

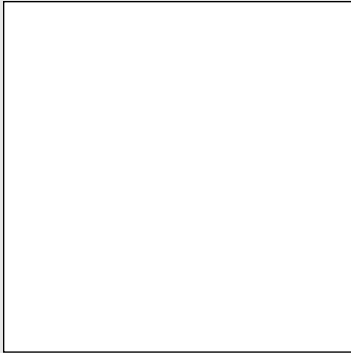
Overview of the Concept: Data Management

Book Summaries

Title	Level	Summary
What Do We Like Best?	C	In this photographed realistic narrative, a class makes a floor mat to create a concrete graph of their favourite fruits. They find out which fruit most students like best.
The Snowman Mystery	G	This illustrated realistic narrative is about a class who has a mystery: Who built the snowman? The class enlists the help of Detective Dan who takes various surveys of the class to solve the mystery.
Teddy Bears At School!	I	In this photographed realistic narrative, a class holds a Teddy Bear Day. The class uses a tally chart, a picture graph, and a bar graph to find out information about their teddy bears, such as colour, number, and size.

Target Outcomes

WNCP	Ontario	APEF
<p>Statistics and Probability (Data Analysis)</p> <ul style="list-style-type: none"> Construct, with guidance, a concrete/object graph and a pictograph, using one-to-one correspondence. Compare data, using appropriate language, including quantitative terms, such as how many more. Collect, with guidance, first-hand information by counting objects, conducting surveys, measuring, and performing simple experiments. Pose oral questions in relation to the data gathered. <p>Patterns and Relations (Patterns)</p> <ul style="list-style-type: none"> Sort objects, using a single given attribute determined by the student. 	<ul style="list-style-type: none"> Collect, organize, and describe data using concrete materials and drawings. Interpret displays of data using concrete materials, and discuss the data. Organize materials on concrete graphs and pictographs using one-to-one correspondence. Collect first-hand data by counting objects, conducting surveys, measuring, and performing simple experiments. Record data on charts or grids given by the teacher using various recording methods (e.g., drawing pictures, placing stickers). Pose questions about data gathered (e.g., why are so many students wearing running shoes?). Generate yes/no questions for a given topic. 	<p>Data Management and Probability:</p> <ul style="list-style-type: none"> Collect, record, organize, and describe relevant data. Construct concrete and pictorial displays of relevant data. Read and interpret displays of relevant data. <p>F1 collect and organize data</p> <p>F2 interpret and create concrete and picture graphs</p> <p>F3 interpret and create pictographs and symbolic graphs</p> <p>F4 pose oral questions in relation to conducting surveys and/or interpreting data</p>



Level C

Text Type

narrative (realistic)

Word Count

90 (not including print within photographs), 110 (including print within photographs)

High Frequency Words

a, all, are, but, can, do, I, in, like, make, of, the, too, we, what

Content Words

best, graph, apples, oranges, plums, pears, bananas, more, fruit salad

Text Features

- 16-page book
- 1–2 lines per page
- photographs
- strong picture clues
- graphs
- print within photographs

Cross-Curricular Links

Mathematics
Health

What Do We Like Best?

Before Reading

Show the students a variety of fruit (apples, oranges, plums, pears, bananas). Ask, *What fruit do you like the best?* When all the students have responded orally, ask them if they have any idea which fruit was the most favourite. If they attempt to answer, ask them how they know, and if they can think of ways to show which fruits are the most and least popular. Help them to realize that it's difficult to know that information by just talking about it, and that they need a way to show the results. Encourage their thinking by trying out their suggestions.

Previewing the Text

- Show the cover of the book and discuss the art. Ask, What kind of fruit can you see? Read the title of the book aloud.
- Say, *In this story, a class makes a graph to see what fruit they like best.*
- Support the students in a book walk. Discuss the pictures to help students access the meaning of the text, and introduce any unfamiliar vocabulary, expressions, and language structures.

Page 2: Ask, *What do you think they are talking about in this picture?*

Page 3: Ask, *What can the class make? What sounds do you hear in the word “graph”?* Have the students repeat the word “graph,” and then locate it on the page. Discuss the “ph” combination in the word “graph.”

Page 4: Ask, *Which fruit does the girl like best? How do you know?* (picture and text)

Page 5: Ask, *Which fruit is the boy putting on the graph? What fruit do you think he likes best?*

Page 6: Ask, *Which fruit does the girl like best?*

Page 7: Ask, *Which fruit does the boy like best?*

Pages 8–9: Ask, *Which fruit do these students like best? Which fruit do you think more students will like best?* Discuss the “b” sound at the beginning of the word “bananas” and ask the students to locate the word in the text.

