



Calculation Policy

For Nursery to Year 6

Progression within in each area of calculation follows the programme of study in the 2014 Jersey Mathematics Curriculum and includes written strategies and visual representations for each operation from the Foundation Stage to Year 6 in line with the *Maths No Problem* scheme of work.

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This Calculation Policy sets out the methods used at St Lawrence School to help our pupils develop their Mathematical understanding. The methods set out meet the requirements of the Jersey Curriculum for Mathematics and are designed to give pupils a consistent progression of learning in calculations across the school, taking into account the *Maths No Problem* Scheme followed by St Lawrence School.

Pupils are taught strategies to develop and strengthen their mental agility on a daily basis, both within the *Maths No Problem* lessons and the Fluency sessions. Pupils also need to be able to apply written calculation skills in order to:

- Represent work that has been carried out practically;
- Support, record and explain mental calculations;
- Keep track of steps taken with a longer task.

This Calculation Policy shows some of the methods that pupils will be taught within the Foundation Stage and then each year group. Pupils are taught a range of different methods, in line with the *Maths No Problem* scheme of work and are encouraged to choose and use a method that they know will get them to the correct answer as efficiently as possible. Pupils are encouraged to choose their preferred method to solve calculations.

Concrete, Pictorial, Abstract Approach

One of the key principles behind the Singapore Maths approach and Maths Mastery is based on the concrete, pictorial, abstract approach. This approach identifies three steps (or representations) that are necessary for pupils to develop an understanding of different concepts.

1. Concrete Representation

Pupils are first introduced to an idea or skill using real objects. In division, for example, this might be done by separating apples amongst children. This is a 'hands on' approach and all classrooms have a wide range of practical resources available for pupils to use.

2. Pictorial Representation

Pupils are encouraged to relate their concrete understanding to pictorial representations. These representations may be a diagram or a picture of the Mathematical problem.

3. Abstract Representation

This is the symbolic stage – the pupils use Mathematical symbols to represent problems, for example $12 \times 2 = 24$.

Whilst this Calculation Policy aims to show the Concrete / Pictorial / Abstract approach to the different calculations, it is not always noted further up the year groups. However, it is expected that the Concrete / Pictorial / Abstract approach is used continuously in all new learning and calculations, even when not noted.

Foundation Stage - Addition

Early Learning Goal for Mathematics: Numbers

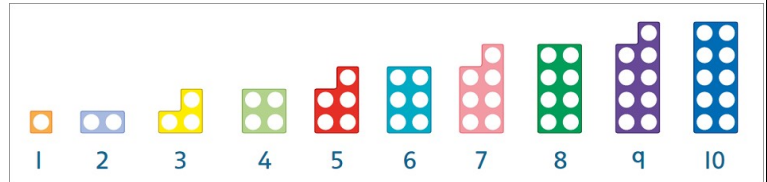
Pupils count reliably with numbers from one to twenty, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer.

Key Vocabulary

add, more, and, make, sum, total, altogether, double, one more, two more etc., How many more to make ?, How many more is ... than ... ?

In the Foundation Stage, pupils should be developing their concept of the number system through the use of concrete materials and pictorial representations. They should experience practical calculation opportunities using a wide variety of equipment such as small world toys, counters, cubes etc. Pupils are encouraged to develop ways of recording calculations using pictures etc. Games and songs are used to develop understanding of the vocabulary associated with addition. The *NumberBlocks* series alongside the plans provided by NCETM are used extensively in the Reception Class. Subitising plays a big part in the development of Number in the Foundation Stage, with children learning to 'see' how many there are, without needed to count.

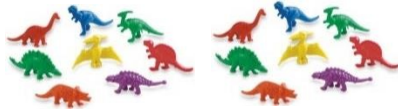
Method 1 – use a range of practical resources to develop counting skills, and then develop their understanding of the concept of addition through counting activities. To use Numicon and counting objects to count out aloud and reinforce one-to-one counting skills.



Method 2: - to be able to combine groups of objects using concrete apparatus.

How many dinosaurs are there?

What about if I give you two more? How many are there now?



How many spots altogether on the domino tiles ?

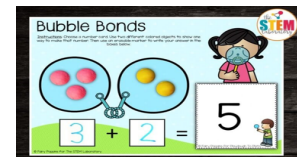


To use multilink cubes to represent Numberblock combinations.

Method 3 – to use number lines to count along.



Method 4 – to begin to use the part-whole model to recognise different ways of making numbers and to develop knowledge of number bonds.



Mental Strategies

- To develop a mental image of the number system
- To understand the value of a number.
- To be able to count forwards.

Year 1 - Addition

Jersey Curriculum for Mathematics – Statutory Requirements for Year 1: Number – Addition and Subtraction Pupils should be taught to:

- read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs
- represent and use number bonds and related subtraction facts within 20
- add and subtract one-digit and two-digit numbers to 20, including zero
- solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$.

Key Vocabulary

number bonds, add, more, plus, make, sum, total, altogether, equals, put together, distance between, difference between, more than, double, is the same as, one more, ten more etc., How many more to make ...?, How much more is ...? How many more is ... than ...?

In Year 1, pupils will learn different methods of addition, including those outlined below. Pupils will use the part-whole model and begin to lay the foundations of inverse addition. Concrete and Pictorial Representations are used to develop understanding at this stage. Pupils will be taught to use simple bar modelling strategies to represent word problems.

Method 1 – Addition by using number bonds.

3 Complete the diagrams and number sentences.

$10 + 0 = 10$ $9 + 1 = 10$

$8 + \square = \square$ $7 + \square = \square$

$6 + \square = \square$ $5 + \square = \square$

I worked in order.

I remember $5 + 5 = 10$.

CHALLENGE

Method 2 – Addition by counting on in ones and using the part-whole model.

1 Think together

There are 15 in the tin.
How many are there altogether?

10 and 5 is \square .
 $5 + \square = \square$
 $15 + 4 = \square$
There are \square altogether.

14

2 There are 13 children in a swimming pool.
4 children dive in.
How many are there now?

10 and \square is \square .
 $3 + \square = \square$
 $13 + \square = \square$
There are \square children in the pool now.

3 How many different ways can you complete this addition?
 $\square + \square = 18$

How will this help?

This addition can be completed _____ different ways.

CHALLENGE

15

Method 3 – Addition by counting on.

1 Add by counting on

Discover

a) There are 8 children on the . There are some children waiting to get on the . How many children are there in total?

b) 2 more children arrive to get on the . How many children are there in total now?

8

Share

a) 8 children on the bus and 3 more.

I used to represent the children.

$8 + 3 = 11$

There are 11 children in total.

b) 2 more children arrive.

$11 + 2 = 13$

There are 13 children in total.

9

Mental Strategies

- Know that addition can be carried out in any order (commutative).
- Add one and two-digit numbers to twenty, including zero.
- Number bonds to twenty.
- Doubles of numbers up to and including double ten.
- Adding ten to a single digit number.
- Identify one more than a given number.

Year 2 - Addition

Jersey Curriculum for Mathematics – Statutory Requirements for Year 2: Number – Addition and Subtraction Pupils should be taught to:

- solve problems with addition and subtraction:
- using concrete objects and pictorial representations, including those involving numbers, quantities and measures
- applying their increasing knowledge of mental and written methods
- recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
 - a two-digit number and ones, a two-digit number and tens, two two-digit numbers, adding three one-digit numbers
- show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Key Vocabulary

add, addition, more, plus, make, sum, total, altogether, score, double, one more, two more, a hundred more etc., How many more to make ... ?, How many more is ... than ... ?, How much more is ... ?

In Year 2, pupils will learn a range of different methods for addition including number bond diagrams as well as the standard column method. Pupils will use concrete objects and pictorial representations to add a two-digit number and ones, a two-digit number and tens, two two-digit numbers and three one-digit numbers. The part-whole model will continue to be used across the curriculum. The following methods will be amongst those used:

Method 1 – Addition by counting and adding tens

Adding and subtracting 10s

Discover

Share

First, I added the ones. I remembered that 30 is 3 tens and 0 ones.

T	O
1	6
+	3
1	9

Next, I added the tens.

T	O
1	6
+	3
4	6

$16 + 30 = 46$
There are 46 in total.

Discover

a) How many are there in total?
b) There are 65 people at the fireworks. 40 of the people are adults. How many of the people are children?

Method 2 - Addition by counting on

Adding and subtracting 1s

Discover

Share

I counted on from 34.

I ordered my work in columns. First, I added the ones.

T	O
3	4
+	5
3	9

Then I added the tens.

T	O
3	4
+	5
4	9

$34 + 5 = 39$
There are 39 in total.

Discover

a) How many are there in total?
Write a number sentence to show your answer.
b) Three people each eat one. How many are left?
Write a number sentence to show this.

Method 3 – Addition using the column method

Share

Tens	Ones
3	2
+	1 4
4	6

$32 + 14 = 46$

$32 + 10 = 42$
 $42 + 4 = 46$

The red checks score 46 points in total.

I added the ones first and then added the tens.

I started with 32, added 10 and then added 4.

Mental Strategies

Know that addition is the inverse of subtraction.

Add two numbers mentally, including a two-digit number and units, a multiple of ten to a two-digit number, two two-digit numbers and three one-digit numbers.

Use knowledge of inverse to check calculations and solve missing number problems.

Use knowledge of number bonds to ten to calculate number bonds to one hundred.

