Milestone Maths C3

by

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Answers

Milestone

Milestone Maths C3

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milestonemaths.com.au

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For Joshua

Introduction

Welcome to the third book in Milestone Maths level C. This book contains 40 lessons and is intended to be used by an average student in term three of year two in an Australian school year. This allows for four lessons per week in a regular term. If desired, the fifth day may be used to complete any outstanding work, for review, or extension or for some of the practical/enrichment activities that are suggested from time to time in this book and on the Milestone Maths website. You may also elect to complete a drill on the fifth day or to take a break from maths. Please see the next page for advice on how to structure and pace lessons for children with special needs.

Resources

The only essential resource for this curriculum is a set of Sumstix (also known as Cuisenaire rods). These may be purchased from the same place that you obtained this book. Optional resources include Number Bond Flashcards and Number Game Cards. Check the Milestone Maths website for details.

www.milestonemaths.com.au

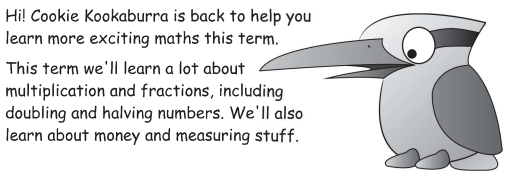
Parent Involvement

Milestone Maths is designed to foster independent learning as quickly as possible. For this reason, parent instructions are kept to a minimum and are contained within this book. The next few pages contain introductions to each of the milestones and some teaching notes for selected lessons. It would be a good idea to consult these pages when your child commences each milestone. If you child is not yet reading, you will also have to read the instructions for each lesson.

At this level, it is still advisable to demonstrate examples practically whenever possible. So, when counters or Sumstix are drawn in the student instructions and examples, you should recreate the same examples using actual concrete materials - use whatever items you fancy for counters (buttons, beans, beads, small toys, found natural materials etc). Also, when algorithms are described in the text, it would be a good idea to demonstrate the same examples by writing out each example on a separate piece of paper or a black/whiteboard one step at a time. After you have completed the demonstration, which should only take a few minutes, you should read the instructions with or to your child and make sure that they understand them, then allow them to complete the rest of the lesson on their own. You may need to read word problems or instructions for review activities that are not yet familiar to the child.

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



Extension Work

Some activities in this book are marked with a graduation cap icon. These activities are more challenging and intended to stimulate the more advanced students. Use your discretion as to whether require your child to attempt these activities. If the child is keen to have a go, let them do so, but give them help as and when they need it but respect their wishes if they refuse help - the struggle to find the solution will do them the world of good.

Drills

Drills are an essential part of learning in mathematics. A drill is located at the end of every lesson. If your child does not have the patience to do these drills, please see the Milestone Maths website for suggested alternatives. Visit milestonemaths.com.au/not-negotiable/

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 game cards. Also, you may use the number bond flashcards for drills instead of the written drills or you could treat the written drills as oral 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.

Parent Notes

Milestone 11

Introduction

The key take away from this milestone is that multiplication is a short-cut for repeated addition. For example, 3 + 3 + 3 + 3 = 4 x 3.

For many years I thought this was a self-evident fact but I have since discovered that even many adults are unaware of it. Nonetheless, it is a very powerful piece of knowlege because it opens the way for the student to self-discover the entire multiplication table.

But that is not the real aim of teaching this concept to the child. Rather, we are giving them a tool to use when they get 'stuck' on a particular problem. For example, if they remember that five times five is twenty five, it's easy to work out that six times five is thirty because it is just one more five. This is also a very algebraic way of thinking about the basic operations of arithmetic which will serve the child well when they get to high school mathematics.

Skills and concepts taught

- Counting groups of objects.
- The relationship between skip counting and repeated addition.
- The relationship between repeated addition and multiplication.
- Using Sumstix to solve multiplication problems.
- Introduction to division as sharing.
- Dividing using Sumstix.

Lesson 81

This lesson introduces the idea of repeated addition in the context of counting objects that are 'naturally' grouped (like packs of pens).

As there is only one written example, you should give your child some more oral examples and even have them come up with some of their own.

Lesson 82

This lesson practices the idea from yesterday and also hints at the commutativity of multiplication.

Commutativity is the principle that says A x B = B x A. It is a very useful principle because it reduces the number of facts that a child needs to remember by nearly one half.

The review exercise marked with a graduation cap contains two patterns. The first pattern is in the top row of hexagons and is a simple "count by one" sequence. The second pattern appears in the bottom row of hexagons. Each hexagon in the bottom row contains the sum of the two hexagons it is attached to. These are essentially "upside-down" hexagonal "number bonds".

Lesson 83

This lesson relates repeated addition to skip counting.

Lesson 84

This lesson relates multiplication to repeated addition.

Lesson 85

This lesson shows how we use Sumstix to perform multiplication. The child may not have enough Sumstix to perform some of the calculations in the Lesson Practice section. They should be taught to use the commutativity property or other creative means to obtain a solution. For example, to find 7 x 6, there are only six 6s in the set so we can flip the equation to be 6x7 OR we could substitute a 5+1 train (yellow & white) for one of the sixes.

Lesson 86

This is an introduction to division. Follow the directions in the student lesson which are very comprehensive.

Lesson 87

Division can be thought of in two different ways: sharing a quantity between a given number of people or breaking a quantity into equal sized groups. This lesson and the previous lesson show these two different views of division.

Lesson 88

This view of division is a bit like the "one for me, one for you," version of sharing. You may like to illustrate this with concrete examples.

Lesson 89

The preceeding lessons are now brought together and related to the division symbol.

Lesson 90

This lesson follows directly from the previous one. If your student thinks of these groups in the opposite way, there is no harm at this stage. So, if they have the two bottom equations on page 23 swapped around, that is fine.

Lesson 91

Division using Sumstix is introduced. At this level the student is not expected to memorise division facts so all of the division exercises can be solved using Sumstix if required.

Milestone 12

Introduction

This milestone gives your child a basic familiarisation with Australian currency. It is best to practice this skill with real money so you should look for opportunities to do this whenever you can.

Counting money is an ideal opportunity to practice skip counting and many review exercises throughout the rest of this book and the next are set for this purpose. The lessons are straightforward and self explanatory, so no special teaching notes are required.

Milestone 13

Introduction

This milestone introduces the multiplication table and shows the student how they can use one to solve multiplication and division problems. Of course, the child will need to eventually memorise the entire table, but until that happens, they can learn a lot about how these operations work by studying the table.

Skills and concepts taught

- Using a multiplication table to find the answer to a multiplication problem.
- Commutativity of multiplication is formally presented.
- Multiplication number bonds. This is the multiplication/division version of the add/subtract number bond.
- The 2, 5 and 10 times tables.
- Dividing by 2, 5 and 10.

Lesson 97

Show the child how to use a multiplication table and then let them complete the exercise on page 39 independently. They may use the table printed in the book, the table on the Milestone Maths quick reference card or any other suitable table that you supply.

Lesson 98

This concept will probably make most sense to the child if they manipulate the objects themselves.

Have the child make an array of small objects to match the pattern of dots in the lesson (you can use white Sumstix or any other small identical objects). Then have the child rearrange the objects so that the rows and columns are swapped. Do this with other quantities:

12 (3x4 and 4x3 OR 2x6 and 6x2)

8 (2x4 and 4x2)

You can then use Sumstix to show that the following statements are true:

2x5=5x2

3x5=5x3

3x4=4x3... etc.

Lesson 99

Multiplication number bonds are similar to addition number bonds. They have been made a different shape so that children can easily tell them apart. Point this out to your child now. If you have the number bond flashcards, it would be a good idea to take one card of each type and compare the two both on the front sides and the back sides. Ask the child to identify similarities and differences.

Just like addition number bonds help us to visualise the relationship between addition and subtraction, multiplication number bonds help us to see the relationship between multiplication and division. This helps with problem solving and will be a valuable insight when the child gets to algebra in high school.

Lessons 100-104

The remainder of the milestone puts the ideas explored thus far into practice whist commencing on the task of mastering the 2, 5 and 10 times tables. The instructions in the student lessons are self explanatory.

Milestone 14

Introduction

Doubling can be thought of as either repeated addition (add the quantity being doubled to itself) or as multiplication (multiply the quantity being doubled by 2). Halving is just dividing by two and it can be solved by either determining which number doubled gives the quantity we are trying to halve or remembering the multiplication number bond that has two as one part and the quantity as the total.

This milestone shows the student how these concepts can be extended to numbers greater than 10. The directions to the student are comprehensive and explicit so no further explanation is given here. Be prepared to read over and explain each lesson to your student if necessary.

Milestone 15

Introduction

While measurement is an important aspect of the physical sciences, and thus an important mathematical concept to study, at this stage we are more concerned with the every day applications of measurement.

With that in mind, be on the lookout for *practical* ways to present these ideas to your child. Involve them in measuring ingredients when cooking, have them help you use a tape measure, do craft activities that require careful measuring with a ruler, etc.

This chapter teaches the child how to use a ruler properly: a skill I find lacking in many young people. It also gives the child some idea about the different units used for measurement and when it is more appropriate to use which unit.

Lesson 114

This lesson is intended to be a "hands on" introduction for your child at this stage. They might need a lot of support to measure in metres and centimetres. If this is too difficult for your child at this stage, you could just have them measure things in "big steps" and call it an estimate to the nearest metre. These ideas will be revisited and expanded on in the next level.

Lesson 81

Introduction to Mulitplication

Counting Groups of Objects

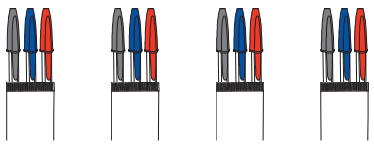
In this milestone we're going to learn about counting equal-sized groups of objects. Let's dive right in with an example.

Example

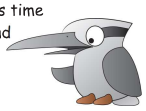
Alex bought 4 packets of pens. Each packet contained 3 pens. How many pens did he buy?

There are many ways we could solve this problem. Let's look at a few options:

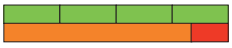
Option 1: Draw a picture and count each pen.



This option is time consuming and error prone!



Option 2: Use Sumstix to model the problem:



This is a good option while you are learning the concept but won't work for big numbers.

Option 3: Use addition to solve the problem:

3 + 3 + 3 + 3 = 12

We solve this by saying "three plus three is six; six plus three is nine and nine plus three is twelve. If you are on top of the addition game, this is the best and fastest option so far!

Lesson Practice

Alex also bought some notepads. They came in packs of 5 and he bought 3 packets. How many notepads did he buy?

5 + 5 + 5 = 3

Review and Practice

Mum bought some pears in bags. If each bag contained four pears and she bought three bags, how many pears did she buy?

4+4+4=12

Mum bought 12 pears.

Fill in the missing numbers on the number chart. Count by one.

361	362	363	364	365	366	367	368	369	370
371	372	373	374	375	376	377	378	379	380

How many sides do 5 pentagons have? (Count by fives)

Five pentagons have 25 sides.

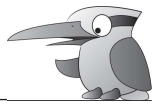
New Drill Details

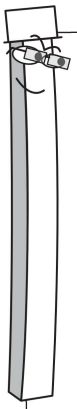
The drills which follow practice the following concepts and facts:

- 7 plus a number
- A number plus 7
- Reviewing all other addition facts from the drills in book C2.

This drill set is a rerun of the second last set in book C2 so go back there for tips on how to do the focus sums if you can't remember!

If you didn't do book C2 and you would like to learn how to do +7 sums more easily, ask Mum or Dad to email the author for a free lesson!





Drill 81

8 + 7 = 15	7 + 1 = 8	4 + 1 = 5
4 + 7 = 11	3 + 7 = 10	7 + 2 = 9
10 + 7 = 17	5 + 7 = 12	7 + 1 = 8
7 + 5 = 12	7 + 6 = 13	1 + 1 = 2
7 + 2 = 9	7 + 7 = 14	10 + 10 = 20
1 + 7 = 8	7 + 10 = 17	8 + 10 = 18
7 + 9 = 16	6 + 8 = 14	10 + 9 = 19
2 + 7 = 9	10 + 2 = 12	5 + 9 = 14
7 + 7 = 14	6 + 10 = 16	6 + 9 = 15
7 + 8 = 15	2 + 2 = 4	3 + 8 = 11
7 + 10 = 17	8 + 2 = 10	1 + 10 = 11
7 + 3 = 10	1 + 8 = 9	3 + 9 = 12
9 + 7 = 16	9 + 2 = 11	7 + 9 = 16
6 + 7 = 13	2 + 9 = 11	4 + 10 = 14
7 + 4 = 11	2 + 1 = 3	5 + 8 = 13

Lesson 82

More on Counting Groups of Objects

Let's think about the pens example from last lesson again. Notice from the picture that each packet of pens has three different coloured pens in it. Let's use coloured circles to represent the pens and draw a diagram to represent the problem like this:

Now we can see groups of colours and the more "natural" addition to write would be:

4 + 4 + 4

Obviously, the number of dots (and pens) doesn't change if we add up the rows instead of the columns, so the above addition gives us the same result as the one below:

3 + 3 + 3 + 3

We can prove this to ourselves (and solve the addition) using Sumstix:

Lesson Practice

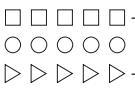
Write two different additions that could be used to find the total number of objects in each picture then find the answer (use Sumstix if you need them).

2+2+2+2=8

4+4=8

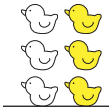
4+4+4+4+4

5+5+5+5=20



3+3+3+3+3

5+5+5=15

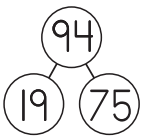


2+2+2=6

3+3=6

Review and Practice

Fill in the missing number on the number bond then write the four equations represented by it.



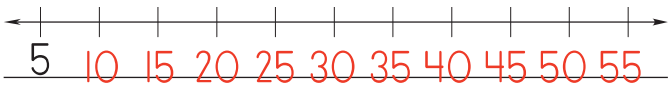
19 + 75 = 94

75 + 19 = 94

94 - 19 = 75

94 - 75 = 19

Count by fives:

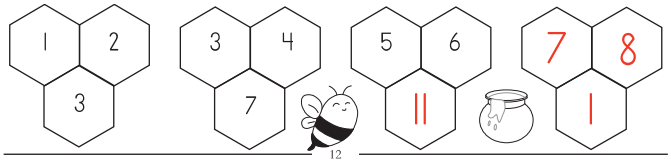


Calculate:

32 + 62 = 94	54 + 46 = 100	43 − 21 = 22	92 − 69 = 23

Puzzle

Find the patterns to fill in the missing numbers. (Hint: there are two patterns)



Drill 82

1 + 7 = 8	6 + 7 = 13	9 + 10 = 19
7 + 3 = 10	4 + 7 = 11	3 + 9 = 12
7 + 5 = 12	7 + 4 = 11	2 + 1 = 3
9 + 7 = 16	7 + 6 = 13	10 + 2 = 12
2 + 7 = 9	3 + 7 = 10	1 + 8 = 9
7 + 1 = 8	6 + 10 = 16	4 + 9 = 13
10 + 7 = 17	4 + 1 = 5	6 + 8 = 14
7 + 10 = 17	10 + 9 = 19	3 + 2 = 5
5 + 7 = 12	7 + 9 = 16	1 + 9 = 10
7 + 8 = 15	5 + 1 = 6	4 + 10 = 14
8 + 7 = 15	1 + 10 = 11	7 + 10 = 17
7 + 9 = 16	3 + 10 = 13	1 + 1 = 2
7 + 2 = 9	5 + 10 = 15	6 + 9 = 15
7 + 7 = 14	8 + 10 = 18	9 + 2 = 11
7 + 7 = 14	8 + 1 = 9	8 + 9 = 17

Lesson 83

Skip Counting and Repeated Addition

Example

Find the number of stars:

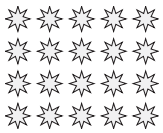
We have 3 rows of 5 stars so we can write the addition:

5 + 5 + 5

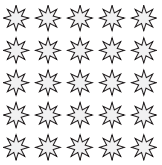
We can solve this by saying, "five plus five is ten and ten plus five is fifteen," but since we know how to skip count by five, it's easier just to say, "five, ten, fifteen." It is possible to skip count by any number, but for this year we are only going to skip count with the numbers we've already learned (2, 5 & 10). Feel free to get a head start on next year by finding some other skip counting patterns yourself!

