Addition and subtraction - missing numbers

National Curriculum attainment targets

• 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 missing number problems

Lesson objectives

• Add and subtract one-digit and two-digit numbers to 20, including zero

• Solve simple addition and subtraction missing number problems

Previous related lessons

Unit 1, Week 2, Lessons 1–4; Unit 2, Week 1, Lessons 1–4; Unit 2, Week 2, Lessons 1–4; Unit 4, Week 1, Lessons 1–4; Unit 5, Week 2, Lessons 1–4; Unit 7, Week 1, Lessons 1–4; Unit 7, Week 2, Lessons 1 and 2

Prerequisites for learning

Pupils need to:

• recall addition and subtraction facts within ten

• show an improving recall of addition and subtraction facts within 15

• understand the concept of zero (0)

• be confident in using a number line or number track to support their reasoning

**Vocabulary**

zero, one, two, three … fifteen, how many?, count, count on, add, plus, total, equals, makes, count back, subtract, minus, take away, difference, leaves

Future related lessons

Unit 7, Week 2, Lesson 4; Unit 9, Week 2, Lesson 4; Unit 11, Week 1, Lessons 1, 2 and 3; Unit 11, Week 2, Lessons 1,
3 and 4

Success criteria

Pupils can:

• apply their understanding of addition and subtraction to solve missing number problems within 15

• accurately interpret and record missing number problems



Getting Started

• Choose an activity from Number – Addition and subtraction.

• Choose a game or activity from *Fluency in Number Facts: Y1/Y2* – Addition and subtraction.

**Year 1, Unit 7, Week 2**

Teach

• Display: the Tree tool showing one tree with 10 apples on it.

• Say: **One, two, three … ten. There are ten apples on the tree.**

• Ask children to close their eyes. Remove six apples so that they are hidden from view.

• Say: **Some apples have been picked. How many apples are left on the tree?**

• Count the apples on the tree with children.

• Say: **There are four apples left. There were ten. Ten take away how many leaves four?**

• Say: **We can write this as a subtraction calculation like this …**

• Write on the board: 10 − □ = 4.

• Display: the Number Line tool showing the numbers 0–20.

• Say: **We can use the number line to help to solve this subtraction calculation.**

• Circle ten and four on the line.

• Ask: **What is the difference between ten and four? How many less is four than ten? Count back from ten to four with me.**

• Count back with children, showing the six ‘jumps’ from ten to land on four.

• Ask: **The difference between ten and four is six. Ten take away six leaves four. So there were ten apples on the tree, six were picked, leaving four.**

• Write 6 on the board to complete the calculation: (10 – 6 = 4).

• Say: **Ten minus six equals four.**

• Check with children by clicking and counting the number of apples that were removed.

• Display: the Tree tool showing one tree. Click to count nine apples onto the tree, and display a
13 number card next to the tree.

• Say: **There are 13 apples here altogether. There are nine apples on the tree. How many have been picked? Nine and how many more makes 13 altogether?**

• Say: **We can write this as an addition calculation like this …**

• Write on the board: 9 + □ = 13.

• Display: the Number Line tool.

• Say: **We can use the number line to help to solve this addition calculation.**

• Circle 9 and 13 on the number line.

• Ask: **How many more than nine is 13? Count on from nine to 13 with me.**

• Count on with children, showing the four ‘jumps’ from nine to land on 13.

• Say: **Thirteen is four more than nine. Nine add four makes 13. So there were nine apples on the tree and four that were picked, making 13 altogether.**

• Write 4 on the board to complete the calculation: 9 + 4 = 13.

• Say: **Nine add four equals 13.**

• Check with children by clicking and counting the number of
apples that were picked.

• Continue to set further missing number problems 
involving addition and subtraction facts

Alter the range of numbers used,

as appropriate. For example, if children are confident and accurate with addition and subtraction within 15, gradually extend the range to addition and subtraction within 20.

to 15 in the same way. Use problems involving both

one- and two-digit numbers and zero (e.g.

12 – □ = 12, 9 − □ = 0, 11 + □ = 11, 0 + □ = 13).

Individualised Learning

 **Pupil Book 1B** – Page 32: Missing mangoes

**Progress Guide 1** – Support, Year 1, Unit 7, Week 2, Lesson 3:
 Picnic problems

Refer to Activity 3 from the Learning
activities on page 293.

Plenary

• Remind children that they have found out that if they know an addition fact then they also know a subtraction fact; and if they know a subtraction fact then they also know an addition fact.

• Write on the board: 12 − □ = 7.

• Ask: **Can you find the missing number in this subtraction calculation?**

• Display: the Number Line tool and use it to count on 5 from 7 to reach 12, to find the missing number (5).

• Write 5 on the board to complete the calculation: 12 – 5 = 7.

• Say: **So we know that 12 take away five makes seven. What else do we know?**

• Encourage children to identify that: 5 + 7 = 12 and 7 + 5 = 12; also 12 – 7 = 5.

• Repeat for two or three further missing number addition and subtraction problems, encouraging children to identify the related facts for each one.

 Overcoming Barriers

* Some children may find it difficult to see that completing a calculation using a number track or number line gives the same answer as using counting objects. If necessary, provide children with counting objects so that they can complete calculations using both methods. This enables them to experience first hand that using a number line gives the same answer, but is quicker and easier, particularly when working with large numbers.