Array's Bakery

Teacher's Guide

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Line Masters

This Teacher's Guide includes access to modifiable and PDF line masters.

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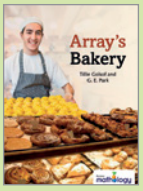
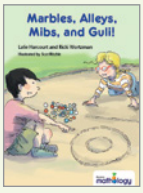
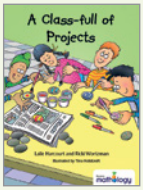
Pearson

Mathology Little Books

This series recognizes that children's understanding of maths concepts develops over time, and so the series allows you to choose the book that best matches a child's or group's level of mathematical understanding. The books engage children at just the right level in a wide range of mathematical ideas, thinking, and activities in a variety of real world and imaginary contexts.

Array's Bakery engages children in conversations, investigations, and activities that help to develop their understanding of the big maths idea that "Quantities and numbers can be added and subtracted to determine how many or how much."*

Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much
(Addition and Subtraction concepts and strategies)

TITLE	KEY MATHS FOCUS	MATHS SKILLS	STRATEGIES	ADDITIONAL FOCUS
	Add and subtract to 20 Compare quantities to 20	Connect addition and subtraction Use +, −, = to symbolize addition and subtraction Identify parts of a whole	Count on and back 1-1 matching	Count by 5s Develop financial literacy Recognise 3-D shapes Use tallies
	**Solve addition/ subtraction problems** **Solve equal grouping/ sharing problems**	**Estimate sums and differences** **Model and symbolize repeated addition** **Create and describe equal groups of objects** **Model and solve equal grouping and sharing problems**	**Arrays** **Equal grouping** **Skip count** **Repeated addition** **Estimate** **Share groups equally** **Use number sentences**	**Equality** **Model and write time** **Features of 3-D objects**
	Add/subtract 2-digit numbers Solve equal grouping/ sharing problems	Create and solve addition and subtraction problems Use appropriate symbols to express addition and subtraction Add and subtract fluently with quantities to 20 Create and solve equal grouping and sharing problems	Estimate Skip count Mental addition and subtraction strategies Repeated adition Arrays Grouping into sets Sharing groups equally	Compare distance Identify 2-D shapes Features of triangles
	Add/subtract to 100 Compare/order numbers	Model and symbolise addition and subtraction Develop complements of 100 Write, read and compose numbers to 100 with 2-digit numbers as 10s and 1s Determines 10 (other multiples of 10) more/less than a given number	Estimate Skip count Grouping Place value Use mental and personal addition and subtraction strategies	Identify units of time

* This book can also be used to address the big idea that "Quantities and numbers can be multiplied (by grouping units) and divided (by splitting into units) to determine how many or how much."

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Adding and subtracting

- Suppose there are 12 loaves of bread on 1 shelf. How many loaves do you think would be on 2 shelves? *(24: 12 + 12 = 24)* 3 shelves? *(36: 24 + 12 = 36)*
- On page 3, I see 12 Belgian buns on the bottom rack. (Describe or identify the buns if necessary; they have white icing and a glacé cherry on top.) Suppose Array added another row of 4 buns. How many buns would there be altogether? How do you know? *(16: 12 + 4 = 16 or 4 + 4 + 4 + 4 = 16)*

At 6:30 in the morning, Array turns on the lights in his bakery. He goes back to the kitchen and brings out trays and trays of his fresh baking. He fills the front window. He fills the shelves. He fills the glass case.

2

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Array checks to make sure that his baking is in straight equal rows. He nods his head and smiles. Everything is ready.

At 7:00, Array flips over the **OPEN** sign and welcomes his first customer.

Equal grouping and sharing

- Which baked goods are the easiest to count? Why? *(answers will vary)*
- Which baked goods are arranged in equal rows? How many do you think there are? How will you check?
- Are there an equal number of the iced buns (identify them if necessary—middle rack, far right) in each row? *(no)* What would you do to make them equal? *(add 1 to the left row/side or take one away from the right row/side)*

CONNECTING TO MEASUREMENT

Time: Use a demonstration clock to model and write the time as it changes while you retell the events in Array's morning.