Lesson Practice

Use skip counting to find the number of stars and solve the sums:



5 + 5 + 5 + 5 = 20



5 + 5 + 5 + 5 + 5 = 25

2 + 2 + 2 + 2 + 2 + 2 = 12

2 + 2 + 2 + 2 + 2 + 2 + 2 = 14

10 + 10 + 10 = 30

10 + 10 + 10 + 10 + 10 = 40

5 + 5 + 5 + 5 + 5 + 5 = 30

Review and Practice

Ethan found five packs of toy cars. If each pack contained two cars, how many toy cars did Ethan find?

Ethan found 10 toy cars.

Count by twos:

2 4 6 8 10 12 14 16 18 20 22

Count by fives:

5 10 15 20 25 30 35 40 45 50 55

Calculate:

36 + 52 = 88	35 + 45 = 80	64 − 23 = 41	94 − 28 = 66

Use skip counting to solve the sums:

2 + 2 + 2 + 2 = 8

10 + 10 + 10 + 10 = 40

10 + 10 + 10 + 10 + 10 = 50

5 + 5 + 5 + 5 + 5 + 5 = 30

2 + 2 + 2 + 2 + 2 + 2 = 12

5 + 5 + 5 + 5 = 20

Drill 81

7 + 8 = 15	7 + 7 = 14	10 + 9 = 19
1 + 7 = 8	3 + 7 = 10	4 + 10 = 14
7 + 1 = 8	10 + 7 = 17	9 + 2 = 11
2 + 7 = 9	7 + 7 = 14	3 + 10 = 13
7 + 6 = 13	7 + 3 = 10	6 + 9 = 15
6 + 7 = 13	10 + 1 = 11	3 + 2 = 5
4 + 7 = 11	2 + 10 = 12	4 + 2 = 6
7 + 9 = 16	9 + 9 = 18	10 + 10 = 20
8 + 7 = 15	1 + 1 = 2	7 + 10 = 17
7 + 2 = 9	3 + 8 = 11	7 + 9 = 16
7 + 5 = 12	8 + 10 = 18	1 + 2 = 3
7 + 10 = 17	8 + 2 = 10	2 + 8 = 10
9 + 7 = 16	3 + 9 = 12	5 + 9 = 14
5 + 7 = 12	5 + 1 = 6	7 + 2 = 9
7 + 4 = 11	7 + 1 = 8	5 + 2 = 7

Lesson 84

Repeated Addition Shortcut

Writing out lots of plus signs like we did last lesson can get pretty tedious, so mathematicians came up with another operation called multiplication.

Example

Count the cars:

3 × 4 = 4 + 4 + 4

This little "x" means multiply but we usually say "times" when we see it like this. We can read "3 x 4" as "three **times** four" but we can think of it as "three **times we add** four"

Lesson Practice

Write an addition equation for each mulitplication and then use skip counting or addition to solve it:

3 × 2 = 2 + 2 + 2 = 6

3 × 5 = 5+5+5=15 = ____

5 × 2 = 2+2+2+2+2=10 = ____

9 × 10 = 10+10+10+10+10+10+10+10+10=90 = ____

2 × 6 = 6+6=12 = ____

2 × 4 = 4+4=8 = ____

We will soon learn a better way to solve these problems but, for now, if you can't skip count to solve a multiplication problem, use either addition or your Sumstix!

Review and Practice

Febe had fifty dollars. She bought herself a book for twelve dollars and a toy for her baby sister for twenty-three dollars then she put the rest in the bank. How many dollars did Febe put in the bank?

12+23=35

50-35=15

Febe put 15 dollars in the bank.

Count by tens.

31 41 51 61 71 81 91 101

Count by fives:

5 10 15 20 25 30 35 40 45 50 55

Calculate:

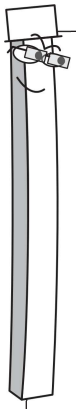
28 + 21 = 49	24 + 29 = 53	86 − 11 = 75	94 − 19 = 75

Write an addition equation for each mulitplication and then solve it:

4 × 5 = 5+5+5+5=20 = ____

5 × 2 = 2+2+2+2+2=10 = ____

2 × 5 = 5+5=10 = ____



Drill 84

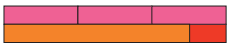
7 + 10 = 17	7 + 5 = 12	9 + 9 = 18
7 + 6 = 13	6 + 7 = 13	3 + 9 = 12
5 + 7 = 12	7 + 3 = 10	3 + 10 = 13
10 + 7 = 17	3 + 7 = 10	9 + 1 = 10
8 + 7 = 15	4 + 7 = 11	8 + 10 = 18
7 + 7 = 14	2 + 8 = 10	9 + 10 = 19
7 + 8 = 15	3 + 8 = 11	2 + 1 = 3
2 + 7 = 9	8 + 9 = 17	7 + 2 = 9
7 + 2 = 9	5 + 9 = 14	7 + 10 = 17
7 + 9 = 16	3 + 2 = 5	4 + 2 = 6
1 + 7 = 8	1 + 9 = 10	6 + 9 = 15
7 + 7 = 14	7 + 9 = 16	10 + 9 = 19
7 + 4 = 11	5 + 1 = 6	5 + 8 = 13
9 + 7 = 16	2 + 9 = 11	10 + 1 = 11
7 + 1 = 8	6 + 1 = 7	5 + 2 = 7

Lesson 85

Multiplying with Sumstix

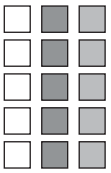
Examples

Use Sumstix to solve: 3 × 4



3 × 4 = 12

Write a multiplication to represent the picture, then use Sumstix to solve it:

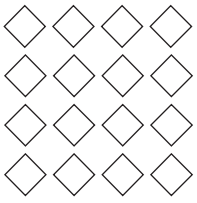


3 × 5 = 15

3 × 5 = 15

Lesson Practice

Write a multiplication to represent the picture, then use Sumstix to solve it:



4 × 4 = 16

Use Sumstix to solve:

3 × 4 = 12 2 × 2 = 4 5 × 8 = 40

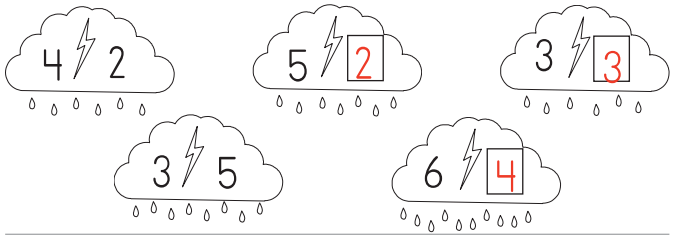
4 × 5 = 20 5 × 9 = 45 7 × 6 = 42

Review and Practice

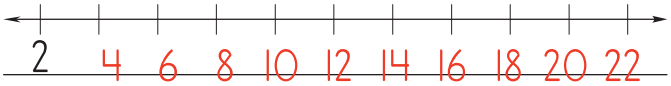
Calculate:

26 + 42 = 68	32 + 49 = 81	23 − 21 = 2	81 − 17 = 64

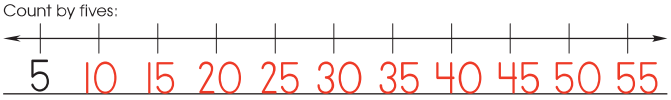
Study the first two clouds then write the missing numbers on the rest.



Count by twos:



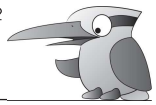
Count by fives:



New Drill Details

The drills which follow practice the following concepts and facts:

- Doubles addition facts
- Reviewing all other addition facts from the drills in book C2 and so far in this book.



Drill 85

5 + 5 = 10	9 + 9 = 18	3 + 1 = 4
8 + 8 = 16	7 + 7 = 14	9 + 2 = 11
2 + 2 = 4	3 + 3 = 6	3 + 10 = 13
1 + 1 = 2	6 + 6 = 12	5 + 7 = 12
4 + 4 = 8	10 + 10 = 20	9 + 10 = 19
2 + 2 = 4	6 + 7 = 13	8 + 10 = 18
3 + 3 = 6	8 + 2 = 10	6 + 2 = 8
7 + 7 = 14	10 + 1 = 11	4 + 2 = 6
6 + 6 = 12	1 + 8 = 9	10 + 2 = 12
10 + 10 = 20	3 + 2 = 5	2 + 10 = 12
5 + 5 = 10	7 + 9 = 16	4 + 8 = 12
1 + 1 = 2	6 + 1 = 7	10 + 9 = 19
9 + 9 = 18	5 + 8 = 13	8 + 9 = 17
4 + 4 = 8	9 + 8 = 17	6 + 8 = 14
8 + 8 = 16	10 + 10 = 20	2 + 8 = 10

Lesson 86

Sharing Objects

Today we are going to learn about the opposite of multiplication. In maths it is usually called division, but we are going to think about it as sharing for now.

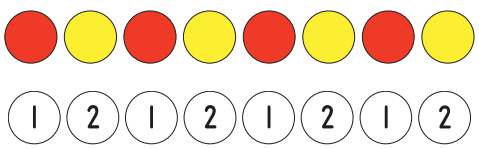
Example

Bella's mother gave her 8 treats to share with her sister, Cindy. How many treats did each girl get?

One way Bella could use to solve this problem is to simply make two piles: one for herself and one for her sister. She would place one treat on her pile then one on her sister's pile and keep doing this until she ran out of treats. Let's represent this with pictures. Start by drawing circles for the 8 treats. Then write the letter B or C on each one like this:

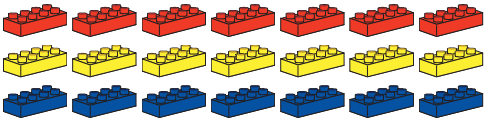
Then all you have to do is count the number of B's (or C's).

Instead of writing letters on the shapes, you can colour them or write numbers on them:



Example

There were red, yellow and blue blocks in the box. There were 21 blocks in the box and the same number of blocks of each colour. How many blue blocks were there?

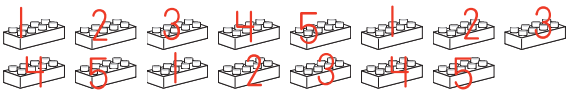


7 blue blocks

Lesson Practice

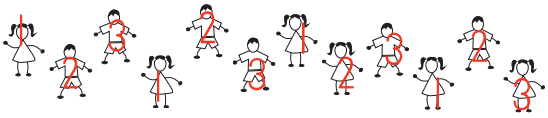
Solve the following sharing problems by grouping the pictures.

Share 15 toys between 5 kids. How many toys does each kid get?



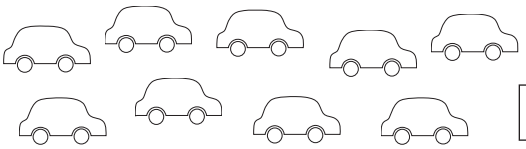
3 toys.

Divide 12 kids into 3 equal groups. How many kids are there in each group?



4 kids.

Caleb has 9 cars and they are all either red, blue or black. He sorted them by colour and found that he has the same number of each colour. How many red cars does Caleb have?



3 red cars

Draw your own picture to solve this problem. Mum made two types of cookies: macadamia cookies and oat cookies. If she made 16 cookies and there were the same number of each type, how many oat cookies did she make?

8 oat cookies

Review and Practice

How many legs are there on 8 sea stars like the one shown in the picture?

8 sea stars have 40 legs.

Count by fives:

5 10 15 20 25 30 35 40 45 50 55

Calculate:

44 + 23 = 67	65 + 19 = 84	44 − 23 = 21	96 − 57 = 39

Use skip counting to solve the sums:

2 + 2 + 2 + 2 + 2 = 10

10 + 10 + 10 = 30

5 + 5 + 5 + 5 + 5 = 25

10+10+10+10+10+10 = 60

5 + 5 + 5 + 5 + 5 + 5 = 30

2 + 2 + 2 + 2 + 2 + 2 + 2 = 14

Drill 86

5 + 5 = 10	8 + 8 = 16	3 + 1 = 4
6 + 6 = 12	1 + 1 = 2	9 + 2 = 11
7 + 7 = 14	2 + 2 = 4	3 + 10 = 13
3 + 3 = 6	10 + 10 = 20	5 + 7 = 12
3 + 3 = 6	6 + 6 = 12	9 + 10 = 19
2 + 2 = 4	6 + 7 = 13	8 + 10 = 18
8 + 8 = 16	8 + 2 = 10	6 + 2 = 8
10 + 10 = 20	10 + 1 = 11	4 + 2 = 6
1 + 1 = 2	1 + 8 = 9	10 + 2 = 12
9 + 9 = 18	3 + 2 = 5	2 + 10 = 12
4 + 4 = 8	7 + 9 = 16	4 + 8 = 12
5 + 5 = 10	6 + 1 = 7	10 + 9 = 19
4 + 4 = 8	5 + 8 = 13	8 + 9 = 17
7 + 7 = 14	9 + 8 = 17	6 + 8 = 14
9 + 9 = 18	10 + 10 = 20	2 + 8 = 10

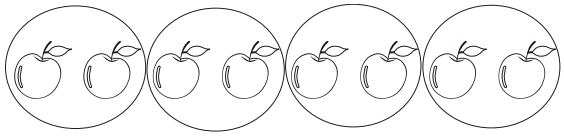
Lesson 87

Making Groups

Today we are going to look at some problems that are similar to last lesson but a bit different.

Example

A shop keeper is making up bags of mixed fruit. Every bag needs 2 apples. If he has a box of 8 apples, how many bags of fruit can he make up?

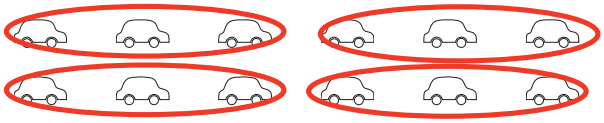


4 bags

Lesson Practice

Count and write the number of objects. Then draw circles to make groups of three and write how many groups you made.

How many... planes? 9 groups? 3



How many... cars? 12 groups? 4

How many... birds? 6 groups? 2

Review and Practice

Fifty-six crabs were crawling on the sand. Eighteen of them disappeared under the sand. How many were left crawling on the beach?

There were 38 crabs left.

Count by twos:

2 4 6 8 10 12 14 16 18 20 22

Count by fives:

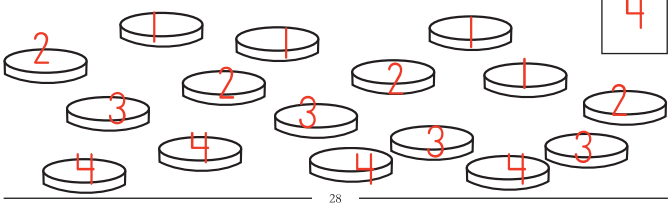
5 10 15 20 25 30 35 40 45 50 55

Calculate:

31 + 24 = 55	47 + 18 = 65	56 − 31 = 25	93 − 48 = 45

Share 16 coins between 4 people. How many coins does each person get?

