Year 3 - Bridge Through a Multiple of 10

When to choose this strategy

When adding takes us past a multiple of 10, add enough to reach it first. Then add the rest.

Worked example

96 + 8



1. We can add 4 to reach 100 from 96. Split 8 into 4 and 4. Start at 96 and add 4 to reach 100.

2. Add the remaining 4 to get 104. Check that 4 and 4 make the original 8.

> **Remember:** The first jump uses part of the number you are adding. Add only the part that is left.

Check understanding

586 + 30
Which multiple of 10 will you reach first? How much of the number is left to add?

Expected answer 586 + 30 = 616

Year 3 - Bridge Through a Multiple of 10

When to choose this strategy

When subtracting takes us past a multiple of 10, subtract enough to reach it first. Then subtract the rest.

Worked example

103 − 7



1. We can subtract 3 to reach 100 from 103. Split 7 into 3 and 4. Start at 103 and subtract 3 to reach 100.

2. Subtract the remaining 4 to get 96. Check that 3 and 4 make the original 7.

> **Remember:** The first jump uses part of the number you are subtracting. Subtract only the part that is left.

Check understanding

613 − 30
Which multiple of 10 will you reach first? How much is left to subtract?

Expected answer 613 − 30 = 583

Year 3 - Change an Addend When Close to a Clear Multiple

When to choose this strategy

When a number is close to a multiple of 10 or 100, use the nearby multiple to make the calculation easier. Then adjust to allow for the change.

Worked example

64 + 29



1. The addend, the number we add, is 29. It is close to 30, an easier number to work with. Add 30 to 64 to get 94.

2. We added 1 too much, so subtract 1. The sum is 93.

> **Remember:** If you added too much, subtract the extra. If you added too little, add the amount still needed.

Check understanding

53 + 19
What multiple will you add first? How will you adjust the total?

Expected answer 53 + 19 = 72

Year 3 - Change the Subtrahend When Close to a Clear Multiple

When to choose this strategy

When a number is close to a multiple of 10 or 100, use the nearby multiple to make the calculation easier. Then adjust to allow for the change.

Worked example

84 − 29



1. The subtrahend, the number we subtract, is 29. It is close to 30, an easier number to work with. Subtract 30 from 84 to get 54.

2. We took away 1 too much, so add 1. The difference is 55.

> **Remember:** If you took away too much, add the extra back. If you took away too little, subtract the amount still needed.

Check understanding

73 − 19

What multiple will you subtract first? How much will you add back or still need to subtract?

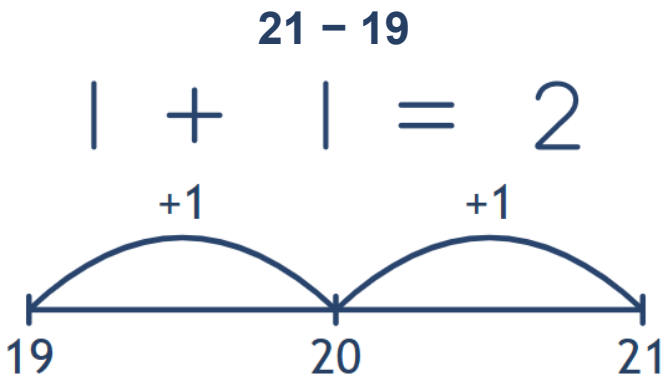
Expected answer 73 − 19 = 54

Year 3 - Count Up to Find the Difference

When to choose this strategy

When the numbers are close together, count up from the smaller number to the larger one. The amount you add is their difference.

Worked example



1. 21 and 19 are close together, so count up to find the difference. We count up from 19 to 20. That jump is 1.

2. Then we count up from 20 to 21. That jump is 1. The two jumps together give the difference. The difference is 2.

> **Remember:** The difference is the total of the jumps between the two numbers.

Check understanding

81 − 78
Where will you start counting up? How do your jumps give the difference?

Expected answer 81 − 78 = 3

Year 3 - Choose a Pair to Add Three Numbers

When to choose this strategy

When adding three numbers, look at all three before choosing a pair. Use number bonds or doubles to make the next step easier. The useful pair can be anywhere in the question. Use the remaining number once after the first calculation.