Large Group Options

If you read ***Array's Bakery*** to a large group or whole class, you might project the book to facilitate reading aloud and better engage children in describing and counting what they see. These activities engage children in adding and subtracting to find how many, as well as modelling and solving equal sharing and grouping problems; choose the activities that best address your children's learning needs.

HELPFUL ARRANGEMENTS

ENGAGE

Turn to page 5 of ***Array's Bakery*** and ask: **How many muffins do you think there are? How could you find out?** Explore, discuss, and act on the strategies children suggest. *(count by 1s, 5s; add 5 repeatedly; other reasonable strategies)* You might prompt:

- **How are the muffins arranged? How many rows are there? How many muffins are in each row? How would you describe the arrangement?** *(5 rows of muffins with 6 in each row, or 6 rows of muffins with 5 each in row; 5 groups of 6, or 6 groups of 5)* **How would you describe the arrangement using a number sentence?** *(5 + 5 + 5 + 5 + 5 + 5 = 30; 6 + 6 + 6 + 6 + 6 = 30)*
- **How does the way Array arranged the muffins help you to find how many there are?**

Repeat with other arrays in the book (e.g., page 11). You might prompt:

- **How many will there be if you add (take away) 1 row? Convince us.**

WORK ON IT

Introduce the task:

- **Suppose you have 3 rows of muffins and there are 5 muffins in each row. How many muffins do you have? Work with your partner (group) to find out. Draw the muffins and add numbers, number sentences, and/or words to show your solution.**

Provide access to materials children request for solving the problem and recording their thinking and solution (e.g., counters, grid paper).

SHARE AND REFLECT

Have children share their solutions. Examine and discuss the different ways children used words and numbers in their solutions. You might ask:

- **What if you add (take away) 1 row? How many would you have in total? Why?**

Encourage children to create a similar (muffin) problem using the sentence strips on Problem Strips (LM 3). Children should record the answer to their problem on the back of the strip. (This is so that children can solve each others' problems independently—see Solve the Problem, page 29.)

MATHS FOCUS: use skip-counting and repeated addition to find how many; create and solve equal grouping problems

MATERIALS: ***Array's Bakery***; materials for representing and solving problems (e.g., counters, grid paper); Problem Strips (LM 3)

WATCH FOR...

- Does the child model the problem by grouping muffins in an array? How does the child determine how many there are (by counting, adding, skip-counting)?
- Does the child create appropriate number sentences to express her/his ideas?

DIFFERENTIATE: Alter the number of muffins to change the level of difficulty: use larger numbers to increase the difficulty; use smaller numbers to decrease it.

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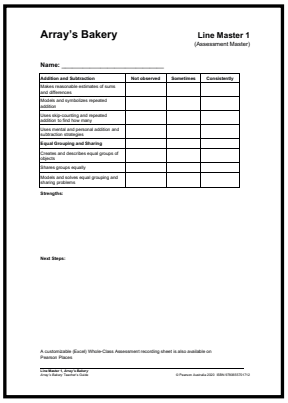
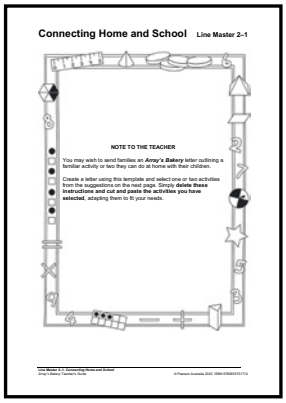
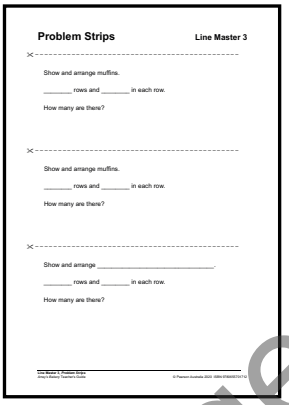