Count on in ten from any given number, eg: 19 – 29 – 39 etc.

Year 3 - Addition

Jersey Curriculum for Mathematics – Statutory Requirements for Year 3: Number – Addition and Subtraction

Pupils should be taught to:

- add and subtract numbers mentally, including:
 - a three-digit number and ones
 - a three-digit number and tens
 - a three-digit number and hundreds
- add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Key Vocabulary

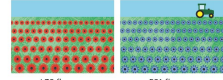
Add, increase, total, plus, sum, more, altogether, column addition, estimate, inverse, double, near double, one more, ten more, one hundred more, How many more to make ... ?, How many more is ... than ... ?, How much more is ... ?

Method 1 – Addition using the column method

Lesson 5

Simple Adding

In Focus




432 flowers 521 flowers

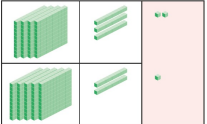
How many flowers are there altogether?

Let's Learn

Add 432 and 521.

Use  to help you add.

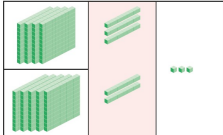
Step 1 Add the ones.
2 ones + 1 one = 3 ones



h	t	o
4	3	2
+	5	2
9	5	3

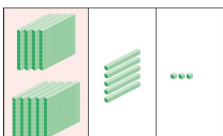
Addition and Subtraction Page 39

Step 2 Add the tens.
3 tens + 2 tens = 5 tens



h	t	o
4	3	2
+	5	2
9	5	3

Step 3 Add the hundreds.
4 hundreds + 5 hundreds = 9 hundreds



h	t	o
4	3	2
+	5	2
9	5	3

432 + 521 = 953

There are 953 flowers altogether.

Addition and Subtraction Page 40

Lesson 7

Adding with Renaming

In Focus

2	7	9	6
□	□	□	□

Make two numbers using

2	7	9	6
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. Add them to get a total.

How many different totals less than 1000 can you get?

Let's Learn

6	9	2
+	7	0
7	9	2
+	6	0
7	9	2

Holly

2	9	7
+	6	0
2	9	7

Ruby

Elliott

Can you tell without calculating?

Who has the greatest number as a total?


Addition and Subtraction Page 46

Method 2 – Addition by counting on

Lesson 2

Simple Adding

In Focus



There were 213 books in the bookcase. How many books were there after Hannah put 4 more books in it?

Let's Learn

Add 213 and 4.

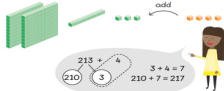
Method 1 Count on from 213.

211	212	213	214	215	216	217	218	219	220
211	212	213	214	215	216	217	218	219	220

213 + 4 = 217

Addition and Subtraction Page 32

Method 2 Add the ones.



213 + 4 = 217

There were 217 books in the bookcase.

Guided Practice


- Add 121 and 4. $121 + 4 = \square$
- Add 3 and 492. $490 \ 491 \ 492 \ 493 \ 494 \ 495 \ 496 \ 497 \ 498 \ 499 \ 500$
- $345 + 4 = \square$
- $6 + 810 = \square$

Complete Worksheet 2 • Page 29 – 30

Addition and Subtraction Page 33

Method 3 – Addition by counting on in tens

Method 2 Add the tens.



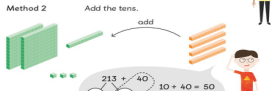
119 + 80 = 199

There were 199 pupils altogether.

2 Add 213 and 40.

Method 1 Count on in tens from 213.
 $213 + 40 = 253$

Method 2 Add the tens.



213 + 40 = 253

Addition and Subtraction Page 35

Mental Strategies

Add numbers mentally, including a three-digit number and a single-digit number, a three-digit number and a multiple of ten and a three-digit number and a multiple of one hundred.

Estimate the answer to a calculation and use inverse operations to check answers.

To know pairs that total one thousand (multiples of one hundred).

To calculate ten or one hundred more than any given number.

Year 4 - Addition

Jersey Curriculum for Mathematics – Statutory Requirements for Year 4: Number – Addition and Subtraction Pupils should be taught to:

- add and subtract numbers with up to 4 digits using written methods of columnar addition and subtraction where appropriate
- estimate and use inverse operations to check answers to a calculation
- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

Key Vocabulary

add, addition, more, plus, increase, sum, total, altogether, score, double, near double, tens boundary, hundreds boundary, thousands boundary, inverse.

In Year 4, pupils will be taught to add with numbers up to 10 000. They will use the column method for addition and they will also learn mental methods. Pupils will be encouraged to think about when the most appropriate time is to use each method. They will use the methods taught to solve word problems, for example, visualising the problems using the bar model.

Method 1 – Addition using column addition.

2 Use number discs

$136 + 245 = \square$

$$\begin{array}{r} 136 \\ + 245 \\ \hline \end{array}$$

Add ones.
Add tens.
Add hundreds.

$\begin{array}{r} 136 \\ + 245 \\ \hline 381 \end{array}$ add ones
add tens
add hundreds
sum

3 Use column addition

$$\begin{array}{r} 136 \\ + 245 \\ \hline 1 \end{array}$$

The sum is \square .

Addition and Subtraction Within 10 000 Page 49

Method 2 – Addition using mental strategies.

Lesson 6

Adding Using Mental Strategies

In Focus

Scoreboard		
Name	Level	Score
Hannah	4	3041

How many points does need to get to the next level?

I need to get 9 more points to get to Level 5.

Let's Learn

1 Add 9 to 3041.

$$3041 + 9 = \square$$

make 10
 $3041 + 9 = 3040 + 10$
 $3041 + 9 = 3050$
 needs 3050 points to get to the next level.

2 Find the sum of 98 and 4142 by adding mentally.

$$98 + 4142 = \square$$

make 100
 $98 + 4142 = 100 + 4140$
 $= 4240$

Addition and Subtraction Within 10 000 Page 62

Mental Strategies

Add numbers mentally, including a four-digit number and multiples of one thousand.

Use knowledge of doubles to derive related facts (eg: $15+16=31$ because $15+15=30$ and $30+1=31$).

Know number pairs that total one thousand (multiples of ten).

Estimate the answer to a calculation and use inverse operations to check answers.

Year 5 - Addition

Jersey Curriculum for Mathematics – Statutory Requirements for Year 5: Number – Addition and Subtraction

Pupils should be taught to:

- add and subtract whole numbers with more than 4 digits, including using written methods (column addition and subtraction)
- add and subtract numbers mentally with increasingly large numbers
- use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Key Vocabulary

efficient written method, add, addition, more, plus, increase, sum, total, altogether, score, tens boundary, hundreds boundary, thousands boundary, units boundary, tenths boundary, inverse.

In Year 5, pupils will be exploring addition of numbers to 1 000 000. They will begin the unit by using simple strategies to add, such as counting on. They will then focus on adding within 1 000 000. Pupils will use multiple key methods, such as the column method and number bonds to add numbers. Pupils will have access to concrete materials throughout, improving their visualisation and mental skills.

Method 1 – Addition by counting on.

Method 2 – Addition using the column method.

Lesson 1

Counting On to Add

In Focus

There are 10 tickets on each sheet.
A booklet has 10 sheets, so contains 100 tickets.
A stack of 10 booklets contains 1000 tickets.
A stadium has a seating capacity of 62 689.
So far, 10 329 tickets have been sold.
How many more tickets are available?
 $10\ 329 + \square = 62\ 689$
How can we figure out the value \square ?

Each box holds 10 stacks.

Let's Learn

1 $10\ 329 + 50\ 000 = \square$

Count on.

Whole Numbers: Addition and Subtraction Page 54

Whole Numbers: Addition and Subtraction Page 55

Lesson 5

Adding within 1 000 000

In Focus

In one district, there were approximately 16 000 male students and 17 000 female students.

16 000	The numbers have been rounded to the nearest 1000.
17 000	

What is the estimated total number of students?

Let's Learn

1 $16\ 000 + 17\ 000 = \square$

	16 000	
	+ 17 000	
	<hr/>	
	3 000	
	<hr/>	
	16 000	
	+ 17 000	
	<hr/>	
	33 000	

Whole Numbers: Addition and Subtraction Page 74

Mental Strategies

Add numbers mentally with increasingly large numbers (eg: $10,162 + 2300 = 12,462$).

Mentally add tenths (eg: $0.2 + 0.6 = 0.8$) and one-digit numbers and tenths (eg: $8 + 0.3 = 8.3$).

Use number bonds to one hundred knowledge to calculate complements to one using hundredths (eg: $0.83 + 0.17 = 1$).

Use rounding to check answers to calculation and determine, in the context of a problem, levels of accuracy.

Year 6 - Addition

Jersey Curriculum for Mathematics – Statutory Requirements for Year 6: Number – Addition, Subtraction, Multiplication and Division

Pupils should be taught to:

- multiply multi-digit numbers up to 4 digits by a two-digit whole number using a written method of multiplication.
- divide numbers up to 4 digits by a two-digit whole number using a written method of division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
- perform mental calculations, including with mixed operations and large numbers
- identify common factors, common multiples and prime numbers
- use their knowledge of the order of operations to carry out calculations involving the four operations
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- solve problems involving addition, subtraction, multiplication and division
- use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Key Vocabulary

order of operations, column addition, add, in total, answer, tens boundary, hundreds boundary, thousands boundary, millions boundary, units boundary, tenths boundary, hundredths boundary, decimal place, inverse.