Page 10: Say, *The students are all done.* Ask, *Who in the class helped?* (elicit “everyone”) Have the students locate the word “everyone” on the page, and ask, *What two little words do you see in the word “everyone”?*

Page 11: Ask, *What are the students doing? How many students like pears best? How many students like apples best?*

Page 12: Ask, *How many students like plums best? How many students like oranges best? How do you know? (picture and text) How can you tell that the same number of students like plums and oranges best?*

Page 13: Ask, *How many students like bananas best?*

Pages 14–15: Ask, *What do the students like best? How do you know? Which fruit do the fewest students like best? What do you think the class will do with the fruit?*

Page 16: Ask, *What do all the students like?* Discuss the beginning “s” sound of the word “salad” and ask the students to locate it in the text.

Reading the Text

Encourage students to read the book independently, at their own pace. Remember that subvocalizing (reading softly out loud) by early readers is to be expected and is often helpful. Observe and assist individual students as necessary. Give specific praise to students you observe using reading strategies.

Revisiting the Text

You may choose to do only some of these activities, over several days.

- Invite individual students to use the pictures to retell the story.
- Discuss the graph on page 15 by asking questions such as the following:
Did more students like apples or plums?
Which fruit did the same number of students like best?
How many more students like bananas better than oranges?
Which fruit do the fewest students like best?
Which fruit do more students like best?
- Ask the students what the class would have put into their fruit salad, and why. Challenge the students to figure out how many pieces of fruit they would have used in their salad, if they use up all the fruit on their graph. Discuss how fruit salad is made—what is done first, next, and so on—and record the recipe on chart paper.
- Distribute copies of **BLM 3-1: Fruit Graph** to the students. Have the students draw pictures of the fruits in the appropriate cells on the graph to replicate the graph made in the book.
- Point out the question marks, exclamation marks, and periods in the book. Model the differences of inflection between the sentence endings. Divide the students into pairs and have them read alternate sentences, paying close attention to the ending punctuation.

Extending Activities

Make a Concrete Graph

Remind the students of the discussion during the Before Reading activity, and ask them if they can now suggest a way of *showing* their favourite fruits (or other items). They will likely suggest a graph such as the one in the book. Provide a collection of fruits, vegetables, or other item to be graphed. Following the pattern of the book, each student would choose his or her favourite, and place it on the labelled graphing mat. When the graph is complete, have the students interpret it using words such as “more than,” “less than,” “the same as,” and “not as many as.” As an extension, have the students make a picture graph to represent their graph, using the picture graph from page 16 as a model.

Create a “What Do We Like Best” Book

Using the students’ graph of their favourite fruits, or the graph from the book, have the students create a booklet describing the results. On each page of the book, the students write the sentence “_____ people like _____ best,” and then illustrate the sentence indicating the correct number of people, or fruit, or both. The students may use numerals or number words to start their sentences.

Make a “Pet” Graph

Brainstorm with the students their favourite type of pets, and write the names of the pets at the bottom of a graph (e.g., dog, cat, rabbit, fish). As a class, make a picture graph to represent which pets the students like best. Distribute a square of paper to each student and have them draw a picture of their favourite pet. Have the students glue their picture into the appropriate column of the graph. Ask volunteers to interpret the graph and describe the results, using appropriate language of comparison.

Cross-Curricular Links

Mathematics

Have the students colour and cut out the fruit shapes on **BLM 3-2: Fruit Cards**, to match the fruits in the book. (You may want to have them glue the page onto cardboard, first.) They can sort their fruit cards in a variety of ways, and/or make different patterns with them. There are three empty cards that they may use to colour in fruits of their choice, once they know what they want to enhance their sorting or patterning activity. Allow time for individuals to share the results of their sorting or patterning with others. Suggest that they make a record of their activities by drawing one of them, for example, a favourite pattern.

Health

Ask the students to bring in a piece of fruit from home to contribute to a “friendship” fruit salad. Refer to *Canada’s Food Guide to Healthy Eating* to discuss the importance of fruit as part of a healthy diet. If you recorded the steps to making a fruit salad in an earlier activity, use that as a reference now. If not, then first discuss and record the steps to be taken, such as washing the fruit, peeling (if necessary), taking out seeds (if necessary), cutting into bite-sized pieces, and so on.