Worked example

8 + 16 + 2



1. Choose 8 and 2 because they make 10, which is easy to add to. Add that pair first.

2. Add the remaining 16 to 10. The sum is 26.

> **Remember:** Use each of the three numbers once. After adding your pair, add the remaining number.

Check understanding

3 + 47 + 7

Which pair gives you a helpful total? What will you add to that total?

Expected answer 3 + 47 + 7 = 57

Year 3 - Use a Related Fact

When to choose this strategy

When the numbers are multiples of 10 or 100, think in tens or hundreds. Use a number fact you know, then keep the place value of the answer.

Worked example

500 + 200



1. 500 is 5 hundreds. 200 is 2 hundreds. Use the known fact 5 + 2 = 7.

2. The result is 7 hundreds, which is 700.

> **Remember:** Name the unit in the answer. For example, seven tens is seventy.

Check understanding

340 + 20

Which fact will you use? What place value does your answer have?

Expected answer 340 + 20 = 360

Year 3 - Use a Related Fact

When to choose this strategy

When the numbers are multiples of 10 or 100, think in tens or hundreds. Use a number fact you know, then keep the place value of the answer.

Worked example

500 − 200



1. 500 is 5 hundreds. 200 is 2 hundreds. Use the known fact 5 − 2 = 3.

2. The result is 3 hundreds, which is 300.

> **Remember:** Name the unit in the answer. For example, three tens is thirty.

Check understanding

340 − 20

Which subtraction fact helps? How do you turn that fact into the answer?

Expected answer 340 − 20 = 320

Year 3 - Partition to Add Without Exchanges

When to choose this strategy

When the digits add without an exchange, partition the number you add. Add one part at a time.

Worked example

430 + 205



1. The matching digits in 430 and 205 add to less than 10 in each place, so we can add without exchanging. Partition 205 into 200 and 5. When we partition to work mentally, we start with the largest place value. Add 200 to 430 to get 630.

2. Then add 5 to 630. The sum is 635. Check that the two parts make 205.

> **Remember:** Add each part once. Start with the largest place value.

Check understanding

280 + 103
How will you partition the number you add? Which part will you add first?

Expected answer 280 + 103 = 383

Year 3 - Partition to Subtract Without Exchanges

When to choose this strategy

When there is enough to subtract in each place, partition the number you subtract. Subtract one part at a time.

Worked example

575 − 104



1. In each place, the digit in 575 is large enough to subtract the matching digit in 104 without exchanging. Partition 104 into 100 and 4. When we partition to work mentally, we start with the largest place value. Subtract 100 from 575 to get 475.

2. Then subtract 4 from 475. The difference is 471. Check that the two parts make 104.

> **Remember:** Check that each place has enough to subtract. Start with the largest part when you partition the number you subtract.

Check understanding

637 − 203

How will you partition the number you subtract? Which part will you subtract first?

Expected answer 637 − 203 = 434

Year 3 - Use a Near Double

When to choose this strategy

When the two numbers are one apart, double the smaller number and add 1.

Worked example

17 + 18



1. 18 is one more than 17. Start with double 17, which is 34.

2. Add the extra 1 from 18 to 34. The sum is 35.

> **Remember:** Add 1 to the double of the smaller number because the larger number is 1 more.

Check understanding

15 + 16
Which number will you double? Why will you add 1?

Expected answer 15 + 16 = 31

Year 3 - Double to Multiply by 2

When to choose this strategy

To multiply by 2, double the number. You can double the tens and ones separately, then add the two amounts.

Worked example

34 × 2



1. Multiplying by 2 means we can double. Split 34 into 30 and 4. When we partition to work mentally, we start with the largest place value. First, double 30 to get 60.

2. Then double 4 to get 8.

3. Put the two parts together. 60 plus 8 gives 68.

> **Remember:** Double each place-value part. Add those doubled amounts to find the product.

Check understanding

32 × 2

How will you split the number? Which part will you double first?

