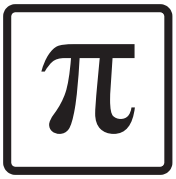
Milestone Maths B1
by
Kathy Gonzalez



Milestone

For Joshua

My youngest son and the inspiration for this series.

Milestone Maths B1

First Edition (2024)

milestonemaths.com.au

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Error reports and comments are most welcome.

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Milestone Maths
Gin Gin, QLD
Australia

Parent's Introduction

Welcome to Milestone Maths, the mathematics curriculum designed especially for Australian home schoolers. This course has been developed with Australian home schoolers particularly in mind but will also be useful for after school study with or without a tutor. The series follows the Australian Curriculum (v 9.0). Level B corresponds to year 1 and this book is intended for term one, with four lessons per week for 10 weeks.

The course is gradual, systematic and thorough. Mathematics is a sequential subject where one concept is built upon another and thorough mastery of each step is essential for true understanding of the whole. This is reflected in Milestone Maths by presenting new topics sequentially and in a manner that builds from the known to the unknown. Review is built into the program and the needs of students with different abilities are catered for by pacing guidelines and supplementary practice activities.

Resources

Besides the student books, the only essential resource for this curriculum is a set of Sumstix (also known as Cuisenaire rods). These may be purchased from the place where you obtained this book. Visit the following link for details:

www.milestonemaths.com.au/what-are-sumstix/

Occasional lessons will require simple resources that you should already have around the house. It would be a good idea at the beginning of each week to have a quick look over the lessons for the week to see if any aditional resources need to be prepared. This will usually be the only preparation required on your part.

Placement and Progress

To begin at level B a child should be able to count to 10 and recognise the written numbers 1-10. They should also be fairly confident at counting out a given number of objects from a larger collection, although this will be reviewed and reinforced. They do not need to be able to write the numbers.

While it is impossible to make one fixed series of lessons to meet the needs of all students, this series is designed to be flexible enough to fulfill the needs of the majority of students. With this in mind, please note that you do not need to finish the entire "B" series in exactly one school year. If your child is finding the concepts easy, you may consider doing two lessons in one day and conversely, if the subject matter is more challenging, break the lesson up across two or more days. Lessons or activities marked with a graduation cap icon are  advanced and are included to challenge the more motivated/talented students. Advanced material will usually become 'mainstream' at some point later in the course.

Importance of Practice and Drills

The importance of the drills cannot be overstated. In my tutoring practice I have seen several students who began to struggle in mathematics from year 5 transformed into "A" students in high school after only one to two years of intensive drilling on the times tables. If the habit of daily practice on the basic facts of numbers is established early, a plethora of problems and struggles will be avoided later on. In this level the drills form a part of each lesson from lesson 41 (Student Book B2) and are labeled with an hour glass icon.

If you or your child prefer a more interactive and social approach to achieve the same goal, consider using flashcard drills. Most children will benefit from doing both written drills and flashcard drills. I recommend using flashcards as a warm up activity. This will leave some 'space' between the flashcard and written drills. This type of "spaced repetition" is an excellent way to efficiently learn a new skill or to memorise information.

What are Milestones and Checkpoints?

A Milestone corresponds to a chapter or unit of work. In the student book, the start of each Milestone is marked with a picture of a milestone and the milestone title. Checkpoints are end of chapter reviews and are essentially lessons dedicated to review and practice of the key concepts and skills introduced in the Milestone. If your child has particular difficulty completing a checkpoint, it is recommended that you spend some time reviewing the concepts taught in the Milestone before moving on. If they have difficulty with only one or two activities, review the concept imediately and make a note to practise those skills often during the introductory phase of subsequent lessons until the skill is mastered.

The child should be able to complete each activity in a checkpoint lesson independently, or with minimal help, after you have read the instructions. At this level the child may use Sumstix as much as they need to while completing checkpoints, lessons and drills, although they should be encouraged to transition to completing the drills without assistance.

Adaptations for Children with Special Needs

If your child has special learning needs, there are a number of adaptations possible.

