Reasoning and Problem Solving
Step 3: Multiply 2-Digits by 2-Digits

National Curriculum Objectives:

Mathematics Year 5: (5C6a) Multiply and divide numbers mentally drawing upon known facts
Mathematics Year 5: (5C6b) Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000
Mathematics Year 5: (5C7a) Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Create possible multiplications using four digit cards up to 5.
Expected Create possible multiplications using four digit cards up to 7.
Greater Depth Create possible multiplications using four digit cards up to 9.

Questions 2, 5 and 8 (Problem Solving)
Developing Write down the possible numbers using the given statements. Numbers up to 30.
Expected Write down the possible numbers using the given statements. Numbers up to 50.
Greater Depth Write down the possible numbers using the given statements. Numbers up to 99.

Questions 3, 6 and 9 (Reasoning)
Developing Explain whether or not a multiplication calculation is correct. Numbers up to 30.
Expected Explain whether or not a multiplication calculation is correct. Numbers up to 50.
Greater Depth Explain whether or not a multiplication calculation is correct. Numbers up to 99.

More resources which follow the same small steps as White Rose.

Did you like this resource? Don't forget to review it on our website.

Multiply 2-Digits by 2-Digits

1a. Multiply 2-digits by 2-digits using the cards below.

x		

2 3 5 1

D PS

1b. Multiply 2-digits by 2-digits using the cards below.

x		

3 2 4 1

D PS

2a. Anaya is thinking of a number...

I multiply the number by 15. The answer is odd and is greater than 305 but smaller than 345.

What could Anaya's number be?

D PS

2b. Tomas is thinking of a number...

I multiply the number by 22. The answer is less than 400 but greater than 350.

What could Tomas' number be?

D PS

3a. Zayden solves the following multiplication.

	2	6
x	2	1
	2	6
4	1	2
	1	
4	3	8

Is he correct? Explain why.

D R

3b. Faith solves the following multiplication.

	2	7
x	1	7
1	8	9
	4	
2	7	0
3	5	9

Is she correct? Explain why.

D R

Multiply 2-Digits by 2-Digits

4a. Multiply 2-digits by 2-digits using the cards below.

x		

2 5 7 1

E PS

4b. Multiply 2-digits by 2-digits using the cards below.

x		

3 6 4 8

E PS

5a. Xavier is thinking of a number...

I multiply the number by 33. The answer is even and is greater than 650 but smaller than 750.

What could Xavier's number be?
Write all of the possibilities.

E PS

5b. Aimee is thinking of a number...

I multiply the number by 41. The answer is odd and is less than 700 but greater than 600.

What could Aimee's number be?
Write all the possibilities.

E PS

6a. Terry solves the following multiplication.

		3	8
x		2	6
2	2	8	
	4		
6	1	6	
	1		
8	4	4	
	1		

Is he correct? Explain why.

E R

6b. May solves the following multiplication.

		4	3
	x	2	8
	3	4	4
		2	
	8	6	0
		6	
1	1	0	4

Is she correct? Explain why.

E R

Multiply 2-Digits by 2-Digits

7a. Create and solve 4 multiplications using the digit cards below and find the calculation that gives the answer closest to 1,250.

x		

6	2	4	8

GD PS

Multiply 2-Digits by 2-Digits

7b. Create and solve 4 multiplications using the digit cards below and find the calculation that gives the answer closest to 3,400.

x		

3	9	5	7

GD PS

8a. Shyla is thinking of a number...

I multiply the number by 63. The answer is even and is greater than 1,000 but smaller than 1,400.

What could Shyla's number be?
Write all of the possibilities.

GD PS

8b. Ty is thinking of a number...

I multiply the number by 75. The answer is odd and is less than 1,500 but greater than 1,000.

What could Ty's number be?
Write all of the possibilities.

GD PS

9a. Hallie solves the following multiplication.

			7	4
		x	4	7
		5	1	8
			2	
	2	9	6	0
		1		
	2	4	7	8

Is she correct? Explain why.

GD R

9b. Jayvion solves the following multiplication.

			8	6
		x	3	2
		1	7	2
			1	
	2	5	8	0
		1		
	2	7	5	2
		1		

Is he correct? Explain why.

GD R

Reasoning and Problem Solving
Multiply 2-Digits by 2-Digits

Developing

1a. Various answers, for example:
25 x 31 = 775; 15 x 23 = 345; 21 x 35 = 735

2a. The number is 21.

3a. No. 6 x 20 = 120 and Zayden has recorded it as 12 forgetting to include the 0 in the ones column. It should be 546.

Expected

4a. Various answers, for example:
25 x 71 = 1,775; 52 x 71 = 3,692;
72 x 51 = 3,672; 15 x 27 = 405

5a. The number could be 20 or 22.

6a. No. 8 x 20 = 160 and Terry has recorded it as 16 forgetting to include the 0 in the ones column. It should be 988.

Greater Depth

7a. Various answers, for example:
28 x 46 = 1,288; 62 x 48 = 2,976;
26 x 84 = 2,184; 42 x 68 = 2,856.
The calculation closest to 1,250 is
26 x 48 = 1,248.

8a. The number could be 16, 18, 20 or 22.

9a. No. Hallie has not written down the exchange when adding the hundreds in the answer. It should be 3,478.

Reasoning and Problem Solving
Multiply 2-Digits by 2-Digits

Developing

1b. Various answers, for example:
13 x 24 = 312; 32 x 41 = 1,312;
23 x 14 = 322

2b. The number could be 16, 17 or 18.

3b. No. Faith has not written down the exchange when adding the tens in the answer. It should be 459.

Expected

4b. Various answers, for example:
36 x 48 = 1,728; 64 x 38 = 2,432;
43 x 68 = 2,924; 63 x 48 = 3,024

5b. The number could be 15 or 17.

6b. No. May has not written down the exchange when adding the tens in the answer. It should be 1,204.

Greater Depth

7b. Various answers, for example:
35 x 79 = 2,765; 37 x 59 = 2,183;
59 x 73 = 4,307; 39 x 57 = 2,223. The calculation closest to 3,400 is
35 x 97 = 3,395.

8b. The number could be 15, 17 or 19.

9b. Yes.