



AAAS

G4-Math

W1-T2

3<sup>rd</sup> : 7<sup>th</sup> Jan.

## Chapter 3 Lesson 1

# Multiply 2-Digit Numbers by Multiples of 10

Grade 4 Teachers





# Multiply it by 10s

## Learning Objectives:

- I will **multiply** 2 digit numbers by multiples of 10.

## • Success Criteria:

I will be successful if I can **multiply 2 digit** numbers by multiples of 10 into different strategy.



# Let us review counting by 10s



- <https://www.youtube.com/watch?v=uYRTtwZGwj8>



# Let us multiply by multiples of 10s

Multiply by Multiples of 10

Evaluate.

5 × 2 = 10

50 × 2 = ?

10

100

1,000

10,000

Preview

<https://www.splashlearn.com/math-skills/third-grade/multiplication2/multiply-by-multiples-of-10--g3>



# Learn the Process!

Lesson 3.1 Multiply by Tens

HMH

## Essential Question

What strategies can you use to multiply by tens?

Start



[https://www-k6.thinkcentral.com/content/hsp/math/gomath/na/gr4/online\\_interactive\\_teacher\\_book\\_9780544349094/\\_G4\\_Ch3\\_L1/launch.html](https://www-k6.thinkcentral.com/content/hsp/math/gomath/na/gr4/online_interactive_teacher_book_9780544349094/_G4_Ch3_L1/launch.html)



