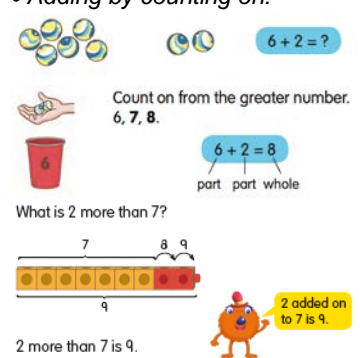





Progression of Key Concepts in *Inspire Maths*

Addition and subtraction (**making connections between the units**) with reference to the pages in the Teacher's Guide

Inspire Maths 1	Inspire Maths 2	Inspire Maths 3	Inspire Maths 4	Inspire Maths 5	Inspire Maths 6
<p><u>Number bonds: TG1A Unit 2 p32</u> Key concepts: using concrete representations – cubes, balances. ‘part-whole’.</p> <p><u>Addition within 10: TG1A Unit 3 p48</u> Key concepts: using concrete representations to support ‘counting on’ and ‘part-whole’ relating addition to number bonds. The + (plus) and = (equals) symbols are introduced here as one of the C-P-A representations within this unit.</p> <p>• Adding by counting on:</p>  <p>2 more than 7 is 9.</p>	<p><u>Addition and subtraction within 1000: TG2A Unit 2 p43</u> Key concepts: using place value charts with concrete representations.</p> <p>Using horizontal and column addition/ subtraction.</p> <ul style="list-style-type: none"> • $HTU \pm U$ – no regrouping • $HTU \pm TU$ – no regrouping • $HTU \pm HTU$ – no regrouping • $HTU \pm HTU$ – regrouping ones • $HTU \pm HTU$ – regrouping tens • $HTU \pm HTU$ – regrouping TU • $HTU - HTU$ – regrouping HT • $HTU - HTU$ – regrouping HTU • Subtraction with numbers that have zero – $HTU - TU$ moving to $HTU - HTU$ 	<p><u>Addition of numbers within 10 000: TG3A Unit 2 p38</u> Key concepts: addition with, then without, place value charts and concrete representations. Using column addition.</p> <ul style="list-style-type: none"> • $ThHTU + ThHTU$ – no regrouping • $ThHTU + ThHTU$ – regrouping H • $ThHTU + ThHTU$ – regrouping HTU <p><u>Subtraction of numbers within 10 000: TG3A Unit 3 p63</u> Key concepts: using place value charts with concrete representations. Using column subtraction.</p>	<p><u>Whole Numbers (3): Word problems (involving the four operations using a formal algorithm): TG4A Unit 3 p85</u></p> <ul style="list-style-type: none"> • Solve up to 3 step whole number word problems involving the four operations • Use model drawing and the unitary method to solve word problems • Use part-whole, comparison, adding on or taking away model drawings to solve word problems <p><u>Decimals (2): TG4B Unit 10 p64</u></p> <ul style="list-style-type: none"> • \pm involving tenths without regrouping • \pm involving tenths and ones with regrouping tenths and ones • \pm involving hundredths without regrouping • \pm involving hundredths, tenths and ones with regrouping hundredths first, moving to regrouping hundredths, tenths and ones • Word problems up to 2 decimal places 	<p><u>Whole Numbers (2): TG5A Unit 2 p49</u></p> <ul style="list-style-type: none"> • Using a calculator, order of operations and Word problems • Application of concepts and skills of four operations 	<p><u>Algebra: TG6A Unit 1 p4</u></p> <ul style="list-style-type: none"> • Solve simple word problems involving algebraic expressions.

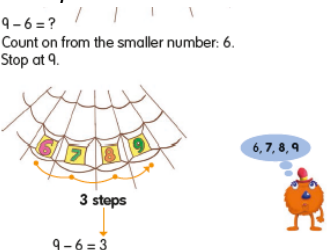
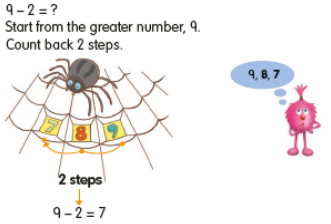
Progression of Key Concepts in *Inspire Maths*

Addition and subtraction (**making connections between the units**) with reference to the pages in the Teacher's Guide