For older yet illiterate students: you should read all instructions to the student just as you would to a young child that is still learning to read.

For children who have difficulty writing: you may act as scribe and have the child tell you what to write. When numbers or equations are required, have the child "build" the answers using the number and game flashcards. Also, use the number bond flashcards for drills instead of the written drills until writing is easy. Unless the child has a physical handicap that makes writing difficult or impossible, I would suggest that you gently encourage them to do more and more writing on their own every day. Begin by taking turns with the pencil - you write one number then the child writes one, etc and slowly increase the amount of writing that your child does until they achieve independence.

For children who need a slower pace: some lessons could consist entirely of warm up/review activities or the student book activities could be assigned over two or more days.

Extra writing practice can be done on a reusable drawing board (eg whiteboard, LCD tablet, etc.), on scrap paper or in a separate exercise book.

For children who need a faster pace: If your child is finding the lessons very easy and is learning the concepts quickly, you may consider doing two lessons a day and completing the Review and Practice section of only one of the lessons. Special care needs to be taken that the child is mastering the drills at this pace as well. Over learning is always a good thing however, a particularly bright child will need to be challenged to maintain motivation.

Questions or comments?

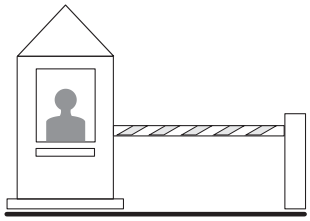
If you have any questions whatsoever about any aspect of this course's implementation, or if you need help understanding any maths related concept, please do not hesitate to contact the author at author@milestonemaths.com.au

Hi! I'm Emmy Echidna and I'm here to help you learn maths.

Watch for me and I'll give you some hints and tips along the way.

And sometimes... I'll just be there to "hang out" with you!...

So, let's do some maths!



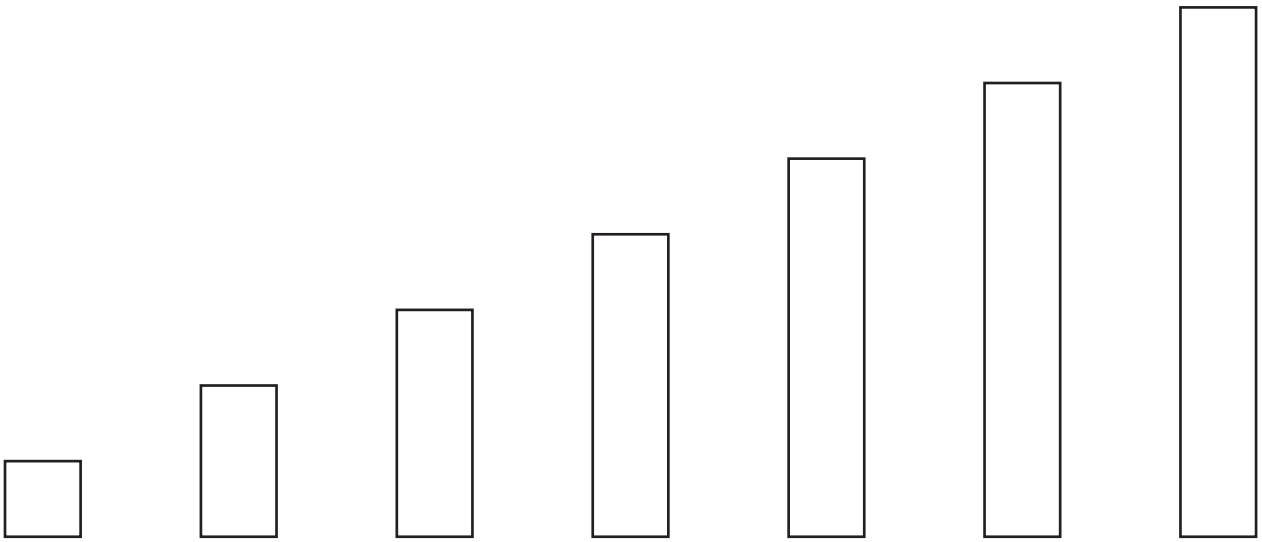
Lesson 8

CHECKPOINT 1

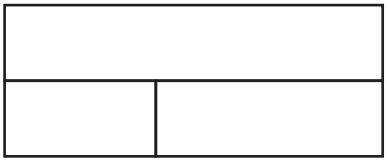
Write the number sequence 1-7.

