First Level – Exploring Number
Addition and Subtraction Homework Cards

AS1.1 I can add by combining groups of items together and counting them to find a total

Cutlery challenge Supervise children as they count the number of pieces of cutlery they have at home. They record the number of each type separately in their learning logs, drawing pictures or writing numbers, e.g. 12 spoons, 15 forks and 11 knives.

AS1.1 I can add by combining groups of items together and counting them to find a total

Totals Give each child a total that is appropriate to their confidence with number, e.g. 6, 9, 17. Ask them to draw pictures to show ways of combining groups of objects to make that total.

AS1.2 I can subtract by taking items away from a group and counting what is left to find a total

How many? Children play with a parent, carer or friend. On the count of *Go!*, both players show a number of fingers. The child subtracts the smaller number from the larger by folding them down, and counts how many fingers are left.

AS1.2 I can subtract by taking items away from a group and counting what is left to find a total

Take 5 Ask children to write 10 different numbers larger than 5. For each number they 'take 5' from it and record the question and answer in an appropriate way, drawing pictures or in figures, e.g. 17 take 5 leaves 12. Encourage them to organise the questions and answers into an order, such as starting with the smallest or largest number.

AS1.3 I can count on and back from a number to add and subtract

Jumping Jack *empty number track, 0-9 spinner* Give children an empty track and a 0-9 spinner. Ask them to make up a game to play at home and bring it back to school with a record of the rules.

AS1.3 I can count on and back from a number to add and subtract

Who wants to be a billionaire? Ask children to compose their own addition and subtraction questions for a quiz, giving four possible answers for each question (including the correct answer). Encourage them to create questions that can be solved by counting on or back from the first number and to use a variety of language and symbols. You may wish to write the most common vocabulary in their learning logs.

AS1.4a I can create and complete number sequences by repeatedly adding or subtracting a number – Steps of 1 and 2

Trail puzzles On a 5 × 5 grid children write one number less than 20 on each row. They complete each row of the grid to make a sequence. They bring the to school and share them.

AS1.4a I can create and complete number sequences by repeatedly adding or subtracting a number – Steps of 1 and 2

Make snakes Ask children to draw three snakes, split into many sections, and to write a sequence in each snake, e.g. by counting on or back in 1s or 2s. For more of a challenge you could state that the fifth number in each sequence must be a particular number, e.g. 27 or 54, and say that at least one sequence must be counting back.

AS1.4b I can create and complete number sequences by repeatedly adding or subtracting a number – Steps of 10 and 5

Make more snakes Ask children to draw four snakes, split into many sections and to write a sequence in each snake, e.g. counting on and back in 5s or 10s. For more of a challenge you could state that a given number in each sequence, e.g. the fifth, must be a particular number, e.g. 67 or 84.

AS1.4b I can create and complete number sequences by repeatedly adding or subtracting a number – Steps of 10 and 5

Money running totals Ask children to find as many 5p and 10p coins as they can at home. First they count the 5p coins and record their counting as a sequence, e.g. 5, 10, 15, … etc. and then repeat for the 10p coins. Finally, they collect the coins together and try counting them in any order to find the total. This may involve sometimes counting on 5 and sometimes 10. They record the running total.

AS1.4c I can create and complete number sequences by repeatedly adding or subtracting a number – Multiples of 10 and other helpful numbers

Octopus legs Ask children to draw a large octopus with eight long legs, each split into many sections. Beside each leg children write a different counting rule, e.g. on in 20s, back in 30s, on in 50s, etc. They write a large number, e.g. 325, in the body of the octopus and fill in the sections, counting on or back from this number to complete each leg.


AS1.4c I can create and complete number sequences by repeatedly adding or subtracting a number – Multiples of 10 and other helpful numbers

Money running totals Ask children to find as many 5p, 10p, 20p and 50p coins as they can at home. First they count the coins of each type separately and record their counting as a sequence, e.g. 20, 40, 60, … etc. Then they collect the coins together and try counting them in any order to find the total. This may involve sometimes counting on 5, sometimes 10, sometimes 20 and sometimes 50. They record the running total.

AS1.5 I can use and explain the connection between addition and subtraction and can work out related facts

M and Ms Ask children to draw Ms in their learning logs, showing three linked numbers:

38   55
   M
   17
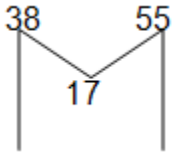
Children write four number sentences linking these numbers (two additions and two subtractions).