Inspire Maths 1	Inspire Maths 2	Inspire Maths 3
<p>• <i>Adding with number bonds:</i></p>  <p>How many penguins are there altogether? $3 + 5 = ?$</p>  <p>Subtraction within 10: TG1A Unit 4 p73 Key concepts: using concrete representations to support 'taking away', 'counting on', 'counting back' and 'part-whole' relating to subtraction number bonds. The – (minus) and = (equals) symbols are introduced here as one of the C-P-A representations within this unit.</p> <p>• <i>Subtracting by taking away:</i> <i>There are 9 spiders. Cross out 6 spiders. There are 3 spiders left.</i></p> 	<p>Using models: Addition and subtraction: TG2A Unit 3 p100 Key concepts: part-whole using models either with paper strips or by drawing bars.</p> <p>Length: TG2A Unit 8 p250 Key concepts: 'part-whole', 'adding on', 'taking away' and 'comparing' using models.</p> <ul style="list-style-type: none"> • <i>Addition and subtraction of length</i> <p>Mass: TG2A Unit 9 p287 Key concepts: 'part-whole', 'adding on', 'taking away' and 'comparing' using models.</p> <ul style="list-style-type: none"> • <i>Addition and subtraction of mass</i> <p>Mental calculations: TG2B Unit 10 p4 Key concepts: Number bonds involving tens and 'part-whole'.</p> <p>Money: TG2B Unit 11 p34 Key concepts: 'part-whole', 'adding on', 'taking away' and 'comparing' using models.</p> <ul style="list-style-type: none"> • <i>Word problems: Addition and subtraction of money</i> <p>Volume: TG2B Unit 14 p147 Key concepts: 'part-whole', 'adding on', 'taking away' and 'comparing' using models.</p> <ul style="list-style-type: none"> • <i>Addition and subtraction of volumes</i> 	<ul style="list-style-type: none"> • <i>Meaning of difference</i> • <i>ThHTU + ThHTU – no regrouping</i> • <i>ThHTU + ThHTU – regrouping ThH</i> • <i>ThHTU + ThHTU – regrouping ThHTU</i> • <i>Subtraction with numbers that have zeros – ThHTU - HTU</i> <p>Solving word problems 1: addition and subtraction: TG3A Unit 4 p94 Key concepts: 'part-whole', 'adding on', 'comparing', 'taking away' and using models.</p> <p>Mental calculations: TG3A Unit 9 p232 Key concepts: applying number bonds.</p> <p>Money: TG3B Unit 10 p4 Key concepts: Adding/subtracting money is similar to adding/subtracting whole numbers</p> <p>Addition:</p> <ul style="list-style-type: none"> • <i>Add two amounts of money without regrouping by first adding the pounds then the pence</i> • <i>Add two amounts of money where pence add up to £1</i> • <i>Add two amounts of money using the following strategies:</i> <ol style="list-style-type: none"> (1) <i>decomposition</i> (2) <i>compensation</i> <i>in which one amount is made into a whole number of pounds</i> • <i>Add two amounts of money using the standard method</i>

Progression of Key Concepts in *Inspire Maths*

Addition and subtraction (**making connections between the units**) with reference to the pages in the Teacher's Guide

Inspire Maths 1	Inspire Maths 2	Inspire Maths 3
<p>• Subtracting by counting on: <i>There are 9 flies. 6 flies are stuck in a web. How many flies are still flying?</i> $9 - 6 = ?$ Count on from the smaller number: 6. Stop at 9.</p>  <p>$9 - 6 = 3$</p> <p>• Subtracting by counting back: $9 - 2 = ?$ Start from the greater number, 9. Count back 2 steps.</p>  <p>$9 - 2 = 7$</p>	<p>Key vocabulary</p> <ul style="list-style-type: none"> • grouping: TG2A p135 • volume: TG2B p137 • model: TG2A p100 • item: TG2A p108 • two-step word problem: TG2A p113 	<p>Subtraction:</p> <ul style="list-style-type: none"> • Subtract two amounts of money without regrouping by first subtracting the pounds then the pence • Subtract two amounts money using the strategy of compensation, in which the amount subtracted is rounded up to the nearest pound • Subtract two amounts of money using the standard method <p>Solving word problems: Length, Mass and volume: TG3B Unit 12 p67</p> <p>Key concepts: addition and subtraction one- and two-step problems</p> <p>Time: TG3B Unit 15 p167</p> <p>Addition:</p> <ul style="list-style-type: none"> • Add time with no regrouping by adding the hours first then the minutes • Add time with regrouping by adding the minutes first then the hours <p>Subtraction:</p> <ul style="list-style-type: none"> • Subtract time without regrouping by subtracting the hours first then the minutes • Subtract time with regrouping by first regrouping the hours and minutes, next subtracting the minutes, then subtracting the hours <p>Key vocabulary</p> <ul style="list-style-type: none"> • sum: TG3A p25 • difference: TG3A p37

Progression of Key Concepts in *Inspire Maths*

Addition and subtraction (making connections between the units) with reference to the pages in the Teacher's Guide

Inspire Maths 1

- Subtracting with number bonds:

There are 9 bean bags altogether. How many bean bags does Ruby have on her head?