Pupils in Year 6 will use previous methods taught to solve addition problems. Pupils will be exploring the four operations, in combination and in isolation. They will solve expressions involving brackets, exponents, multiplication, division, addition and subtraction.

Examples of using mixed operations:

Using Mixed Operations

Lesson 2

In Focus

Use the six numbers (once each), any operations $+$, $-$, \times , \div and at most one pair of brackets. Can you obtain each of the answers 1, 2, 3, 4 and so on in this way?

1 2 3 4 5 6

Let's Learn

1 wrote this expression:
 $6 + 5 - 1 - 2 - 3 - 4$
 $6 + 5 - 1 - 2 - 3 - 4 = 1$

When there are only $+$ and $-$, calculate from left to right.

$6 + 5 = 11$

2 wrote this expression:
 $3 \times 4 + 2 - (6 + 5 + 1)$
 $3 \times 4 + 2 - (6 + 5 + 1)$
 $= 3 \times 4 + 2 - 12$
 $= 12 + 2 - 12$
 $= 14 - 12$
 $= 2$

Perform the calculations in () first.

For $+$ and $-$, calculate from left to right.

Multiply before adding.

$3 \times 4 + 2 - (6 + 5 + 1) = 2$

Four Operations on Whole Numbers Page 32

3 wrote this expression:
 $2 \times 3 \times 6 \div 4 - 5 - 1$
 $= 2 \times 3 \times 6 \div 4 - 5 - 1$
 $= 6 \times 6 \div 4 - 5 - 1$
 $= 36 \div 4 - 5 - 1$
 $= 9 - 5 - 1$
 $= 3$

For \times and \div , calculate from left to right.

Subtract from left to right.

Can you make an expression that has the value of 4? How about the values of 5 or 6?

4 made a different expression that has the value of 3.
 $(1 + 2) \div 3 \times 4 + 5 - 6$

Step 1: Perform the calculation in the brackets first.
 Step 2: Multiply or divide whichever comes first.
 Step 3: Add or subtract whichever comes first.

$(1 + 2) \div 3 \times 4 + 5 - 6 = 3$

$1 + 2 = 3$
 $3 \div 3 = 1$
 $1 \times 4 = 4$
 $4 + 5 = 9$
 $9 - 6 = 3$

Four Operations on Whole Numbers Page 33

Mental Strategies

Add numbers mentally with increasingly large numbers (eg: $10,162 + 2,300 = 12,462$).

Add decimal numbers mentally (up to two decimal places).

Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.

Foundation Stage - Subtraction

Early Learning Goal for Mathematics: Numbers

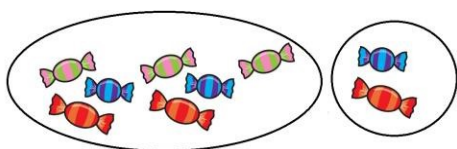
Pupils count reliably with numbers from one to twenty, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer.

Key Vocabulary

take away, leave, How many are left ?, How many have gone ?, one less, two less etc., How many fewer is ... than ... ?, difference between.

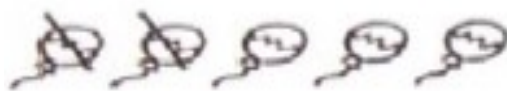
In the Foundation Stage, pupils should be developing their concept of the number system through the use of concrete materials and pictorial representations. They should experience practical calculation opportunities using a wide variety of equipment such as small world toys, counters, cubes etc. Pupils are encouraged to develop ways of recording calculations using pictures etc. Games and songs are used to develop understanding of the vocabulary associated with subtraction.

Method 1 – Using a range of practical resources, pupils should develop their understanding of subtraction as taking away through counting activities.

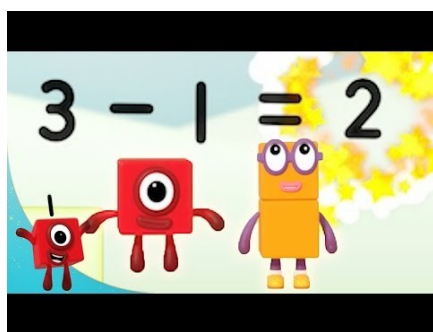


I had nine sweets and I ate two. How many do I have left ?

Method 2 – to listen to a subtraction story and use objects or drawings to represent the story, taking objects away, or crossing out drawings to visualise the subtraction.



Method 3 – to use multilink cubes to represent the Numberblocks characters as they demonstrate the concept of subtraction.



Mental Strategies

To develop a mental image of the number system

To count backwards using familiar number rhymes (eg: *Ten Green Bottles*). Count backwards from different starting points.

Year 1 - Subtraction

Jersey Curriculum for Mathematics – Statutory Requirements for Year 1: Number – Addition and Subtraction Pupils should be taught to:

- read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs
- represent and use number bonds and related subtraction facts within 20
- add and subtract one-digit and two-digit numbers to 20, including zero
- solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$.

Key Vocabulary


Subtract, take away, minus, leave, How many fewer is ... than ... ?, How much less is ?, half, halve, How many are left / left over ?, How many are gone ?, one less, two less, ten less etc., equals, is the same as, count back, difference between.

Method 1 – Subtraction by crossing out.


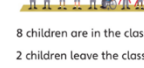

Method 2 – Subtraction by counting back.



Subtraction – how many are left? 2

Discover



Share

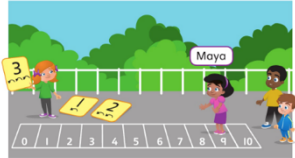
a)   
 8 children are in the classroom.
 2 children leave the classroom.
 $8 - 2 = 6$
 6 children are left in the classroom.

b)  
 Four more children leave the classroom.
 $6 - 4 = 2$
 There are 2 children left in the classroom.

116

Subtraction – counting back

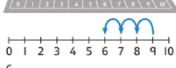
Discover




Share

I can count backwards: 9, 8, 7, 6, 5, 4, 3, 2, 1.

Have you stopped at the right number?

a) 
 $8 \dots 7 \dots 6$
 $9 - 3 = 6$
 Maya lands on 6.


b) 
 Maya starts on 6.
 She jumps 2 more... $5 \dots 4$. $6 - 2 = 4$
 Maya lands on 4.

117

Method 3 – Subtraction using inverse operations.

Comparing additions and subtractions

Discover



Show me a question with an answer that is greater than 15.

$12 + 3$
 $11 + 3$
 $12 + 6$

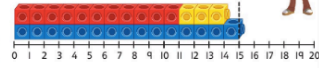
Ben Gita Jacob

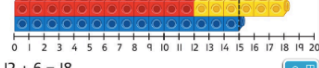
1 a) Which child is correct?
 b) Whose answer is greater, Ben's or Jacob's?

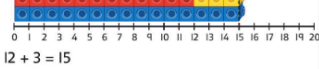
60

Share

I can make each calculation with cubes.

a) 
 Gita $11 + 3 = 14$
 $14 < 15$
 $11 + 3 < 15$


 Jacob $12 + 6 = 18$
 $18 > 15$
 $12 + 6 > 15$


 Ben $12 + 3 = 15$
 Jacob is correct.

61

Mental Strategies

Subtract one and two-digit numbers to twenty, including zero.

Know that subtraction is not commutative and that the larger number must always come first.

Use knowledge of number bonds to ten and twenty to reason ($9 + 1 = 10$ so $10 - 9 = 1$ and $10 - 1 = 9$).

Year 2 - Subtraction

Jersey Curriculum for Mathematics – Statutory Requirements for Year 2: Number – Addition and Subtraction

Pupils should be taught to:

- solve problems with addition and subtraction:
- using concrete objects and pictorial representations, including those involving numbers, quantities and measures
- applying their increasing knowledge of mental and written methods
- recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
 - a two-digit number and ones, a two-digit number and tens, two two-digit numbers, adding three onedigit numbers
 - show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
 - recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Key Vocabulary

Subtract, minus, leave, How many are left / left over ?, How many less is ... than ... ?, How much fewer is ...?, difference between, half, halve, equals, sign, is the same as, partition, inverse, count back, one less, two less, ten less etc.

In Year 2, pupils are taught a range of methods to subtract including subtracting ones and subtracting multiples of 10 in the column method and using their knowledge of number bonds to solve subtraction problems. Pupils will use bar modelling as a visual model to solve subtraction calculations in word problems.

Method 1 – Subtraction using the column method.

Discover

Swimming competition. First to 45 lengths wins.

Susie: 15 lengths Charlie: 19 lengths Kay: 27 lengths

Susie
Charlie
Kay

1 a) How many lengths does Susie have left?
b) How many lengths does Kay have left?

Share

a) Tens Ones T O
4 5
- 1 5
3 0

Susie has 30 lengths left.

b) Tens Ones T O
4 5
- 2 7
1 8

Remember, one ten is equal to ten ones.

45 - 27 = 18 Kay has 18 lengths left.

Subtract the ones first, then the tens. If there are no ones left, I need to use a zero.

Method 2 – Subtraction by counting back.

Discover

46
21

1 a) How many points is the red team winning by?
b) The red team does not score again and wins by 15 points. How many points will the blue team have at the end?

Share

I subtracted tens first, so the ones stayed the same.

