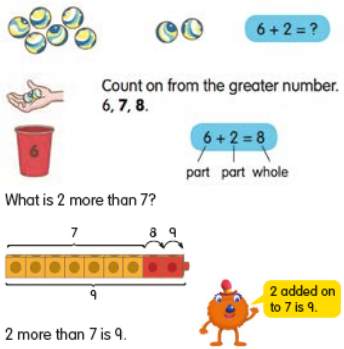
INSPIRE MATHS

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
***Number bonds:* TG1A Unit 2 p32** **Key concepts:** using concrete representations – cubes, balances. 'part-whole'. ***Addition within 10:* TG1A Unit 3 p48** **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. • *Adding by counting on:*  	***Addition and subtraction within 1000:* TG2A Unit 2 p43** **Key concepts:** using place value charts with concrete representations. Using horizontal and column addition/ subtraction. • *HTU ± U – no regrouping* • *HTU ± TU – no regrouping* • *HTU ± HTU – no regrouping* • *HTU ± HTU – regrouping ones* • *HTU ± HTU – regrouping tens* • *HTU ± HTU – regrouping TU* • *HTU - HTU – regrouping HT* • *HTU - HTU – regrouping HTU* • *Subtraction with numbers that have zero – HTU - TU moving to HTU – HTU*	***Addition of numbers within 10 000:* TG3A Unit 2 p38** **Key concepts:** addition with, then without, place value charts and concrete representations. Using column addition. • *ThHTU + ThHTU – no regrouping* • *ThHTU + ThHTU – regrouping H* • *ThHTU + ThHTU – regrouping HTU* ***Subtraction of numbers within 10 000:* TG3A Unit 3 p63** **Key concepts:** using place value charts with concrete representations. Using column subtraction.	***Whole Numbers (3):* Word problems (involving the four operations using a formal algorithm): TG4A Unit 3 p85** • *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* ***Decimals (2):* TG4B Unit 10 p64** • *± involving tenths without regrouping* • *± involving tenths and ones with regrouping tenths and ones* • *± involving hundredths without regrouping* • *± involving hundredths, tenths and ones with regrouping hundredths first, moving to regrouping hundredths, tenths and ones* • *Word problems up to 2 decimal places*	***Whole Numbers (2):* TG5A Unit 2 p49** • *Using a calculator, order of operations and Word problems* • *Application of concepts and skills of four operations*	***Algebra:* TG6A Unit 1 p4** • Solve simple word problems involving algebraic expressions.

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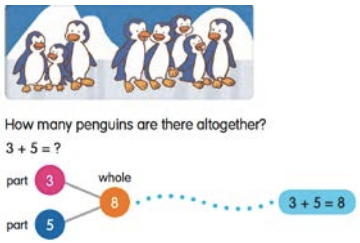
Inspire Maths 1

- *Adding with number bonds:*



***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.

- *Subtracting by taking away:*
  There are 9 spiders. Cross out 6 spiders. There are 3 spiders left.

Inspire Maths 2

***Using models: Addition and subtraction:* TG2A Unit 3 p100**
Key concepts: part-whole using models either with paper strips or by drawing bars.

***Length:* TG2A Unit 8 p250**
Key concepts: 'part-whole', 'adding on', 'taking away' and 'comparing' using models.

- *Addition and subtraction of length*

***Mass:* TG2A Unit 9 p287**
Key concepts: 'part-whole', 'adding on', 'taking away' and 'comparing' using models.

- *Addition and subtraction of mass*

***Mental calculations:* TG2B Unit 10 p4**
Key concepts: Number bonds involving tens and 'part-whole'.

***Money:* TG2B Unit 11 p34**
Key concepts: 'part-whole', 'adding on', 'taking away' and 'comparing' using models.

- *Word problems: Addition and subtraction of money*

***Volume:* TG2B Unit 14 p147**
Key concepts: 'part-whole', 'adding on', 'taking away' and 'comparing' using models.

- *Addition and subtraction of volumes*

Inspire Maths 3

- *Meaning of difference*
- *ThHTU + ThHTU – no regrouping*
- *ThHTU + ThHTU – regrouping ThH*
- *ThHTU + ThHTU – regrouping ThHTU*
- *Subtraction with numbers that have zeros – ThHTU - HTU*

***Solving word problems 1: addition and subtraction:* TG3A Unit 4 p94**
Key concepts: 'part-whole', 'adding on', 'comparing', 'taking away' and using models.

