

Lesson 2: Pictographs

Getting Started

? Big Ideas

- How can we collect and organize data?
- What can we do with data?

⊙ Skills

- Read and interpret graphs
- Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories
- Solve one- and two-step "how many more" and "how many less" problems using information presented in graphs
- Draw conclusions

Introduction

Provide time for your child to review creating non-scaled pictographs by playing the game at the following web link.

Create Pictographs

www.movingbeyondthepage.com/link/7365

<https://www.mathgames.com/skill/3.13-create-pictographs>

Activities

Activity 1: Using Scaled Pictographs

Provide time for your child to read the information and explore the pictographs at the following web link.

Pictographs

www.movingbeyondthepage.com/link/7366

<https://www.mathsisfun.com/data/pictographs.html>

When she is finished, ask the following questions while she looks at the graphs at the web link:

- Looking at the first graph about apples sold each month, how many apples does one whole apple represent? (10)
- Why does half of an apple equal 5? (because 5 is half of 10)
- If the shop sells 30 apples in May, how many apples should the graph show? (3)
- If the shop sells 65 apples in June, how many apples should the graph show? (6 and 1/2)
- Looking at the second graph about tennis games played, why does a quarter of the tennis ball represent 5? (because if 20 is divided by 4 the answer is 5 or because there are 4 groups of 5 in 20)
- How many games does half of a tennis ball represent? (10)
- How many games does three-fourths of a tennis ball represent? (15)
- If another player named Janie played 85 tennis games, what would the graph need to show for her? (4 and 1/4 tennis balls)

Now, show your child the pictograph on the "Reading a Scaled Pictograph" sheet, and pose the following questions:

- If there were 40 books sold on Monday, how many books does one book image represent? (10)
- How many books were sold on Tuesday? (60)
- On which day were the most books sold? How many were sold? (Friday, 100)
- How many more books were sold on Thursday than on Wednesday? (60)
- On which two days combined were the same number of books sold as on Friday? (Monday and Tuesday OR Wednesday and Saturday)
- Based on this data, if the bookseller wanted to be closed for one day each week, which day of the week would you recommend he close and why? (answers will vary)

Activity 2: Creating a Scaled Pictograph

Your child will complete the "Library Pictograph" sheets by reading and generating data on the first sheet and then creating a pictograph to show the data on the second sheet.

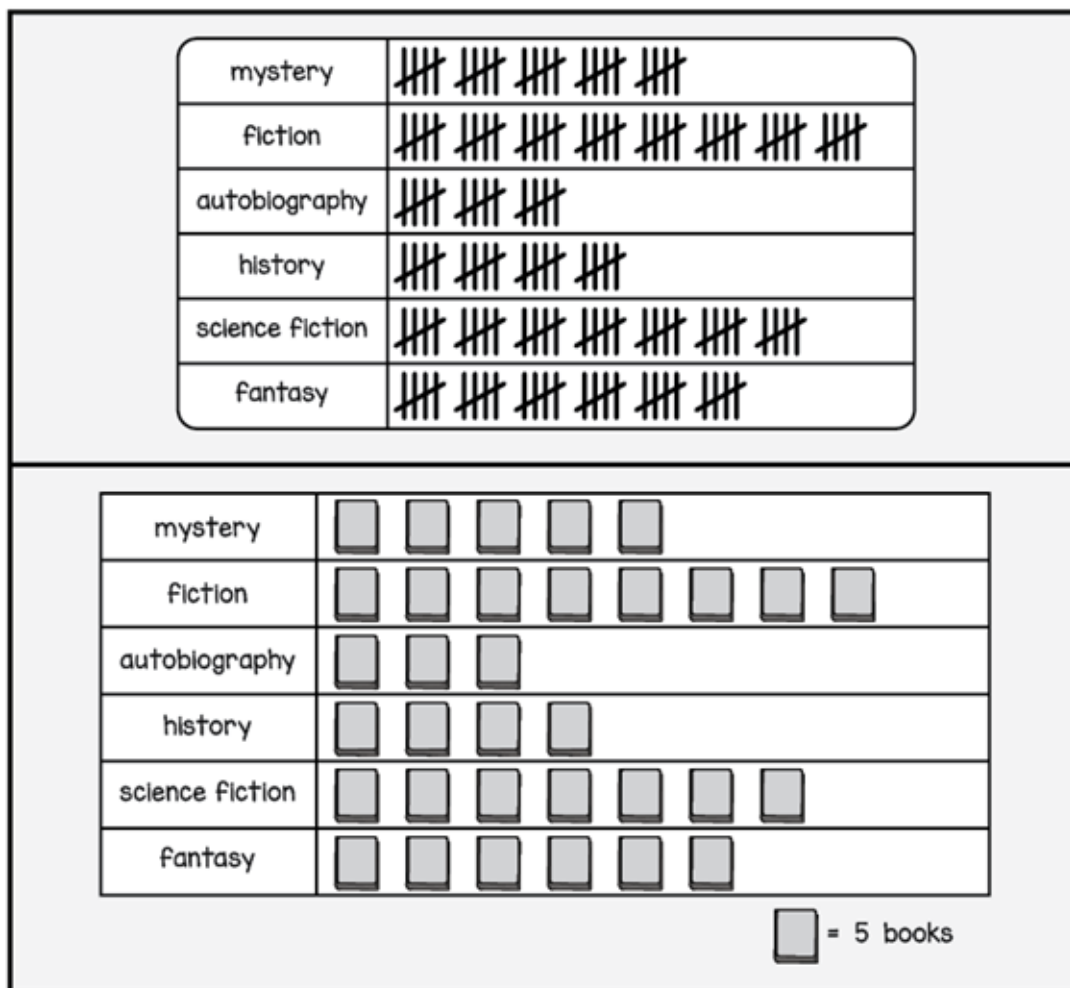
She should find the following data based on the information provided on the first sheet (you may want to check her numbers before she begins to work on the second sheet):

- mystery: 25
- fiction: 40
- autobiography: 15
- history: 20
- science fiction: 35
- fantasy: 30

When your child is ready to work on creating the graph on the second sheet, tell her to read the instructions carefully and to think about how to space out the pictures on the graph.

Keep these sheets for an upcoming activity.







"Library Pictograph" Answer Key



Wrapping Up

Give your child the whiteboard and a dry-erase marker, and provide time for her to create a pictograph that shows data of her choosing. This data may be real or imaginary. Explain to her that she must create a title and a scale for her graph. How many will each picture represent? The goal here is for her to practice using a scale to create a pictograph. When she's finished with her graph, she should be able to tell you what it shows and what the scale is (what each picture equals).

Reading a Scalled Pictograph

Days	Books Sold
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	

 = 10 books



Library Pictograph



The librarians at Readwell Library collected the following information about the types of books that were checked out during one week. Use this information to fill in the tally chart at the bottom of the page.


- 1) Visitors to the library checked out 25 mysteries.
- 2) Visitors checked out 15 more fiction books than mysteries.
- 3) Visitors checked out 10 fewer autobiographies than mysteries.
- 4) Visitors checked out 20 fewer history books than fiction books.
- 5) Visitors checked out 15 more science fiction books than history books.
- 6) Visitors checked out 15 more fantasy books than autobiographies.

mystery	
fiction	
autobiography	
history	
science fiction	
fantasy	

Instructions: Use the data the librarians collected to create a pictograph using the key below. Be sure to space your pictures evenly so that your graph is easy to read. Also, provide a title for your graph. Pay attention to the graph key!

_____ title _____

mystery	
Fiction	
autobiography	
history	
science fiction	
Fantasy	

 = 5 books