Expected answer 32 × 2 = 64

Year 3 - Halve to Divide by 2

When to choose this strategy

To divide by 2, find half. If the tens and ones both divide exactly by 2, halve them separately and add the two amounts.

Worked example

68 ÷ 2



1. Dividing by 2 means we can halve. Split 68 into 60 and 8. When we partition to work mentally, we start with the largest place value. First, halve 60 to get 30.

2. Then halve 8 to get 4.

3. Put the two parts together. 30 plus 4 gives 34.

> **Remember:** When both parts halve exactly, halve each part and add the halves.

Check understanding

64 ÷ 2
Which part will you halve first? How will you combine the halves?

Expected answer 64 ÷ 2 = 32

Year 3 - Use a Related Fact

When to choose this strategy

When the numbers are multiples of 10 or 100, think in tens or hundreds. Use a number fact you know, then keep the place value of the answer.

Worked example

30 × 4



1. 30 is 3 tens. Use the known fact 3 × 4 = 12.

2. The result is 12 tens, which is 120.

> **Remember:** Keep the unit from the known fact. For example, twelve tens is one hundred and twenty.

Check understanding

20 × 5

Which multiplication fact will you use? What place value does the answer have?

Expected answer 20 × 5 = 100

Year 3 - Use a Related Fact

When to choose this strategy

When the numbers are multiples of 10 or 100, think in tens or hundreds. Use a number fact you know, then keep the place value of the answer.

Worked example

80 ÷ 4



1. 80 is 8 tens. Use the known fact 8 ÷ 4 = 2.

2. The result is 2 tens, which is 20.

> **Remember:** Keep track of what one group contains when you divide the tens or hundreds.

Check understanding

100 ÷ 5

Which place-value unit gives you a related division fact? What is one group worth?

Expected answer 100 ÷ 5 = 20

Year 3 - Choose a Pair to Multiply Three Numbers

When to choose this strategy

When multiplying three numbers, look at all three before choosing a pair. Use multiplication facts to make the next step easier. The useful pair can be anywhere in the question. Use the remaining number once after the first calculation.

Worked example

4 × 7 × 5



1. Choose 4 and 5 because they make 20, which is easy to multiply by. Multiply that pair first.

2. Multiply 20 by the remaining factor, 7. The product is 140.

> **Remember:** Multiply the product of your pair by the remaining factor.

Check understanding

5 × 9 × 2
Which pair gives a product that is easy to multiply by? Which factor will you use next?

Expected answer 5 × 9 × 2 = 90

Year 3 - Double Twice

When to choose this strategy

To multiply by 4, double twice. This is helpful when both doubles are easy to find.

Worked example

23 × 4



1. Four is two times two, so we can double twice. Double 23 first to get 46.

2. Now double 46, the result of the first step, to get 92.

> **Remember:** Double the result of the first doubling.

Check understanding

32 × 4

What is the first double? Which number will you double next?

Expected answer 32 × 4 = 128

Year 3 - Halve Twice

When to choose this strategy

To divide by 4, halve twice. This is helpful when both halves are easy to find.

Worked example

84 ÷ 4

42 ÷ 2 = 21

1. Four is two times two, so we can halve twice. Halve 84 first to get 42.

2. Now halve 42, the result of the first step, to get 21. Check that four equal shares of 21 make 84.

> **Remember:** Halve the result of the first halving.

Check understanding

36 ÷ 4

What is the first half? Which number will you halve next?

Expected answer 36 ÷ 4 = 9

Year 3 - Partition to Multiply Using Known Facts

When to choose this strategy

When the tens and ones give you multiplication facts you know, partition the number. Multiply each part, then add the products.

Worked example

23 × 3



1. We know the facts for 20 times 3 and 3 times 3. Split 23 into 20 and 3. When we partition to work mentally, we start with the largest place value. Multiply 20 by 3 to get 60.

2. Multiply 3 by 3 to get 9.

3. We multiplied both parts by 3. Add the products 60 and 9 to get 69.

> **Remember:** Multiply every part by the same factor, starting with the largest place value. Add the products.

Check understanding

33 × 2

How will you partition the number? Which part will you multiply first?

Expected answer 33 × 2 = 66