Teddy Bears At School!

Before Reading

Bring several teddy bears to class, of different sizes and colours. Show the teddy bears to the students. Ask, *How many teddy bears are there?* Count the bears with the students. Ask, *How are these bears the same? How are they different?* Ask individuals to choose one bear secretly and describe it for others to guess. Encourage them to use comparisons, such as, “It is smaller than both the brown bears.” Alternatively, brainstorm observations of the bears as a group.

Previewing the Text

- Show the cover of the book and discuss the photograph. Read the title of the book aloud, as well as the banner in the photograph.
- Say, *In this story, it’s Teddy Bear Day at school. The students bring their teddy bears to class and they learn different things about their bears.* Ask, *What do you think the children might do with their bears?*
- Support the students in a book walk. Discuss the pictures to help students access the meaning of the text, and introduce any unfamiliar vocabulary, expressions, and language structures.

Pages 2–3: Ask, *What day is it today? How do you know?* (picture and text) Ask, *Who is speaking on page 2? What is the girl’s teddy bear’s name?* Say, *Pat is the girl’s favourite bear.* Say the word “favourite” slowly, and ask the students what letter it starts with. Have the students locate the word on the page.

Pages 4–5: Ask, *What do the students want to find out? How do you know what their question is?* (chart in picture and text) *What do the students do to find out how many bears came to school?* (elicit “make a tally chart”) Say, *For each bear, they will put one tally mark on the tally chart.*

Pages 6–7: Ask, *What is an easy way to count the tally marks?* (count by fives). Count the groups of five together, then count on by ones, explaining what you are doing. Have the students find the word “twenty-two” on the page.

Level I

Text Type

narrative (realistic)

Word Count

295 (not including print within illustrations), 359 (including print within illustrations)

High Frequency Words

a, all, and, are, at, big, by, came, day, do, for, have, how, I, in, is, it, look, make, my, now, of, on, or, out, put, the, then, there, to, want, we, what, with

Content Words

teddy bear, favourite, many, tally chart, tally mark, count, match, picture graph, sort, size, bar graph

Text Features

- 16-page book
- 2–10 lines per page
- photographs
- moderate picture clues
- print within photographs
- thought bubbles
- charts
- graphs
- varying text placement
- italics

Cross-Curricular Links

Social Studies/Music

Pages 8–9: Ask, *What is the teacher giving the students? What are the students doing with the pictures of teddy bears? How do they know what colour to make their teddy bear picture?* (they match their bears)

Pages 10–11: Ask, *What kind of graph did the class make?* (picture graph or pictograph) *What colour are most of the bears? Which colours have the same number of bears?* (red and blue) *How many light brown bears are there? How do you know?* (graph in picture)

Pages 12–13: Ask, *What story did the teacher read to the class?* Point out the italicized words and discuss the use of italics (title of a book). Ask, *How did the class sort their bears?* (by size) Say, *Yes, there are papa bears, which are big, mama bears, which are medium, and baby bears, which are small.* Ask, *Which group did the girl put her bear in? Which group has the least number of bears?*

Pages 14–15: Say, *The students want to show how many bears of each size they have.* Ask, *What kind of graph did they make to show this? What do they colour in for each bear?* (a box) *Which size does the class have more of?*

Page 16: Say, *What a busy day!* Have the students locate the word “busy” on the page, and draw their attention to the sound the letter “s” makes. Point to the thought bubbles and explain that they show what the bears are thinking. Ask, *What do you think the bears thinking?* Read the thought bubbles together with the students.

Reading the Text

Encourage students to read the book independently, at their own pace. Remember that subvocalizing (reading softly out loud) by early readers is to be expected and is often helpful. Observe and assist individual students as necessary. Give specific praise to students you observe using reading strategies.

Revisiting the Text

- Ask the students to describe the girl’s bear, Pat, by using the attributes mentioned in the book (colour, size, baby, mama, or papa). Then select other bears in the book, and ask the students to describe them in the same manner.
- Ask individual students to retell the story by focusing on the activities the students did with their bears. Have the students focus on the sequence of book, using such words as “first,” “next,” “finally,” or “first,” “second,” and “third.” You may want to write these words on chart paper for the students’ reference.
- Discuss the three activities the students did in the book, and for each activity point out the question the students asked, the way they recorded the data, and what they learned. Have the students, individually or in pairs, complete **BLM 3-5: Teddy Bear Graphs** by filling in the missing information about each graph or chart in the book. One section of each chart has been done.