# Period 1

## Place Value Strategy

# How can Zero the Hero help you?

$30$   
 $\times 40$

**2**  
**Zeroes**

**1200**

$$30 \times 40 = 1200$$

$$30 \times 40$$

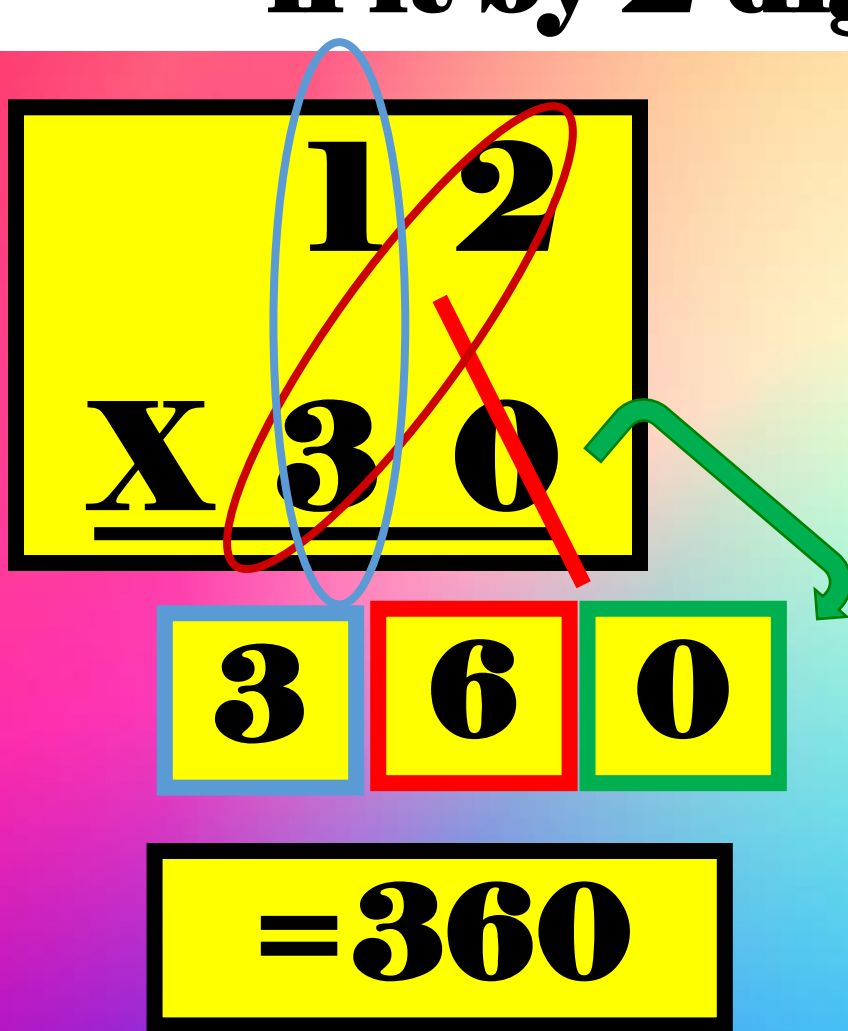
$$30 \times 4 \text{ tens}$$

$$120 \text{ tens}$$

$$= 1200$$



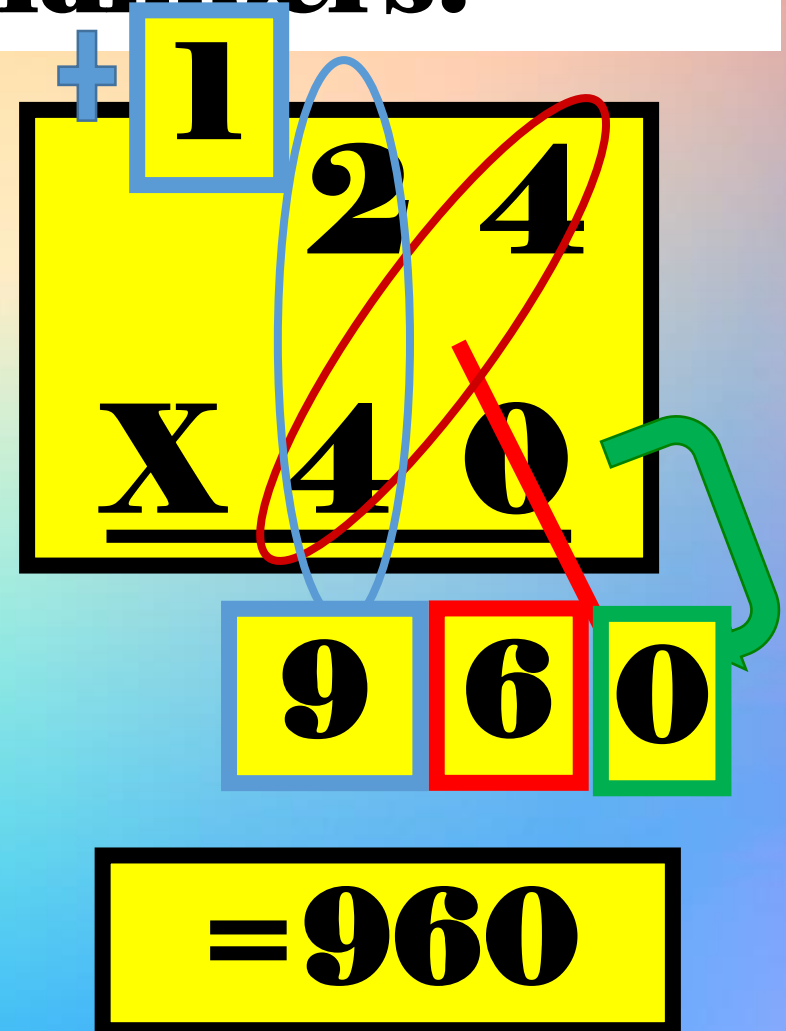
# How can Zero the Hero help you if it by 2 digit numbers?



A multiplication diagram showing the calculation of  $12 \times 30$ . The numbers 12 and 30 are written in a yellow box with a black border. A blue oval encircles the digits 1 and 2. A red diagonal line is drawn through the 1 and 3. A green arrow points from the 0 in 30 to the 0 in the product. Below the main box, the digits 3, 6, and 0 are shown in separate yellow boxes with colored borders (blue, red, green). A final yellow box contains the result  $= 360$ .