***Mental calculations:* TG3A Unit 9 p232**
Key concepts: applying number bonds.

***Money:* TG3B Unit 10 p4**
Key concepts: Adding/subtracting money is similar to adding/subtracting whole numbers

Addition:

- *Add two amounts of money without regrouping by first adding the pounds then the pence*
- *Add two amounts of money where pence add up to £1*
- *Add two amounts of money using the following strategies:*
  (1) decomposition
  (2) compensation
  in which one amount is made into a whole number of pounds
- *Add two amounts of money using the standard method*

Progression of Key Concepts in *Inspire Maths*

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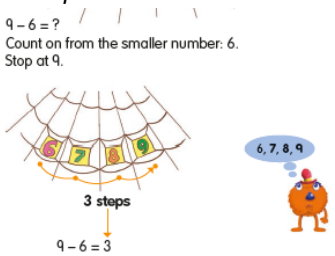
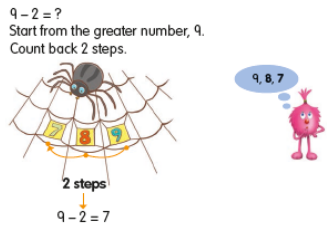
Inspire Maths 1

- *Subtracting by counting on:*
  There are 9 flies. 6 flies are stuck in a web. How many flies are still flying?
  9 – 6 = ?
  Count on from the smaller number:
  6. Stop at 9.



- *Subtracting by counting back:*
  9 – 2 = ?
  Start from the greater number, 9. Count back 2 steps.



Inspire Maths 2

Key vocabulary

- grouping: TG2A p135
- volume: TG2B p137
- model: TG2A p100
- item: TG2A p108
- two-step word problem: TG2A p113

Inspire Maths 3

Subtraction:

- *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*

***Solving word problems: Length, Mass and volume:* TG3B Unit 12 p67**
Key concepts: addition and subtraction one- and two-step problems

***Time:* TG3B Unit 15 p167**
Addition:

- *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*

Subtraction:

- *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*

Key vocabulary

- 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?

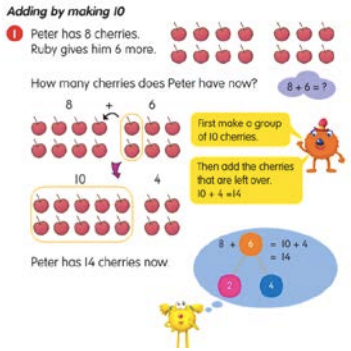
***A family of number sentences can be written from a set of three related numbers:* 1A Unit 4 p84**

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 or 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:*

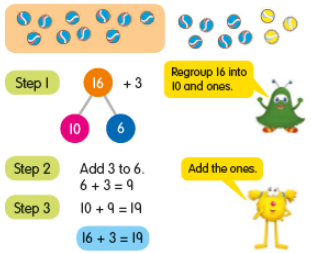


Progression of Key Concepts in *Inspire Maths*

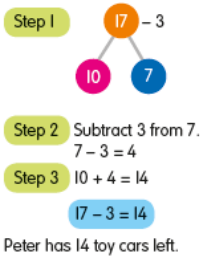
Addition and subtraction (making connections between the units) with reference to the pages in the Teacher's Guide

Inspire Maths 1

- *Adding by regrouping into tens and ones:*



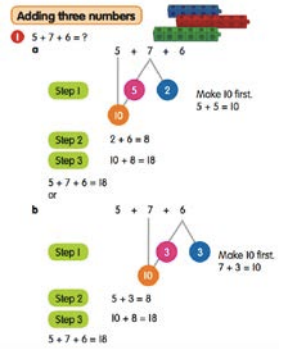
- *Subtracting by regrouping into tens and ones:*



***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 ± U – no regrouping*
- *TU ± tens – no regrouping*
- *TU ± TU – no regrouping*
- *TU ± U – regrouping*
- *TU ± TU – regrouping ones*
- Adding three numbers:



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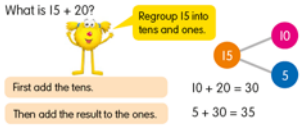
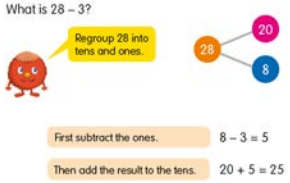
Inspire Maths 1

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 ± U – no regrouping*
  - *TU ± tens – no regrouping*
  - *TU ± TU – no regrouping*
  - *TU ± U – regrouping*
  - *TU ± 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*

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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

