



Collecting and displaying data

# Collecting Shells

Statistics and Probability



Written for the Australian Curriculum: Mathematics

Gayle Brent | Randall Hall | Richard John

## AUSTRALIAN CURRICULUM: MATHEMATICS

<b>Strand:</b>	Statistics and Probability
<b>Sub-strand:</b>	Data representation and interpretation
<b>Descriptor:</b>	Create displays of data using lists, table and picture graphs and interpret them

### MATHS WORDS

Collect, sort, group, count, tally marks, data table, picture graph, pie chart, one quarter, one half

### INFORMATION FOR PARENTS OR CAREGIVERS

Helping your child learn to read is a rewarding and enjoyable experience for both you and your child. Here are some ways you can help your child with their reading.

#### BEFORE READING

- Introduce the book; read the title and look at the pictures. Ask your child if they have sorted objects into groups or used tally marks to count objects in a group.
- Refer to the maths words above. Discuss each word and its meaning. These words will appear in this book.

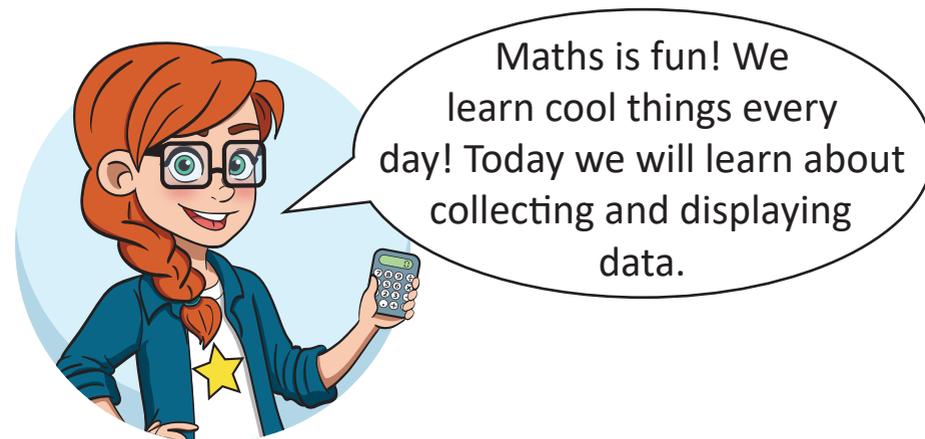
#### DURING READING

- At this level, your child should attempt to read their home reader on their own. They may be unsure of some words. Encourage them to break these words down into their individual sounds, blending them from left to right.
- Stop your child on the pages where Millie the Mathematician appears. Discuss the maths vocabulary and interesting mathematical information presented.

#### MATHS CONCEPTS IN THIS BOOK

Early in the Australian Curriculum, students learn to sort and group objects based on a range of physical, biological and chemical characteristics. They also use a range of strategies to count and/or collate objects in groups using techniques such as tally marks (e.g.  $\text{||||}$   $\text{||||}$   $\text{||}$ ), simple number facts and other addition techniques such the use of number lines. In this way, they are able to collect data for further analysis and interpretation.

In order to make meaning from the data collected, students learn to display and interpret data sets in a number of ways. These include the use of tables, picture graphs and more advanced data display tools such as bar graphs and pie charts. Interpreting the information presented in the various display formats is also a crucial aspect of the Australian Curriculum: Mathematics in the early years.



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Luke needed help with his homework. He asked Suzie the Scientist for help.

“I need to collect sea shells for my homework,” Luke said to Suzie. “And I need to sort them into groups,” he added.

“Wow! That sounds like fun,” said Suzie.



Luke and Suzie went to the beach to collect sea shells.

“Look at this one!” cried Luke. “It’s pink!”



“It’s beautiful,” said Suzie. “Do you know what type of shell that is?”

“No,” replied Luke.