I worked out the numbers in the jumps.

a) 21 21 26 36 46 46

46 - 21 = 25
25 is the difference between 46 and 21.
The team in plain red shirts is winning by 25 points.

b) 46 - 15 = 31

15 16 26 36 46

46 - 31 = 15
The team in striped blue shirts will have 31 points.

You could count on instead of counting back.

Mental Strategies

Know that subtraction is the inverse of addition.

Use knowledge of inverse to check calculations and solve missing number problems.

Subtract numbers mentally, including subtracting units from a two-digit number, a multiple of ten from a two-digit number, a two-digit number from another two-digit number.

Recall and use subtraction facts to twenty fluently.

Use knowledge of number bonds to one hundred (multiples of ten) to reason ($40 + 60 = 100$ so $100 - 60 = 40$ and $100 - 40 = 60$).

Year 3 - Subtraction

Jersey Curriculum for Mathematics – Statutory Requirements for Year 3: Number – Addition and Subtraction

Pupils should be taught to:

- add and subtract numbers mentally, including:
 - a three-digit number and ones
 - a three-digit number and tens
 - a three-digit number and hundreds
- add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Key Vocabulary

Leave, subtract, less, minus, column subtraction, inverse, exchange, How many are left / left over ?, difference between, How more fewer is ... than ... ?, How much less is ... ?, equals, is the same as, sign, multiples of tens and hundreds.

Method 1 – Subtraction by counting back.


Method 2 – Subtraction using the column method.

Lesson 11

Simple Subtracting

In Focus

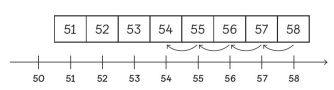
Sam had 58 cookies.
He ate 4 cookies.
How many cookies did he have left?



Let's Learn

Subtract 4 from 58.

Method 1 Count back from 58.



$58 - 4 = 54$


Addition and Subtraction Page 61

Lesson 15

Simple Subtracting

In Focus

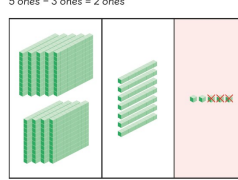
There were 975 beads in a jar.
Emma used 723 beads to make some necklaces.
How many beads were left in the jar?



Let's Learn

Subtract 723 from 975.

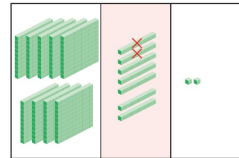
Step 1 Subtract the ones.
5 ones - 3 ones = 2 ones



$$\begin{array}{r} \text{h} \quad \text{t} \quad \text{o} \\ 9 \quad 7 \quad 5 \\ - 7 \quad 2 \quad 3 \\ \hline \quad 2 \end{array}$$

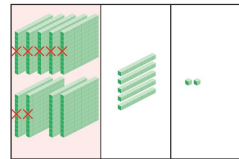
Addition and Subtraction Page 69

Step 2 Subtract the tens.
7 tens - 2 tens = 5 tens



$$\begin{array}{r} \text{h} \quad \text{t} \quad \text{o} \\ 9 \quad 7 \quad 5 \\ - 7 \quad 2 \quad 3 \\ \hline \quad 5 \quad 2 \end{array}$$

Step 3 Subtract the hundreds.
9 hundreds - 7 hundreds = 2 hundreds



$$\begin{array}{r} \text{h} \quad \text{t} \quad \text{o} \\ 9 \quad 7 \quad 5 \\ - 7 \quad 2 \quad 3 \\ \hline 2 \quad 5 \quad 2 \end{array}$$

$975 - 723 = 252$

There were 252 beads left in the jar.

Addition and Subtraction Page 70


Method 3 – Subtraction using bar models.

Lesson 22

Using Models

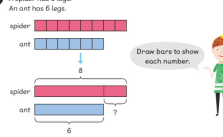
In Focus

How many more legs does a spider have than an ant?



Let's Learn

A spider has 8 legs.
An ant has 6 legs.



Draw bars to show each number.

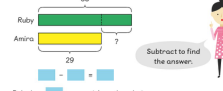
$8 - 6 = 2$

A spider has 2 more legs than an ant.

Addition and Subtraction Page 85

Lesson 22

Ruby has 58 stickers.
Amira has 29 stickers.
How many more stickers does Ruby have than Amira?



Subtract to find the answer.

Ruby has more stickers than Amira.

Guided Practice

Solve using models.

- In a class, there are 13 boys and 19 girls.
How many more girls than boys are there?
- Emma has 98 seashells.
Charles has 23 more seashells than Emma.
How many seashells does Charles have?
- Elliott collects 48 pressed flowers.
He collects 16 fewer pressed flowers than Hannah.
How many pressed flowers does Hannah collect?
- There are 71 women at a concert.
There are 29 more women than men at the concert.
How many men are there at the concert?

Complete Worksheet 22 - Page 89 - 90

Addition and Subtraction Page 86

Mental Strategies

Subtract numbers mentally, including a single-digit number from a three-digit number, a multiple of ten from a three-digit number, a multiple of a hundred from a three-digit number.
Estimate the answer to a calculation and use inverse operations to check answer.

Year 4 - Subtraction

Jersey Curriculum for Mathematics – Statutory Requirements for Year 4: Number – Addition and Subtraction Pupils should be taught to:

- add and subtract numbers with up to 4 digits using written methods of columnar addition and subtraction where appropriate
- estimate and use inverse operations to check answers to a calculation
- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

Key Vocabulary

Subtract, subtraction, minus, decrease, leave, How many are left / left over ?, difference between, How many fewer is ... than ... ?, How much less is ... ?, equals, the same as, column subtraction, multiples of a thousand, inverse.

In Year 4, pupils will be taught to subtract with numbers up to 10 000. They will use the column method for subtraction and they will also learn mental methods for subtraction. Pupils will be encouraged to think about when the most appropriate time is to use each method. They will use the methods taught to solve word problems, visualising the problems using the bar model. The part-whole model will continue to be used to explore inverse operations.

Method 1 – Subtraction by using place value discs to support column subtraction.

Method 2 – Subtraction using mental strategies.

Lesson 11

Subtracting with Renaming

In Focus
Ravi invented a way to subtract.
 $5321 - 1248$

Ravi's method

5	3	2	1
-	1	2	4
4	0	7	3

Check

4	0	7	3
+	1	2	4
5	3	2	1

It seems correct. Is it?

Let's Learn

1 Subtract.
 $5321 - 1248$

Instead of subtracting 1248, we need to subtract 1258. Why?

Guided Practice

Find the difference.

- $42 - 24 = 52 =$
- $435 - 127 = 445 =$
- $4293 - 2825 =$

Complete Worksheet 11 – Page 40

Lesson 14

Subtracting Using Mental Strategies

In Focus
Sam tries to subtract these numbers mentally. How can he do it?
 $2001 - 189$

Let's Learn

- $2001 - 189$
 $1999 - 189 = 1810$
 $2001 - 189 = 1812$
- $2001 - 189$
 $1801 - 189 = 1612$
 $2001 - 189 = 1801 + 11 = 1812$

$2001 - 189 = 1812$

$200 - 189 = 11$

Addition and Subtraction Within 10 000 Page 83

Method 3 – Subtraction using bar models.

Lesson 15

Solving Word Problems

In Focus
A baker made 2750 chocolate cookies and 1638 vanilla cookies.
He sold 3195 cookies altogether.
How many cookies did he have left?

Let's Learn

1 Understand the problem

Who? baker
What? cookies

Make a plan

Find the total number of cookies he made.

Then, subtract the number of cookies sold.

Carry out the plan

2750	1638
+	
4388	

The baker baked 4388 cookies.

4388	- 3195
1193	

He had 1193 cookies left.

Check

Cookies sold	3195
Cookies left	1193
Cookies baked	4388

Guided Practice

There were 6000 books for sale at a book fair.
3419 books were sold on the first day of the fair and 2268 books were sold on the second day.
How many books were left at the end of the second day?

6000
- 3419
- 2268
3113

Complete Worksheet 15 – Page 47 – 48

Mental Strategies

Subtract numbers mentally, including multiples of one thousand from a four-digit number.

Use number pairs that total one thousand (multiples of ten) to calculate subtraction (eg: $1000 - 300 = 700$).

Estimate the answer to a calculation and use inverse operations to check answers.

Year 5 - Subtraction

Jersey Curriculum for Mathematics – Statutory Requirements for Year 5: Number – Addition and Subtraction Pupils should be taught to:

- add and subtract whole numbers with more than 4 digits, including using written methods (column addition and subtraction)
- add and subtract numbers mentally with increasingly large numbers
- use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Key Vocabulary

Efficient written method, subtract, subtraction, minus, decrease, difference between inverse, decimals, units and tenths boundary, column subtraction, exchange.

In Year 5, pupils will be exploring subtraction of numbers to 1 000 000. They will use simple strategies to subtract, such as counting back. Pupils will then focus on subtracting within 1 000 000. Pupils will use multiple key methods, such as the column method and number bonds to subtract numbers. Pupils will have access to concrete materials throughout, improving their visualisation and mental skills.

Method 1 – Subtraction by counting back.

Counting Backwards to Subtract

In Focus

I am counting back 300 000.

I am counting back 30 000.

I am counting back 3 000.

Whole Numbers: Addition and Subtraction Page 59

Lesson 2

Let's Learn

1 The number is 546 203. Count back by 100 000s.

446 203 346 203 246 203

546 203, 446 203, 346 203, 246 203

546 203 – 300 000 =

Whole Numbers: Addition and Subtraction Page 60

Method 2 – Subtraction using the column method.