1-7

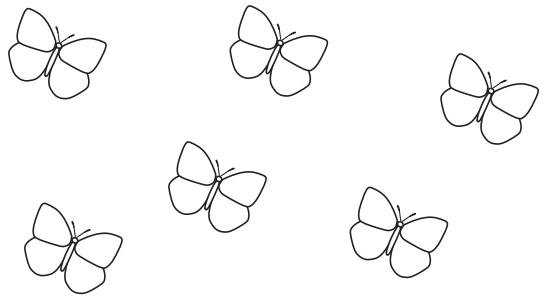
Write the numbers 1-7 under the rods. Colour the Sumstix using the correct colours.



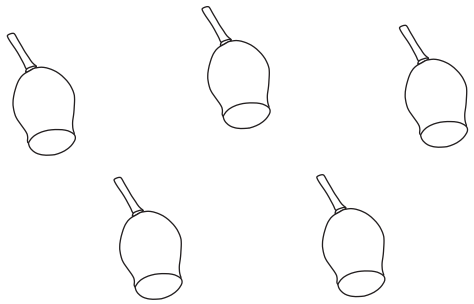
Build the following pattern with your Sumstix and colour the picture to match.



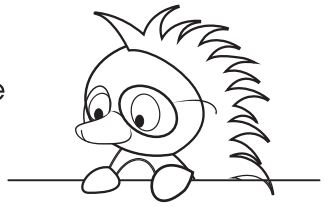
Count the pictures and circle the correct number.