A family of number sentences can be written from a set of three related numbers: 1A Unit 4 p84



How many balls of string are yellow?

$$7 - 2 = 5$$

How many balls of string are blue?

$$7 - 5 = 2$$

How many balls of string are there altogether?

$$2 + 5 = 7 \quad \text{or} \quad 5 + 2 = 7$$

Addition and subtraction within 20: TG1A Unit 8 p194

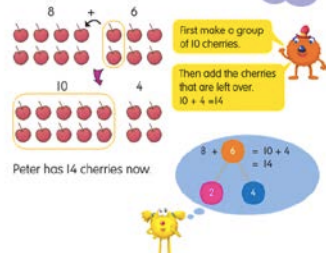
Key concepts: using concrete representations to support 'make 10', 'taking away', 'adding on' and 'part-whole'.

- Adding by making 10: adding two 1-digit numbers using the make 10 strategy:

Adding by making 10

- Peter has 8 cherries. Ruby gives him 6 more.

How many cherries does Peter have now? $8 + 6 = ?$

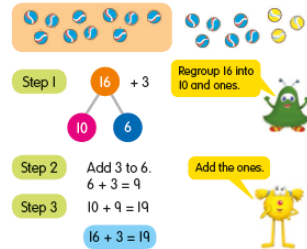


Progression of Key Concepts in *Inspire Maths*

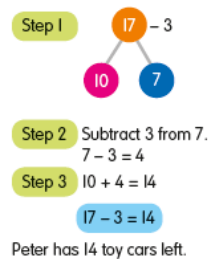
Addition and subtraction (making connections between the units) with reference to the pages in the Teacher's Guide

Inspire Maths 1

- Adding by regrouping into tens and ones:



- Subtracting by regrouping into tens and ones:

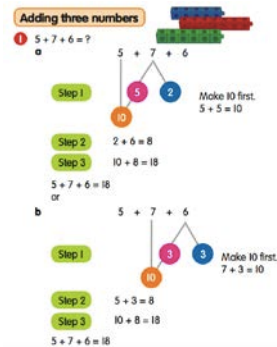


Numbers to 40: TG1B Unit 12 p59

Key concepts: using concrete representations to support 'counting on', 'number bond' and 'part-whole'. The vertical addition and subtraction strategy is introduced here using a place value chart.

- Simple addition and subtraction:

- $TU \pm U$ – no regrouping
- $TU \pm tens$ – no regrouping
- $TU \pm TU$ – no regrouping
- $TU \pm U$ – regrouping
- $TU \pm TU$ – regrouping ones
- Adding three numbers:



Progression of Key Concepts in *Inspire Maths*

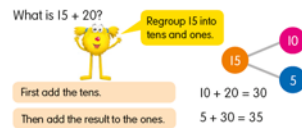
Addition and subtraction (making connections between the units) with reference to the pages in the Teacher's Guide

Inspire Maths 1

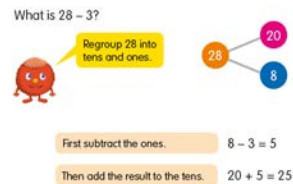
Mental addition and subtraction: TG1B Unit 13 p109

- **Key concepts:** adding is conceptualized as adding or putting parts together

- Mental addition:



- Mental subtraction:



Numbers to 100: TG1B Unit 17 p190

Key concepts: using concrete representations to support 'counting on', 'number bond', 'part-whole' and adding ones first followed by the tens. Using the vertical addition strategy with a place value chart.

- *Simple addition and subtraction:*

- $TU \pm U$ – no regrouping
- $TU \pm \text{tens}$ – no regrouping
- $TU \pm TU$ – no regrouping
- $TU \pm U$ – regrouping
- $TU \pm TU$ – regrouping ones

Money (2): TG1B Unit 19 p252

Key concepts: using concrete representations to support comparing, 'number bond' and 'part-whole'

- *Adding and subtracting in pence*
- *Adding and subtracting in pounds*

Progression of Key Concepts in *Inspire Maths*

Addition and subtraction (making connections between the units) with reference to the pages in the Teacher's Guide

Inspire Maths 1

Key vocabulary

- count on: TG1A p10
- number bond: TG1A p32
- part: TG1A p32
- whole: TG1A p32
- add: TG1A p48
- plus: TG1A p48
- equals: TG1A p48
- addition sentence: TG1A p48
- group: TG1A p32
- total: TG1A p49
- most: TG1A p51
- rounds: TG1A p51
- addition story: TG1A p54
- word problem: TG1A p56
- regroup: TG1A p197
- subtract: TG1A p73
- minus: TG1A p73
- taking away: TG1A p73
- step: TG1A p75
- counting back: TG1A p77
- subtraction story: TG1A p80
- number sentence: TG1A p84