- Have the students create two columns on a piece of paper. Ask the students to find all the numerals in the book, and write them in the first column. Then have the students find all the number words in the book, and write them in the second column. The students may compare their lists with a partner.
- Review the use of thought bubbles by referring to those on page 16. Ask the students to choose a page of the book and write a new thought bubble for one of the characters. The students write the thought bubble text on sticky notes, place it in the appropriate spot, and then read it aloud.

Extending Activities

Write a Teddy Bear Story

Students write about their favourite teddy bear or other stuffed animal, using descriptive vocabulary. They can also do illustrations or paintings to go with their stories. These can be displayed individually or made into a class book.

Have a Teddy Bear Day

Organize a Teddy Bear Day or Week by asking the students to bring their favourite teddy bear to school. Re-enact the activities in the book (tally chart, picture graph, bar graph), and compare the students' results with those found in the book. To complete the picture graph, you may provide **BLM 3-6: Teddy Bear Picture** for the students to colour.

Cross-Curricular Links

Social Studies

Together as a class, complete a research project on teddy bears. Research when and how people began making teddy bears, what they looked like, and how they've changed over the years. Prepare a display of the information to put up in the classroom. The display could include interactive writing pieces, and artwork created by the students.

Music

Write the lyrics to the song "Teddy Bear Picnic" on chart paper, and practise the song with the students. Perform the song for another class, for parents, or for a school assembly.

The Snowman Mystery

Before Reading

Draw, or secretly have a student draw, a dinosaur on the board before the class arrives in the morning. Say, *We have a mystery here. I wonder who drew the dinosaur.* Then ask, *What clues could we look for? What questions can we ask to find out?* (e.g., Who was at school early this morning? Who can reach the top of the dinosaur? Who likes dinosaurs? Who has chalk on their hands?) List the clues and/or questions the students suggest. Tell them that they will get a chance to solve the mystery a little later on.

Previewing the Text

- Show the cover of the book and discuss the art. Read the title of the book aloud.
- Say, *In this story, a class—with the help of Detective Dan—tries to solve the mystery of who built the snowman in the playground.*
- Support the students in a book walk. Discuss the pictures to help students access the meaning of the text, and introduce any unfamiliar vocabulary, expressions, and language structures.

Pages 2–3: Introduce the characters on the page (Todd, Mr. Ross). Ask, *What are the children and Mr. Ross looking at?* Say the word “mystery” slowly and ask the students what letter they think the word begins with. Point out the word on the page and discuss the two different sounds the letter “y” makes within the word. Say, *There are not many children at school.* Ask, *Why not? How do you know it’s a snowy day?* (picture and text) *How many children are at school?*

Pages 4–5: Introduce Detective Dan and show the students his name on the page. Ask, *What do you think Detective Dan will help the class do?* (elicit “solve the mystery”) Ask the students to find how many times the word “mystery” appears on the pages. Point out the plural form, “mysteries,” on page 4, drawing attention to the word ending. Ask, *How do you think Detective Dan might solve the mystery?*

Level G

Text Type

narrative (realistic)

Word Count

188 (not including print within art)

High Frequency Words

a, and, ask, at, day, did, do, for, go, has, have, I, is, it, made, on, said, so, that, the, there, this, to, was, who, you

Content Words

snowy, children, snowman, mystery, Detective, solve, playground, clue, survey, red scarf, carrot

Text Features

- 16-page book
- 1–10 lines per page
- illustrations
- moderate picture clues
- dialogue
- thought bubbles
- charts
- print within illustrations
- bold
- italics

Working with Words

Compound Words

Cross-Curricular Links

Drama

Language Arts

Pages 6–7: Ask, *What is Detective Dan’s first clue? What question does Detective Dan ask everyone? What does he use to record their answers? (a survey)* Have the students look carefully at the survey, pointing out the question, the names, and the yes/no columns. Ask, *How many people were not on the playground this morning? How many people were on the playground this morning, and could have made the snowman?*

Pages 8–9: Ask, *What is Detective Dan’s next clue? What is he asking about now? How do you know? (thought bubble, art, and text)* *How many people have a red scarf?* Ask the students to predict who made the snowman.