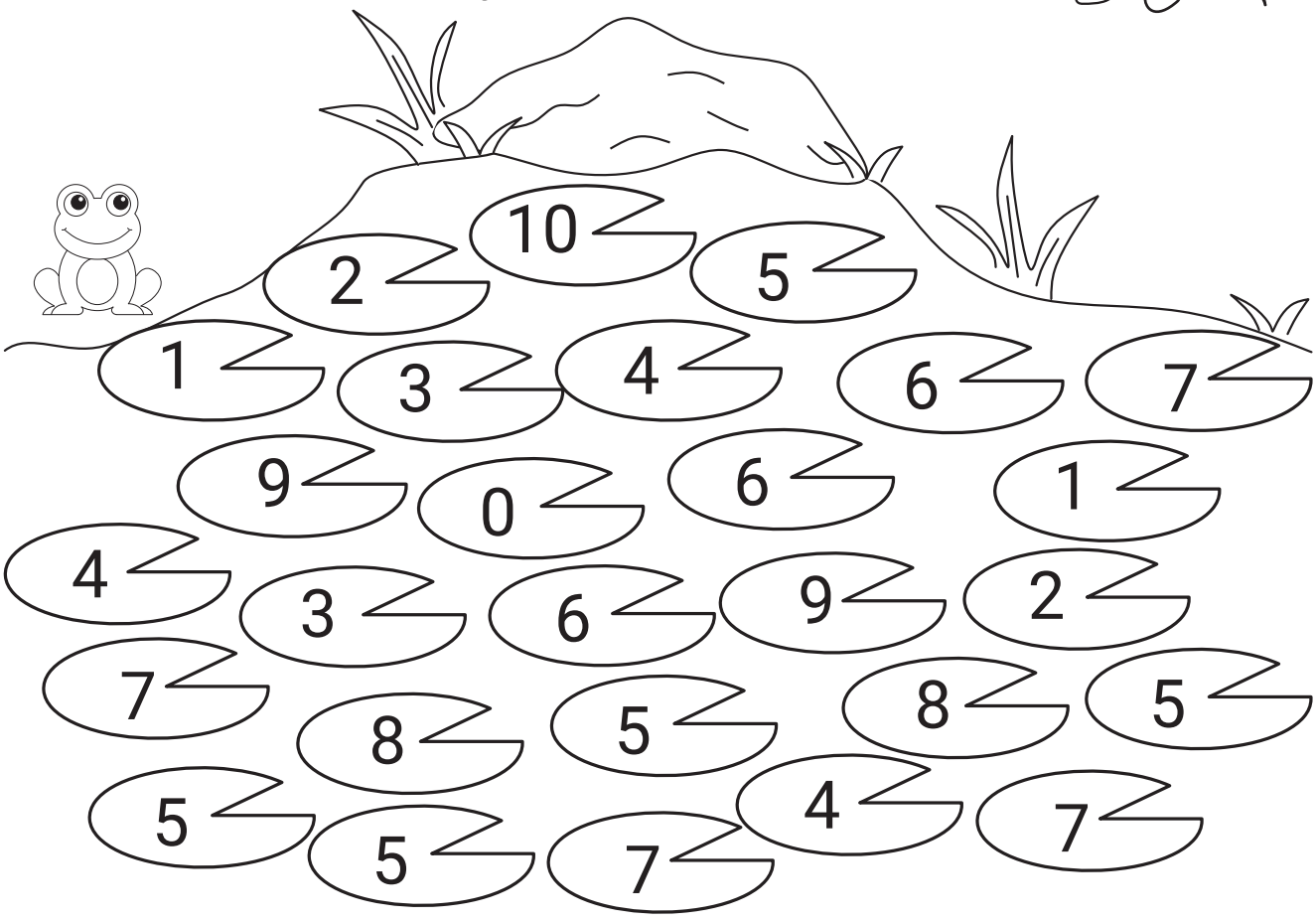
1 2 3 4 5 6 7

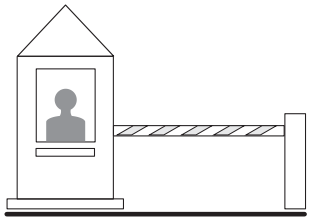


1 2 3 4 5 6 7



Colour the lilipads in order from 1 to 7 to take Froggy from one side of the bank to the other. The lilipads are numbered so that there is an unbroken path from the frog to the opposite bank.

