Sports Camp

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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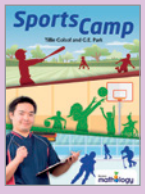
Pearson

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 activity in a variety of real world and imaginary contexts.

Sports Camp engages children in conversations, investigations, and activities that help to develop their understanding of the big maths idea that "Quantities and numbers can be multiplied (by grouping units) and divided (by splitting into units) to determine how many or how much."*

Big Idea: Quantities and numbers can be multiplied (by grouping units) and divided (by splitting units) to determine how many or how much
(Multiplication and division)

TITLE	KEY MATHS FOCUS	MATHS SKILLS	STRATEGIES	ADDITIONAL FOCUS
	Model and solve equal grouping/sharing problems Relate adding to multiplying, subtracting to dividing	Find how many in equal groups (multiply) Share groups equally (divide) Model, symbolize, and solve grouping and sharing problems Relate multiplication and division Relate repeated addition and repeated subtraction to multiplication (grouping) and division (sharing)	Repeated addition and subtraction Estimate sums and differences Skip counting Use mental and personal addition and subtraction strategies Use appropriate number sentences to express and solve addition and subtraction problems	Identify 2-D shapes Identify and describe 3-D shapes Create tallies and graphs

* This book can also be used to address the big idea that "Quantities and numbers can be added and subtracted to determine how many or how much."

  ISBN 9780655701910

Multiplying and dividing

- There are baseball, hockey, and basketball players at the camp. Suppose there is an equal number of each. Could there be a total of 20 players? *(no, because 20 cannot be divided into 3 equal groups)*
- Let's say there are 8 players—an equal number—on each of the 3 teams. Do you think there are more than or fewer than 30 players altogether? *(fewer)* Explain your thinking.

Athletes, can I please have your attention!

Welcome to the first day of Sports Camp! This is the day when you can learn a sport you haven't played before. It's great that you're on time and ready to start.

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WATCH FOR...

- How does the child explain why there are fewer than 30 players? Does the child use repeated addition and add 8 three times? Does the child offer that 3 tens is 30, so 3 groups of 8 must be fewer than 30?
- Can the child explain his/her thinking clearly and listen to explanations that are different from his/hers?

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But we have a small problem. Our coaches are stuck in traffic and are going to be delayed.

We're lucky! Some of your parents have offered to help until our coaches arrive. You can still learn new skills and have lots of fun.

Adding and subtracting

- Do you think there are more than or fewer than 100 players if there are 30 basketball players, 40 hockey players, and 25 baseball players? *(fewer than)* Convince us!

CONNECTING TO DATA MANAGEMENT AND PROBABILITY

Collecting Data: Sports can be an engaging topic for data collection. Questions about sports can be used to collect data from children in the class and/or school. For example: **What is your favourite sport to play (watch)? Which sport would you like to learn (to be very good at)?** Data can be collected using tallies, and later graphed and interpreted.

Large Group Options

If you read ***Sports Camp*** to a large group or whole class, you might project the book to facilitate reading aloud and better engage children in solving problems. These activities engage children in making and describing equal groups using multiplication, division, addition, and/or subtraction. Choose the activities that best address your children's learning needs.

EQUAL TEAMS

ENGAGE

Revisit one group of players in ***Sports Camp***. (Hockey players, pages 10–15, are used here.) Review how many players there are to start, describing them as 1 group of 18 players. If appropriate, include (as review) or introduce the corresponding multiplication sentence and begin a chart. Discuss and record what happens with each new grouping:

- **First, players make pairs and get into groups of 2. What happens?**
- **Next, players make groups of 3. How does that work out?**

Continue until all the situations in the book are charted. Ask:

- **What do you notice about making equal groups with 18 players?**
- **What other way can 18 players get into equal groups with none left out?** *(2 groups of 9)*

WORK ON IT

- **Suppose we want to make equal teams with everyone in our class. What different ways can we make equal teams with no one left out?**

If your class size is not suitable (e.g., an odd number with no/few equal groups possible), use a hypothetical group of 24 players. Children can record their solutions on Making Equal Teams (LM 3). You may modify the line master as needed.

SHARE AND REFLECT

Initiate discussion by asking questions such as:

- **What did you find out about making equal teams with (24)?**
- **What do you notice about the groupings?**
- **Do you think that we found all the possibilities? Are any other equal teams possible?**

You can post a large number line and use it to model repeated subtraction and repeated addition. Record corresponding number sentences and focus on the relationship between operations:

- **How can we record (4 teams of 6) using addition? Multiplication?**
- **How can we use subtraction (division) sentences to show making equal teams with (24) players?**

Scribe the solutions children share. Check in with them as you go to ensure you are capturing their thinking accurately.

MATHS FOCUS: model and solve equal grouping problems; use skip-counting and repeated addition and/or subtraction to count and describe equal groups

MATERIALS: ***Sports Camp***; Making Equal Teams (LM 3) (optional); counters; number line (optional)

Making Equal Groups
18 players

1 group of 18 $1 \times 18 = 18$
9 groups of 2 $9 \times 2 = 18$
6 groups of 3 $6 \times 3 = 18$
4 groups of 4 and 2 left over
3 groups of 5 and 3 left over
3 groups of 6 $3 \times 6 = 18$

WATCH FOR...

