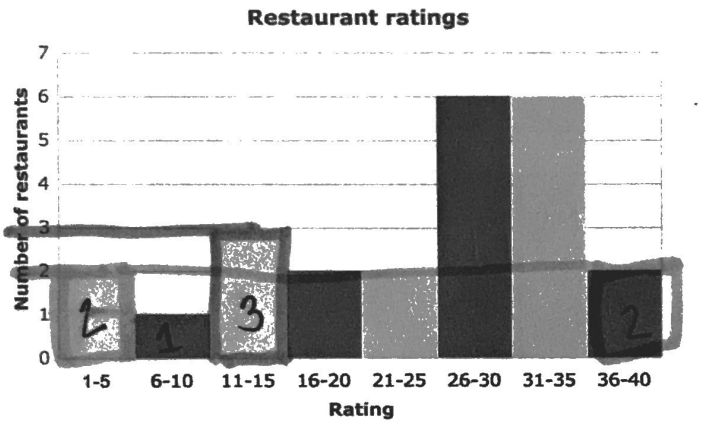
Interpret bar graphs

IXL LEARNING © 2020 IXL Learning. All rights reserved. Follow us

For educators affected by school closures, check out IXL's resource center with everything you need! At-home Learning Hub

IXL's Spring Learning Showdown has started! The classrooms that answer the most questions on IXL through April 30 will be rewarded with a prize—register your class today >>

A food magazine published a listing of local restaurant ratings.



Which rating range was achieved by the least fewest restaurants?

1-5 points	6-10 points	11-15 points	36-40 points
2	1	3	2

Submit

Not feeling ready yet? This can help:

N.1 CC.11

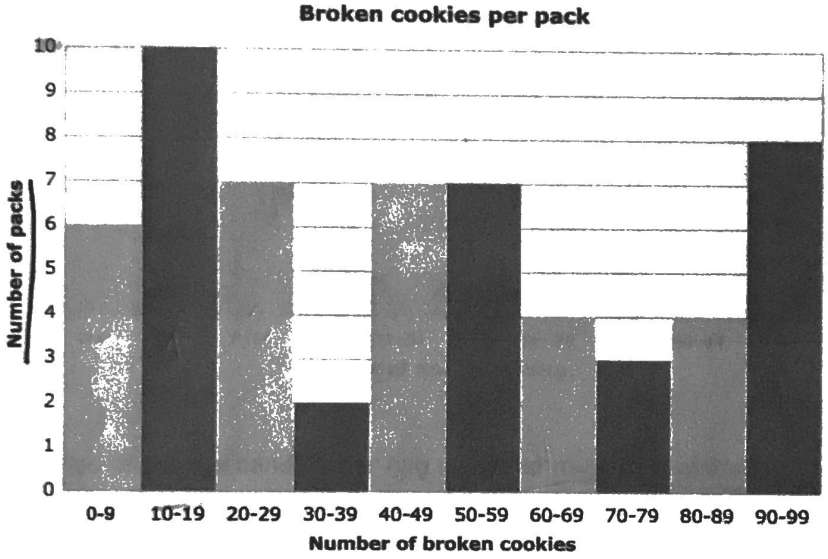
Interpret bar graphs

IXL LEARNING © 2020 IXL Learning. All rights reserved. Follow us

For educators affected by school closures, check out IXL's resource center with everything you need! At-home Learning Hub

IXL's Spring Learning Showdown has started! The classrooms that answer the most questions on IXL through April 30 will be rewarded with a prize—register your class today >>

A cookie factory monitored the number of broken cookies per pack yesterday.



How many packs had between 10 and 19 broken cookies?

10 packs

Submit

Not feeling ready yet? This can help: N.1 CC.11

Interpret bar graphs

IXL LEARNING © 2020 IXL Learning. All rights reserved. Follow us

For educators affected by school closures, check out IXL's resource center with everything you need! At-home Learning Hub

IXL's Spring Learning Showdown has started! The classrooms that answer the most questions on IXL through April 30 will be rewarded with a prize—register your class today >>

Search topics and skills

Welcome, Lindsay Pease!

