

# Unit 3 Multiplication and Division

In a multiplication fact, you multiply **factors** to get a **product**.

$$\begin{array}{ccccccc} 4 & \times & 5 & = & 20 \\ \downarrow & & \downarrow & & \downarrow \\ \text{factor} & & \text{factor} & & \text{product} \end{array}$$

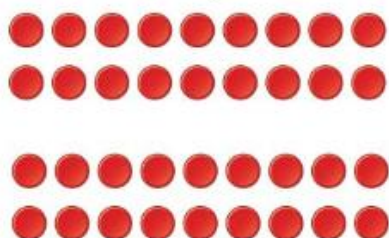
When you double a number, you are multiplying by 2.

Doubling is a strategy you can use to multiply.  
Here are three ways you can use doubling to multiply.

- Use doubling to multiply by 4.

To find  $4 \times 9$ :

First find  $2 \times 9$ , then double.



$$2 \times 9 = 18$$

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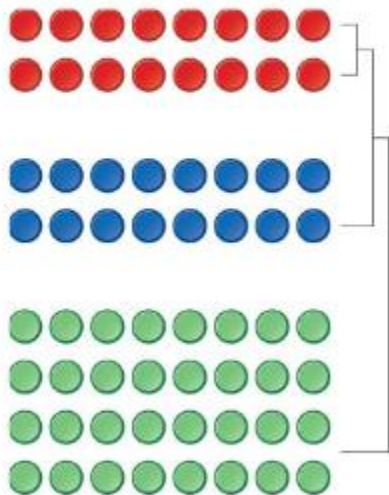
$$4 \times 9 = 36$$

$$18 + 18 = 36$$

- Use repeated doubling to multiply by 8.

To find  $8 \times 8$ :

First think of  $2 \times 8 = 16$ , then double, and then double again.



$$2 \times 8 \text{ is } 8 + 8 = 16$$

$$\text{So, } 2 \times 8 = 16$$

$$4 \times 8 \text{ is double } 2 \times 8$$

$$16 + 16 = 32$$

$$\text{So, } 4 \times 8 = 32$$

$$8 \times 8 \text{ is double } 4 \times 8$$

$$32 + 32 = 64$$

$$\text{So, } 8 \times 8 = 64$$

# Unit 3 Multiplication and Division

- ▶ Begin with a fact you know.  
Double one of the factors, then multiply.

You know  $2 \times 3 = 6$ .

You can double the factor 2 to get 4.

$$4 \times 3 = 12$$

Or, you can double the factor 3 to get 6.

$$2 \times 6 = 12$$