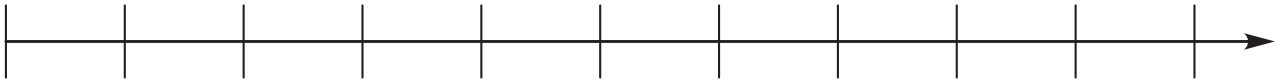


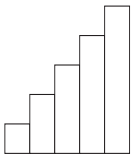


Lesson 16

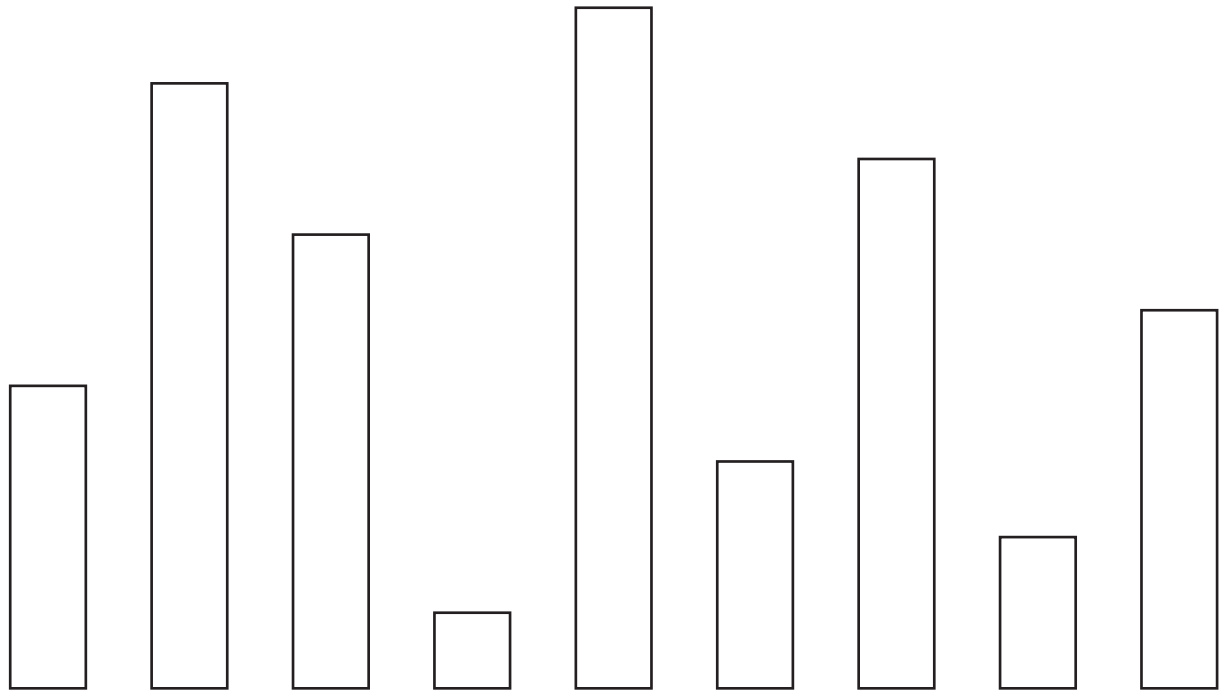
CHECKPOINT 2

Fill in the numbers on the number line starting at 0.





Colour the Sumstix and write the number that each one represents below it.



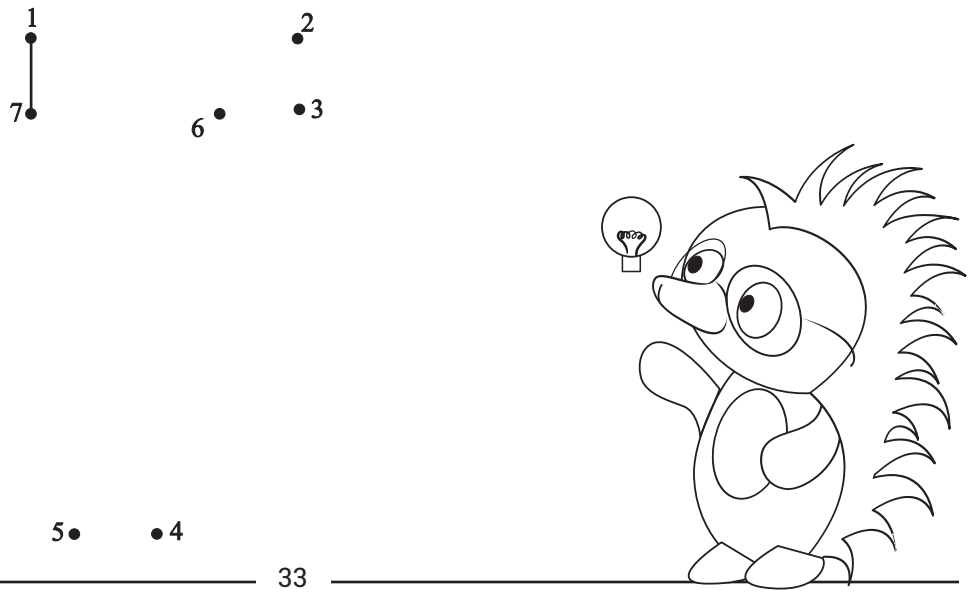
Write the number that comes between the numbers given.

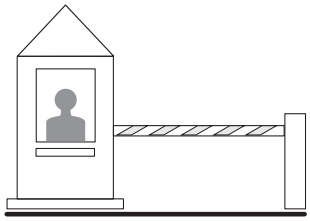
4 _____ 6	7 _____ 9	8 _____ 10
2 _____ 4	0 _____ 2	3 _____ 5

Write the numbers that come before and after the number given.