Learning Diagnostic Analytics

Teacher resources

Recommendations Skill plans Math Language arts Science Social studies Spanish GA Standards Awards

Eighth grade CC.11 Interpret histograms HVL

Share skill

Questions answered

6

Time elapsed

00 HR 02 MIN 51 SEC

SmartScore out of 100

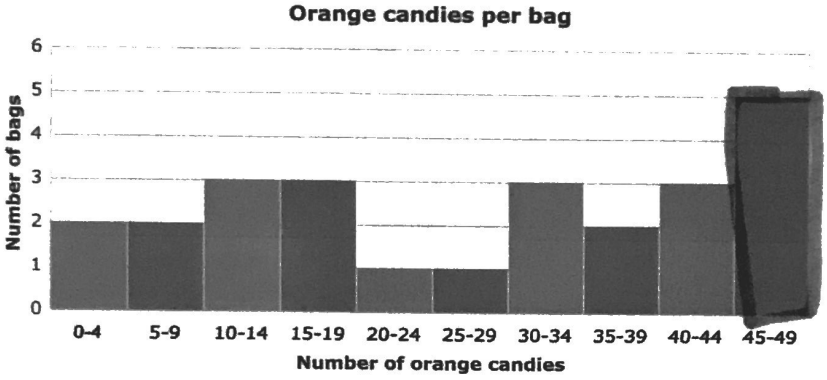
49

Teacher preview

Jump a level

Teacher results not recorded

A candy dispenser put various numbers of orange candies into bags.



Which range of orange candies per bag occurred most frequently?

often - highest bar?

- 15-19 orange candies
- 25-29 orange candies
- 40-44 orange candies
- 45-49 orange candies

Submit

Not feeling ready yet? This can help:

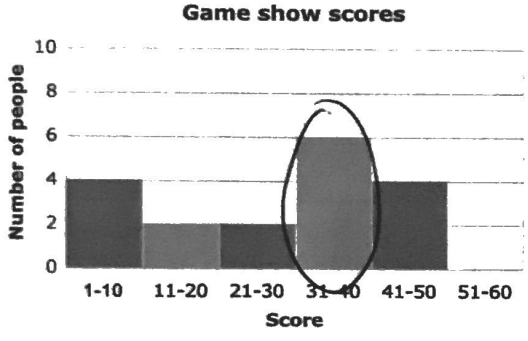
N.1 CC.11

Interpret bar graphs

For educators affected by school closures, check out IXL's resource center with everything you need! At-home Learning Hub

IXL's Spring Learning Showdown has started! The classrooms that answer the most questions on IXL through April 30 will be rewarded with a prize—register your class today >>

The staff of a game show tracked the performance of all the contestants during the past season.



Which score range was achieved by the most people?

11-20 points | 31-40 points | 41-50 points | 51-60 points

Submit

Not feeling ready yet? This can help:

N.1 CC.11

Interpret bar graphs

IXL LEARNING © 2020 IXL Learning. All rights reserved. Follow us

For educators affected by school closures, check out IXL's resource center with everything you need! At-home Learning Hub

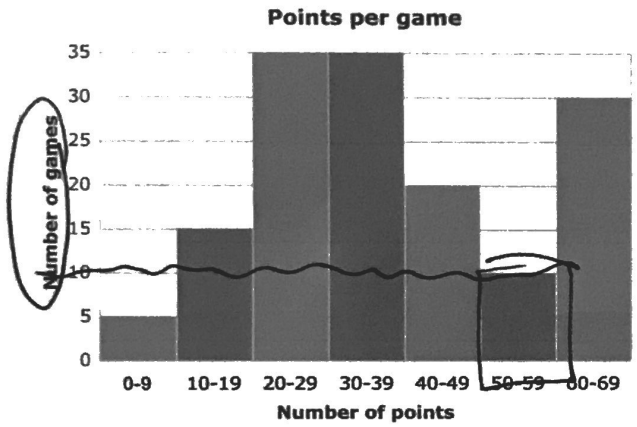
IXL's Spring Learning Showdown has started! The classrooms that answer the most questions on IXL through April 30 will be rewarded with a prize—register your class today >>

Questions answered: 7

Time elapsed: 00 HR 03 MIN 05 SEC

SmartScore out of 100 ?: 55

A high school basketball coach counted the number of points his team scored each game.



range

How many games had between 50 and 59 points?

10 games

Submit

Not feeling ready yet? This can help: N.1 CC.11

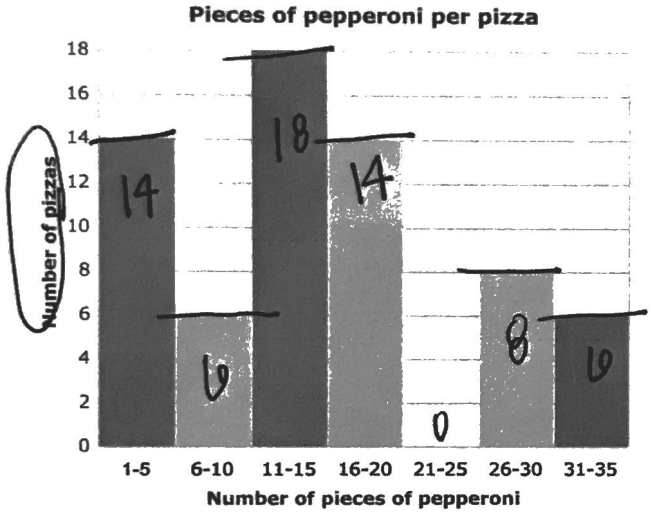
Interpret bar graphs

IXL LEARNING © 2020 IXL Learning. All rights reserved. Follow us

For educators affected by school closures, check out IXL's resource center with everything you need! At-home Learning Hub

IXL's Spring Learning Showdown has started! The classrooms that answer the most questions on IXL through April 30 will be rewarded with a prize—register your class today >>

Belle counted the number of pieces of pepperoni on each pizza she made.