Subtracting within 1 000 000

In Focus

0 1 2 3 4 5 6 7 8 9

Four pupils used the digit cards to make 5-digit numbers with the smallest difference.

9 6 4 2 0
- 8 7 5 3 1

8 0 1 2 3
- 7 9 6 5 4

9 0 1 2 3
- 8 7 6 5 4

7 0 1 2 3
- 6 9 8 5 4

Who has the smallest difference?

Whole Numbers: Addition and Subtraction Page 98

Lesson 10

Mental Strategies

Subtract increasingly large numbers mentally (eg: $12,654 - 1,341 = 11,213$).

Mentally subtract tenths (eg: $0.7 - 0.5 = 0.2$) and one-digit whole numbers and tenths (eg: $8 - 0.3 = 7.7$).

Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.

Year 6 - Subtraction

Jersey Curriculum for Mathematics – Statutory Requirements for Year 6: Number – Addition, Subtraction, Multiplication and Division

Pupils should be taught to:

- multiply multi-digit numbers up to 4 digits by a two-digit whole number using a written method of multiplication.
- divide numbers up to 4 digits by a two-digit whole number using a written method of division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
- perform mental calculations, including with mixed operations and large numbers
- identify common factors, common multiples and prime numbers
- use their knowledge of the order of operations to carry out calculations involving the four operations
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- solve problems involving addition, subtraction, multiplication and division
- use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Key Vocabulary

Order of operations, subtract, decrease, difference, inverse, decimals, units, tenths and hundredths boundary, column subtraction, exchange.

In Year 6, pupils will continue to use methods taught in previous years to subtract including the column subtraction method. In addition, pupils will be taught a range of strategies to solve word problems, for example, using the bar model method.

Method 1 – Subtraction using bar modelling.

Solving Word Problems

Lesson 14

In Focus

At first, and had the same amount of money. After gave £732, had 4 times as much money as had.
How much money did and have altogether?

Let's Learn

Draw the model for 'after'.

after

What does the model for 'before' look like?

before

$£732$

$£732$

3 units = £732
1 unit = $£732 \div 3$
= £244

10 units =

and had £ altogether.

732

600 132

200 120 12

40 4

3 $\overline{) 732}$

- 6 0 0

1 3 2

- 1 2 0

1 2

- 1 2

0

Four Operations on Whole Numbers Page 75 Four Operations on Whole Numbers Page 76

Mental Strategies

Subtract numbers mentally, including multiples of one thousand from a four-digit number.

Use number pairs that total one thousand (multiples of ten) to calculate subtraction (eg: $1000 - 300 = 700$).

Estimate the answer to a calculation and use inverse operations to check answers.

Foundation Stage - Multiplication

Early Learning Goal for Mathematics: Numbers

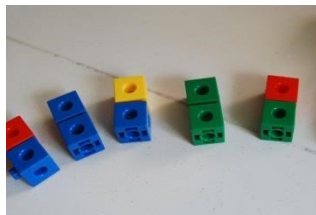
Pupils solve problems, including doubling, halving and sharing.

Key Vocabulary

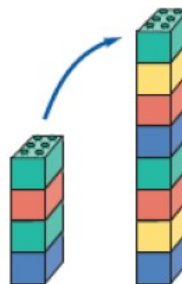
Group, lots of, double.

In the Foundation Stage, pupils will experience equal groups of objects. The focus at this stage should be on solving practical problems with a 'hands on' approach.

Method 1 – Pupils will count groups of the same number of objects and add them together. They will learn about grouping in practical contexts and through pictorial representations. The *Numberblocks* series will be a part of this.



Method 2 – Pupils will solve simple problems involving doubling. Pupils will be encouraged to explore a range of concrete materials to show a number and then repeat the number to show doubling.



Mental Strategies

Develop a mental image of the number system.

Understand the value of a number.

Count in 2s, 5s and 10s.

Explore number patterns on a number line and on a one-hundred square (eg: 2s, 5s and 10s).

Year 1- Multiplication

Jersey Curriculum for Mathematics – Statutory Requirements for Year 1: Multiplication and Division Pupils should be taught to:

- solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

Key Vocabulary

Odd, even, count in twos, fives, tens (forwards from and backwards from), How many times ?, lots of, groups of, once, twice, five times, ten times, multiple of, times, multiply, multiply by, array, row, column, double.

In Year 1, pupils will be taught the foundations of equal groupings, repeated addition, arrays and doubling. Pupils will be taught to apply that knowledge to solve word problems.

Method 1 – Multiplication by making and then adding equal groups.

Method 2 – Multiplication by making equal rows.

Unit 12: Multiplication, Lesson 1

Adding equal groups

Discover

1 a) Millie bought 3 bunches of . How many did she buy?
b) Dan bought 5 pairs of . How many did he buy?

Unit 12: Multiplication, Lesson 1

Share

a) I used skip counting to help the addition. I see this as an addition.

$5 + 5 + 5 = 15$
Millie bought 15 .

b)

$2 + 2 + 2 + 2 = 10$
Dan bought 10 .

Unit 12: Multiplication, Lesson 1

Making simple arrays

Discover

We have just planted some seeds.

1 a) How many seeds are there in each row?
How many rows are there?
How many seeds are there in total?

b) Anya plants her seeds like this.

How many seeds are there in total?

Unit 12: Multiplication, Lesson 1

Share

a)

There are 10 seeds in each row.
There are 2 rows.
 $10 + 10 = 20$
There are 20 seeds in total.

b)

This arrangement is called an **array**.

There are 5 seeds in each **column**.
There are 4 columns.
 $5 + 5 + 5 + 5 = 20$
There are 20 seeds in total.

Method 3 – Multiplication by making doubles.

Unit 12: Multiplication, Lesson 3

Making doubles

Discover

If you roll 2 dice with the same number it is called a **double**.

1 a) Who rolled a double?
What is double 4?
b) What is double 6?

Unit 12: Multiplication, Lesson 3

Share

a) Tariq rolled a double.

Double 4 is two groups of 4.

$4 + 4 = 8$ Double 4 is 8.

b) Double 6 is two groups of 6.

$6 + 6 = 12$ Double 6 is 12.

Mental Strategies

Count forwards and backwards in multiples of 2s, 5s and 10s.
Recall doubles of numbers up to and including ten.

Year 2 - Multiplication

Jersey Curriculum for Mathematics – Statutory Requirements for Year 2: Number – Multiplication and Division Pupils should be taught to:

- recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals ($=$) signs
- show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
- solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Key Vocabulary

Odd, even, twos, fives, tens, threes, lots of, groups of, once, twice, three times, five times, ten times, multiple of, times, multiply, multiply by, repeated addition, array, row, column, double.

Method 1 – Multiplication as equal groups.

Think together

1 How many muffins are there?

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

$10 \times 2 = \square$

Are all the groups equal?

I will count how many groups there are.

2 How many apples are there in total?

$5 + 5 + 5 + 5 = 20$

$5 \times 5 = \square$

What does each 5 represent?

3 I had 5 baskets of 5 apples. I now have one more basket of 5 apples. How many apples are there now?

$\square + \square + \square + \square + \square = \square$

$\square \times \square = \square$

I wonder if there is a quicker way than addition.

Method 2 – Multiplication using 2, 5 and 10 times tables - understanding the operation of multiplication as

Think together

1 Complete the multiplication.

$5 \times 5 = \square$

2 Copy and complete the diagrams and number sentences.

a) $\square \times 5 = \square$

b) $\square \times \square = \square$

3 Copy and complete the number sentences.

I wonder why each row is 5 more than the previous one.

$1 \times 5 = \square$

$2 \times 5 = \square$

$3 \times 5 = \square$

$4 \times 5 = \square$

$5 \times 5 = \square$

$6 \times 5 = \square$

$7 \times 5 = \square$

$8 \times 5 = \square$

$9 \times 5 = \square$

$10 \times 5 = \square$

$11 \times 5 = \square$

$12 \times 5 = \square$

Method 3 – Solving word problems involving multiplication using concrete objects and pictorial representatives.

Children will be taught various methods that could be used to solve word problems

– counting one by one, counting in twos and multiplying by 2. Pupils should know all methods are acceptable but that the multiplication method is the most efficient as they can find the answer quickly, particularly if they have memorised their multiplication facts.

Solving word problems – multiplication

Discover

Once upon a time, there was a prince and princess. The princess was 2 times as tall as the prince.

The king was 5 times as tall as the prince.

1 a) Use a to represent the prince. How many do you need to represent the princess?

b) The king is 5 times as tall as the prince. How many do you need to represent the king?

Share

a) The princess is 2 times the prince's height.

If 1 represents the prince,

$2 \times 1 = 2$

2 represent the princess.

I wonder if I can use multiplication to help.

b) The king is 5 times the prince's height.

$5 \times 1 = 5$

I need 5 to represent the king.

Mental Strategies

Count forwards and backwards in multiples of three.

Know the 2s, 5s and 10s times tables (in and out of order).

Recognise odd and even numbers.

Year 3 - Multiplication

Jersey Curriculum for Mathematics – Statutory Requirements for Year 3: Number – Multiplication and Division Pupils should be taught to:

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

Key Vocabulary

Multiply, times, groups of, equal groups of, multiple of, multiplied by, estimate, inverse, grid multiplication, expanded column multiplication, partition, commutative, associative, product.