$$\begin{array}{r} 12 \\ \times 30 \\ \hline 360 \end{array}$$

$= 360$

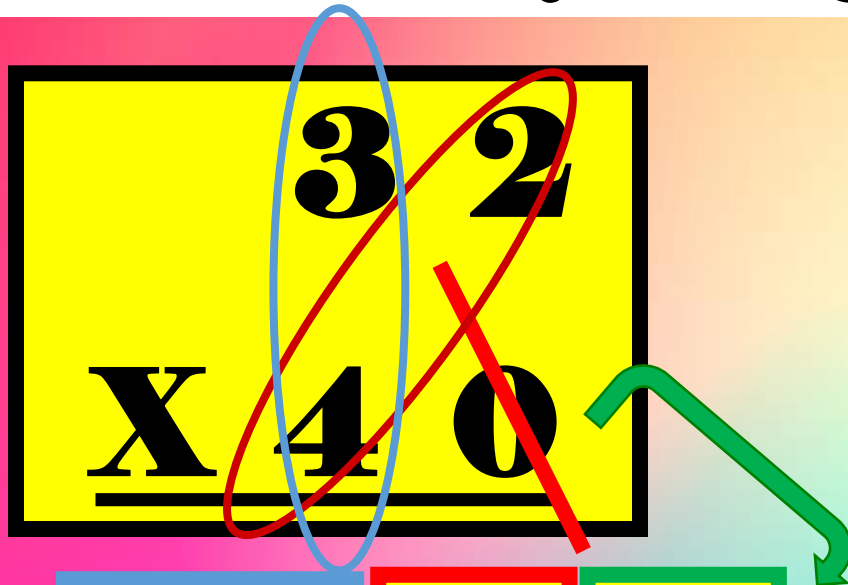


A multiplication diagram showing the calculation of  $124 \times 80$ . The numbers 124 and 80 are written in a yellow box with a black border. A blue oval encircles the digits 1, 2, and 4. A red diagonal line is drawn through the 1 and 8. A blue box with a plus sign and the digit 1 is positioned above the 2. A green arrow points from the 0 in 80 to the 0 in the product. Below the main box, the digits 9, 6, and 0 are shown in separate yellow boxes with colored borders (blue, red, green). A final yellow box contains the result  $= 960$ .

$$\begin{array}{r} 124 \\ \times 80 \\ \hline 960 \end{array}$$

$= 960$

**How can Zero the Hero help you  
if it by 2 digit numbers?**

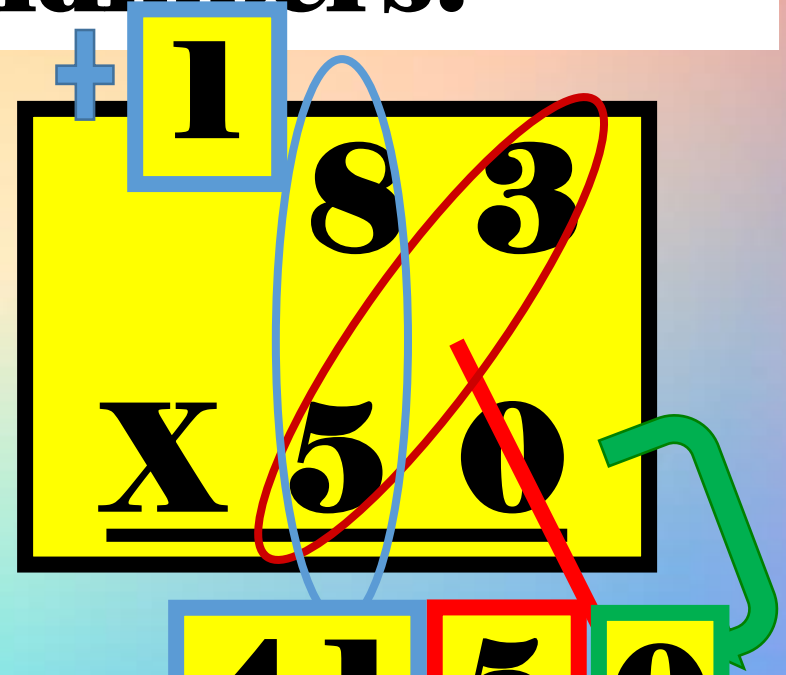


A multiplication problem  $32 \times 40$  is shown on a yellow background. The numbers are arranged in a grid. A blue oval circles the '3' and '2' in the top row. A red oval circles the '4' and '0' in the bottom row. A red 'X' is drawn over the '4' and '0'. A green arrow points from the '0' in the bottom row to the right.



Three boxes containing the numbers 12, 8, and 0. The '12' box has a blue border, the '8' box has a red border, and the '0' box has a green border.

**=1,280**



A multiplication problem  $32 \times 150$  is shown on a yellow background. The numbers are arranged in a grid. A blue oval circles the '3' and '2' in the top row. A red oval circles the '1' and '5' in the bottom row. A red 'X' is drawn over the '1' and '5'. A green arrow points from the '0' in the bottom row to the right. A blue box with a '+' sign and the number '1' is positioned above the '1' in the bottom row.



Three boxes containing the numbers 41, 5, and 0. The '41' box has a blue border, the '5' box has a red border, and the '0' box has a green border.