$14+6+18+14+0+8+6=$

How many pizzas were there in all?

66 pizzas

Submit

Not feeling ready yet? This can help: N.1 CC.11

Interpret bar graphs

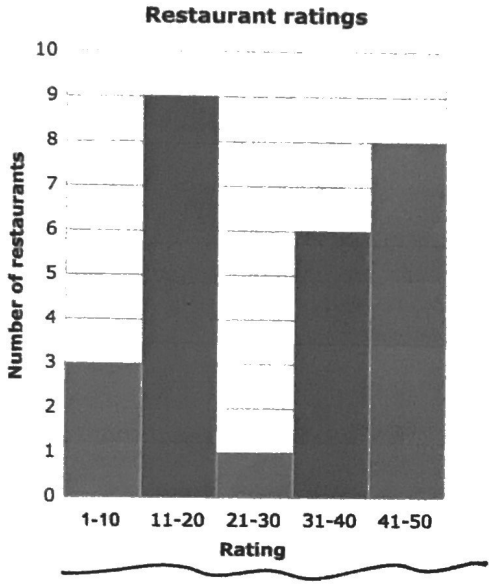
Company | Membership | Blog | Help center | Tell us what you think | Testimonials | Careers | Contact us | Terms of service | Privacy policy

IXL LEARNING © 2020 IXL Learning. All rights reserved. Follow us

For educators affected by school closures, check out IXL's resource center with everything you need! At-home Learning Hub

IXL's Spring Learning Showdown has started! The classrooms that answer the most questions on IXL through April 30 will be rewarded with a prize– register your class today >>

A food magazine published a listing of local restaurant ratings.



lowest bar?

Which rating range was achieved by the fewest restaurants?

11-20 points	21-30 points	31-40 points	41-50 points
9	1	6	8

Submit

Not feeling ready yet? This can help:

N.1 CC.11

Interpret bar graphs

For educators affected by school closures, check out IXL's resource center with everything you need! At-home Learning Hub

IXL's Spring Learning Showdown has started! The classrooms that answer the most questions on IXL through April 10 will be rewarded with a prize—register your class today >>

Search topics and skills

Welcome, Lindsay Peasel

Learning Diagnostic Analytics

Recommendations Skill plans Math Language arts Science Social studies Spanish GA Standards Awards

Eighth grade CC.11 Interpret histograms HVL

Share skill

Questions answered

12

Time elapsed

00 HR 04 MIN 32 SEC

SmartScore out of 100

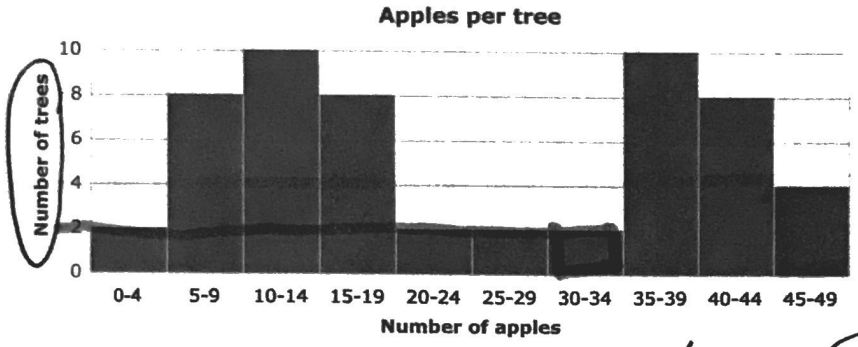
68

Teacher preview

Jump a level

Teacher results not recorded

A farmer counted the number of apples on each tree in his orchard.



2 < 4

Are there more trees that have 30-34 apples or trees that have 45-49 apples?

30-34 apples | 45-49 apples

Submit

Not feeling ready yet? This can help: N.1 CC.11

Interpret bar graphs

Company | Membership | Blog | Help center | Tell us what you think | Testimonials | Careers | Contact us | Terms of service | Privacy policy

IXL LEARNING © 2020 IXL Learning. All rights reserved. Follow us