4



Drill 87

1 + 1 = 2	8 + 8 = 16	9 + 1 = 10
3 + 3 = 6	5 + 5 = 10	7 + 8 = 15
2 + 2 = 4	10 + 10 = 20	7 + 7 = 14
9 + 9 = 18	10 + 10 = 20	3 + 1 = 4
5 + 5 = 10	4 + 4 = 8	6 + 2 = 8
6 + 6 = 12	2 + 8 = 10	7 + 9 = 16
7 + 7 = 14	6 + 8 = 14	2 + 2 = 4
4 + 4 = 8	1 + 2 = 3	2 + 1 = 3
7 + 7 = 14	9 + 7 = 16	10 + 8 = 18
2 + 2 = 4	4 + 9 = 13	4 + 1 = 5
8 + 8 = 16	8 + 1 = 9	5 + 8 = 13
6 + 6 = 12	5 + 9 = 14	10 + 7 = 17
3 + 3 = 6	9 + 8 = 17	7 + 10 = 17
1 + 1 = 2	2 + 9 = 11	10 + 10 = 20
9 + 9 = 18	9 + 9 = 18	10 + 2 = 12

Lesson 88

Sharing by Subtracting

To share the stack of pancakes between two people, I first take two pancakes off the pile and give one to each person. Then, I take another two pancakes off the pile and give one to each person. I keep doing this until I run out of pancakes!

If I start with 8 pancakes, I can subtract 2 pancakes 4 times.

Lesson Practice

How many times can you take the second number away from the first? You may use concrete materials (counters) or draw pictures to help you complete the table.

Start with	Subtract	Draw (optional)	How many subs?
8	2		4
10	2		5
6	2		3
6	3		2
9	3		3
12	3		4

Review and Practice

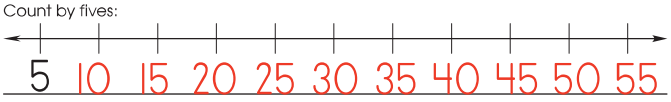
A bag of balloons contains 30 balloons. There are 8 white balloons, 14 blue balloons and the rest are red. How many red balloons are there?

There are 8 red balloons.

Count by tens.

75 85 95 105 115 125 135 145

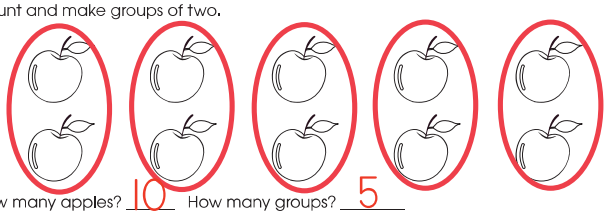
Count by fives:



Calculate:

51 + 36 = 87	25 + 77 = 102	64 − 12 = 52	94 − 19 = 75

Count and make groups of two.



How many apples? 10 How many groups? 5

Drill 88

9 + 9 = 18	3 + 3 = 6	5 + 1 = 6
6 + 6 = 12	4 + 4 = 8	9 + 8 = 17
1 + 1 = 2	7 + 7 = 14	2 + 1 = 3
2 + 2 = 4	5 + 5 = 10	5 + 7 = 12
5 + 5 = 10	9 + 9 = 18	1 + 2 = 3
4 + 4 = 8	10 + 1 = 11	8 + 8 = 16
6 + 6 = 12	7 + 8 = 15	1 + 9 = 10
10 + 10 = 20	4 + 10 = 14	10 + 7 = 17
8 + 8 = 16	6 + 2 = 8	3 + 7 = 10
2 + 2 = 4	5 + 9 = 14	7 + 7 = 14
10 + 10 = 20	4 + 1 = 5	9 + 1 = 10
7 + 7 = 14	3 + 1 = 4	10 + 8 = 18
3 + 3 = 6	1 + 7 = 8	5 + 2 = 7
1 + 1 = 2	3 + 9 = 12	4 + 8 = 12
8 + 8 = 16	1 + 8 = 9	8 + 1 = 9

Lesson 89

Sharing and the Division Symbol

Example

Bobby Bee and Betty Bee are sharing eight pots of honey between them. Write a division equation to describe the picture.

8 ÷ 2 = 4

We read this as, "eight divided by two is four," but we can think of it as, "eight things shared by two people give each person four things."

Lesson Practice

Write a division equation to describe each picture.

6 ÷ 2 = 3

9 ÷ 3 = 3

6 ÷ 3 = 2

Review and Practice

If I have eighty gold coins, how many stacks of ten coins can I make?

80 ÷ 10 = 8

I can make 8 stacks of coins.

Count by twos:

2 4 6 8 10 12 14 16 18 20 22

Count by fives:

5 10 15 20 25 30 35 40 45 50 55

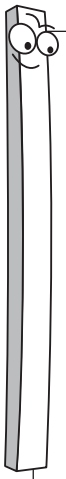
Calculate:

71 + 22 = 93	11 + 59 = 70	75 − 43 = 32	44 − 15 = 29

New Drill Details

The drills which follow practice the following concepts and facts:

- Doubles-plus-one addition facts
- Reviewing all other addition facts from the drills in book C2 and so far in this book.



Drill 89

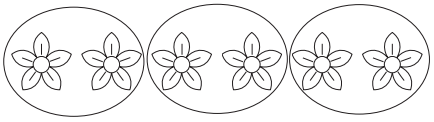
7 + 8 = 15	8 + 7 = 15	9 + 10 = 19
4 + 3 = 7	5 + 4 = 9	4 + 2 = 6
6 + 7 = 13	9 + 8 = 17	5 + 2 = 7
2 + 3 = 5	2 + 10 = 12	2 + 9 = 11
5 + 6 = 11	10 + 9 = 19	10 + 10 = 20
10 + 9 = 19	3 + 1 = 4	8 + 7 = 15
8 + 9 = 17	6 + 1 = 7	9 + 9 = 18
3 + 2 = 5	4 + 10 = 14	1 + 8 = 9
2 + 1 = 3	8 + 8 = 16	10 + 1 = 11
9 + 10 = 19	3 + 8 = 11	4 + 8 = 12
3 + 4 = 7	3 + 3 = 6	6 + 7 = 13
4 + 5 = 9	5 + 1 = 6	2 + 1 = 3
6 + 5 = 11	6 + 6 = 12	7 + 8 = 15
7 + 6 = 13	6 + 8 = 14	9 + 8 = 17
1 + 2 = 3	8 + 1 = 9	1 + 9 = 10

Lesson 90

Making Groups and the Division Symbol

Example

Write a division equation to describe the picture.

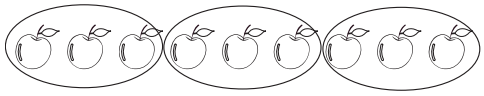


6 ÷ 2 = 3

We read this as, "six divided by two is three," but we can think of it as, "three groups of two can go into six."

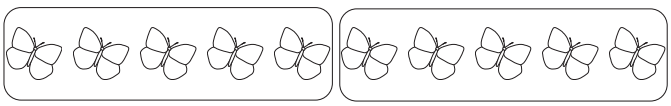
Lesson Practice

Write a division equation to describe each picture.



9 ÷ 3 = 3

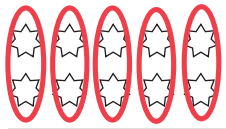
8 ÷ 2 = 4



10 ÷ 5 = 2

Review and Practice

Circle to make groups of two, then write a multiplication and a division equation to match the picture:



10 ÷ 2 = 5
5 × 2 = 10

Calculate:

24 + 65 = 89	58 + 28 = 86	52 − 12 = 40	48 − 29 = 19

Count by twos:

2 4 6 8 10 12 14 16 18 20 22

Count by fives:

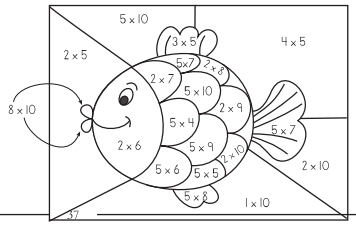
5 10 15 20 25 30 35 40 45 50 55

Solve the multiplications and colour the picture according to the colour code.

If the answer is less than 11, colour **blue**

If the answer is between 11 and 36, colour **yellow**

If the answer is greater than 36, colour **red**



Drill 90

3 + 4 = 7	6 + 5 = 11	3 + 8 = 11
9 + 10 = 19	4 + 5 = 9	5 + 8 = 13
5 + 6 = 11	4 + 3 = 7	6 + 6 = 12
8 + 9 = 17	5 + 5 = 10	10 + 8 = 18
6 + 7 = 13	3 + 3 = 6	2 + 2 = 4
10 + 9 = 19	3 + 10 = 13	10 + 9 = 19
8 + 7 = 15	8 + 8 = 16	8 + 1 = 9
7 + 8 = 15	3 + 7 = 10	4 + 1 = 5
5 + 4 = 9	7 + 2 = 9	9 + 1 = 10
1 + 2 = 3	9 + 8 = 17	4 + 4 = 8
2 + 1 = 3	4 + 9 = 13	3 + 2 = 5
2 + 3 = 5	10 + 10 = 20	4 + 8 = 12
3 + 2 = 5	7 + 10 = 17	3 + 9 = 12
7 + 6 = 13	6 + 9 = 15	6 + 2 = 8
9 + 8 = 17	4 + 2 = 6	9 + 10 = 19

Lesson 91

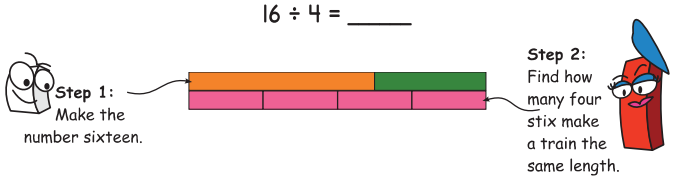
Dividing Numbers with Sumstix

10 ÷ 2 = 5

We have seen that the above equation can be read a few different ways. When we use Sumstix to solve an equation like the one above, it is easiest to think of it as, "How many twos can go into ten?"

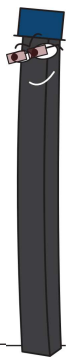
Example
Use Sumstix to solve:

16 ÷ 4 = _____



Lesson Practice
Use Sumstix to solve:

25 ÷ 5 = 5	100 ÷ 10 = 10	20 ÷ 5 = 4
45 ÷ 9 = 5	6 ÷ 2 = 3	12 ÷ 6 = 2
12 ÷ 4 = 3	16 ÷ 4 = 4	15 ÷ 3 = 5
40 ÷ 8 = 5	12 ÷ 2 = 6	20 ÷ 4 = 5



Review and Practice

Riddle
Reading from left to right, my digits count up by twos. My hundreds digit is a 4. What number am I?

468

Count by tens.

38 48 58 68 78 88 98 108

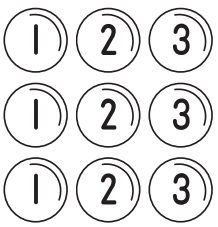
Count by fives:

5 10 15 20 25 30 35 40 45 50 55

Calculate:

62 + 14 = 76	72 + 19 = 91	83 − 41 = 42	27 − 19 = 8

Write a multiplication and a division equation to describe the picture.



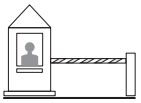
3×3=9
9÷3=3

Drill 91

6 + 5 = 11	9 + 10 = 19	4 + 1 = 5
2 + 3 = 5	4 + 5 = 9	4 + 4 = 8
3 + 4 = 7	6 + 7 = 13	7 + 1 = 8
4 + 3 = 7	9 + 7 = 16	5 + 8 = 13
8 + 9 = 17	9 + 2 = 11	3 + 3 = 6
3 + 2 = 5	1 + 1 = 2	6 + 9 = 15
1 + 2 = 3	2 + 8 = 10	2 + 9 = 11
8 + 7 = 15	1 + 8 = 9	7 + 9 = 16
5 + 4 = 9	1 + 10 = 11	10 + 9 = 19
7 + 8 = 15	2 + 2 = 4	6 + 1 = 7
7 + 6 = 13	1 + 9 = 10	8 + 10 = 18
10 + 9 = 19	8 + 1 = 9	6 + 10 = 16
2 + 1 = 3	3 + 8 = 11	6 + 7 = 13
5 + 6 = 11	9 + 10 = 19	10 + 2 = 12
9 + 8 = 17	2 + 1 = 3	6 + 2 = 8

Lesson 92

Checkpoint 11



Write two addition equations about the picture and solve them to find the total number of butterflies.

3+3+3+3=12

4+4+4=12

Use skip counting to solve the sums:

10 + 10 + 10 = 30

5 + 5 + 5 + 5 + 5 + 5 = 30

2 + 2 + 2 + 2 + 2 = 10

2 + 2 + 2 + 2 + 2 + 2 + 2 = 14

5 + 5 + 5 + 5 + 5 = 25

10 + 10 + 10 + 10 + 10 = 50

Write a multiplication for each sum then use Sumstix to solve:

4 + 4 + 4 + 4 + 4 + 4 = 6 × 4 = 24 = ____

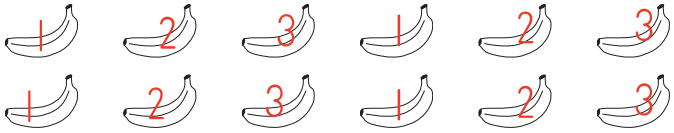
5 + 5 + 5 = 3 × 5 = 15

8 + 8 + 8 + 8 + 8 = 5 × 8 = 40

7 + 7 + 7 = 3 × 7 = 21

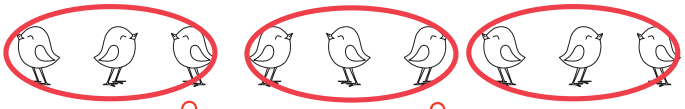
6 + 6 + 6 + 6 = 4 × 6 = 24

Share 12 bananas between three monkeys. How many bananas does each monkey get?

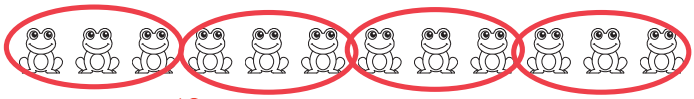


Each Monkey gets 4 bananas.

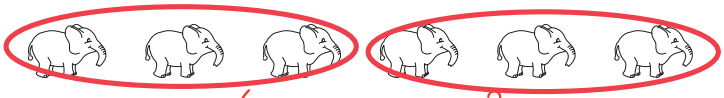
Count and write the number of animals in each row. Then draw circles to make groups of three and write how many groups you made.