Method 1 – Multiplication using times tables.

Children are familiar with 2s, 5s and 10s. In Year 3, children learn the 3s, 4s and 8s times tables.

Multiplying by 3 Lesson 2

In Focus

2 rows of 3
 $2 \times 3 = 6$

If we know $2 \times 3 = 6$, how can we tell what 3×3 is?

Let's Learn

1

$2 \times 3 = 6$
 $3 \times 3 = 6 + 3$

2

$3 \times 3 = 9$
 $4 \times 3 = 9 + \dots$

Multiplication and Division Page 96

Method 2 – Multiplication using pictorial representations.

Pupils are taught the relationship between multiplication and division.

Multiplying and Dividing Lesson 10

In Focus

Put 4 or 5 cherries on each cake.
Can we make a family of multiplication and division equations?

Let's Learn

$20 \div 4 = 5$
 $5 \times 4 = 20$

$20 \div 5 = 4$
 $4 \times 5 = 20$

We can make a family of multiplication and division equations.

Multiplication and Division Page 107

Method 3 – Multiplication using the column method.

2 4 3
 $\times \quad 2$

4 8 6

...first do $2 \times 3 \dots$
...then do 2×4
...then do 2×2

96 x 1816

2 Use Hannah's method to find the product of 23 and 8.

Step 1

$3 \text{ ones} \times 8 = 24 \text{ ones}$
 $24 \text{ ones} = 2 \text{ tens} + 4 \text{ ones}$

Step 2

$2 \text{ tens} \times 8 = 16 \text{ tens}$
 $16 \text{ tens} + 2 \text{ tens} = 18 \text{ tens}$

$23 \times 8 = 184$
The product of 23 and 8 is 184.

Guided Practice

Multiply.

(a) $39 \times 2 = \square$

(b) $3 \times 25 = \square$

(c) $4 \times 28 = \square$

(d) $27 \times 8 = \square$

Complete Worksheet 5 • Page 121

Further Multiplication and Division Page 146

Mental Strategies

Count forwards and backwards in multiples of 4, 8, 50 and 100.

Know the 3, 4, and 8 times tables (in and out of order).

Connect the 2, 4 and 8 times tables through doubling.

Use knowledge of place value to calculate multiplication (eg: $2 \times 2 = 4$, $2 \times 20 = 40$, $2 \times 200 = 400$).

Year 4 - Multiplication

Jersey Curriculum for Mathematics – Statutory Requirements for Year 4: Number – Multiplication and Division Pupils should be taught to:

- recall multiplication and division facts for multiplication tables up to 12×12
- use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- recognise and use factor pairs and commutativity in mental calculations
- multiply two-digit and three-digit numbers by a one-digit number using a written layout.
- solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Key Vocabulary

Multiply, multiplied by, product, short multiplication, partition, distributive law, commutative, groups of, multiply, times, multiples, inverse.

In Year 4, pupils will learn how to multiply and divide by 6, 7, 9, 11 and 12. Pupils will be taught how to calculate multiplication equations using the multiplication facts that they know. They will be taught the difference between sharing and grouping as well as the commutative law in multiplication.


Method 1 – Multiplication using times tables (6s, 7s, 9s, 11s and 12s).

Method 2 – Multiplication using bar modelling.

Lesson 1

Multiplying by 6

In Focus



How many flowers are there altogether?

Let's Learn

- 1 group of 6
 $1 \times 6 = 6$
- 2 groups of 6
 $2 \times 6 = 12$
- 3 groups of 6
 $3 \times 6 = 18$
- 4 groups of 6
 $4 \times 6 = 24$


There are 24 flowers altogether.

Multiplication and Division Page 96

Lesson 11

Multiplying and Dividing by 11 and 12

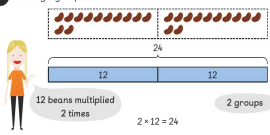
In Focus



Show 2×12 using the beans.

Let's Learn

- Making 2 groups of 12



12 beans multiplied 2 times
 $2 \times 12 = 24$

We can also write $12 \times 2 = 24$.

Putting 24 beans into 2 equal groups
 $24 \div 2 = 12$

Putting 24 beans into groups of 12
 $24 \div 12 = 2$

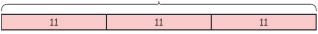
Each group has 12 beans.
There are 2 groups.

Multiplication and Division Page 127

2 This is a family of multiplication and division facts.

$2 \times 12 = 24$
 $12 \times 2 = 24$
 $24 \div 2 = 12$
 $24 \div 12 = 2$

3 Use 33 beans to make 3 groups.



$3 \times 11 = 33$ (3 groups)

11 multiplied 3 times
 $11 \times 3 = 33$

Put in 3 groups.
 $33 \div 3 = 11$

Put in groups of 11.
 $33 \div 11 = 3$

Multiplication and Division Page 128

Method 3 – Multiplication using the column method (short multiplication) and the grid method.

Multiplication Strategies

Column Method

52 Write the numbers above each other in the columns.

38

52
 $\times 38$ Multiply 52×8

416

52
 $\times 38$ Multiply 52×30


416

1560

416
 $+ 1560$ Add the products.

1976

$52 \times 38 = 1976$



Grid Method

\times	50	2
30		
8		

Draw a grid.
Write the partitioned numbers at the top and left of the grid.

\times	50	2
30	1500	60
8	400	16


Multiply the partitioned number.

1500
 $+ 400$
 $+ 60$
 $+ 16$

1976

Add the products.

$52 \times 38 = 1976$



Mental Strategies

Know all times tables up to and including 12×12 (by the end of Year 4).

Recognise and use factor pairs (eg: factor pairs for numbers up to and including 10).

Know that $TU \times 5$ is $TU \times 10$ then divide by 2 (eg: $18 \times 5 = (18 \times 10) \text{ divided by } 2 = 90$).

Year 5 - Multiplication

Jersey Curriculum for Mathematics – Statutory Requirements for Year 5: Number – Multiplication and Division Pupils should be taught to:

- identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
- know and use the vocabulary of prime numbers, prime factors and composite (non- prime) numbers
- establish whether a number up to 100 is prime and recall prime numbers up to 19
- multiply numbers up to 4 digits by a one- or two-digit number using a written method, including long multiplication for two-digit numbers
- multiply and divide numbers mentally drawing upon known facts
- divide numbers up to 4 digits by a one-digit number using a written method of division and interpret remainders appropriately for the context. Use a calculator to reinforce results.
- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

Key Vocabulary

Composite numbers, prime number, prime factor, cube number, square number, derive, factor pairs, formal written method, times, multiply, multiplied by, multiple of, product, short multiplication, partition, long multiplication, scaling, decimal place, units, tenths and hundreds.

In Year 5, pupils are taught to multiply 3- and 4-digit numbers by single- and double-digit numbers. Pupils are taught to find and define multiples and factors and common factors. Pupils work with prime numbers and determine what makes a number prime or composite. Pupils work with square and cube numbers before moving on to multiplying by 10, 100 and 1000. When multiplying, pupils are encouraged to use a variety of methods, including number bonds, column methods and the grid method. Number bonds are used to represent multiplicative word problems. Pupils then move on to multiply by 2-digit numbers before beginning to divide by 10, 100 and 1000.

Method 1 – Multiplication using the column method.

Multiplying 4-Digit Numbers Lesson 10

In Focus
A shopping mall organises a contest.

Guess the number of jelly beans.

Each jar will contain 2718 jelly beans but don't tell anyone!

We will prepare 4 jars like this.

Whole Numbers: Multiplication and Division Page 136

Let's Learn

1 $2718 \times 4 =$

$$\begin{array}{r} 2000 \times 4 = 8000 \\ 700 \times 4 = 2800 \\ 10 \times 4 = 40 \\ 8 \times 4 = 32 \\ \hline 2718 \times 4 = 10872 \end{array}$$

2 thousands 7 hundreds 1 ten 8 ones
8 thousands 28 hundreds 4 tens 32 ones

2 $2718 \times 4 =$

$$\begin{array}{r} 2718 \\ \times 4 \\ \hline 10872 \end{array}$$

Estimate: 3 thousand $\times 4 = 12$ thousand

Whole Numbers: Multiplication and Division Page 138

3 $2718 \times 4 =$

$$\begin{array}{r} 2718 \\ \times 4 \\ \hline 10872 \end{array}$$

Whole Numbers: Multiplication and Division Page 140

Method 2 – Multiplication using the grid method.

Grid Method

\times	50	2	
30			
8			

Draw a grid. Write the partitioned numbers at the top and left of the grid.

\times	50	2	
30	1500	60	
8	400	16	

Multiply the partitioned number.

$$\begin{array}{r} 1500 \\ + 400 \\ + 60 \\ + 16 \\ \hline 1976 \end{array}$$

Add the products.

$52 \times 38 = 1976$

Method 3 – Multiplication using bar models.

Multiplying 4-Digit Numbers

In Focus
The distance between City B and City C is 4 times the distance between City A and City B. How can we work out the distance between City A and City C?

Let's Learn

1 City A to City B
City B to City C

1022 miles

$1022 \times 4 =$

10	10	10	10
10	10	10	10
10	10	10	10
10	10	10	10

$1022 \times 4 = 4088$

Whole Numbers: Multiplication and Division Page 135

Mental Strategies

Recognise and calculate factor pairs for any number.

