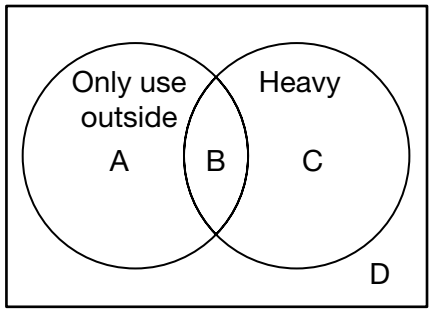
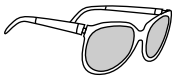
CHAPTER 3

1 Venn Diagrams

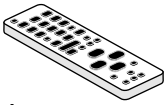
Goal **Sort and classify objects using Venn diagrams.**

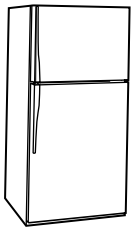
1. a) Beside each object, write the part of the Venn diagram to which it belongs.

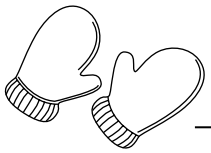



sunglasses A

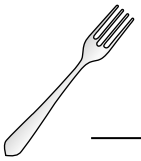

lawn mower B

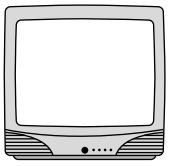

TV remote control D


refrigerator C


mittens A


umbrella A


fork D

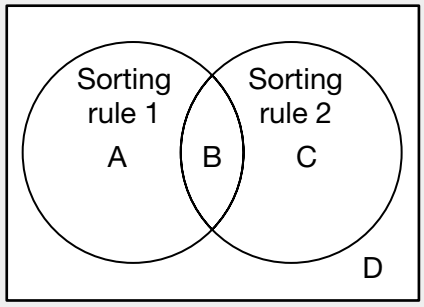

TV C

At-Home Help

A **Venn diagram** is a tool for sorting.

If there are 2 sorting rules, the Venn diagram has 4 parts. This chart shows what is true about each part.

Part	Sorting rule 1	Sorting rule 2
A	yes	no
B	yes	yes
C	no	yes
D	no	no



b) Name 1 more object for each part of the diagram. For example:

A rainboots

B car

C washing machine

D pillow

CHAPTER 3

2 Collecting and Organizing Data

Goal **Create a question for a survey and collect and organize data.**

1. a) Write a question that asks people what their favourite season of the year is.

For example:

What season do you like best:

winter, spring, summer, or fall?

b) Write the possible answers under Season in the tally chart.

Season	Tally
winter	Answers will vary.
spring	Answers will vary.
summer	Answers will vary.
fall	Answers will vary.

c) Ask family members and friends your question. Ask as many people as possible. Record each answer in the tally chart in part b).

2. a) How many people did you ask? Answers will vary.

b) Which season is the favourite of the most people that you asked?

Answers will vary.

At-Home Help

A **tally chart** is a way to record how many times something happens. **Tally marks** are usually shown in 5s. For example,

6 𝍸 I

18 𝍸 𝍸 𝍸 III

A **survey** is a question or questions asked to find information or **data**.

CHAPTER 3

3 Reading and Creating Pictographs

Goal **Interpret and create pictographs.**

1. How many games did each student play?

Our Soccer Playing

Lyn ▭ ▭ ▭ ▭

Sharleen ▭

Juan ▭ ▭ ▭

Each ▭ means 2 games.

Lyn 7 Sharleen 2 Juan 5

At-Home Help

A **pictograph** uses symbols to show information.

In the pictograph in Question 1, the **scale** is "Each ▭ means 2 games." The scale tells how many items each symbol represents. The symbols should line up.

2. Byron has 35 stickers. Suki has 40 stickers.
Mark has 45 stickers.
The pictograph shows Byron's row.

Our Stickers

b)
Byron ☺☺☺☺(
Suki ☺☺☺☺☺
Mark ☺☺☺☺☺(

Each ☺ means 10 stickers.

a) How many stickers does each ☺ represent?

1 2 5 (10)

b) Complete the pictograph.

c) What other scale might have been used?

For example:

Each ☺ means 5 stickers.

Why would this be a good scale? For example, because 35, 40, and 45 are all numbers you get when you skip count by 5s, and 9 would be the most symbols in 1 row.