How many birds? 9 How many groups? 3



How many frogs? 12 How many groups? 4



How many elephants? 6 How many groups? 2

Solve with Sumstix:

9 × 4 = 36	2 × 4 = 8	50 ÷ 10 = 5
5 × 10 = 50	32 ÷ 8 = 4	12 ÷ 4 = 3
6 × 5 = 30	20 ÷ 5 = 4	40 ÷ 8 = 5

Drill 92

7 + 6 = 13	1 + 2 = 3	9 + 9 = 18
4 + 5 = 9	3 + 4 = 7	3 + 7 = 10
9 + 8 = 17	8 + 9 = 17	7 + 1 = 8
7 + 8 = 15	5 + 1 = 6	2 + 2 = 4
9 + 10 = 19	10 + 8 = 18	3 + 8 = 11
6 + 7 = 13	3 + 1 = 4	7 + 2 = 9
10 + 9 = 19	4 + 10 = 14	3 + 9 = 12
4 + 3 = 7	10 + 1 = 11	5 + 7 = 12
3 + 2 = 5	4 + 4 = 8	6 + 8 = 14
2 + 3 = 5	6 + 6 = 12	2 + 9 = 11
8 + 7 = 15	5 + 10 = 15	2 + 8 = 10
6 + 5 = 11	8 + 8 = 16	1 + 9 = 10
5 + 4 = 9	3 + 10 = 13	8 + 7 = 15
5 + 6 = 11	6 + 1 = 7	10 + 9 = 19
2 + 1 = 3	4 + 2 = 6	1 + 2 = 3

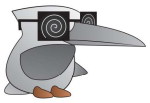
Lesson 93

Australian Money

You probably already know that you can use money to buy things like toys or snacks. In Australia we have two types of money: coins and notes. To start with, let's learn what our money looks like and the value of each note and coin.

The silver coins represent cents. The number on each coin tells you how many cents it is worth.

The notes all represent dollars and the number on the note tells you how many dollars it is worth. You might notice they are all different lengths. This helps blind people tell them apart.



The gold coins represent dollars. The big one is a 1 dollar coin and the small one is a 2 dollar coin. Yes, I know, it seems like someone got it backwards!

Lesson Practice

When working with money, we write five cents like this: 5c and five dollars like this: $5. Write the value of each note or coin in the box.

Riddle

I am always running but never arrive. I have a bed but never sleep. I'm surrounded by banks, but I have no money. What am I?

Solve the clues and write the letters on the lines below corresponding to the answers to find the answer to the riddle.

I am the longest note. _____ (I) $100

You'll see a kangaroo on me but only one. _____ (E) 50c

I've decided it's time for a swim. _____ (R) 20c

You'll find a kookaburra on me as well as a lady. _____ (V) $20

The Southern Cross (a group of stars) is on my face. _____ (R) $2

R	I	V	E	R
$2	$100	$20	50c	20c

Review and Practice

Josh was blowing up balloons for a party. He had red, green and blue balloons. If he had three of each colour, how many balloons did he blow up?

Josh had 9 balloons.

Count by twos:

2 4 6 8 10 12 14 16 18 20 22

Count by fives:

5 10 15 20 25 30 35 40 45 50 55

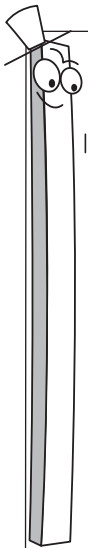
Calculate:

32	78	73	94
+57	+15	−53	−27
89	93	20	67

New Drill Details

Guess what?! You've now practiced all the single digit addition facts. You should be getting pretty good at them by now but we need to keep practicing them until they are hopefully so embeded in your brain that you'll still be able to do these when you get really old and start forgetting stuff! So, no new facts here!

Drill 93



4 + 4 = 8	10 + 3 = 13	9 + 1 = 10
10 + 6 = 16	9 + 4 = 13	6 + 4 = 10
8 + 1 = 9	10 + 10 = 20	5 + 1 = 6
9 + 9 = 18	10 + 9 = 19	9 + 3 = 12
6 + 5 = 11	2 + 2 = 4	8 + 6 = 14
9 + 6 = 15	10 + 8 = 18	3 + 2 = 5
6 + 2 = 8	10 + 1 = 11	6 + 1 = 7
9 + 5 = 14	4 + 2 = 6	7 + 7 = 14
8 + 8 = 16	10 + 7 = 17	10 + 2 = 12
7 + 2 = 9	9 + 8 = 17	6 + 3 = 9
7 + 4 = 11	10 + 4 = 14	5 + 3 = 8
5 + 4 = 9	7 + 6 = 13	4 + 3 = 7
8 + 7 = 15	3 + 3 = 6	10 + 5 = 15
8 + 3 = 11	4 + 1 = 5	8 + 2 = 10
8 + 5 = 13	8 + 4 = 12	7 + 3 = 10
3 + 1 = 4	5 + 2 = 7	9 + 7 = 16
7 + 1 = 8	9 + 2 = 11	5 + 5 = 10
7 + 5 = 12	2 + 1 = 3	
1 + 1 = 2	6 + 6 = 12	

Lesson 94

Counting Money

We can use skip counting to count money.

Examples

25 c

$ 14

Lesson Practice

Use skip counting to find how much money is in each row.

40 c

$ 8

60 c

$ 20

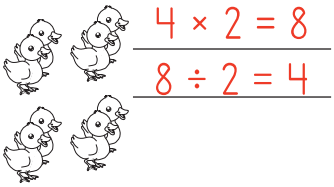
Review and Practice

Katie has seven two dollar coins. How much money does Katie have?

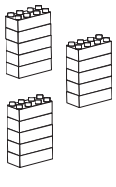
Don't forget the dollar sign ($)!

Katie has $14.

Write a mulitplication equation and a division equation to describe each picture.



4 × 2 = 8
8 ÷ 2 = 4



3 × 5 = 15
15 ÷ 3 = 5

Calculate:

26 + 31 = 57	27 + 68 = 95	85 − 24 = 61	45 − 37 = 8

Count by twos:

2 4 6 8 10 12 14 16 18 20 22

Count by fives:

5 10 15 20 25 30 35 40 45 50 55

Drill 94

7 + 7 = 14	6 + 7 = 13	3 + 4 = 7
9 + 9 = 18	5 + 8 = 13	2 + 8 = 10
2 + 4 = 6	10 + 10 = 20	2 + 3 = 5
8 + 10 = 18	9 + 10 = 19	5 + 7 = 12
8 + 8 = 16	1 + 5 = 6	7 + 9 = 16
8 + 9 = 17	7 + 10 = 17	2 + 5 = 7
5 + 5 = 10	4 + 4 = 8	3 + 3 = 6
3 + 9 = 12	3 + 5 = 8	1 + 10 = 11
5 + 10 = 15	4 + 10 = 14	4 + 6 = 10
1 + 6 = 7	6 + 10 = 16	2 + 7 = 9
3 + 8 = 11	6 + 8 = 14	1 + 7 = 8
1 + 8 = 9	6 + 9 = 15	6 + 6 = 12
2 + 10 = 12	5 + 6 = 11	4 + 9 = 13
4 + 7 = 11	1 + 3 = 4	2 + 6 = 8
2 + 9 = 11	4 + 8 = 12	3 + 7 = 10
2 + 2 = 4	4 + 5 = 9	3 + 10 = 13
1 + 4 = 5	3 + 6 = 9	7 + 8 = 15
1 + 9 = 10	1 + 2 = 3	
1 + 1 = 2	5 + 9 = 14	

Lesson 95

Maths with Money

Examples

Write a sum and solve it to find how much money is shown in the picture.

10c + 5c = 15c

$15 + $20 = $35

Lesson Practice

15c+50c=65c

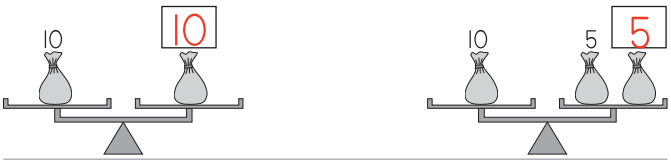
$4+$5=$9

60c+5c=65c

$25+$2=$27

Review and Practice

The bags contain marbles. The numbers above tell how many marbles are in each bag. Fill in the missing numbers.



Skip count or write a sum to find how much money is shown in the picture.

50c

$14+$5=$19

Calculate:

78 + 11 = 89	35 + 19 = 54	23 − 21 = 2	27 − 19 = 8

Count by twos:

2 4 6 8 10 12 14 16 18 20 22

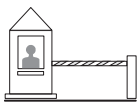
Count by fives:

5 10 15 20 25 30 35 40 45 50 55

Drill 95

9 + 7 = 16	9 + 6 = 15	8 + 2 = 10
7 + 5 = 12	5 + 1 = 6	9 + 1 = 10
5 + 2 = 7	9 + 2 = 11	5 + 3 = 8
6 + 6 = 12	7 + 3 = 10	10 + 5 = 15
2 + 1 = 3	4 + 3 = 7	3 + 3 = 6
9 + 3 = 12	8 + 8 = 16	3 + 2 = 5
5 + 4 = 9	6 + 1 = 7	10 + 3 = 13
8 + 5 = 13	8 + 4 = 12	10 + 9 = 19
7 + 2 = 9	9 + 5 = 14	2 + 2 = 4
9 + 9 = 18	8 + 7 = 15	9 + 8 = 17
6 + 4 = 10	7 + 1 = 8	8 + 1 = 9
10 + 8 = 18	7 + 7 = 14	10 + 7 = 17
8 + 3 = 11	10 + 10 = 20	6 + 2 = 8
4 + 2 = 6	8 + 6 = 14	10 + 1 = 11
7 + 6 = 13	6 + 5 = 11	10 + 2 = 12
1 + 1 = 2	4 + 4 = 8	7 + 4 = 11
4 + 1 = 5	10 + 4 = 14	6 + 3 = 9
9 + 4 = 13	3 + 1 = 4	
10 + 6 = 16	5 + 5 = 10	

Lesson 96



Checkpoint Twelve

Write the value of each note or coin.

5c

$5

$2

$10

50c

10c

Use skip counting to find how much money is in each row.

25 c

$ 10

50 c

$ 40

Skip count and write a sum to find how much money is shown in the picture.

$15+$4=$19

10c+25c=35c

$40+$15=$55

30+15+4=$49

$30+$12=$42

50c+20c+5c=35c

Drill 96

3 + 10 = 13	8 + 9 = 17	2 + 6 = 8
1 + 9 = 10	2 + 3 = 5	3 + 4 = 7
4 + 5 = 9	3 + 6 = 9	1 + 7 = 8
5 + 9 = 14	3 + 7 = 10	4 + 9 = 13
1 + 2 = 3	6 + 6 = 12	5 + 6 = 11
5 + 7 = 12	5 + 10 = 15	2 + 5 = 7
1 + 8 = 9	3 + 3 = 6	6 + 7 = 13
2 + 9 = 11	4 + 8 = 12	9 + 10 = 19
1 + 6 = 7	3 + 9 = 12	1 + 5 = 6
8 + 10 = 18	2 + 10 = 12	6 + 10 = 16
2 + 8 = 10	1 + 4 = 5	2 + 4 = 6
7 + 10 = 17	1 + 10 = 11	4 + 10 = 14
4 + 7 = 11	10 + 10 = 20	5 + 5 = 10
3 + 5 = 8	7 + 9 = 16	4 + 4 = 8
6 + 9 = 15	8 + 8 = 16	4 + 6 = 10
1 + 1 = 2	7 + 7 = 14	3 + 8 = 11
1 + 3 = 4	6 + 8 = 14	2 + 7 = 9
5 + 8 = 13	2 + 2 = 4	
9 + 9 = 18	7 + 8 = 15	

Lesson 97

Multiplication Tables

Just like we have an addition table, we also have a multiplication table which we can use to solve multiplication problems. Your aim should be to eventually memorise the entire table but for this milestone we will concentrate on the 2x, 5x and 10x tables only.

Example

5 x 7 = _____

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

5 x 7 = 35

Lesson Practice

Use the multiplication table on the previous page to find the answers to the following problems. If you work down the columns you might be able to see a pattern that allows you to finish off the column without having to look at the table!

1 × 2 = 2	1 × 5 = 5	1 × 10 = 10
2 × 2 = 4	2 × 5 = 10	2 × 10 = 20
3 × 2 = 6	3 × 5 = 15	3 × 10 = 30
4 × 2 = 8	4 × 5 = 20	4 × 10 = 40
5 × 2 = 10	5 × 5 = 25	5 × 10 = 50
6 × 2 = 12	6 × 5 = 30	6 × 10 = 60
7 × 2 = 14	7 × 5 = 35	7 × 10 = 70
8 × 2 = 16	8 × 5 = 40	8 × 10 = 80
9 × 2 = 18	9 × 5 = 45	9 × 10 = 90
10 × 2 = 20	10 × 5 = 50	10 × 10 = 100

Did you spot the patterns? If not, go back and look at your answers down each column. You should notice some skip counting patterns.

Make your own multiplication table. Go to https://milestonemaths.com.au/diy-multiplication-table/ or scan the QR code for instructions and a template.

Review and Practice

The piggy bank contains twelve dollar coins, eight two-dollar coins and three five dollar notes. How much money is in the piggy bank?

$12+$16+$15=$43

The piggy bank contains $43.

Count by tens.

15 25 35 45 55 65 75 85

Count by fives:

5 10 15 20 25 30 35 40 45 50 55

New Drill Details

What's up with the new drills? They look really different now! Don't worry, there's only about half as many sums as you've been doing until now. The big difference is that we're going to put the facts we've been practising to use by working with bigger numbers.

You might start being able to do these "in your head" and that's great! If not, no problem! You just need to develop a strategy that works for you: and don't be shy about using your pencil... Pencil and paper are always a good place to start!

In fact... I'll let you in on a secret... when I was young, I used to tell people that I could only think in graphite. (That's what 'lead' pencils are made from!) I never did any maths without a scrap of paper and pencil handy.

This series of drills practices two-digit addition with no carrying.

Drill 97

74 + 14 = 88	86 + 12 = 98	26 + 60 = 86	32 + 51 = 83	25 + 40 = 65
58 + 20 = 78	32 + 52 = 84	26 + 73 = 99	74 + 15 = 89	26 + 40 = 66
82 + 10 = 92	46 + 52 = 98	51 + 21 = 72	11 + 13 = 24	33 + 64 = 97
29 + 10 = 39	62 + 21 = 83	76 + 12 = 88	82 + 17 = 99	57 + 40 = 97
21 + 12 = 33	49 + 50 = 99	86 + 13 = 99	28 + 30 = 58	21 + 32 = 53

Lesson 98

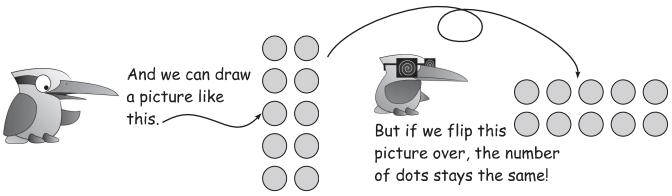
Commutativity of Multiplication

Example

5×2

We've seen that this means, "fige times we add two." So we can write it like this:

$$5 \times 2 = 2 + 2 + 2 + 2 + 2$$



So, this is also true:

$$5 \times 2 = 5 + 5$$

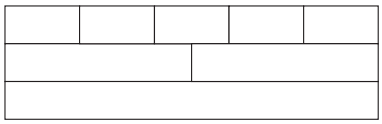
But, 5 + 5 is the same as:

$$2 \times 5$$

So...

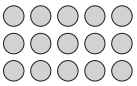
$$5 \times 2 = 2 \times 5$$

What all this means is that if you know the answer to 5 × 2, you also know the answer to 2 × 5! We can prove that these are equal using Sumstix. Colour the pattern below to make it match the equation above.



Example

Write the two multiplication equations represented by the picture.



3 x 5 = 15

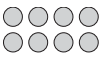
5 x 3 = 15

Lesson Practice

Write the two multiplication equations represented by each picture.

