

Modeling Activity

(Use with Lesson 2-6)

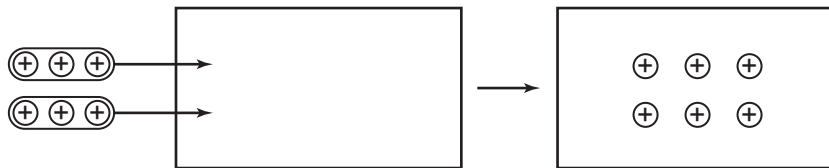
Multiplying Integers

Materials: counters,  integer mat 

You can use counters to model multiplication of integers. In these activities, yellow counters represent positive integers, and red counters represent negative integers. Remember that a zero-pair is found by pairing one positive counter with one negative counter. Also, zero-pairs can be removed or added without changing the value of the set.

Activity 1: Use counters to find the product $+2 \times (+3)$.

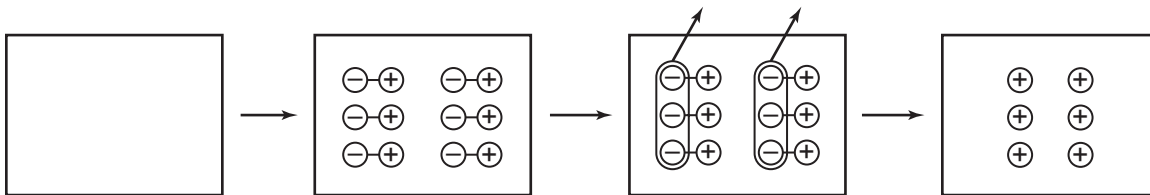
- Think of $+2 \times (+3)$ as *putting in* two sets of three positive counters. Place two sets of three positive counters on the mat.



- Since there are 6 positive counters on the mat, the product is $+6$. Therefore, $+2 \times (+3) = +6$.

Activity 2: Use counters to find the product $(-2)(-3)$.

- Think of $(-2)(-3)$ as *taking out* two sets of three negative counters. In order to accomplish this task, first put in as many zero-pairs as you need.



- Since there are 6 positive counters on the mat, the product is $+6$. Therefore, $(-2)(-3) = +6$.

13. Sample answer: Multiply the two numbers. If the factors are both positive, the product is positive. If one of the factors is positive and the other is negative, the product is negative. If the factors are both negative, the product is positive.

Use counters to find each product.

1. $(+3)(+4)$ **+12** 2. $(+3)(-4)$ **-12** 3. $(-3)(+4)$ **-12** 4. $(-3)(-4)$ **+12**
 5. $(+2)(+5)$ **+10** 6. $(+2)(-5)$ **-10** 7. $(-2)(+5)$ **-10** 8. $(-2)(-5)$ **+10**
 9. $(+4)(+2)$ **+8** 10. $(+4)(-2)$ **-8** 11. $(-4)(+2)$ **-8** 12. $(-4)(-2)$ **+8**

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13. Write a paragraph explaining how to find the product of two integers without using counters. Be sure to include all possibilities.