Pages 10–11: Ask, *What do we know so far about the person who made the snowman? (they were on the playground this morning, and they have a red scarf)* *What does Detective Dan need now? (elicit “another clue”)* Discuss the hard “c” sound in the word “clue,” and ask the students to find another word on the page that starts with the same sound. Ask the students to predict what question Detective Dan will ask next, or what the next clue will be.

Pages 12–13: Confirm the students’ predictions about the next clue. Ask, *What question does Detective Dan ask on this survey? How many people have carrots for lunch?*

Pages 14–15: Say, *Detective Dan has solved the mystery!* Ask, *Who answered “yes” to all three of the survey questions? Who do you think made the snowman?*

Page 16: Confirm the students’ predictions. Ask, *How did you know Mr. Ross made the snowman?*

Reading the Text

Encourage students to read the book independently, at their own pace. Remember that subvocalizing (reading softly out loud) by early readers is to be expected and is often helpful. Observe and assist individual students as necessary. Give specific praise to students you observe using reading strategies.

Revisiting the Text

You may choose to do only some of these activities, over several days.

- In partners, ask the students to retell the story, using the pictures.
- Have the students recall the three survey questions that Detective Dan asked in the book. Ask, *Why did the number of people that Detective Dan asked his questions decrease each time? (he only asked the people who said “yes” to the last question)* Discuss the deductive reasoning used, and brainstorm if Detective Dan could have asked any other questions.
- Have the students respond to questions such as the following:
What is the mystery that Detective Dan wants to solve?
What is the first clue to who made the snowman?
What is the second clue to who made the snowman?

What is the third clue to who made the snowman?

Who made the snowman?

- Have students look through the book to find and read out the exact words to answer questions such as the following:

What does Mr. Ross say when Todd asked about who made the snowman?

What does Detective Dan say that the mystery is?

What question did Detective Dan ask eight people?

What did Detective Dan write on the chalkboard?

To what question did three say “no” and one say “yes”?

- Ask the students to look carefully at the three surveys on page 15. Ask each to comment on one thing he or she notices about them. Help them to notice the similarities and differences, the organization of the charts, how the results are recorded, and so on. Discuss their observations and conclusions.
- Encourage students to reread the book together as a group, independently, or with a partner.

Working with Words: compound words

Discuss compound words, reviewing that they are composed of two smaller words. Ask the students to search the text for compound words (snowman, playground, everyone). Distribute copies of **BLM 3-3: Mystery Compounds** to the students, and have them first cut out the six word cards and arrange them to show three compound words. Then they write those compound words on the page, and find and record each page in the book where they find each word.

Extending Activities

Solve the Mystery

Remind the students of the mystery of the dinosaur drawing that was discussed in the Before Reading activity. Work with them to imitate Detective Dan’s method of solving a mystery. As a class, decide on the best yes-or-no questions to ask to solve the mystery, and record each of these at the top of a separate piece of chart paper. Create a survey chart (or use **BLM 3-4: Do a Survey**) for each question, and record the students’ answers. Using the clues, help the students come to a conclusion about who drew the dinosaur.

Do a Survey

Brainstorm with the students various survey questions with a yes or no answer (e.g., Do you play soccer? Did you wear white shoes today?), and write these on chart paper. Have the students work in pairs to choose one of the survey questions, and use **BLM 3-4: Do a Survey** to record ten of their classmates’ answers. One student asks the questions, and the other records the students’ answers on the survey. Pairs can then present their findings to the rest of the class.

Interactive Writing

Using a similar format to the story, write a mystery interactively with the students. Brainstorm the mystery to solve, and then write the story together on chart paper. The students can write the high frequency words, while you write the rest. As an extension, the students can write their own mysteries during independent writing.

Cross-Curricular Links

Drama

Have groups of students act out the book. They may write a new script, or improvise dialogue for the story, and may use props. Allow the students plenty of time to practise, and then have them present their play.

Language Arts


Read another mystery with the class (e.g., *The Eleventh Hour* by Graeme Base). Discuss the similarities and differences between the book, and *The Snowman Mystery*. Make a list of various features of a mystery.