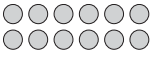
2 × 3 = 6

3 × 2 = 6



2 × 4 = 8

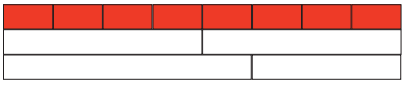
4 × 2 = 8



2 × 6 = 12

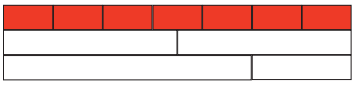
6 × 2 = 12

Colour the white Sumstix to make the picture correct then write the two equations represented by each picture.



8 × 2 = 16

2 × 8 = 16



7 × 2 = 14

2 × 7 = 14

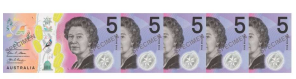
Review and Practice

How many legs do four octopuses have?

8 + 8 + 8 + 8 = 32

Four octopuses have 32 legs?

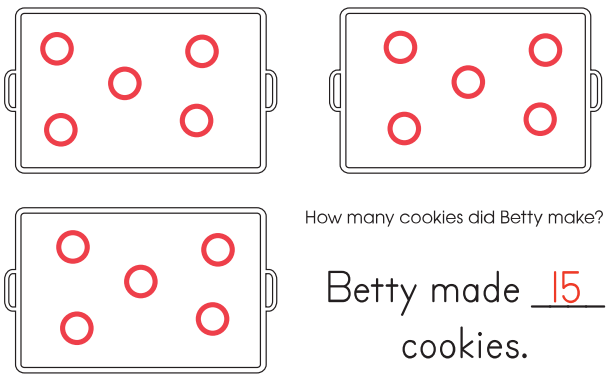
Skip count and write a sum to find how much money is shown in the picture.



25 + 6 = $31

40+35=75c

Betty baked three trays of cookies as gifts for her friends. There were five cookies on each tray. Complete the picture to show this:



How many cookies did Betty make?

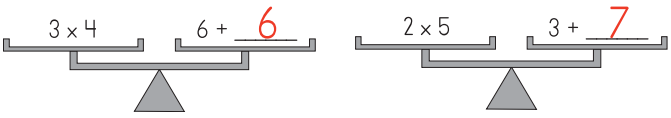
Betty made 15 cookies.

Drill 98

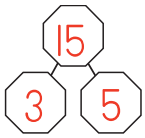
53 + 11 = 64	18 + 61 = 79	58 + 40 = 98	22 + 30 = 52	41 + 18 = 59
21 + 46 = 67	23 + 51 = 74	86 + 12 = 98	60 + 12 = 72	85 + 13 = 98
18 + 20 = 38	42 + 30 = 72	63 + 26 = 89	89 + 10 = 99	68 + 21 = 89
67 + 11 = 78	78 + 20 = 98	58 + 20 = 78	13 + 13 = 26	19 + 80 = 99
34 + 25 = 59	63 + 32 = 95	61 + 28 = 89	70 + 12 = 82	80 + 18 = 98

Review and Practice

Find the missing numbers.

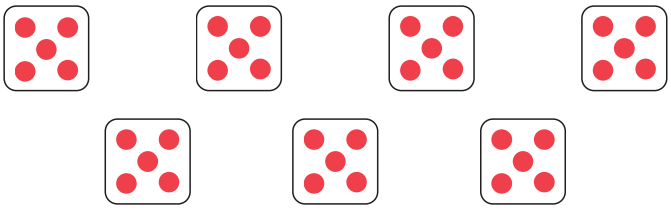


Fill in the number bond to match the picture then write the four equations represented by it.



3 × 5 = 15
5 × 3 = 15
15 ÷ 3 = 5
15 ÷ 5 = 3

Caleb dropped a jar of seven dice and he was incredibly lucky to have all of them land with five dots facing up. How many dots were facing up all together? Draw the dice and finish the sentence.



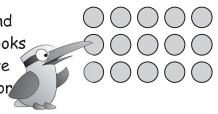
There were 35 dots facing up.

Lesson 99

Multiplication Number Bonds

Let's take another look at the example from last lesson.

Does this picture remind you of something? It looks just like the pictures we drew to solve sharing (or division) problems!

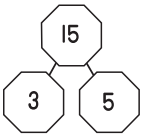


3 × 5 = 15
5 × 3 = 15

Multiplication and division are related in the same way that addition and subtraction are, so we can make number bonds for muliplication and division that are similar to the ones we made for addition and subtraction.

Example

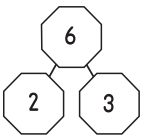
Write the four equations represented by the number bond.



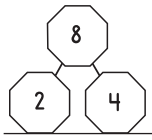
3 × 5 = 15
5 × 3 = 15
15 ÷ 5 = 3
15 ÷ 3 = 5

Lesson Practice

Write the four equations represented by the number bond.



2 × 3 = 6
3 × 2 = 6
6 ÷ 2 = 3
6 ÷ 3 = 2



2 × 4 = 8
4 × 2 = 8
8 ÷ 2 = 4
8 ÷ 4 = 2

Drill 99

72 + 17 = 89	75 + 11 = 86	19 + 80 = 99	43 + 10 = 53	77 + 12 = 89
12 + 16 = 28	55 + 24 = 79	37 + 11 = 48	72 + 17 = 89	52 + 42 = 94
36 + 33 = 69	69 + 30 = 99	32 + 22 = 54	24 + 32 = 56	52 + 20 = 72
15 + 31 = 46	10 + 44 = 54	87 + 12 = 99	16 + 10 = 26	55 + 11 = 66
54 + 43 = 97	81 + 14 = 95	73 + 10 = 83	26 + 41 = 67	65 + 14 = 79

Lesson 100

The Two Times Table

If you know your doubles addition facts (which you should by now!), the two times table is easy peasy.

Example

2 × 7 = 14

Think, "seven plus seven equals fourteen."

Lesson Practice

Write the answers to the multiplications then use the letter clues to solve the riddle. (Don't forget that 2 x 10 = 10 x 2!)

2 × 10 = 20 (O)	2 × 3 = 6 (A)	9 × 2 = 18 (T)
2 × 2 = 4 (S)	6 × 2 = 12 (C)	2 × 8 = 16 (I)
3 × 2 = 6 (A)	2 × 4 = 8 (B)	5 × 2 = 10 (E)
10 × 2 = 20 (O)	2 × 7 = 14 (F)	1 × 2 = 2 (R)
2 × 5 = 10 (E)	2 × 9 = 18 (T)	8 × 2 = 16 (I)

Riddle

Why is the letter A like a flower?

A	B	C	O	M	E	S
6	8	12	20		10	4

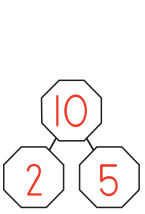
A	F	T	E	R		I	T
6	14	18	10	2		16	18

Review and Practice

There were 12 apples in the fruit bowl. If there were equal numbers of red and green apples, how many red apples were there?

There were 6 red apples.

Fill in the number bond to match the picture then write the four equations represented by it.



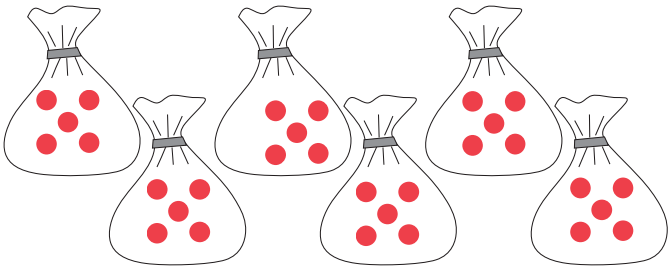
2 × 5 = 10

5 × 2 = 10

10 ÷ 2 = 5

10 ÷ 5 = 2

Debbie was packing anzac biscuits in bags for her friends. If she had 30 anzac biscuits and 6 friends, how many biscuits should Debbie pack in each bag?



Each bag should have 5 biscuits.

Drill 100

37 + 11 = 48	33 + 20 = 53	30 + 66 = 96	17 + 51 = 68	25 + 54 = 79
49 + 30 = 79	67 + 32 = 99	48 + 10 = 58	63 + 16 = 79	65 + 30 = 95
20 + 72 = 92	29 + 30 = 59	16 + 13 = 29	41 + 34 = 75	13 + 70 = 83
43 + 33 = 76	21 + 66 = 87	61 + 37 = 98	49 + 20 = 69	14 + 64 = 78
64 + 20 = 84	28 + 41 = 69	45 + 33 = 78	11 + 56 = 67	79 + 20 = 99

Lesson 101

The Ten Times Table

The ten times table is even easier than the two times table, as long as you know how to make numbers bigger than ten using Sumstix. All you have to do is think of the number that isn't ten as being the number of orange Sumstix you have.

Example

7 × 10 = _____

We can think of this as, "What does seven orange stix equal?" You SHOULD know the answer to this!

Lesson Practice

Write the answers to the multiplications then use the letter clues to solve the riddle. (Don't forget that 10 x 3 = 3 x 10!)

10 × 4 = 40 (A)	5 × 10 = 50 (M)	9 × 10 = 90 (O)
10 × 3 = 30 (B)	6 × 10 = 60 (N)	8 × 10 = 80 (R)
10 × 2 = 20 (E)	10 × 10 = 100 (O)	7 × 10 = 70 (T)

Riddle

What is one bone that a dog can't eat?

A	T	R	O	M	B	O	N	E
40	70	80	90	50	30	100	60	20

Review and Practice

Find the missing numbers.

		48		
	20		28	
8		12		16
3	5		7	9
1	2	3	4	5

Each number is the sum of the two numbers directly below it.

Count by twos:

2 4 6 8 10 12 14 16 18 20 22

Count by fives:

5 10 15 20 25 30 35 40 45 50 55

New Drill Details

This series of drills practices two-digit subtraction with no regrouping (or borrowing).

Drill 101

36 − 26 = 10	52 − 32 = 20	52 − 11 = 41	98 − 73 = 25	43 − 11 = 32
96 − 53 = 43	27 − 17 = 10	78 − 54 = 24	24 − 11 = 13	99 − 16 = 83
74 − 12 = 62	72 − 12 = 60	84 − 11 = 73	66 − 44 = 22	46 − 26 = 20
39 − 28 = 11	83 − 52 = 31	48 − 16 = 32	22 − 12 = 10	33 − 23 = 10
35 − 23 = 12	84 − 64 = 20	82 − 62 = 20	77 − 65 = 12	89 − 48 = 41

Lesson 102

The Five Times Table

You should be getting pretty good at skip counting by fives by now. Write the skip counting sequence in as the answers to the multiplication problems below:

Lesson Practice

Count by fives to fill in this column.

You can use the column you completed over there on the left to help you with these problems!

1 × 5 = 5	3 × 5 = 15	4 × 5 = 20
2 × 5 = 10	10 × 5 = 50	5 × 1 = 5
3 × 5 = 15	5 × 8 = 40	5 × 5 = 25
4 × 5 = 20	9 × 5 = 45	5 × 4 = 20
5 × 5 = 25	5 × 3 = 15	5 × 9 = 45
6 × 5 = 30	5 × 10 = 50	6 × 5 = 30
7 × 5 = 35	7 × 5 = 35	5 × 2 = 10
8 × 5 = 40	5 × 5 = 25	5 × 7 = 35
9 × 5 = 45	1 × 5 = 5	8 × 5 = 40
10 × 5 = 50	5 × 6 = 30	2 × 5 = 10

Review and Practice

Find the value of each shape.

○ + ○ = 8 ○ = 4

□ + ○ = 10 □ = 6

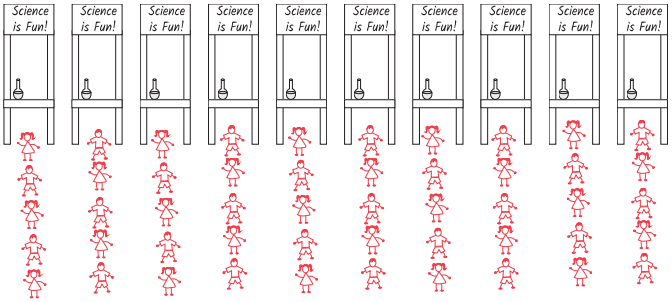
△ + △ + □ = 10 △ = 2

Skip count and write a sum to find how much money is shown in the picture.

$27

45c

There were ten activity stations at the science museum. Five kids were lined up at each station. How many kids were there?



There were 50 kids at the museum.

Drill 102

48 − 13 = 35	39 − 19 = 20	83 − 71 = 12	32 − 12 = 20	37 − 17 = 20
48 − 14 = 34	67 − 43 = 24	99 − 89 = 10	54 − 43 = 11	48 − 21 = 27
96 − 73 = 23	38 − 15 = 23	67 − 52 = 15	37 − 17 = 20	74 − 24 = 50
25 − 15 = 10	34 − 23 = 11	96 − 15 = 81	68 − 55 = 13	49 − 33 = 16
62 − 22 = 40	68 − 12 = 56	74 − 32 = 42	46 − 35 = 11	39 − 24 = 15

Lesson 103

Division by Two, Five and Ten

Once you know your multiplication number bonds, doing division is just like a missing number problem. For now, you can use a multiplication table to find the missing numbers.

Example

$5 \times \underline{8} = 40$

$40 \div 5 = \underline{8}$

Step 1: Find the row that starts with 5. Follow it along until you find 40.

Step 2: Follow up the column to find the number at the top (8).

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

Step 1 → Step 2

Lesson Practice

Fill in the missing numbers. You may use your multiplication table to help.

$2 \times \underline{8} = 16$	$2 \times \underline{4} = 8$	$2 \times \underline{10} = 20$
$5 \times \underline{5} = 25$	$5 \times \underline{3} = 15$	$5 \times \underline{2} = 10$
$2 \times \underline{3} = 6$	$10 \times \underline{1} = 10$	$5 \times \underline{4} = 20$

Solve the division problems. You may use your multiplication table to help.

Hint: 15 ÷ 5 = _____ is the same as 5 × _____ = 15.

$80 \div 10 = \underline{8}$	$35 \div 5 = \underline{7}$	$20 \div 2 = \underline{10}$
$30 \div 10 = \underline{3}$	$2 \div 2 = \underline{1}$	$10 \div 2 = \underline{5}$
$20 \div 5 = \underline{4}$	$16 \div 2 = \underline{8}$	$50 \div 5 = \underline{10}$
$70 \div 10 = \underline{7}$	$10 \div 5 = \underline{2}$	$10 \div 10 = \underline{1}$

Review and Practice

There were 24 puppies at the pet shop. 3 of them were black, eight of them were white and the rest were brown. How many puppies were brown?

24-11=35

<u>35</u> puppies were brown.

Count by tens.

12 22 32 42 52 62 72 82

Count by twos:

2 4 6 8 10 12 14 16 18 20 22

Count by fives:

5 10 15 20 25 30 35 40 45 50 55

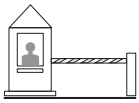
How many legs to 4 starfish have?

Four starfish have <u>20</u> legs.

Drill 103

92 − 41 = 51	56 − 21 = 35	74 − 14 = 60	69 − 44 = 25	55 − 34 = 21
97 − 62 = 35	97 − 76 = 21	42 − 11 = 31	66 − 51 = 15	24 − 11 = 13
32 − 21 = 11	77 − 27 = 50	77 − 23 = 54	25 − 14 = 11	26 − 16 = 10
24 − 14 = 10	25 − 13 = 12	45 − 21 = 24	56 − 44 = 12	63 − 12 = 51
79 − 23 = 56	67 − 13 = 54	66 − 53 = 13	56 − 44 = 12	25 − 11 = 14

Lesson 104



Checkpoint 13

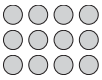
The picture below shows how Julie is using a multiplication table to solve a multiplication problem. Write an equation that shows the problem she might be solving.

