



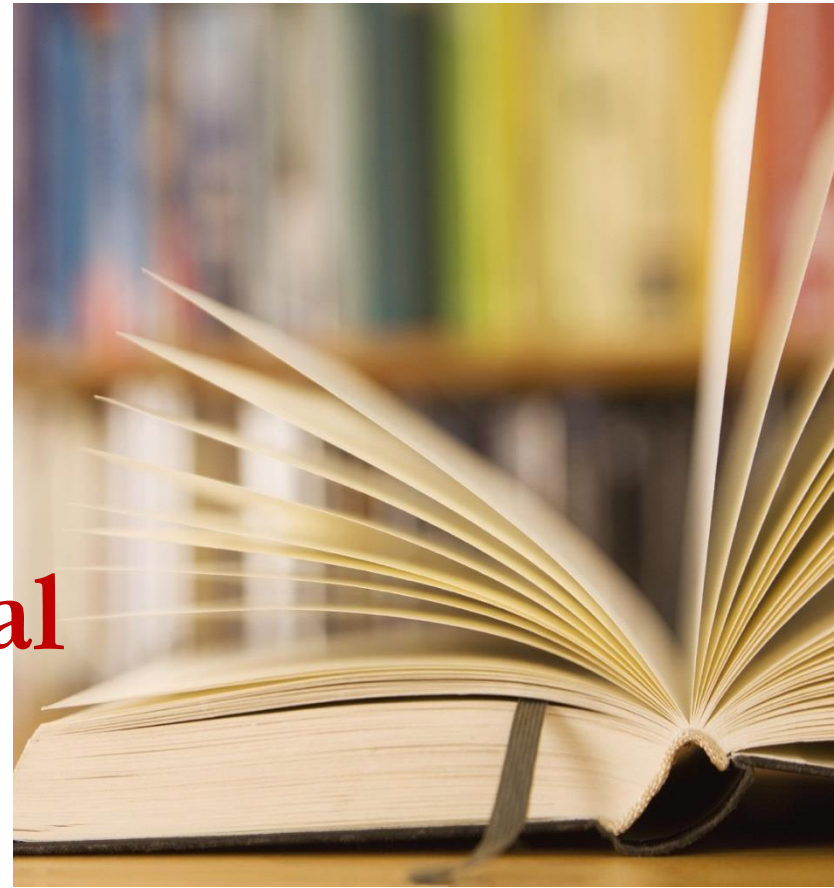
# Chapter 3 Multiply 2-Digit Numbers

**L 2 & L 4**

**Estimate Products**

**Multiply using Partial  
Products**

**Grade 4**





# Starter

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- <https://www.youtube.com/watch?v=pNfz-JU2cKE>



# Estimate Products

## Learning Objectives:



- I will **estimate** 2 digit numbers by rounding and compatible number strategy and determine if actual products are reasonable.

## • Success Criteria:

I will be successful if I can **estimate 2 digit** numbers using different strategy presented.



# Let us review rounding numbers

iknowit  Rounding to the Nearest Ten and Hundred (Up to 9,999) Login 

Round to the place of the underlined digit.

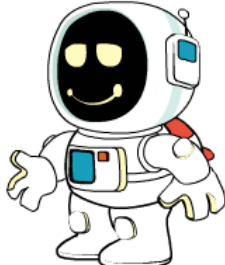
**9,315**

Answer:

Hint Submit

**Progress**  
0/15

**Score**  
0



- <https://www.iknowit.com/lessons/d-rounding-nearest-ten-and-hundred.html>

# Let us review multiplying by 10s

$$\begin{array}{r} 70 \\ \times 60 \\ \hline \end{array}$$

**2**  
**Zeroes**

**42 00**

$$70 \times 60 = 4,200$$

# Let us review multiplying by 10s

A yellow rectangular box containing the multiplication problem  $80 \times 70$ . The number 80 is written above 70, with a multiplication sign to the left. A red oval is drawn around the 80. An orange arrow points from the 0 in 80 down to the 0 in 70. Another orange arrow points from the right side of the box towards the right.