CHAPTER 3

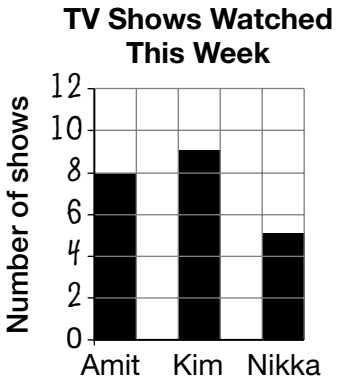
4 Bar Graphs with Scales

Goal **Interpret and create bar graphs using scales of 2, 5, or 10.**

1. a) Draw a bar graph to display the data. Use a scale of 2, 5, or 10.

TV Shows Watched This Week

Amit	8
Kim	9
Nikka	5



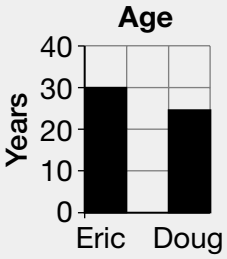
b) Why did you use the scale you did?

For example, using 2 didn't make the bars too tall. They fit in the space allowed.

At-Home Help

A **bar graph** shows data using vertical or horizontal bars. If each square represents 1, a bar might be too high or too long. In that case, a **scale** is used.

The scale for this graph is 10. The height of each square represents the scale.

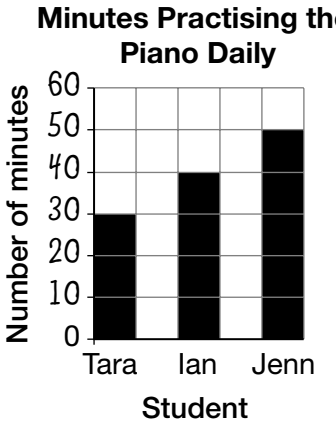


Eric is 30 years old.
Doug is 25 years old.

2. a) Draw a bar graph to display the data. Use a scale of 2, 5, or 10.

Minutes Practising the Piano Daily

Tara	30
Ian	40
Jenn	50



b) Why did you use the scale you did?

For example, using 10 didn't make the bars too tall. They fit in the space allowed.

CHAPTER 3

5

Communicate About Data

Goal **Interpret displays of data and discuss them using math language.**

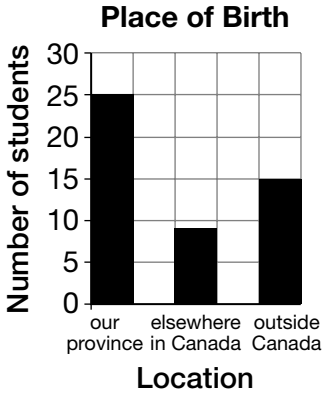
Use the Communication Checklist.

At-Home Help

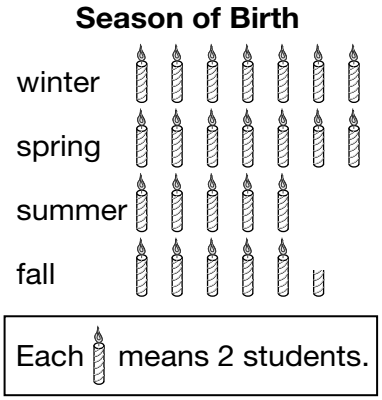
Communication Checklist
- ☑ Did you use the right amount of detail?
- ☑ Did you use math language?

1. Both graphs show data for 2 classes of grade 3 students. Describe each graph. What type of graph is it? What is its title? What is its scale? Tell as much as you can about the data.

a)



b)



The graph in part a) is a bar graph. The title is "Place of Birth." The height of each square means 5 students. Most of the students, 25, were born in our province. The fewest students, 9, were born elsewhere in Canada. In between the most and the fewest, there were 15 students born outside of Canada. 49 students were included.

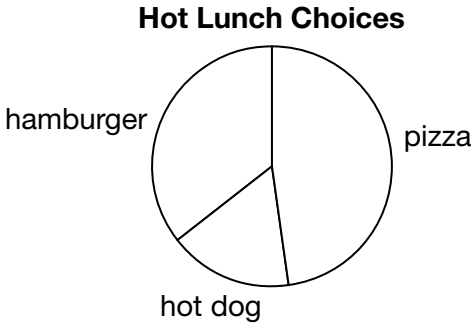
The graph in part b) is a pictograph. The title is "Season of Birth." Each candle means 2 students. The data for the seasons are not very different, but winter and spring both have the most student births with 14 each. Summer has the fewest with 10, and fall is in between with 11 students. 49 students were included.