×	1	2	3	4	5	6	7	8
1	1	2	3	4	5	6	7	8
2	2	4	6	8	10	12	14	16
3	3	6	9	12	15	18	21	24
4	4	8	12	16	20	24	28	32
5	5	10	15	20	25	30	35	40

Julie's problem might be:

4 × 6 = 24

Write the two multiplication equations that describe the picture.



3 × 4 = 12

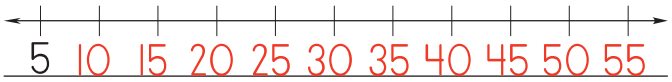
4 × 3 = 12

Build and draw a Sumstix pattern to show how the two equations below have the answer.

2 × 6 = 12 6 × 2 = 12

Count by twos:

Count by fives:



Use the skip counting patterns above to help you write out the two and five times tables.

1 × 2 = 2
2 × 2 = 4
3 × 2 = 6
4 × 2 = 8
5 × 2 = 10
6 × 2 = 12
7 × 2 = 14
8 × 2 = 16
9 × 2 = 18
10 × 2 = 20

1 × 5 = 5
2 × 5 = 10
3 × 5 = 15
4 × 5 = 20
5 × 5 = 25
6 × 5 = 30
7 × 5 = 35
8 × 5 = 40
9 × 5 = 45
10 × 5 = 50

Drill 104

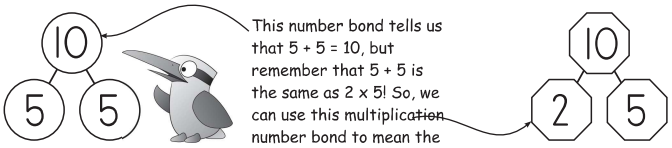
62 − 11 = 51	79 − 15 = 64	64 − 53 = 11	57 − 41 = 16	63 − 43 = 20
99 − 76 = 23	36 − 16 = 20	38 − 24 = 14	59 − 28 = 31	43 − 33 = 10
22 − 11 = 11	72 − 12 = 60	27 − 16 = 11	52 − 41 = 11	82 − 72 = 10
48 − 36 = 12	32 − 11 = 21	54 − 31 = 23	29 − 12 = 17	78 − 11 = 67
67 − 24 = 43	27 − 14 = 13	97 − 74 = 23	28 − 15 = 13	38 − 24 = 14

Lesson 105

Doubling and Halving

Doubles in Multiplication

Do you remember what a double addition number bond looks like?



Example

double 1 = 1 + 1 = 2 × 1 = 2

Lesson Practice

double 6 = _____ = _____ = 12

double 9 = _____ = _____ = 18

double 7 = _____ = _____ = 14

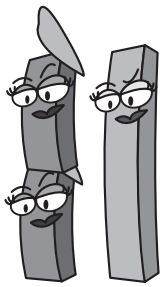
double 3 = _____ = _____ = 6

double 10 = _____ = _____ = 20

double 5 = _____ = _____ = 10

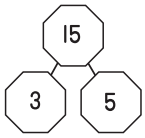
double 2 = _____ = _____ = 4

double 8 = _____ = _____ = 16



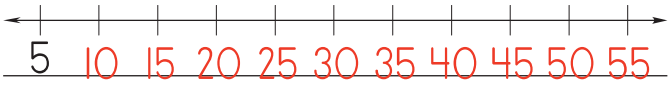
Review and Practice

Write the four equations represented by the number bond.



3 × 5 = 15
5 × 3 = 15
15 ÷ 3 = 5
15 ÷ 5 = 3

Count by fives:



New Drill Details

This series of drills practices two-digit addition with carrying. If you can't remember how to do this, don't fear. Cookie is here with a quick reminder!

Step 1: Write the numbers in the grid.

	h	t	o
		5	7
+		7	8

Step 2: Add the ones column. Carry over the ten.

	h	t	o
		1	
		5	7
+		7	8
			5

7+8=15

Step 3: Add the tens column. Carry over the ten.

	h	t	o
		1	
		5	7
+		7	8
	1	3	5

1+5+7=13

If that's not enough, you might need to go back and review milestone 10 in book C2. Again, if you didn't do book C2, ask a parent to contact the author for help!

Drill 105

57 + 25 = 82	19 + 49 = 68	31 + 19 = 50	66 + 19 = 85	89 + 4 = 93
62 + 19 = 81	64 + 18 = 82	59 + 32 = 91	45 + 27 = 72	29 + 9 = 38
14 + 79 = 93	45 + 28 = 73	12 + 49 = 61	89 + 13 = 102	76 + 15 = 91
77 + 15 = 92	31 + 59 = 90	41 + 29 = 70	24 + 39 = 63	43 + 28 = 71
65 + 18 = 83	58 + 39 = 97	32 + 59 = 91	25 + 68 = 93	44 + 47 = 91

Lesson 106

Doubling Larger Numbers

Example

double 23 = 23 + 23 = 2 × 23 = 46

If you can't solve these in your head yet, use a scrap of paper to write the sum out vertically then solve it.

Lesson Practice

Find the doubles then use the letter clues to solve the riddle.

double 42 = _____ = _____ = 84 (H)

double 14 = _____ = _____ = 28 (E)

double 23 = _____ = _____ = 46 (L)

double 31 = _____ = _____ = 62 (O)

double 11 = _____ = _____ = 22 (A)

Riddle

What gets bigger the more you take away from it?

A H O L E
22 84 62 46 28

Review and Practice

There were twelve children in the art class. The teacher gave each child two drawing pencils. How many pencils did the teacher give out?

The teacher gave out 24 pencils.

Skip count and write a sum to find how much money is shown in the picture.

$27

75c

Eric got 9 five dollar notes from his grandma for his birthday. How much money did he get? Draw the notes and then count by fives.

Eric got $45 dollars from Grandma.

Drill 106

71 + 19 = 90	57 + 34 = 91	86 + 9 = 95	79 + 19 = 98	61 + 29 = 90
11 + 19 = 30	48 + 29 = 77	39 + 13 = 52	61 + 29 = 90	22 + 69 = 91
37 + 16 = 53	86 + 19 = 105	35 + 17 = 52	35 + 26 = 61	32 + 59 = 91
43 + 29 = 72	53 + 28 = 81	39 + 25 = 64	11 + 29 = 40	63 + 28 = 91
18 + 25 = 43	71 + 19 = 90	31 + 49 = 80	54 + 17 = 71	34 + 49 = 83

Lesson 107

Doubling with Carries

Example

double 18 = 18 + 18 = 2 × 18 = 36

You might be able to solve these in your head if you think of the number in expanded form (18 = 10 + 8 so double 18 is double 10 = 20 plus double 8 = 16 which is 36). If this is too hard at the moment, just use a scrap of paper to write the sum out vertically then solve it. With practice, you'll get better!

Lesson Practice

Find the doubles then use the letter clues to solve the riddle.

double 25 = _____ = _____ = 50 (C)

double 17 = _____ = _____ = 34 (O)

double 47 = _____ = _____ = 94 (D)

double 36 = _____ = _____ = 72 (K)

double 19 = _____ = _____ = 38 (E)

double 49 = _____ = _____ = 98 (T)

double 18 = _____ = _____ = 36 (H)

Riddle

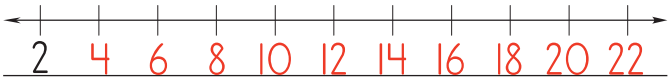
Where do sick ships go?

T	O	T	H	E	D	O	C	K	
98	34	98	36	38	94	34	50	72	

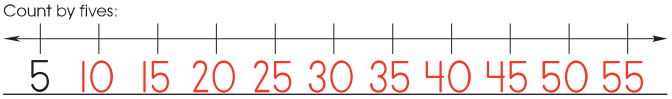
Review and Practice

Find the missing numbers. You may use Sumstix to help you.

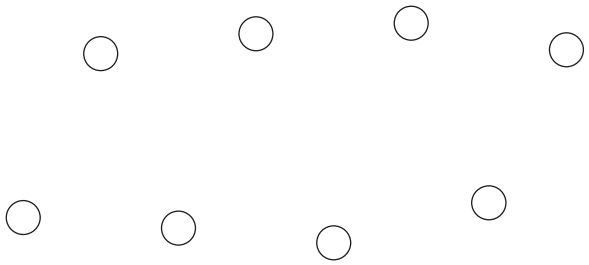
Count by twos:



Count by fives:



Mrs Dean's flower bed has eight flowers with five petals each. Draw petals on the flowers. How many petals did you draw?



There are 40 petals.

Drill 107

25 + 49 = 74	32 + 19 = 51	32 + 59 = 91	55 + 36 = 91	23 + 49 = 72
19 + 27 = 46	23 + 28 = 51	51 + 29 = 80	17 + 16 = 33	54 + 19 = 73
75 + 16 = 91	48 + 28 = 76	51 + 29 = 80	32 + 49 = 81	38 + 34 = 72
11 + 69 = 80	42 + 39 = 81	54 + 17 = 71	43 + 49 = 92	82 + 9 = 91
26 + 29 = 55	12 + 19 = 31	42 + 19 = 61	59 + 22 = 81	75 + 19 = 94

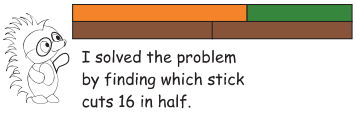
Lesson 108

Halving Numbers to Twenty

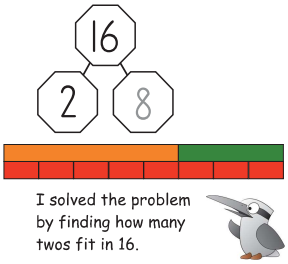
Halving a number is the same as dividing it by two. We can think of this as finding the missing number in a multiplication number bond.

Example

$\frac{1}{2}$ of 16 is 8



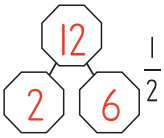
I solved the problem by finding which stick cuts 16 in half.



I solved the problem by finding how many twos fit in 16.

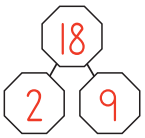
Lesson Practice

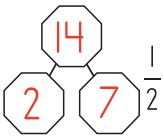
Fill in the number bond to match the question then find the missing number and write in the half.



$\frac{1}{2}$ of 12 is 6

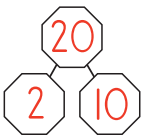
$\frac{1}{2}$ of 18 is 9





$\frac{1}{2}$ of 14 is 7

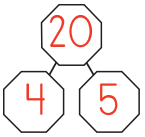
$\frac{1}{2}$ of 20 is



Review and Practice

double 50 = 100	double 30 = 60	double 36 = 72
double 45 = 90	double 20 = 40	double 10 = 20
double 29 = 58	double 33 = 66	double 46 = 92

Fill in the number bond to match the picture then write the four equations represented by it.



4 × 5 = 20

5 × 4 = 20

20 ÷ 4 = 5

20 ÷ 5 = 4

Count by twos:

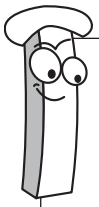
2 4 6 8 10 12 14 16 18 20 22

Count by fives:

5 10 15 20 25 30 35 40 45 50 55

Count by tens:

10 20 30 40 50 60 70 80 90 100 110



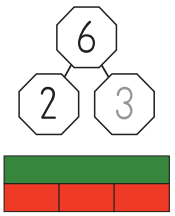
Drill 108

62 + 19 = 81	57 + 24 = 81	41 + 19 = 60	68 + 25 = 93	18 + 46 = 64
65 + 26 = 91	22 + 29 = 51	69 + 28 = 97	23 + 29 = 52	17 + 68 = 85
73 + 18 = 91	47 + 29 = 76	16 + 15 = 31	73 + 19 = 92	67 + 14 = 81
51 + 39 = 90	36 + 27 = 63	22 + 29 = 51	37 + 48 = 85	65 + 28 = 93
74 + 18 = 92	12 + 49 = 61	71 + 19 = 90	46 + 19 = 65	62 + 19 = 81

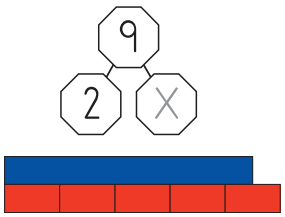
Lesson 109

Odd and Even Numbers

There are some numbers that we can't use Sumstix divide by two. These numbers are called odd numbers. The numbers we CAN divide by two with Sumstix are called even numbers.



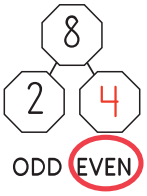
Six is EVEN because we CAN divide it by two.



Nine is ODD because we can NOT divide it by two.

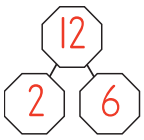
Lesson Practice

Fill in the missing number in the number bonds, then circle odd or even. If the number can't be divided by two, write an 'x' for the missing number.

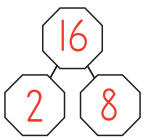


Review and Practice

Fill in the number bond to match the problem then find the missing number.



$\frac{1}{2}$ of 12 = 6



$\frac{1}{2}$ of 16 = 8

New Drill Details

This series of drills practices two-digit subtraction with borrowing. If you can't remember how to do this, here's a quick reminder. Remember I showed you two different ways to do these? Choose your favourite one!

Using borrow and payback.

	h	t	o
		8	8
−		6	9

	h	t	o
		8	18
−		6	9

Borrow and payback.

	h	t	o
		8	18
−		6	9
			9

18 - 9 = 9

	h	t	o
		8	18
−		6	9
		1	9

8 - 7 = 1

Using regouping.

	h	t	o
		8	8
−		6	9

	h	t	o
		7 8	18
−		6	9

Regroup.

	h	t	o
		7 8	18
−		6	9
			9

18 - 9 = 9

	h	t	o
		7 8	18
−		6	9
		1	9

7 - 6 = 1

If that's not enough help, you might need to go back and review milestone 10 in book C2.

Drill 109

56 − 39 = 17	47 − 38 = 9	25 − 19 = 6	62 − 34 = 28	96 − 58 = 38
25 − 17 = 8	60 − 23 = 37	23 − 15 = 8	48 − 19 = 29	41 − 37 = 4
72 − 28 = 44	30 − 15 = 15	95 − 87 = 8	96 − 48 = 48	85 − 66 = 19
56 − 37 = 19	51 − 39 = 12	95 − 87 = 8	65 − 36 = 29	51 − 13 = 38
88 − 49 = 39	54 − 29 = 25	21 − 18 = 3	33 − 19 = 14	97 − 29 = 68

Lesson 110

Identifying Even Numbers

Investigation

Use Sumstix (if you need them) to decide whether each of the numbers in the table is odd or even. Place a tick in the 'even' box next to each even number and the 'odd' box next to each odd number.

Number	EVEN	ODD
1		✓
2	✓	
3		✓
4	✓	
5		✓
6	✓	
7		✓
8	✓	
9		✓
10	✓	

A number is even if its last digit is 0, 2, 4, 6 or 8. A number is odd if its last digit is 1, 3, 5, 7 or 9. Circle the even numbers and underline the odd numbers below.

985	(628)	295	(160)	(658)
539	(588)	571	(832)	763
(826)	(784)	237	935	307

Review and Practice

Circle the even numbers.

1 (2) 3 (4) 5 (6) 7 (8) 9 (10)
11 (12) 13 (14) 15 (16) 17 (18) 19 (20)

Skip count and write a sum to find how much money is shown in the picture.