Use times table knowledge to derive multiples of any number.

Establish whether a number is a prime number (up to 100) or a composite number and recall prime numbers up to 19. To know what a square number is and recall all square numbers up to and including 144.

To know what a cube number is and recall the first five cube numbers.

Year 6 - Multiplication

Jersey Curriculum for Mathematics – Statutory Requirements for Year 6: Number – Addition, Subtraction, Multiplication and Division

Pupils should be taught to:

- multiply multi-digit numbers up to 4 digits by a two-digit whole number using a written method of multiplication.
- divide numbers up to 4 digits by a two-digit whole number using a written method of division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
- perform mental calculations, including with mixed operations and large numbers
- identify common factors, common multiples and prime numbers
- use their knowledge of the order of operations to carry out calculations involving the four operations
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Key Vocabulary

Common factors, multiples, prime, formal written method, multiply, multiplied by, multiple of, product, short and long multiplication, partition, scaling, decimal place, units, tenths and hundredths.

Method 1 – Multiplication using number bonds.

Method 2 – Multiplication using the column method.

Lesson 6

Multiplying by 2-Digit Numbers

In Focus
Each block of flats consists of 114 flats.
How many flats are there in 12 identical blocks?
How many flats are there in 24 identical blocks?

Let's Learn

1 $114 \times 12 =$ $114 \times 24 =$

100	10	1	1	1	1
-----	----	---	---	---	---

1	1	4
x		4

		6

$114 \times 10 = 1140$ $114 \times 20 = 2280$
 $114 \times 2 = 228$ $114 \times 4 = 456$
 $114 \times 12 = 1368$ $114 \times 24 = 2736$

I can also use 114×12 to find 114×24 .

Four Operations on Whole Numbers Page 45

Lesson 7

Multiplying by 2-Digit Numbers

In Focus
How many millilitres of milk are there in 12 similar bottles?

Let's Learn

1 $12 \times 568 =$

100	100	100	100
10	10	10	10
1	1	1	1

$100 \times 10 = 1000$ $1000 \times 10 = 10000$
 $10 \times 10 = 100$ $100 \times 10 = 1000$
 $1 \times 10 = 10$ $10 \times 10 = 100$

$10 \times 568 = 5680$

Four Operations on Whole Numbers Page 49

Lesson 7

$2 \times 568 = 1136$
 $10 \times 568 = 5680$
 $2 \times 568 = 1136$
 $12 \times 568 = 6816$

1	1	6	
x	2		

	3	2	
1	1	3	6

2 $12 \times 568 =$

5	6	8	
x	1	2	

1	1	3	6
+ 5	6	8	0

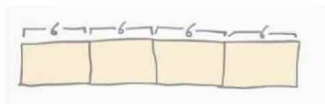
6	8	1	6

Estimate by calculating 10×600 .

Four Operations on Whole Numbers Page 50

Method 3 – Multiplication using bar models.

Gingerbread men come in packets of 6. Paul buys 4 packets. How many gingerbread men does he have?



Method 4 – Multiplication using the grid method.

Grid Method

x	50	2
30		
8		

Draw a grid.
Write the partitioned numbers at the top and left of the grid.

x	50	2
30	1500	60
8	400	16

Multiply the partitioned number.

1500	
+ 400	
+ 60	
+ 16	

1976	

Add the products.

$52 \times 38 = 1976$

Mental Strategies

Use scaling to solve decimal number problems as whole number problems using the rule *the number of decimal digits in the question is the same as the number of decimal digits in the answer*.

Identify common factors, common multiples and prime numbers.

Use common factors to simplify fractions mentally.

Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.

Foundation Stage - Division

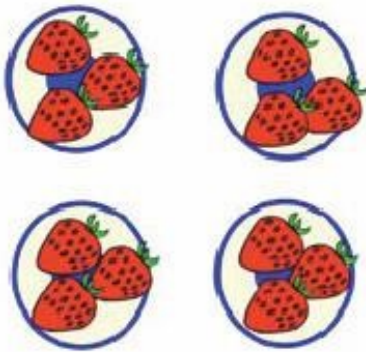
Early Learning Goal for Mathematics: Numbers

Pupils solve problems, including doubling, halving and sharing.

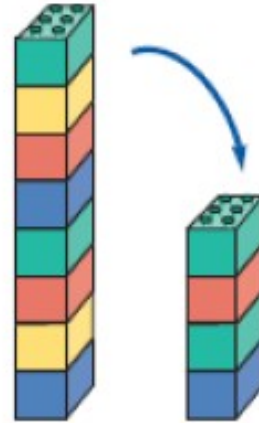
Key Vocabulary

Halve, half, share, share equally, groups

Method 1 – Pupils experience early division by sharing objects and counting how many in each group.
(representation).



Method 2 – Pupils are taught to solve problems including halving and sharing using objects (concrete



Mental Strategies

Develop a mental image of the number system.

Understand the value of a number.

Be able to solve verbal number stories involving halving and sharing.

Year 1 - Division

Jersey Curriculum for Mathematics – Statutory Requirements for Year 1: Multiplication and Division Pupils should be taught to:

- solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

Key Vocabulary

Halve, share, share equally, groups, equal groups of, divide, divided by, left, left over


In Year 1, pupils will be taught how to divide even numbers equally into groups and then to be able to determine how many objects will be included in each group in order to share equally. Pupils will be learning about making halves and quarters before moving on to making the connection between fractions and division

Method 1 – Division by grouping equally.

Unit 13: Division, Lesson 2

Making equal groups 2

Discover



1 a) 5 balls fit into each box.
How many boxes are needed for 10 balls?


b) How many boxes are needed for 15 balls?

40

Unit 13: Division, Lesson 2

Share

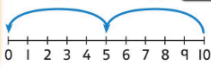
a) There are 10 balls.




I will put all the balls into groups of 5. Then I will count how many groups there are.

2 boxes are needed for 10 balls.
5 balls in the first box, 5 balls in the second box.

I can use a number line. I start with 10 and subtract 5 each time.



b) There are 5 balls in each box.



3 boxes are needed for 15 balls.



41

Method 2 – Division by sharing equally.

Unit 13: Division, Lesson 4

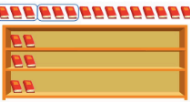
Think together

1 2 children are playing the game.
The 12 counters are shared equally between them.
How many counters do they get each?

They each get counters.
There are 2 groups of counters.

2 15 books are shared equally on 3 shelves.
How many books are there on each shelf?
There are books on each shelf.



50

Unit 13: Division, Lesson 4

CHALLENGE

3 4 friends share 20 marbles equally.




How many marbles do they each get?
Write the matching statement.

Did you notice that everyone must get the same amount?



51

Mental Strategies

Count forwards and backwards in multiples of 2s, 5s and 10s.

Year 2 - Division

Jersey Curriculum for Mathematics – Statutory Requirements for Year 2: Number – Multiplication and Division Pupils should be taught to:

- recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs
- show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
- solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Key Vocabulary

Groups of, equal groups of, halve, share, share equally, divide, divided by, divided into, repeated subtraction, inverse

Method 1 – Division by sharing equally.

Sharing and grouping

Discover

1 a) 3 friends share 6 apples equally. Use drawings to show how they shared the 6 apples. How many does each friend get?

b) The 3 friends now share 9 apples equally. How many does each friend get?

Share

I can see that each round of sharing must give everyone exactly the same until all the apples are shared.

I can give the apples away until I have none left. I can use a division sentence to represent this.

There are 6 apples. They are shared between 3 friends. We can write this as: $6 \div 3 = 2$. Each friend gets 2 apples.

b) There are 9 pears. They are shared between 3 friends. $9 \div 3 = 3$. Each friend gets 3 pears.

Method 3 – Division using bar modelling.

Bar modelling – sharing

Discover

Share the treasures

1 a) 2 pirates share 12 jewels. How many do they get each? $12 \div 2 = \square$

b) 3 pirates share 15 jewels. How many do they get each? $15 \div 3 = \square$

Share

a) There are 12 jewels and 2 pirates. We need to share the jewels out.

There are 12 jewels and I shared them out one by one.

I drew a bar model with 2 parts, because there are 2 pirates.

They get 6 jewels each. $12 \div 2 = 6$

b) There are 15 jewels and 3 pirates.

I will remove a group of 3 at a time and give one to each pirate. We are still sharing.

They get 5 jewels each. $15 \div 3 = 5$

Method 2 – Division using times tables.

Dividing by 5

Discover

1 a) There are 20 seeds. Each flower needs 5 seeds. How many flowers can you make with 20 seeds?

b) I worked it out using $4 \times 5 = 20$ from the 5 times-table. Explain how Flo used that number fact to solve the problem and complete the number sentence. $20 \div 5 = \square$

Share

I used a drawing to help me.

a) I used the 5 times-table to help me. $4 \times 5 = 20$. Keep subtracting 5 from 20. You can subtract 4 times.

You can make 4 flowers with 20 seeds.

b) There are 20 seeds. Every 5 seeds is one group.

The drawing reminds me that 4 groups of 5 is 20, $4 \times 5 = 20$. So $20 \div 5 = 4$.

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

Mental Strategies

To know that division is the inverse of multiplication.

Recall division facts for the 2, 5 and 10 times tables.

Recall halves for even numbers up to and including twenty.

