

## Multiplication

L.I. To multiply numbers using long multiplication

### *Background/Support*

Long multiplication (or column multiplication) is a written method of multiplying numbers (usually a two- or three-digit number by another large number).

		3	4	5
x			2	3
1	0	3	5	
	1			
6	9	0	0	
	1			
7	9	3	5	

**1. Multiply each of the digits 345 by 3**

$$3 \times 5 = 15$$

Put down the 5 and carry the 1

$$3 \times 4 = 12 \text{ (add the carried 1, } 12 + 1 = 13)$$

Put down the 3 and carry the 1

$$3 \times 3 = 9 \text{ (add the carried 1, } 9 + 1 = 10)$$

Put down the 10

**2. Next, multiply each of the digits 345 by 2. Because the 2 is actually 20 we put 0 down first.**

$$2 \times 5 = 10$$

Put down the 0 and carry the 1

$$2 \times 4 = 8 \text{ (add the carried 1, } 8 + 1 = 9)$$

$$2 \times 3 = 6$$

**3. Add the two calculations together using column addition:  $1035 + 6900 = 7935$**

REMEMBER: Don't add in the carried numbers!!

## Multiply the Ingredients for the Wedding Banquet

At the wedding, Prospero introduces the masque. In the sixteenth and seventeenth centuries, masques were popular forms of entertainment in England. Masques featured masked actors performing allegorical, often highly ritualized stories drawn from mythology and folklore. They then sat down to have a banquet. They don't have much time to prepare and need your help to work out the quantities of ingredients that they will need.

*Task 1:* Use your multiplication knowledge to find the quantities of each ingredients

*For the bread:*



451 x 19  
grams of flour

**ANSWER:**

					4	5	1
				X		1	9

					3	8	0
				X		1	6



380 x 16  
grams of  
baking soda

**ANSWER:**

					1	4	6
				x		4	6



146 x 46  
ml of warm  
water

**ANSWER:**



*For the soup*




651 x 61  
grams of  
beans

**ANSWER:**



591 x 42  
grams of  
fennel

**ANSWER:**



591 x 42  
grams of  
fennel

**ANSWER:**



612 x 18  
grams of  
garlic

**ANSWER:**



*For the Bruttibani*




2012 x 73  
grams of  
hazelnuts

**ANSWER:**



1923 x 64  
grams of  
almonds

**ANSWER:**



1923 x 64  
grams of  
almonds

**ANSWER:**



3187 x 38  
ml of  
sugar

**ANSWER:**





## Problem Solving

*Task 2:* Using your answers. Solve these problems. Show your workings out. You may need to use other operations, like addition and subtraction to solve them.

1. How many more grams of flour than salt did you use in the bread?
2. Did you use more fennel or garlic in the soup recipe? Prove your answer by showing your workings out
3. Convert how many grams of hazelnuts you need into kg
4. Put the ingredients for the Maccu Soup in order, from lightest to heaviest.
5. For which recipe do you need the most weight in ingredients. Prove your answer by showing your calculations

# Multiplication Grid

You may find this helpful to help solve the multiplication problems.

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144