$31

45c

Count by twos:

2 4 6 8 10 12 14 16 18 20 22

Count by fives:

5 10 15 20 25 30 35 40 45 50 55

Count by tens:

10 20 30 40 50 60 70 80 90 100 110

Drill 110

67 − 59 = 8	46 − 38 = 8	85 − 18 = 67	35 − 27 = 8	47 − 28 = 19
41 − 12 = 29	30 − 15 = 15	62 − 16 = 46	71 − 55 = 16	35 − 26 = 9
38 − 19 = 19	45 − 29 = 16	63 − 19 = 44	35 − 18 = 17	41 − 22 = 19
36 − 19 = 17	56 − 28 = 28	98 − 29 = 69	51 − 28 = 23	53 − 26 = 27
80 − 35 = 45	40 − 36 = 4	56 − 48 = 8	84 − 48 = 36	57 − 29 = 28

Lesson 111

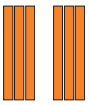
Halving Tens

Today we will look at halving 2-digit numbers that end in zero. That is, the numbers you say when skip counting by tens.

Examples

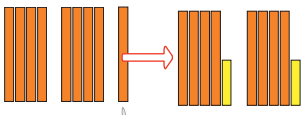
$\frac{1}{2}$ of 60 = 30

In this case, we just need to get six orange Sumstix and make two equal piles.



$\frac{1}{2}$ of 90 = 45

This case is a bit trickier because we can't make two equal piles with nine Sumstix.



We need to break this Sumstix in half. (So we swap it for 2 yellow Sumstix.)

Lesson Practice

$\frac{1}{2}$ of 40 = 20 (A) $\frac{1}{2}$ of 80 = 40 (E) $\frac{1}{2}$ of 90 = 45 (R)

$\frac{1}{2}$ of 100 = 50 (B) $\frac{1}{2}$ of 70 = 35 (G) $\frac{1}{2}$ of 60 = 30 (T)

$\frac{1}{2}$ of 30 = 15 (C) $\frac{1}{2}$ of 20 = 10 (K) $\frac{1}{2}$ of 50 = 25 (U)

Riddle

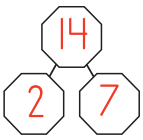
What has four wheels and flies?

A	G	A	R	B	A	G	E
20	35	20	45	50	20	35	40

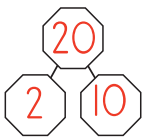
T	R	U	C	K
30	45	25	15	10

Review and Practice

Fill in the number bond to match the problem then find the missing number.



$\frac{1}{2}$ of 14 = 7



$\frac{1}{2}$ of 20 = ___

double 13 = 26	double 41 = 82	double 29 = 58
double 22 = 44	double 43 = 86	double 40 = 80
double 23 = 46	double 30 = 60	double 19 = 38
double 19 = 38	double 24 = 48	double 46 = 72

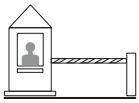
Joey sorted his toy cars by colour. He ended up with 5 groups of cars, and there were five cars in each group. How many cars did Joey have altogether? Draw a picture.

Joey had 25 cars.

Drill 111

96 − 47 = 49	71 − 36 = 35	75 − 66 = 9	44 − 19 = 25	24 − 15 = 9
42 − 17 = 25	70 − 67 = 3	50 − 35 = 15	44 − 19 = 25	81 − 17 = 64
56 − 19 = 37	40 − 28 = 12	85 − 68 = 17	52 − 24 = 28	75 − 69 = 6
98 − 19 = 79	26 − 19 = 7	28 − 19 = 9	22 − 14 = 8	61 − 14 = 47
33 − 15 = 18	42 − 39 = 3	68 − 19 = 49	67 − 48 = 19	55 − 36 = 19

Lesson 112



Checkpoint 14

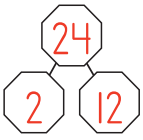
Find the doubles.

double 27 = 54 double 19 = 38 double 16 = 32

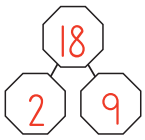
double 20 = 40 double 34 = 68 double 38 = 76

double 24 = 48 double 45 = 90 double 33 = 66

Fill in the number bond to match the problem and then use Sumstix to find the missing number.



$\frac{1}{2}$ of 24 = ___



$\frac{1}{2}$ of 18 = ___

Find half of the following numbers.

$\frac{1}{2}$ of 20 = 10 $\frac{1}{2}$ of 40 = 20

$\frac{1}{2}$ of 2 = 1 $\frac{1}{2}$ of 90 = 45

$\frac{1}{2}$ of 16 = 8 $\frac{1}{2}$ of 50 = 25

$\frac{1}{2}$ of 30 = 15 $\frac{1}{2}$ of 18 = 9

Fill in the blanks.

An even number ends with, 2, 4, 6, 8 or 0.

Riddle

When is a river like the letter T?

Colour the even numbered squares blue and the odd numbered squares yellow to find the answer.

117	6	189	67	128	27	169	120	153	32	159	91	182	191	10	196	148	181	44	183	75	33	22	175
199	44	177	104	191	178	159	40	157	84	87	127	180	161	86	109	63	191	178	118	141	155	54	135
43	18	181	182	63	62	161	28	73	18	4	6	192	167	92	168	91	171	16	97	58	199	152	155
17	90	151	158	23	46	17	152	119	198	167	147	24	139	70	147	61	17	166	27	67	186	80	63
119	61	142	187	87	119	22	33	39	64	119	67	82	101	76	104	88	151	182	149	181	97	102	45
169	159	45	31	141	147	59	99	9	107	103	171	107	187	97	195	129	89	141	33	155	199	109	185
49	43	127	156	9	127	11	98	127	165	70	198	139	135	116	59	89	108	27	27	167	171	151	91
141	165	97	120	19	163	33	180	189	130	199	11	44	111	138	153	41	36	195	113	119	41	45	21
69	119	199	123	72	21	174	171	113	4	49	11	58	25	172	95	119	58	161	167	157	17	117	29
117	79	139	41	193	166	177	137	37	114	127	157	70	141	14	179	197	34	71	173	45	81	127	111
55	63	5	191	197	190	199	171	19	87	196	80	39	57	81	76	60	113	143	19	131	177	189	123
167	85	73	135	37	91	185	55	179	145	109	27	43	147	175	195	85	73	87	21	97	43	99	141
164	104	46	156	165	72	166	168	53	81	191	116	30	7	3	62	32	120	122	35	12	192	130	78
86	85	39	188	103	112	171	177	100	171	36	87	95	144	143	86	63	53	157	143	96	63	167	129
110	165	159	137	17	130	27	21	116	159	176	75	171	88	193	153	68	158	51	151	39	126	16	155
92	125	91	176	139	86	142	84	167	153	162	179	57	20	19	199	109	83	138	139	127	7	167	186
118	24	112	92	21	70	101	157	10	79	197	126	68	25	179	50	172	58	178	111	24	86	68	138
193	163	133	31	169	109	191	97	113	7	133	185	139	115	113	165	17	33	123	117	127	17	173	171
127	39	33	71	113	11	177	112	158	48	141	136	198	122	113	11	93	33	9	155	83	119	183	151
197	151	89	79	73	153	65	51	24	85	33	93	66	149	97	83	33	51	67	189	167	91	171	173
93	125	15	193	19	137	77	151	40	51	89	187	38	161	99	109	13	41	123	63	137	129	165	197
165	155	165	191	45	83	37	9	138	89	91	35	160	161	13	185	13	13	143	137	115	149	7	125
117	181	139	7	181	127	57	156	86	154	165	189	154	127	11	91	189	143	17	35	105	187	145	127
15	15	5	47	191	47	193	173	123	149	43	29	187	13	195	3	59	7	175	69	131	33	63	25

Colouring the odd numbered squares is optional!

Drill 112

72 − 57 = 15	26 − 19 = 7	47 − 38 = 9	74 − 67 = 7	43 − 19 = 24
71 − 23 = 48	31 − 29 = 2	67 − 39 = 28	57 − 48 = 9	88 − 59 = 29
97 − 48 = 49	62 − 57 = 5	85 − 28 = 57	67 − 38 = 29	66 − 39 = 27
53 − 45 = 8	48 − 39 = 9	94 − 79 = 15	22 − 16 = 6	85 − 78 = 7
60 − 13 = 47	98 − 39 = 59	48 − 39 = 9	66 − 17 = 49	26 − 19 = 7

Lesson 113

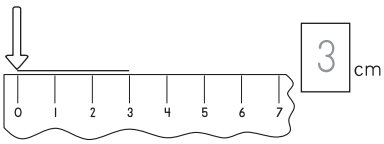
Measurement

Review of Measuring in Centimetres

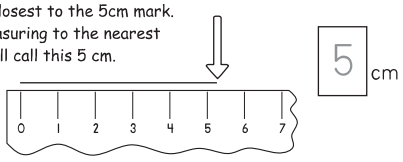
Example

Find the length of the line to the nearest centimetre (cm).

Don't forget to line the zero on your ruler up with the start of the line!



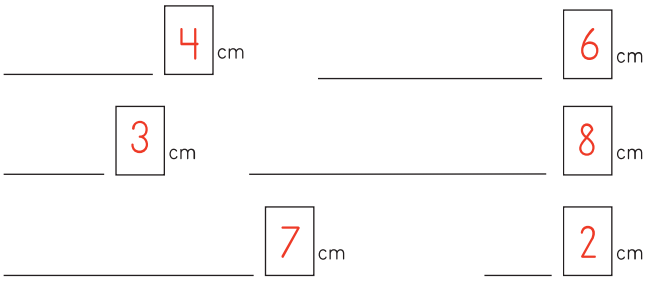
This line is a bit longer than 5 cm but it is closest to the 5cm mark. When measuring to the nearest cm, we still call this 5 cm.



If you don't have a ruler, you can cut one out from the back of this book.

Lesson Practice

Find the length of each line to the nearest centimetre (cm).



Review and Practice

Fill in the blanks... An even number ends with 2, 4, 6, 8 or 0.
Now circle the even numbers below:

52	637	841	69	322
889	608	625	294	854

Count by twos:

2 4 6 8 10 12 14 16 18 20 22

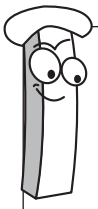
Count by fives:

5 10 15 20 25 30 35 40 45 50 55

New Drill Details

In this next series of drills, we're going back to two-digit addition with carrying again but this time some of the problems combine a two-digit number with a one-digit number. Don't be afraid of these! You do them exactly the same as when you have 2 two-digit numbers but you just have to remember to line up the units digits in both numbers. In these drills you won't even have to worry about that because they're already laid out in columns for you!

If you're good at spotting patterns (or really got the groove of adding 7, 8 and 9 to numbers) you might be able to do the two-digit plus one-digit numbers in your head pretty soon. If not, don't worry - your pencil and paper are still your best friends!



Drill 113

86 + 8 = 94	42 + 29 = 71	62 + 19 = 81	82 + 9 = 91	64 + 19 = 83
58 + 18 = 76	52 + 29 = 81	17 + 14 = 31	39 + 14 = 53	41 + 49 = 90
53 + 38 = 91	45 + 48 = 93	15 + 68 = 83	42 + 29 = 71	14 + 49 = 63
45 + 46 = 91	72 + 19 = 91	64 + 28 = 92	28 + 24 = 52	73 + 19 = 92
28 + 23 = 51	83 + 9 = 92	85 + 8 = 93	13 + 78 = 91	28 + 66 = 94

Lesson 114

Measuring With a Metre Ruler

Centimetres are good for measuring small things like books and Sumstix. If we want to measure something big, like a bedroom, it's easier to use metres. One metre is the same length as 100 cm and it is about the same size as a really BIG step.

Activity

Place a metre ruler or tape measure on the floor. (Find one at the back of this book if you don't have one!) Stand with your toes just in front of the zero on the tape then take ONE very big step. Bend down carefully without moving your feet and read the number just in front of your toes. That's the length of your step (or stride) in centimetres! How close to 100 is it? Write it below:

My step is _____ cm long.

Very few things are an exact number of metres long. When you measure them with your metre ruler, count how many metres long they are and then measure the 'left over' bit in centimetres.

Find some big things to measure around your home or classroom. Record your measurements in the table below. Make sure to stay safe and only measure things you can easily access and are not too big for you to safely get around!

Thing	Length
Bed	1m 80cm

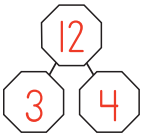
Measure as many things as you like and use another piece of paper to record your measurements. Why not make a poster of it!

Review and Practice

Fill in the blanks... An even number ends with 2, 4, 6, 8 or 0.
Now circle the even numbers below:

304	557	695	647	2
147	446	253	30	923

Fill in the number bond to match the picture then write the four equations represented by it.



3 × 4 = 12
4 × 3 = 12
12 ÷ 3 = 4
12 ÷ 4 = 3

How many legs do 8 birds have all together? Draw a picture.

Eight birds have 16 legs all together.

Drill 114

54 + 39 = 93	79 + 19 = 98	15 + 79 = 94	12 + 69 = 81	76 + 18 = 94
55 + 28 = 83	36 + 16 = 52	36 + 25 = 61	65 + 18 = 83	83 + 9 = 92
28 + 17 = 45	76 + 18 = 94	39 + 26 = 65	66 + 25 = 91	65 + 27 = 92
49 + 47 = 96	67 + 17 = 84	38 + 45 = 83	85 + 9 = 94	34 + 18 = 52
57 + 15 = 72	47 + 15 = 62	56 + 16 = 72	12 + 59 = 71	87 + 8 = 95

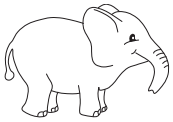
Lesson 115

Choosing Units

Metres and centimetres are called units. When we measure something, it's easiest to use the units that are closest to the size of the object.

Examples

Circle the units that would be most appropriate to measure each of the objects in the pictures.



m cm

m cm

What happens if you have something very tiny or really huge to measure? There are other units for those things but you'll learn about them later!

Lesson Practice

Which unit of measure (metres or centimetres) would be most appropriate to measure the following things? (In real life, not the pictures!)

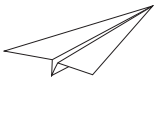
m cm

m cm

m cm

m cm

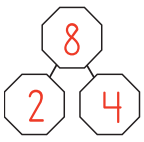
m cm



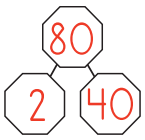
m cm

Review and Practice

Fill in the number bond to match the problem then find the missing number.



$\frac{1}{2}$ of 8 = 4



$\frac{1}{2}$ of 80 = 40

Count by tens.

10 20 30 40 50 60 70 80

Count by twos:

2 4 6 8 10 12 14 16 18 20 22

Count by fives:

5 10 15 20 25 30 35 40 45 50 55

There were only two of every animal awake at the zoo. If there were nine animal exhibits, how many animals were awake? Draw a picture.

There were 18 animals awake.

Drill 115

65 + 19 = 84	34 + 39 = 73	66 + 15 = 81	51 + 29 = 80	31 + 39 = 70
13 + 28 = 41	13 + 18 = 31	49 + 35 = 84	47 + 29 = 76	15 + 57 = 72
44 + 18 = 62	33 + 39 = 72	72 + 19 = 91	83 + 9 = 92	19 + 34 = 53
84 + 8 = 92	51 + 19 = 70	78 + 15 = 93	19 + 12 = 31	84 + 7 = 91
19 + 14 = 33	86 + 8 = 94	69 + 19 = 88	74 + 18 = 92	89 + 3 = 92

Lesson 116

Capacity: Litres and Cups

Capacity is how much stuff a container can hold. The standard unit for capacity is the litre (L). In cooking and baking we often use cups as a unit. In this lesson you will find out how many cups make one litre.