_____ 4 _____	_____ 7 _____	_____ 9 _____
_____ 2 _____	_____ 8 _____	_____ 3 _____

Join the dots in order from 1-7. What number did you draw?





Lesson 20

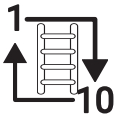
CHECKPOINT 3

Circle the largest number in each box.

7	2	0	8	9	1
5	10	3	4	6	7
3	5	9	10	0	4

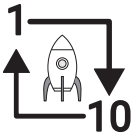
Circle the smallest number in each box.

4	0	6	10	5	3
8	1	7	9	2	6
2	8	9	3	7	5



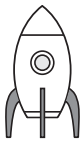
Rewrite the numbers in each box so that they are in order from smallest to biggest.

5 9 3	4 8 6
4 7 5	10 3 8

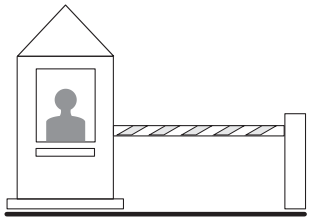


Rewrite the numbers in each box so that they are in order from biggest to smallest.

9 10 1	7 2 5
0 8 3	6 4 1



Write a countdown from 10 to 0.



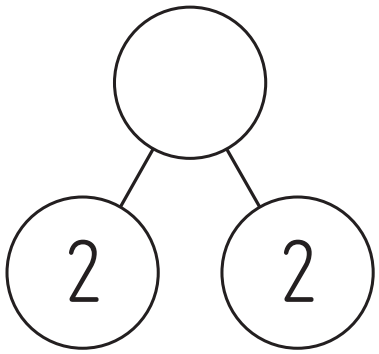
Lesson 28

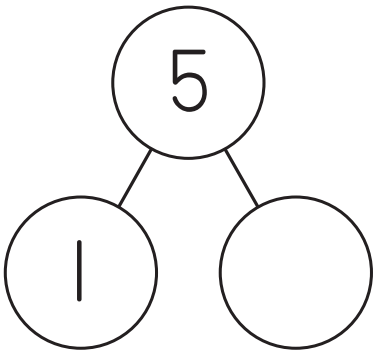
Checkpoint 4

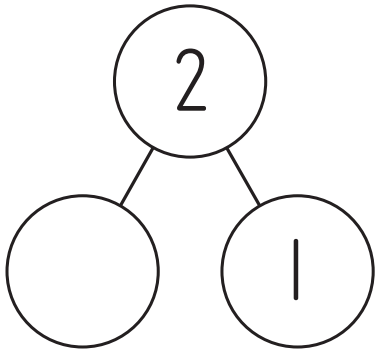
Draw shapes to match the total and then break them into the parts shown.

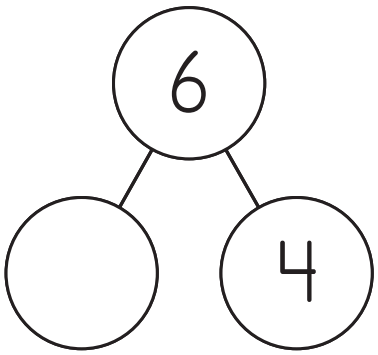
5 2 3	4 2 2
3 1 2	5 3 2
5 4 1	3 2 1
4 1 3	5 1 4

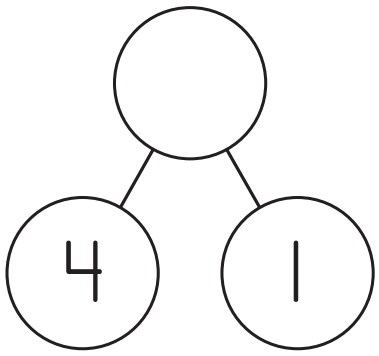
Fill in the missing number in each number bond. You may use Sumstix to help you.