**=4,150**

# Try These With Your Groupmates

Challenge

1

**40**

**X 90**

Challenge

2

**60**

**X 80**

**40**

**X 24**

Challenge

3

**60**

**X 30**

**90**

**X 36**

**70**

**X 48**



# Period 2

## Associative Strategy

$$A \times (B \times C) = (A \times B) \times C$$

**Remember 30 x 40?**

$$A \times (B \times C) = (A \times B) \times C$$

Think of 30 as 3 x 10 or  
40 as 4 x 10

$$30 \times 40 = 30 \times (4 \times 10)$$

$$= (\cancel{30} \times 4) \times 10$$

$$= \cancel{120} \times \cancel{10}$$

$$= 1200$$

**Remember 12 x 30?**

$$A \times (B \times C) = (A \times B) \times C$$

**Think of 12 as 6 x 2**

$$12 \times 30 = (6 \times 2) \times 30$$

$$= 6 \times (2 \times 30)$$

$$= 6 \times (60)$$

$$= 360$$

**Remember  $24 \times 40$ ?**

$$A \times (B \times C) = (A \times B) \times C$$

**Think of 24 as  $4 \times 6$**

$$24 \times 40 = (4 \times 6) \times 40$$

$$= 4 \times (6 \times 40)$$

$$= 4 \times 240$$

$$= 960$$

# Show the Associative Property Way

Challenge

1

~~40~~

~~X 90~~

Challenge

2

~~60~~

~~X 80~~

~~40~~

~~X 24~~

Challenge

3

~~60~~

~~X 30~~

~~90~~

~~X 36~~



~~70~~


~~X 48~~





# HAVE SOME BREAK!

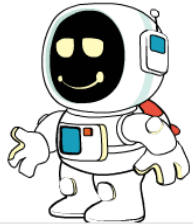
iknowit  Multiplying 2-Digit Numbers by Multiples of 10 Login 

  $31 \times 80 =$

Hint Submit

Progress  
0/15

Score  
0



<https://www.iknowit.com/lessons/d-multiplying-2-digit-numbers-by-multiples-of-10.html>