Year 3 - Division

Jersey Curriculum for Mathematics – Statutory Requirements for Year 3: Number – Multiplication and Division

Pupils should be taught to:

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

Key Vocabulary

Divided by, divide, divided into, grouping, short division, remainder, inverse

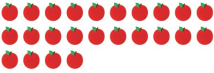
Method 1 – Division using times tables.

Method 2 – Division using bar models.

Lesson 11

Dividing by 4 and 8

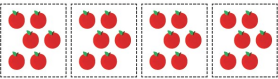
In Focus



How do we put these apples into 4 and 8 equal groups?

Let's Learn

1 Put 24 apples into 4 equal groups.

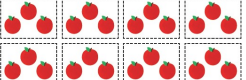


$24 \div 4 = 6$
Each group has 6 apples.

Can they be put into 3 equal groups?

$4 \times 6 = 24$

2 Put 24 apples into 8 equal groups.



$24 \div 8 = 3$
Each group has 3 apples.


$8 \times 3 = 24$

Multiplication and Division Page 119

Lesson 14

Solving Word Problems

In Focus



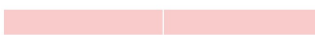
I have 8 coins.

I have twice as many coins as you.

How many coins does she have?

Let's Learn

1



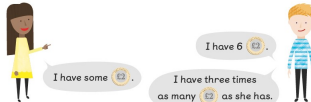
Method 1 $8 + 8 = 16$

Method 2 $2 \times 8 = 16$

she has 16 coins.

Multiplication and Division Page 128

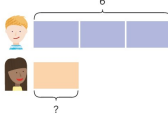
2



I have some coins.

I have 6 coins.

I have three times as many coins as she has.




$6 \div 3 = 2$

she has two coins.

Guided Practice

1 There are 4 times as many biscuits in this box as there are in this box.



There are 32 biscuits in this box.

How many biscuits are there in this box?

Multiplication and Division Page 129

Method 3 – Division using the part-whole model.

Lesson 6

Simple Dividing

In Focus


Sam and Charles share 68 sweets equally among themselves. How many sweets will each person get?

Let's Learn

To find the number of sweets each person gets, divide 68 by 2.

$68 \div 2 =$?

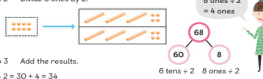
Step 1 Divide 6 tens by 2.



$6 \text{ tens} \div 2 = 3 \text{ tens}$

$6 \text{ tens} \div 2 = 3 \text{ tens}$

Step 2 Divide 8 ones by 2.



$8 \text{ ones} \div 2 = 4 \text{ ones}$

$8 \text{ ones} \div 2 = 4 \text{ ones}$

Step 3 Add the results.

$68 \div 2 = 30 + 4 = 34$

Each person gets 34 sweets.

Further Multiplication and Division Page 58

Mental Strategies

Know the division facts from the 3, 4 and 8 times tables.

Use knowledge of place value to calculate division (eg: 14 divided by 2 = 7, 140 divided by 2 = 70, 1400 divided by 2 = 700).

Year 4 - Division

Jersey Curriculum for Mathematics – Statutory Requirements for Year 4: Number – Multiplication and Division Pupils should be taught to:

- recall multiplication and division facts for multiplication tables up to 12×12
- use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- recognise and use factor pairs and commutativity in mental calculations
- multiply two-digit and three-digit numbers by a one-digit number using a written layout.
- solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Key Vocabulary

Factor, divisor, divided by, divided into, remainder, divisible by, equivalent, short division, quotient, inverse, multiples

Method 1 – Division using bar models.

Lesson 11

Multiplying and Dividing by 11 and 12

In Focus

Show 2×12 using the beans.

Let's Learn

1 Making 2 groups of 12

12 beans multiplied 2 times $2 \times 12 = 24$ 2 groups

We can also write $12 \times 2 = 24$.

Putting 24 beans into 2 equal groups $24 \div 2 = 12$ Each group has 12 beans.

Putting 24 beans into groups of 12 $24 \div 12 = 2$ There are 2 groups.

Multiplication and Division Page 127

2 This is a family of multiplication and division facts.

$$\begin{aligned} 2 \times 12 &= 24 \\ 12 \times 2 &= 24 \\ 24 \div 2 &= 12 \\ 24 \div 12 &= 2 \end{aligned}$$

3 Use 33 beans to make 3 groups.

33

11 11 11

11 multiplied 3 times $3 \times 11 = 33$ 3 groups

Put in 3 groups. $11 \times 3 = 33$

Put in groups of 11. $33 \div 3 = 11$

$33 \div 11 = 3$

Multiplication and Division Page 128

Method 2 – Division by grouping.

Lesson 10

Dividing by 9

In Focus

Is placing them into 9 equal groups the same as placing them in groups of 9?

Let's Learn

1 Placing into 9 equal groups

$36 \div 9 = 4$ Each group has 4 strawberries.

$9 \times 4 = 36$

Multiplication and Division Page 125

Method 3 – Division using the short division method.

$$186 \div 6 =$$

0	3	1
6	1	8
	1	6

no groups of 6 can be made

$3 \times 6 = 18$

$1 \times 6 = 6$

Mental Strategies

Know all related division facts for all times tables up to 12 time tables (by the end of Year 4).

Year 5 - Division

Jersey Curriculum for Mathematics – Statutory Requirements for Year 5: Number – Multiplication and Division Pupils should be taught to:

- identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
- know and use the vocabulary of prime numbers, prime factors and composite (non- prime) numbers
- establish whether a number up to 100 is prime and recall prime numbers up to 19
- multiply numbers up to 4 digits by a one- or two-digit number using a written method, including long multiplication for two-digit numbers
- multiply and divide numbers mentally drawing upon known facts
- divide numbers up to 4 digits by a one-digit number using a written method of division and interpret remainders appropriately for the context. Use a calculator to reinforce results.
- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

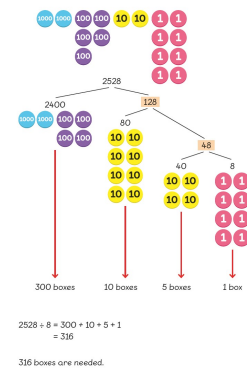
Key Vocabulary

Divide, divided by, divided into, divisible by, remainder, quotient, inverse, factor, decimal place, units, tenths, scaling, short division

Method 1 – Division using the short division method.

$670 \div 5 = 134$

Method 2 – Division using number bonds.



Whole Numbers: Multiplication and Division Page 170

Method 3 – Division using bar models.

4 376 ml of liquid soap is poured into 5 bottles. Each bottle contains the same amount of soap. Find the volume of soap in each bottle.

$376 \text{ ml} \div 5 = 75 \frac{1}{5} \text{ ml}$

$1 \text{ ml} \div 5 = \frac{1}{5} \text{ ml}$

Guided Practice

1 uses this method to divide.

$3 \overline{) 42} \rightarrow 3 \overline{) 312}$

(a) $98 \div 7 = \square$ $7 \overline{) 98} \rightarrow 7 \overline{) 98}$

(b) $342 \div 6 = \square$ $6 \overline{) 342} \rightarrow 6 \overline{) 342}$

Whole Numbers: Multiplication and Division Page 176

Mental Strategies

Multiply and divide numbers mentally drawing upon known facts.

Associate fractions with division.

Year 6 - Division

Jersey Curriculum for Mathematics – Statutory Requirements for Year 6: Number – Addition, Subtraction, Multiplication and Division

Pupils should be taught to:

- multiply multi-digit numbers up to 4 digits by a two-digit whole number using a written method of multiplication.
- divide numbers up to 4 digits by a two-digit whole number using a written method of division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
- perform mental calculations, including with mixed operations and large numbers
- identify common factors, common multiples and prime numbers
- use their knowledge of the order of operations to carry out calculations involving the four operations
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Key Vocabulary

Divide, divided by, divided into, divisible by, remainder, factor, quotient, inverse, decimal place, units, tenths, hundredths, formal written methods

Method 1 – Division using bar models.

Whole unknown...

?			
15	15	15	15

4 children go to the cinema. They each pay £15. How much do they spend altogether?

Size of groups unknown...

60			
?	?	?	?

4 children go to the cinema. They pay £60 altogether. How much do they spend each?

Number of groups unknown...

60
15

Tickets to the cinema are £15. Some children buy tickets that cost £60. How many children bought tickets?

Method 2 – Division using number bonds.

Lesson 11

Dividing by 2-Digit Numbers

In Focus

7192 people registered for a national sports camp.

We can put them into teams of 30.

That's not possible. We need teams of 31.

Who is correct?

Let's Learn

1 $7192 \div 30 =$

Teams of 30 won't work.

Method 3 – Division using the short division method.

The **quotient** (the answer) shows how big each group will be.

51 r 5

7 | 362

The **divisor** (how many groups you're making).

The **dividend** (the number you're sharing into groups).

2 $7192 \div 31 =$

We can put 7192 participants into 232 teams of 31.

3 $7192 \div 31 =$

31 $\overline{) 7192}$

7 1 9 2

- 3 1 0 0

4 0 9 2

- 3 1 0 0

9 9 2

- 3 1 0 0

6 8 2

- 3 1 0 0

3 7 2

- 3 1 0 0

6 2

- 6 2

0

6200 \div 31 = 200

930 \div 31 = 30

62 \div 31 = 2

Mental Strategies

Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. Calculate a fraction of an amount.