Name: _____

Date: _____

Fruit Graph

Draw pictures of the fruits to fill in th graph.

banana 

plum 

orange 

pear 

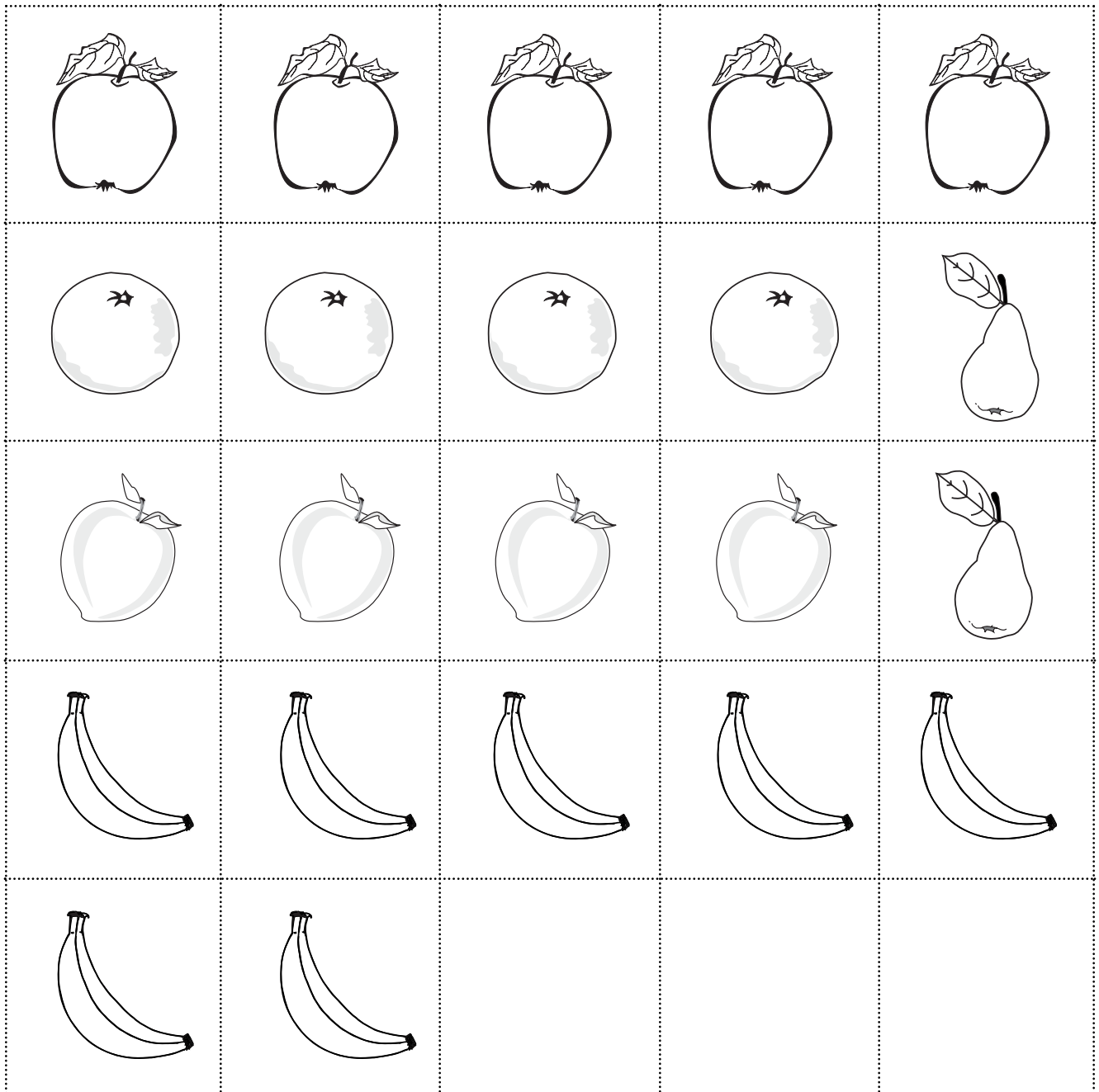
apple 

Name: _____

Date: _____

Fruit Cards

Colour the fruit. Cut out the cards.



Name: _____

Date: _____

Mystery Compounds

Cut out the word cards. Use them to make 3 compound words. Write the compound words below. List all the page numbers in the book where you find each compound word.

Compound Words	Page Number
1. _____	
2. _____	
3. _____	



one

man

snow

play

every

ground

Name: _____ Date: _____

Do a Survey

Question:

_____ ?

	Name	Yes	No
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Name: _____ Date: _____

Teddy Bear Graphs

Complete each chart.

Type of graph:
The title on the graph: How many bears came to school?
What we learned:

Type of graph: picture graph
The title on the graph:
What we learned:

Type of graph:
The title on the graph:
What we learned: We have more mama bears.

Name: _____

Date: _____

Teddy Bear Picture