AS1.5 I can use and explain the connection between addition and subtraction and can work out related facts

Magic cards Children decide on their 'magic' number. In class they make cards with addition bonds to this number written on opposite sides of the card, e.g. if the magic number is 10 they might write 6 on one side, 4 on the other. They take them home and tell their parents/carers that they are mind readers because they can tell what's on the back of any card that is chosen. Encourage them to make some cards with more obscure number totals and swap with friends to take home.

AS1.6 I can recall my addition and subtraction bonds quickly and accurately and I can use this to work out new facts

Quick grids Ask children to draw several noughts and crosses grids with two vertical and two horizontal lines. In the top left they draw a + sign. In the other two spaces in the top row and in the left column they write numbers to 10. Finally they fill in the remaining four spaces with the totals, e.g.

+	5	7
4	9	11
8	13	15

They could explore odds and evens too. What do they notice?

AS1.6 I can recall my addition and subtraction bonds quickly and accurately and I can use this to work out new facts

Totals Provide children with a suitable total, appropriate to their confidence with number, e.g. 6, 9, 17 or 25, etc. Ask them to record all the different addition calculations involving two numbers, with that total, in their learning logs. Encourage them to work systematically.

AS1.7a I can use pictures, jottings and models to work out and record my addition and subtraction calculations – 100-square

A, B or C Ask children to write five calculation questions and provide three possible answers, A, B and C, one of which must be correct. Children use a 100-square to work out the correct answer. Questions can be used for a quiz at school.

AS1.7a I can use pictures, jottings and models to work out and record my addition and subtraction calculations – 100-square

Teach them how Ask children to write two short explanations in their learning logs for children of a younger age. These should explain how to use a 100-square to solve an addition question and a subtraction question.

AS1.7b I can use pictures, jottings and models to work out and record my addition and subtraction calculations – Empty number line

Three lines Ask children to draw three different lines to show how a calculation, e.g. 65 – 38, could be worked out using an empty number line. Remind them that subtractions can be worked out by counting back from the larger number, counting on from the smaller number or by working out the difference between the two.

AS1.7b I can use pictures, jottings and models to work out and record my addition and subtraction calculations – Empty number line

A, B or C Ask children to write five calculation questions and provide three possible answers, A, B and C, one of which must be correct. Children draw a number line to show how they worked out the correct answer. Questions can be used for a quiz at school.

AS1.7c I can use pictures, jottings and models to work out and record my addition and subtraction calculations – Partitioning

Teach them how Ask children to write two short explanations in their learning logs for children of a younger age. These should explain how to use partitioning to solve an addition question and a subtraction question.

AS1.8a I can use number facts and a variety of mental models to work out addition and subtraction calculations – More than 2 numbers

Triangles Give the letters in the word TRIANGLES values: if T is 1, R is 2, I is 3, A is 4, N is 5 and so on up to S is 9. Children find and record the totals of as many different words as they can, using the letters, e.g., TEN, EAR, LINE, REST, SELL, TRAIN, ANGLE, etc.

AS1.8a I can use number facts and a variety of mental models to work out addition and subtraction calculations – More than 2 numbers

Page number totals Ask children to find a book at home, and to find all the numbers on the first 10 pages (some might be written in words). They find the 'total' of each page number and record the total in their learning logs. They also write an explanation of how they worked this out.

AS1.8b I can use number facts and a variety of mental models to work out addition and subtraction calculations – 1- and 2-digit numbers

Darts Ask children to draw a simple circle split into 'pie-slices' to represent a dartboard. In each section they write a number between 1 and 100. In their learning logs they record where 2 or 3 counters might hit their dartboard in each 'go' and record the totals.

AS1.8b I can use number facts and a variety of mental models to work out addition and subtraction calculations – 1- and 2-digit numbers

Number chain story Provide a series of numbers in a chain, e.g. 6 → 27 → 77 → 42 → 14. Ask children to write a story to match this chain, e.g. *A bakery had 6 loaves on its shelf. Another 21 were baked and put out, making 27 on the shelf. Another batch of 50 was ready, so there were 77 altogether, although 35 of these were quickly sold, leaving only 42 loaves. By the end of the day another 28 had sold and there were only 14 loaves left.*

AS1.8c I can use number facts and a variety of mental models to work out addition and subtraction calculations – At least 2-digit numbers

Un-magical squares Ask children to draw a 2 × 2 square containing four 2-digit numbers, e.g. 37, 49, 72 and 48. They find the total of each row, column and diagonal and record them around the square. Finally they check that the total of the two row totals is the same as the total of the two column and the two diagonal totals.