**2**  
**Zeros**

**56 00**

$$80 \times 70 = 5,600$$



# Learn the Process!

Lesson 3.2 Estimate Products

ASO HMH

## Essential Question

?

What strategies can you use to estimate products?

Start

[https://www-k6.thinkcentral.com/content/hsp/math/gomath/na/gr4/online\\_interactive\\_teacher\\_book\\_9780544349094/\\_G4\\_Ch3\\_L2/launch.html?edition=student](https://www-k6.thinkcentral.com/content/hsp/math/gomath/na/gr4/online_interactive_teacher_book_9780544349094/_G4_Ch3_L2/launch.html?edition=student)





# Rounding and Mental Math Strategy



# Estimate $87 \times 18$

**Round each number to the greatest place.**

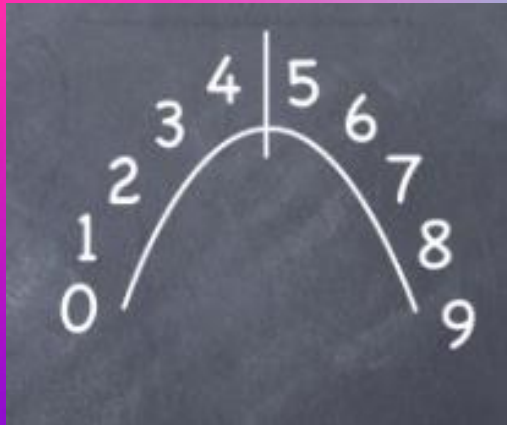
**Step 1: Round 87 to the nearest tens.**

**Step 2: Round 18 to the nearest ten.**



**Step 3: Multiply using mental Math**

$$90 \times 20 = 1,800$$



## Estimating 2-by-2 Digit Products

Match the rounded numbers to the equation.

$44 \times 55$

$32 \times 73$

$54 \times 58$

$12 \times 26$

$84 \times 93$

$30 \times 70$

$10 \times 30$

$80 \times 90$

$50 \times 60$

$40 \times 60$

## **Estimating 2-by-2 Digit Products**

**Marwa spends 45 minutes a day doing homework. About how many minutes of homework will she make in 20 days of school?**

**Get your board and show your solution.**



# Compatible Numbers Strategy

**Compatible Number Strategy:**

$$26 \times 32$$



**Multiply using Mental Math**

**25**

**x**

**30**

**=**

**750**

**Compatible Number Strategy:**  
**48 x 76**



**Multiply using Mental Math**

**50**

**x**

**75**

**=**

**3,750**

# Estimate using Compatible Number Strategy

Challenge

1

**22**

**X 16**

Challenge

2

**37**

**X 49**

**51**

**X 64**

Challenge

3

**76**

**X 88**

**93**

**X 89**

**72**

**X 96**





# Multiply using Partial Products

## Learning Objectives:

- I will use place value and partial products to **multiply 2-digit numbers**.

## Success Criteria:

I will be successful if I can **multiply 2-digit numbers** using place value and partial products.