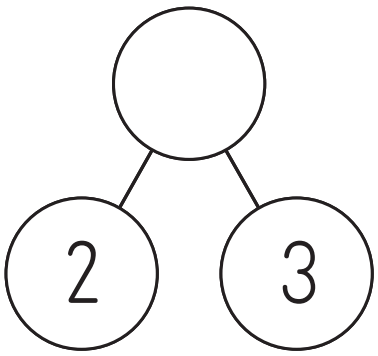






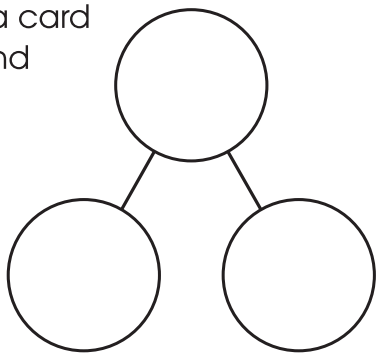


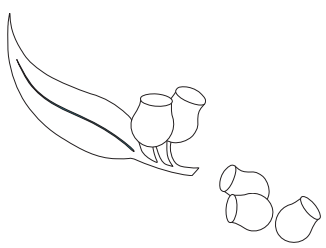




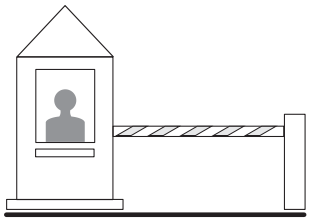
Fill in the number bond to solve the story problem.

Sarah was outside looking for things with which to make a card for her grandmother. She found two gumnuts in a tree and three on the ground. How many gumnuts were there all together.





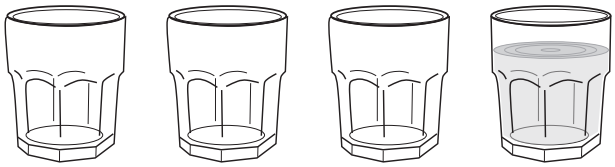
_____ gumnuts

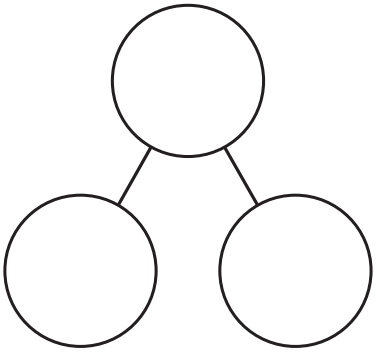


Lesson 40

Checkpoint 5

Fill in the number bond and write an addition equation to match the picture.





Draw circles around the squares to make two groups to match the addition equation.

$2 + 4 = 6$

Write the two mirror sums that are represented by the Sumstix patterns below.

Write the the answer to the sums below. You may use Sumstix.

2 + 2 = _____

4 + 5 = _____

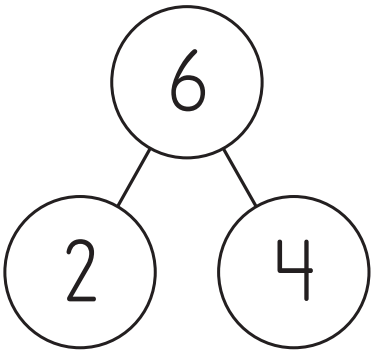
1 + 8 = _____

2 + 5 = _____

3 + 3 = _____

2 + 6 = _____

Use Sumstix to fill in the missing number in the number bond and then write the two mirror sums that can be represented by the number bond.

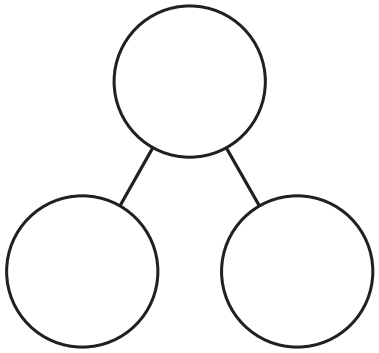


_____

_____

Solve the word problem.

A pod of dolphins was swimming around the Jones' boat. Kate counted four dolphins swimming around the bow and three dolphins jumping out of the water. How many dolphins did Kate count?



_____

_____ dolphins