AS1.8c I can use number facts and a variety of mental models to work out addition and subtraction calculations – At least 2-digit numbers

Differences Ask children to cut numbers out of newspapers and magazines and stick them into their learning logs in pairs, so that each pair has a difference of between 30 and 50, e.g. 59 and 94 have a difference of 35.

AS1.8d I can use number facts and a variety of mental models to work out addition and subtraction calculations – Multiples of 10, 100, 1000

The answer is 60 Ask children to record as many different subtraction questions as they can using multiples of 10, with the answer 60, e.g. 150 – 90, 220 – 160, 90 – 30, etc. A similar activity could use multiples of 100 and have the answer 600, or multiples of 1000 and have the answer 6000.

AS1.8d I can use number facts and a variety of mental models to work out addition and subtraction calculations – Multiples of 10, 100, 1000

Write a guide Ask children to write a small guide to help younger children to understand how to find totals and differences of multiples of 10, 100 and 1000, e.g. how to work out 150 – 90, 400 + 1200 or 45000 – 32000, etc.

AS1.9a I can work out addition calculations using formal methods – 2-digit numbers add 2-digit numbers

Un-magical squares Ask children to draw a 2 × 2 square containing four 2-digit numbers, e.g. 37, 45, 72 and 48. They find the total of each row, column and diagonal using a formal method and record them around the square. Finally, they check that the total of the two row totals is the same as the total of the two columns and the two diagonal totals.

AS1.9a I can work out addition calculations using formal methods – 2-digit numbers add 2-digit numbers

Investigating totals *0–99 or 1–100 square* Ask children to draw a square around four numbers on a 100-square and to find the totals of the two numbers in each row of that square, using a formal method. They repeat for another three squares and write an explanation of any patterns they find in their learning log.

AS1.9b I can work out addition calculations using formal methods – 3-digit numbers add 2- or 3-digit numbers

Masses of tins Ask children to look in cupboards at home and to record the masses of food tins, e.g. baked beans 445g, tuna 220g, custard 327g, etc. Having listed at least ten different masses, they choose pairs of tins and find the total mass for each. The answers could be presented as puzzles for other children at school to solve.

AS1.9b I can work out addition calculations using formal methods – 3-digit numbers add 2- or 3-digit numbers

DIY digits Ask children to make three 3-digit numbers using the digits 1 to 9, e.g. 598, 217, 346. They then use a formal method to find the total of the three numbers and record this in their learning log. Challenge children to make different types of total, e.g. the largest possible total, the smallest possible total and totals nearest to 400, 700 and 550.

AS1.10a I can work out subtraction calculations using formal methods – 2-digit numbers subtract 2-digit numbers

Take over Provide two sets of numbers separated by a subtraction sign, e.g. [56, 65, 81, 74 and 92] – [46, 28, 37, 46 and 15]. Ask children to use the numbers from each set to make as many different subtraction questions as they can and find the answers using a formal method.

AS1.10a I can work out subtraction calculations using formal methods – 2-digit numbers subtract 2-digit numbers

Teach them how Ask children to write a short explanation in their learning logs for children of a younger age. These should explain how to solve a subtraction question (2-digit numbers) using a formal method.

AS1.10b I can work out subtraction calculations using formal methods – 3-digit numbers subtract 2- or 3-digit numbers

Phone line Ask children to write the last six digits of their phone number as two 3-digit numbers, e.g. 318 and 225. They subtract the smaller number from the larger using a formal method. Note that if the hundreds digit is zero the question will be 3-digit subtract 2-digit. They repeat for other phone numbers they know.

AS1.10b I can work out subtraction calculations using formal methods – 3-digit numbers subtract 2- or 3-digit numbers

DIY digits Ask children to make three 3-digit numbers using the digits 1 to 9, e.g. 598, 217, 346. They choose the largest of the three numbers and subtract one of the others, using a formal method and record this in their learning log. Challenge children to make the largest/smallest possible answers and answers nearest to 400, 300 and 150.

AS1.11 I can select and use the most appropriate strategy for solving addition and subtraction problems

Calculation choices Ask children to write and solve a question using each of these methods:
- using an empty number line
- using partitioning
- using a formal method of addition
- using a formal method of subtraction.

AS1.11 I can select and use the most appropriate strategy for solving addition and subtraction problems

Interview Ask an adult about how they learned to do addition and subtraction and tell them how you have learned at school.