# Let us solve it altogether.

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39

x 22

---



# Follow these steps

## Estimate

$$39 \longrightarrow 40$$

$$40 \times 20 = 800$$

$$\begin{array}{r} X \\ 22 \end{array} \longrightarrow 20$$

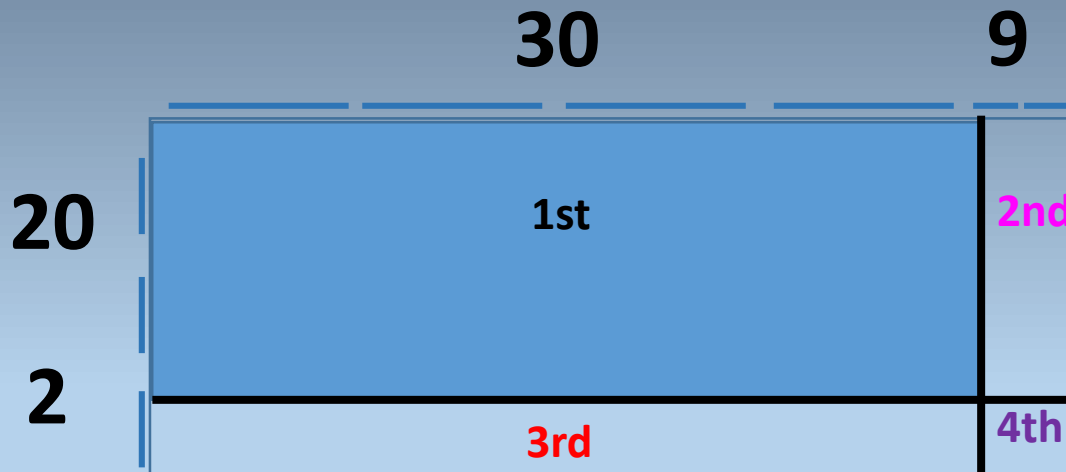
*Nearest 10*

$$20 \times 3 \text{ tens} = 600$$

$$20 \times 9 \text{ ones} = 180$$

$$2 \times 3 \text{ tens} = 60$$

$$2 \times 9 \text{ ones} = 18$$



$$\begin{array}{r} 39 \\ X 22 \\ \hline \end{array}$$

$$600$$

$$180$$

$$60$$

$$+ 18$$

$$\hline 858$$

Partial products

ANSWER



# Revise the steps

[https://www-k6.thinkcentral.com/content/hsp/math/gomath/na/gr4/online\\_interactive\\_teacher\\_book\\_9780544349094/\\_G4\\_Chp3\\_L4/launch.html](https://www-k6.thinkcentral.com/content/hsp/math/gomath/na/gr4/online_interactive_teacher_book_9780544349094/_G4_Chp3_L4/launch.html)

