

## **MULTIPLICATION IS REPEATED ADDITION**

**FACT 1: Multiplication is repeated addition.**

When we sell 5 books for \$6 each, we collect \$30 as follows.

$$\begin{array}{c} \$6 + \$6 + \$6 + \$6 + \$6 = \$30 \\ \leftarrow \text{count 5 times} \rightarrow \end{array}$$

We may write this in the following shorthand of multiplication.

$$\$6 \times 5 = \$30$$

**FACT 2: The multiplier may or may not have any units.**

In the following example, the multiplier has no units.

$$\$6 \times 5 = \$30$$

In this second example, the multiplier has units.

$$\$2 \text{ per apple} \times 12 \text{ apples} = \$24$$

The units must make logical sense.

$$2 (\$/\text{apple}) \times 12 (\text{apple}) = 2 \times 12 (\$/\text{apple} \times \text{apple}) = 24 (\$)$$

1. Practice making your own multiplication table, like the one below, by using repeated addition. Compare your table with this table.

Repeated Addition																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80
5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140
8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	144	153	162	171	180
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200

End of Lesson