CHAPTER 3

6 Circle Graphs

Goal **Interpret circle graphs.**

1. Use this circle graph.



At-Home Help

In a **circle graph**, parts of a circle represent parts of the set of data. Larger parts represent more data than smaller parts.

a) List the foods from most popular to least popular.

pizza, hamburger, hot dog

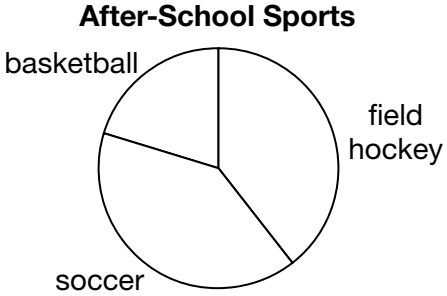
b) Which food did almost half of the students choose?

pizza

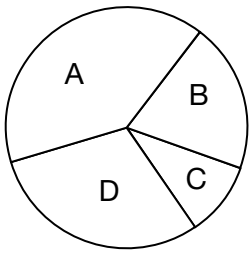
2. Use this circle graph.

Which 2 after-school sports have about the same number of students?

field hockey and soccer



3. Use the letters in the circle graph to complete the chart.

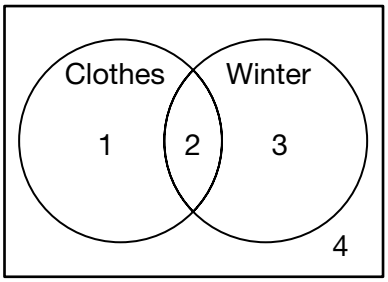


Noon activity	Number of students	Section
art club	12	B
choir	18	D
computer club	6	C
soccer	24	A

Test Yourself Page 1

Circle the correct answer.

Use this Venn diagram to answer Questions 1 to 3.



1. In which part of the Venn diagram would you put a snowsuit?

A. 1 **B.** 2 **C.** 3 **D.** 4

2. In which part of the Venn diagram would you put an outdoor swimming pool?

E. 1 **F.** 2 **G.** 3 **H.** 4

3. In which part of the Venn diagram would you put a snowman?

A. 1 **B.** 2 **C.** 3 **D.** 4

4. Which survey question would give you data that you could tally into 4 groups or fewer?

E. Why do you like hamburgers?

F. Name your favourite snack foods.

G. Which of these foods do you like best: cheeseburgers, hot dogs, or pizza?

H. When was the last time you had a hamburger?

5. How many people chose apple juice as their favourite?

Favourite Juices

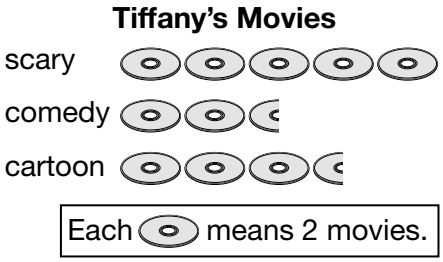
orange	𝍸 𝍸
apple	𝍸 𝍸 |||
tomato	𝍸
grapefruit	||||

A. 10 **B.** 11 **C.** 13 **D.** 23

Test Yourself Page 2

Circle the correct answer.

Use this pictograph to answer Questions 6 and 7.



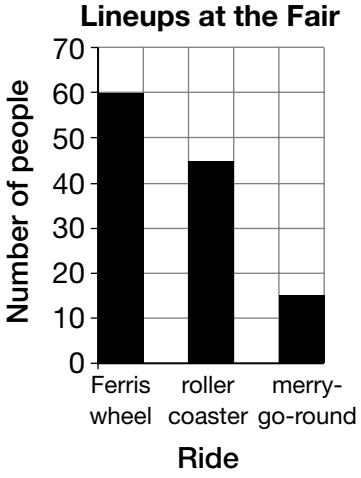
6. How many cartoons does Tiffany have in her movie collection?

E. 2 **F.** 3 **G.** 5 **H.** 7

7. Suppose each means 10 movies instead of 2. How many comedies would Tiffany have in her movie collection?

A. 5 **B.** 10 **C.** 20 **D.** 25

Use this bar graph to answer Questions 8 and 9.



8. How many people lined up for the roller coaster?

E. 40 **F.** 45 **G.** 50 **H.** 55

9. How many more people lined up for the Ferris wheel than the roller coaster?

A. 15 **B.** 30 **C.** 45 **D.** 60

10. Use the circle graph. On which day did most people go to the fair?

E. Thursday

F. Friday

G. Saturday

H. Sunday