Lesson 3.4 Multiply Using Partial Products

Share and Show

Find  $25 \times 35$

	30	5	
20			$\begin{array}{r} 35 \\ \times 25 \\ \hline \end{array}$
5			



# Let us practice

## Estimate

$$45 \longrightarrow 50$$

$$X \quad 26 \longrightarrow 30$$

*Nearest 10*

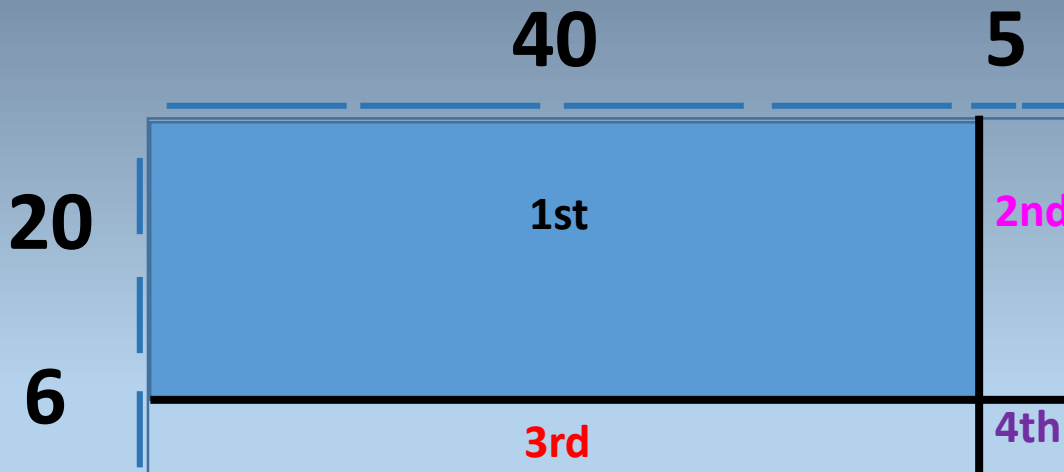
$$50 \times 30 = 1500$$

$$20 \times 4 \text{ tens} = \text{---}$$

$$20 \times 5 \text{ ones} = \text{---}$$

$$6 \times 4 \text{ tens} = \text{---}$$

$$5 \times 6 \text{ ones} = \text{--}$$



$$\begin{array}{r} 45 \\ X \quad 26 \\ \hline \end{array}$$

Partial products

$$\begin{array}{r} \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ + \\ \hline \end{array}$$

ANSWER



# ANSWER KEY

## Estimate

$$45 \longrightarrow 50$$

$$\times \quad 26 \longrightarrow 30$$

*Nearest 10*

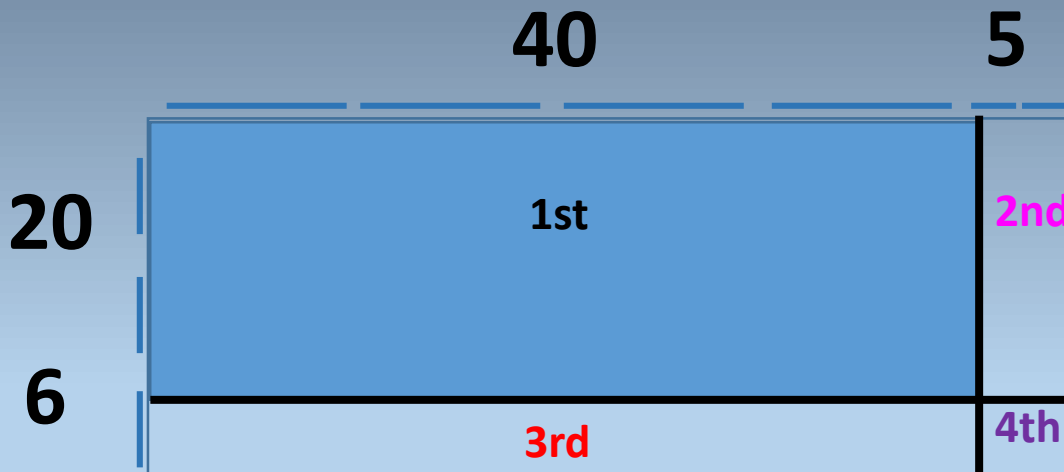
$$50 \times 30 = 1500$$

$$20 \times 4 \text{ tens} = 800$$

$$20 \times 5 \text{ ones} = 100$$

$$6 \times 4 \text{ tens} = 240$$

$$5 \times 6 \text{ ones} = 30$$



$$\begin{array}{r} 45 \\ \times 26 \\ \hline \end{array}$$

800

100

240

+ 30

**1170**

**Partial products**

**ANSWER**



# ACTIVITY – answerkey

1. Find  $24 \times 34$ .

	30	4
20	600	80
4	120	16

		34	
	x	24	
		<u>600</u>	
		80	
		120	
	+	16	
		<u>816</u>	





# Plenary:

## Two Stars and a Wish



I like...

I enjoyed...

I learned...

I used....

I wrote/said/read...

I'm proud of myself because....

I would like...

....was difficult.

I tried to use...

I would like help with.....



# Other Additional Game Links

- <https://www.ixl.com/math/grade-4/estimate-products-multiply-by-2-digit-numbers>
- <https://www.mathgames.com/skill/4.77-estimate-products>
- <https://mrnussbaum.com/math/estimation>
- <https://www.greatschools.org/library/cms/76/25176.pdf>
- <https://www.math-aids.com/Estimation/>
- Teacher's Link  
<https://quizizz.com/admin/quiz/5de53b9b57565f001cac0358/estimating-digit-x-digit-products>