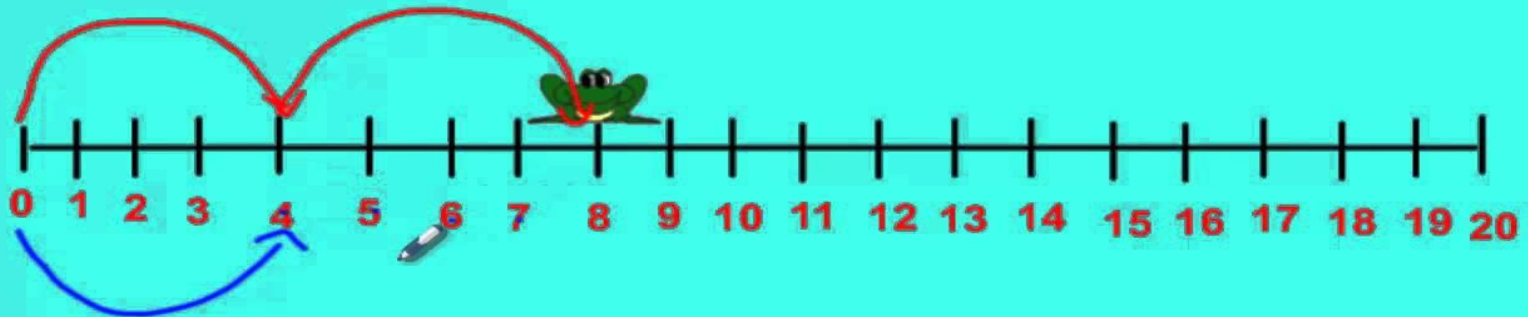


# Period 3

## Number Line Strategy

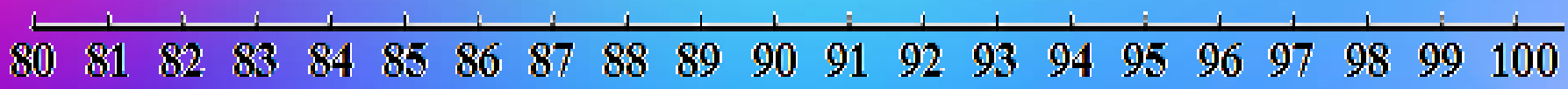
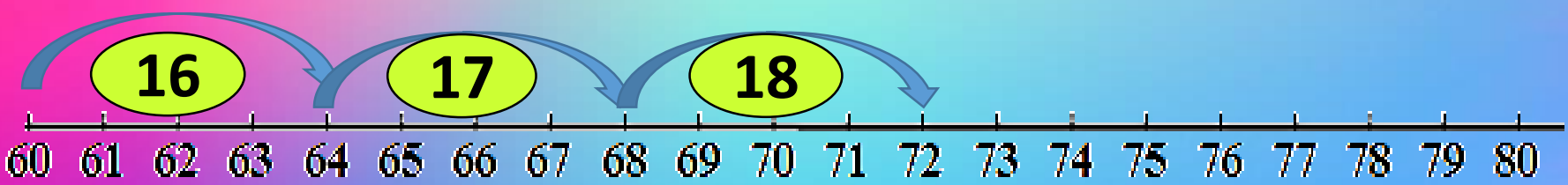
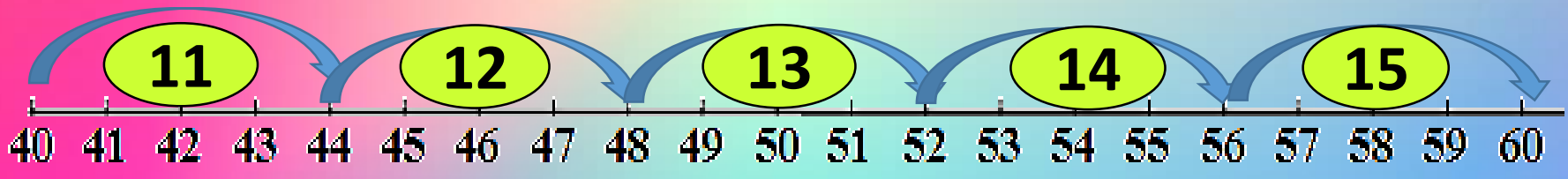
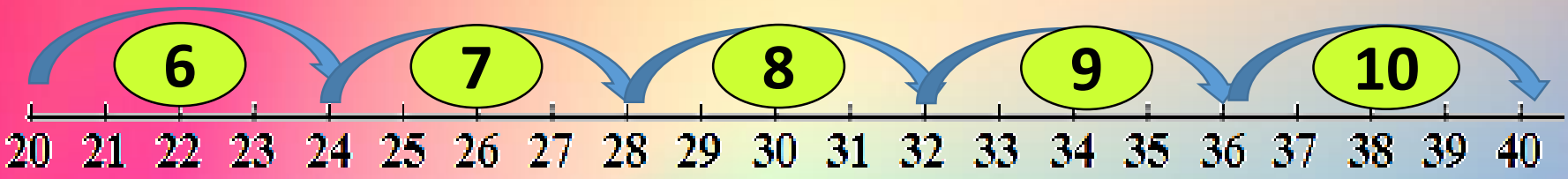
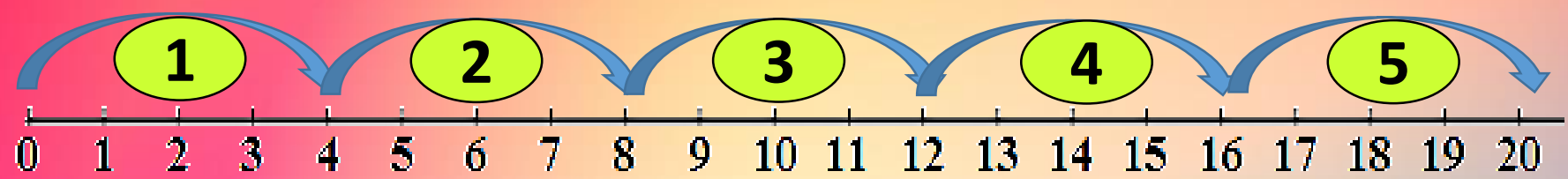
$$2 \times \underline{4} = 8$$

**2 jumps of 4**



$$18 \times 4 = \boxed{72}$$

$$18 \times 40 = \boxed{720}$$





# Period 4

## Halving and Doubling Strategy

An effective strategy for **multiplication**  
*halving and doubling*

**example**

*halving*

$$\begin{aligned} & 8 \times 15 \\ & = 4 \times 30 \\ & = 2 \times 60 \\ & = 1 \times 120 \\ & = \mathbf{120} \end{aligned}$$

*doubling*





# Doubling & Halving multiple of 10

$$12 \times 40$$

half



$$12 \div 2 = 6$$

$$6 \times 40 = 240$$

double



$$240 \times 2 = 480$$



# Doubling & Halving multiple of 10

$$12 \times 40$$

half



double

$$12 \div 2 = 6$$

$$2 \times 40 = 80$$

half



double

$$6 \div 2 = 3$$

$$2 \times 80 = 160$$

$$3 \times 160 = 480$$

$$12 \times 40 = 480$$



Doubling and Halving Strategy

$$4 \times 45 =$$

$$\begin{array}{c} \downarrow \\ 2 \end{array} \times \begin{array}{c} \downarrow \\ 90 \\ \hline 1 \end{array} = \boxed{180}$$





# Plenary

## QUICK FIRE CALCULATION

<https://www.studyzone.tv/game86-code3dc5617c60ff2ca509aabc60944162d1>

MENTAL **30**  
x AND ÷ **X**  
CHALLENGE **40**

USE MENTAL METHODS TO COMPLETE THESE QUICK FIRE CALCULATIONS.

Login to automatically save all your scores so you can track your progress.

**PLAY**