Investigation

Equipment and Materials Needed:

1 cup measuring cup (should be 250mL)

1 L measuring jug

any substance that flows rice, flour, water, sand, etc

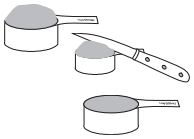
a basin, large bowl or baking tray to work over and cotain the mess

Ask an adult for permission to do this investigation and which substance to use.

If you are using something like flour that "stacks up" make sure that the top is level (you can use the back of a knife to scrape it off).

Method:

1. Fill up the measuring cup so that it is full to the top.
2. Pour the contents of the cup into the measuring jug.
3. Repeat steps 1 & 2 until the measuring jug is full (to the top line).
4. How many cups full of stuff did it take to fill the 1L jug? (If you weren't counting, pour out the contents of the jug and repeat the experiment!)



1 L = 4 cups

This is a good fact to remember and not just if you plan on doing some baking! I was once asked by a gardener how many cups fit in a 9L bucket so that he could calculate how many trees he could fertilize with a bucket full of manure pellets!

Review and Practice

Fill in the blanks... An even number ends with 2, 4, 6, 8 or 0.

Now circle the even numbers below:

657	(132)	541	121	(236)
405	127	(200)	189	313

Skip count and write a sum to find how much money is shown in the picture.

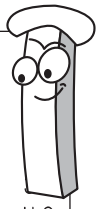
$44

85c

Mr Klogg made seven pairs of kids shoes and lined them up in his shop window. How many shoes were there in Mr Klogg's shop window? Draw a picture.

There were 14 shoes in the window.

Drill 116



65 + 26 = 91	19 + 42 = 61	74 + 19 = 93	82 + 9 = 91	+ 49 = 80
32 + 19 = 51	56 + 35 = 91	65 + 29 = 94	16 + 48 = 64	21 + 29 = 50
64 + 28 = 92	83 + 9 = 92	15 + 26 = 41	72 + 19 = 91	65 + 16 = 81
37 + 14 = 51	15 + 38 = 53	54 + 39 = 93	19 + 66 = 85	23 + 69 = 92
48 + 38 = 86	16 + 28 = 44	85 + 7 = 92	68 + 16 = 84	24 + 19 = 43

Lesson 117

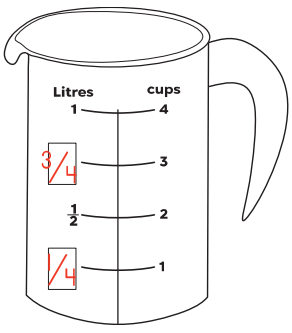
Fractions and Capacity

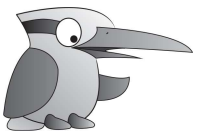
Lots of everyday measurements are given as fractions of a known capacity. Today we will practice working with fractions and capacity measurements.

Lesson Practice

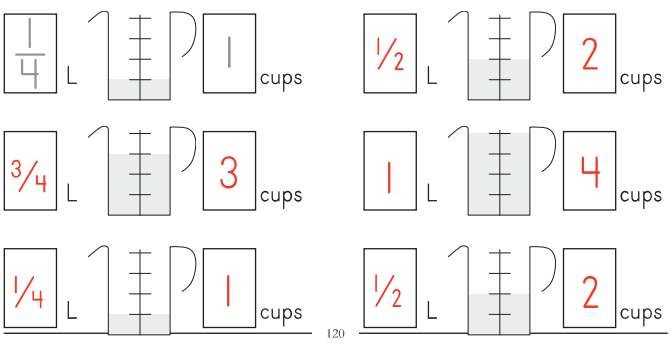
Last lesson you should have found that 1L equals 4 cups. Many measuring jugs have the cups marked on the side like this:

Can you see how 1 cup is one quarter of a litre? 2 cups are 2 quarters (or 1 half) of a litre and 3 cups are 3 quarters of a litre. Fill in the missing labels on the jug (in the boxes).





Write how many cups and what fraction of a litre each jug contains:



Review and Practice

There were twenty-six seagulls standing on the beach. If every seagull had two feet down, how many seagull feet were touching the sand?

52 seagull feet were touching the sand.

double 43 = 86	double 19 = 38	double 14 = 7
double 38 = 76	double 28 = 56	double 36 = 72
double 32 = 64	double 50 = 25	double 20 = 40
double 16 = 32	double 10 = 5	double 25 = 50

New Drill Details

In this next series of drills, we're going back to two-digit subtraction with borrowing again. I've put a few slightly trickier ones in here like I did with the last lot of addition drills, but please don't be afraid of these! The tricky ones will have a two-digit number minus a one-digit number. You'll do them exactly the same as when you have 2 two-digit numbers but you're going to pretend that the "empty" space is a zero.

When you write subtractions like this yourself, you must remember to line up the units digits in both numbers but in these drills you won't even have to worry about that because they're already laid out in columns for you!

Again, if you're good at spotting patterns you might be able to do some of these in your head pretty soon. If not, don't worry - your pencil and paper are still your best friends!

Drill 117

83 − 69 = 14	90 − 14 = 76	81 − 3 = 78	94 − 26 = 68	74 − 9 = 65
86 − 49 = 37	61 − 57 = 4	43 − 26 = 17	55 − 17 = 38	20 − 19 = 1
58 − 49 = 9	74 − 59 = 15	22 − 9 = 13	22 − 15 = 7	46 − 17 = 29
92 − 45 = 47	28 − 19 = 9	63 − 25 = 38	25 − 17 = 8	25 − 8 = 17
67 − 48 = 19	32 − 16 = 16	33 − 26 = 7	64 − 56 = 8	60 − 46 = 14

Let's Make it Real!

Measuring is a skill that you can use every day. One place where careful measuring is important is in baking. Here's a recipe for scones you can ask a grown up to help you make!

Fruit Scones

Ingredients

1 1/2 cups (225g) plain flour (see note 1)

1/2 teaspoon bicarb soda

1 teaspoon cream of tar tar (note 2)

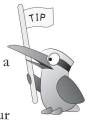
1/4 cup oil (or melted butter)

1/2 teaspoon salt

150 mL milk

1/2 cup dried fruit pieces (note 3)

Stay safe! Get permission to do this activity and ask an adult to help you with the oven.



Method

1. Pre-heat oven to 200 degrees C and line a baking sheet with baking paper.
2. Place all dry ingredients (ncluding the fruit) in a bowl and mix well.
3. Make a well in the centre of the flour mix then pour in the oil followed by the milk.
4. Using a table knife (or dough scraper if you have one) quickly mix until just combined and a wet, sticky dough forms.
5. Dust the counter with lots of flour and scrape your dough onto the flour. Dust some flour on top of the dough and gently push it together a couple of times to make it a little less sticky. Avoid kneading or overworking your dough.
6. Flatten the dough out to about 2-3 cm thick.
7. Use an upside down glass, cookie cutter or scone cutter to cut out the scones. Place each one on the tray as you cut it.
8. Gather any scraps and press them together to make a few extra scones.
9. Bake for 15mins at 200 degrees C.
10. Remove from oven and allow to cool slightly on a rack before enjoying.

Note 1: A gluten free mix should work well. You can also replace up to half the flour with plain wholemeal flour. If you want to use all wholemeal, the liquid will need to increase by 20-30mL.

Note 2: Available in the baking aisle of supermarkets. The combination of bicarb and cream of tar tar creates a homemade baking powder which is less chemically and healthier than the commercial variety but it is single acting so it's best to work quickly and gently once the liquid is added.

Note 3: Finely chopped dates are a favourite but any dried fruit or a mix will work. Small fruit (like sultanas, cranberries or blueberries) can be used whole.

Lesson 118

Comparing Mass

Today we are going to compare some things by weight and decide which one is heavier. To do this, you will make a pan balance but first let's learn how to use.

Example

Circle the cup that has the heavier object inside.

same

Supplies Needed

Wire coathanger

Two paper cups

String

Clothes airer or broom handle and two chairs

Method

1. Ask an adult to poke (or punch) three or four holes evenly spaced around the top of each paper cup.
2. Use the string to attach the paper cups to the coathanger: one at each end. Be sure that every string is the same length.
3. Hang the coathanger from the clothes airer or on a broom handle resting on two chairs
4. "Zero" your balance by moving sliding the cups until the hanger base is level with the floor. You can secure them in place with tape at this point if you wish.
5. Your balance is ready to use!.

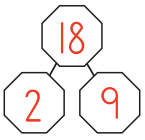
Lesson Practice

Find some objects that will fit in the cups of your balance. Write the name of or draw two of your objects in a row of the table below. Place one of these objects in each cup of your balance. Circle the object that is heavier.

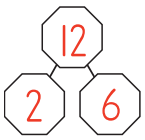
feather	rock

Review and Practice

Fill in the number bond to match the problem then find the missing number.

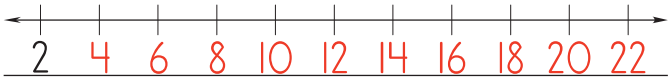


$\frac{1}{2}$ of 18 = 9

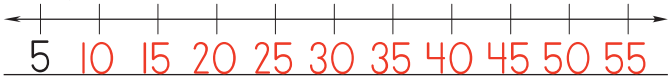


$\frac{1}{2}$ of 12 = ___

Count by twos:



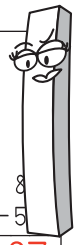
Count by fives:



The bike shop had six shiny bicycles on display. Each bicycle has two wheels. How many wheels were there in the shop window altogether? Draw a picture of the bicycles and their wheels.

There were 12 bicycle wheels.

Drill 118



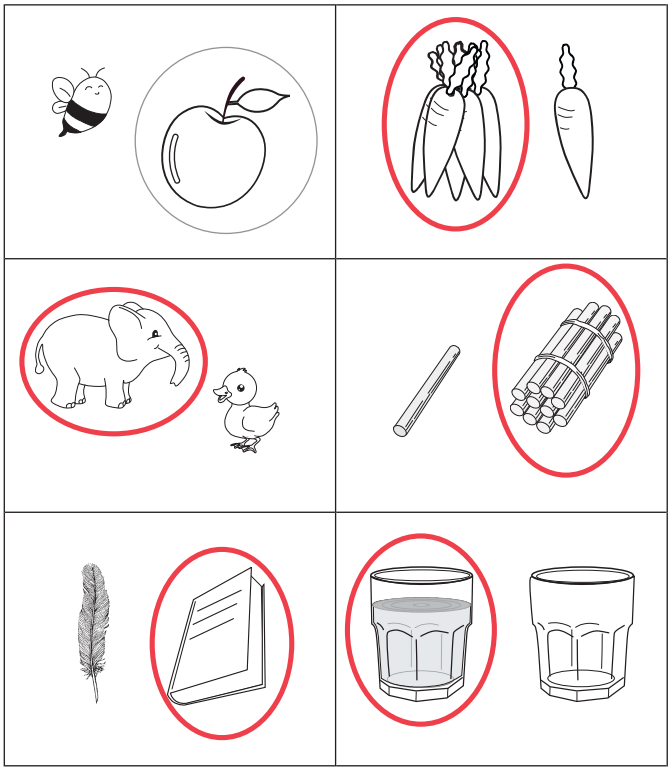
97 − 29 = 68	32 − 28 = 4	73 − 38 = 35	82 − 6 = 76	8 − 5 = 27
34 − 25 = 9	34 − 9 = 25	50 − 16 = 34	95 − 8 = 87	86 − 59 = 27
36 − 27 = 9	24 − 15 = 9	68 − 49 = 19	67 − 58 = 9	46 − 17 = 29
64 − 59 = 5	75 − 37 = 38	82 − 14 = 68	65 − 36 = 29	50 − 35 = 15
72 − 58 = 14	50 − 5 = 45	23 − 16 = 7	43 − 4 = 39	87 − 59 = 28

Lesson 119

Comparing Mass Practice

Lesson Practice

Circle the object in each box that is the heaviest (think of the real objects, not toys or the pictures!)



Review and Practice

Fill in the blanks... An even number ends with 2, 4, 6, 8 or 0.
Now circle the even numbers below:

120	253	804	170	772
509	646	307	996	161

Skip count and write a sum to find how much money is shown in the picture.

$33

65c

Leo bought nine packs of stickers from the shop. If each pack had five stickers, how many stickers did Leo buy in total? Draw the sticker packs and the stickers inside.

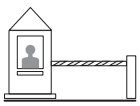
Leo bought 45 stickers.

Drill 119

31 − 12 = 19	48 − 9 = 39	44 − 38 = 6	37 − 29 = 8	2 − 1 = 9
38 − 9 = 29	41 − 26 = 15	41 − 13 = 28	36 − 7 = 29	57 − 48 = 9
82 − 34 = 48	58 − 19 = 39	72 − 64 = 8	22 − 17 = 5	22 − 19 = 3
32 − 28 = 4	24 − 16 = 8	46 − 38 = 8	53 − 29 = 24	93 − 47 = 46
51 − 25 = 26	60 − 22 = 38	56 − 8 = 48	77 − 28 = 49	30 − 18 = 12

Lesson 120

Checkpoint 15



Find the length of each line to the nearest centimetre (cm).

3 cm

7 cm

5 cm

6 cm

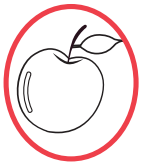
Circle the unit that is the most appropriate to measure the following things:

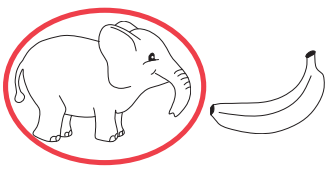
(m) cm

(m) cm

m (cm)

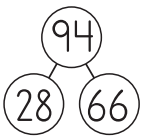
Circle the heavier object in each pair.



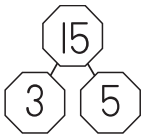


General Review

Write the four equations represented by the number bond.



28 + 66 = 94 | 94 − 28 = 66
66 + 28 = 94 | 94 − 66 = 28



3 × 5 = 15 | 15 ÷ 3 = 5
5 × 3 = 15 | 15 ÷ 5 = 3

Skip count and write a sum to find how much money is shown in the picture.

$39

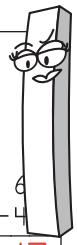
Write an addition equation, a muliplication equation and a division equation to describe the picture.

4+4+4=12
3×4=12
12÷3=4

Count by fives:

5 10 15 20 25 30 35 40 45 50 55

Drill 120



71 − 54 = 17	41 − 6 = 35	45 − 9 = 36	77 − 48 = 29	6 − 4 = 17
57 − 9 = 48	52 − 17 = 35	82 − 13 = 69	83 − 24 = 59	72 − 66 = 6
68 − 39 = 29	73 − 65 = 8	61 − 39 = 22	82 − 46 = 36	22 − 16 = 6
78 − 69 = 9	20 − 17 = 3	77 − 38 = 39	67 − 38 = 29	45 − 7 = 38
61 − 25 = 36	32 − 26 = 6	50 − 4 = 46	20 − 19 = 1	33 − 8 = 25

Rulers and Tapes

If you don't own a suitable ruler or tape measure for the lessons and activities in this book, you may carefully cut the following ones out and use them. The metre long tape measure needs to be glued together according to the labels. DO NOT cut on the red lines.