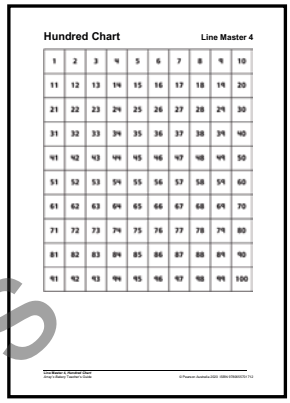
Line Master 1
Assessment Master



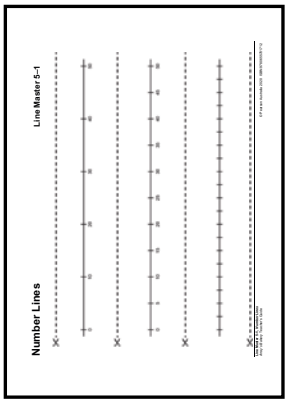
Line Master 2
Connecting Home and School Letter Template



Line Master 3
Problem Strips

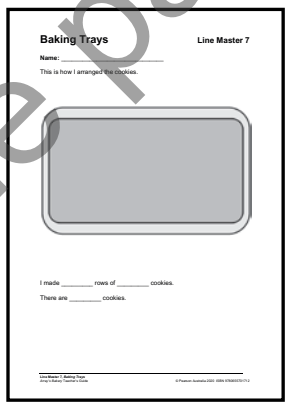


Line Master 4
Hundred Chart

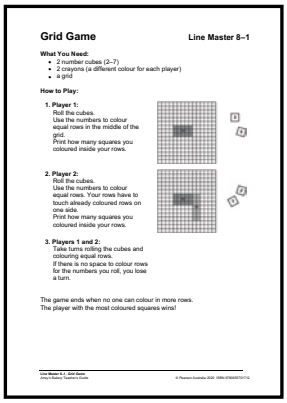


Line Master 5
Number Lines

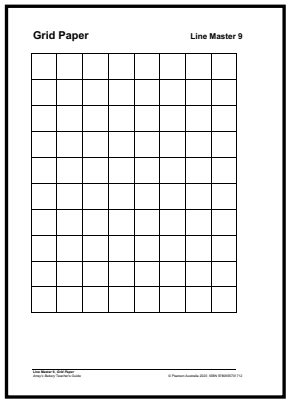
Line Master 6
Array's Bakery Maths Mat



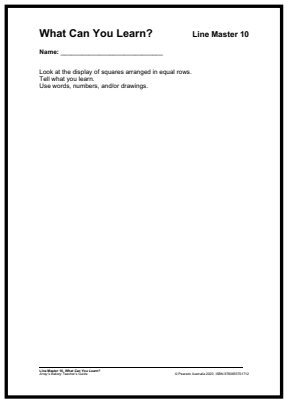
Line Master 7
Baking Trays



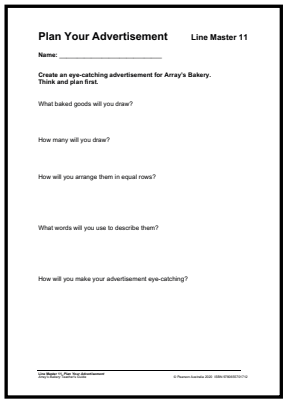
Line Master 8
Grid Game



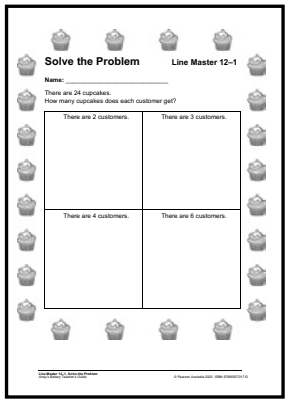
Line Master 9
Grid Paper



Line Master 10
What Can You Learn?



Line Master 11
Plan Your Advertisement



Line Master 12
Solve the Problem

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