- Does the child create and describe different equal groups accurately?
- How does the child record her/his thinking? Does he/she use drawings and/or corresponding number sentences?

DIFFERENTIATE: Children can record their thinking using repeated addition/subtraction and/or multiplication/division sentences. Offer counters to support children's thinking. Children who need to can work with a smaller number (e.g., 16, 20).

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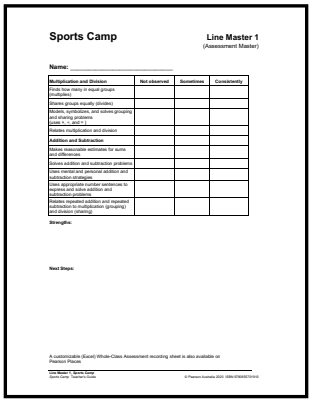
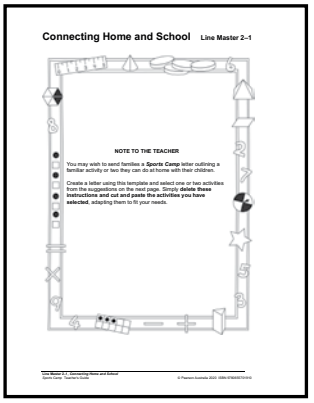
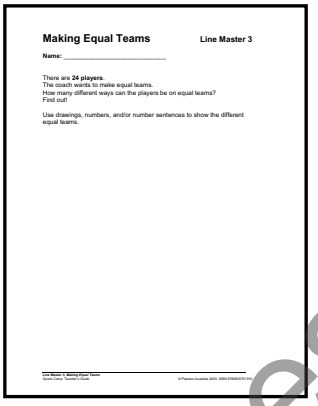


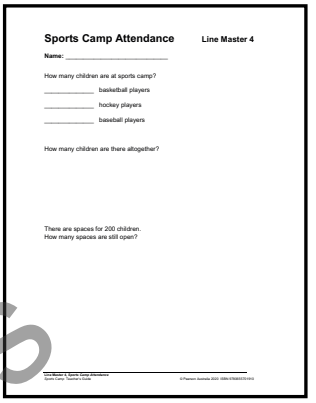
Line Master 1
Assessment Master



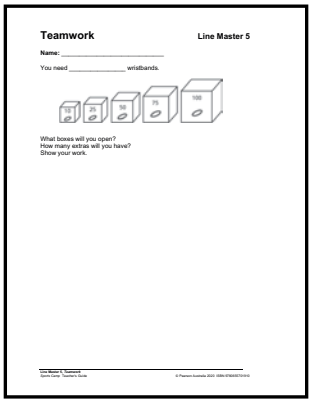
Line Master 2
Connecting Home and School Letter Template



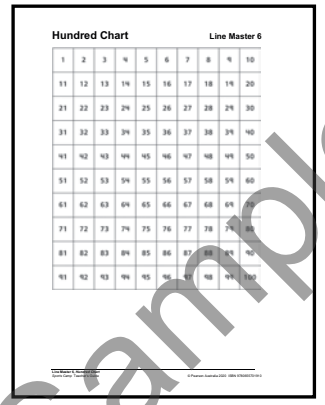
Line Master 3
Making Equal Teams



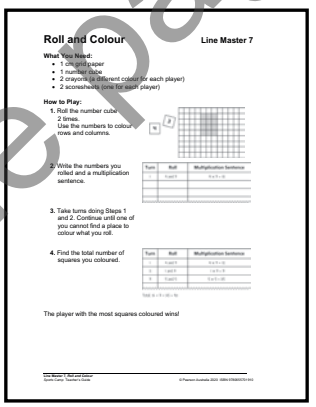
Line Master 4
Sports Camp Attendance



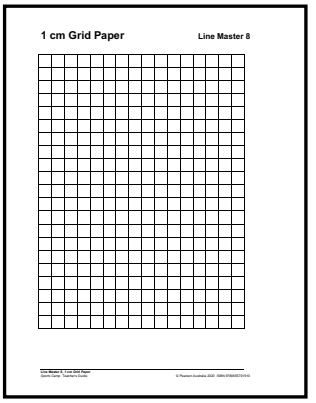
Line Master 5
Teamwork



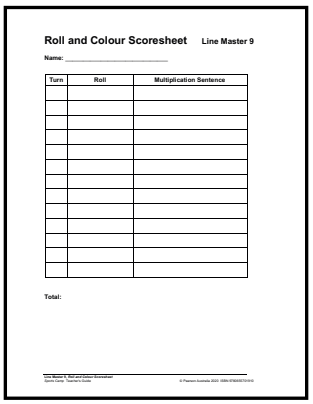
Line Master 6
Hundred Chart



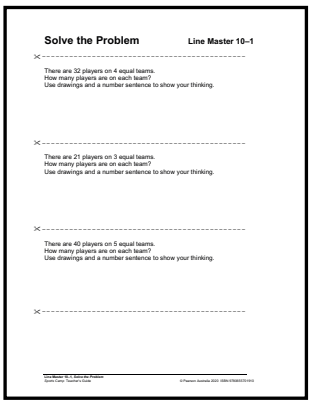
Line Master 7
Roll and Colour



Line Master 8
1 cm Grid Paper



Line Master 9
Roll and Colour Scoresheet



Line Master 10
Solve the Problem