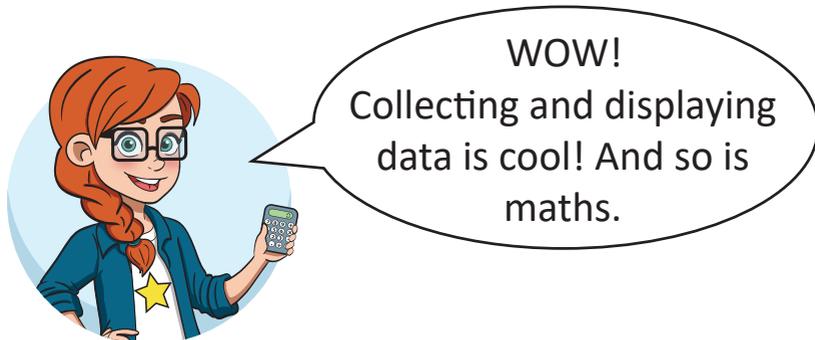
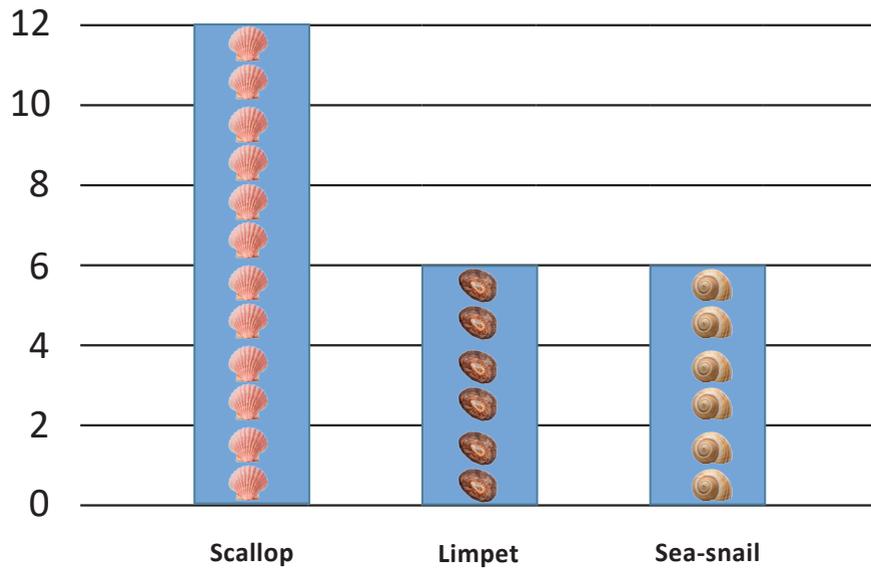
“It’s a scallop shell,” said Suzie. “You should be able to find lots of these. See how many you can collect.”

Luke went to look for more scallop shells.



“Hmmm...” said Luke. “I think I will show my teacher the picture graph.”

Number of shells



## AFTER READING

Ask your child what the book was about and encourage them to re-tell it in the order in which it appeared.

Discuss the following with your child to assist them to understand the content of the book:

- How many scallop shells did Luke collect? How many limpet shells and sea-snail shells were collected?
- Using tally marks, how would count 12 objects? What about 23 objects?
- Use a number line to work out the following sum:  $5 + 4 + 6 =$
- Count the number of knives, forks and spoons in your kitchen draw at home and display these values in a data table.

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# Collecting Shells

Statistics and Probability

Book 24 of 24

In this book **Suzie the Scientist** and **Millie the Mathematician** help us learn how to collect and display data. **Suzie** helps **Luke** collect, sort and count sea shells, using tally marks and simple number facts. **Millie the Mathematician** then helps **Luke** to make sense of the data by displaying them using tables, picture graphs and pie charts.

**Australian Curriculum:** All books in the 'Millie the Mathematician' series are written for the *Australian Curriculum: Mathematics* and align directly to what children learn in the classroom. This book addresses content from the *Statistics and Probability* strand within the *Data representation and interpretation* sub-strand. The specific Australian Curriculum content descriptor addressed is: "Create displays of data using lists, tables and picture graphs and interpret them."



WOW!  
Collecting and displaying data is cool! And so is maths.

## PARENTS, READ ALONG WITH MILLIE!

Throughout this book *Millie the Mathematician* tells us interesting mathematical facts. Use these prompts to encourage further interest and discussion about **collecting and displaying data** with your child.

**Suggested Reading Level:**



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