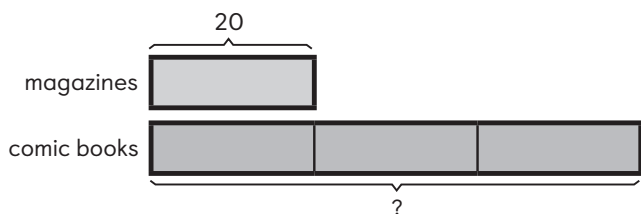


# MULTIPLICATION AND DIVISION

In this chapter, students' knowledge from Grade 3 on multiplication and division is extended to understanding multiplication as comparison. They will learn to find factors and common factors, multiples and common multiples, and to identify prime and composite numbers. Students will multiply up to 4-digit numbers by 1-digit numbers and 2-digit numbers by 2-digit numbers, and will find quotients without or with remainders by dividing up to a 4-digit dividend by a 1-digit divisor.

## Key Ideas

- Multiplicative comparisons are represented as bar models and multiplication or division expressions to solve word problems.

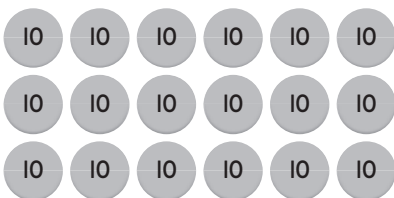


1 unit = 20  
 3 units =  $3 \times 20 = 60$   
 Wyatt has 60 comic books.

- Factors, multiples, common factors, common multiples, and prime and composite numbers can be found.

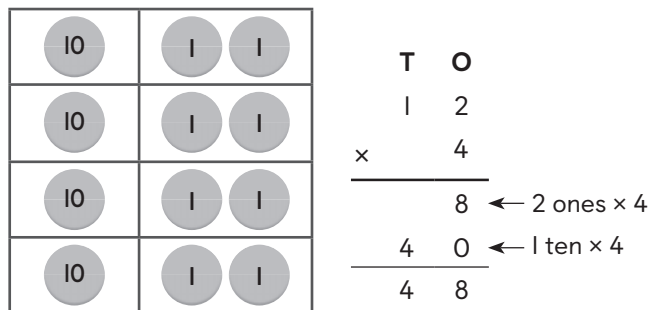
1, 2, and 4 are common factors of 12 and 16.  
 The first two common multiples of 3 and 6 are 6 and 12.  
 11 is a prime number because it has only two factors, 1 and itself.  
 15 is a composite number because it has more than two factors.

- Place value can be used to multiply by tens, hundreds, and thousands.

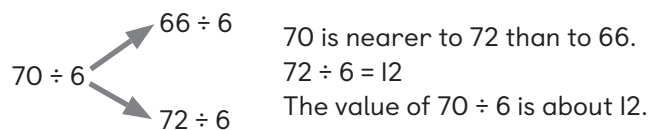


$60 \times 3 = 180$

- Place-value chips, area models, and vertical algorithms can be used to multiply or divide multi-digit numbers.



- Quotients can be estimated when dividing multi-digit numbers by a 1-digit number.



## NOTES:

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# Transition Skills and Resources

Use the Recall questions and the following item analysis as a diagnostic tool to determine students' readiness for the upcoming chapter. Use the provided resources and key concept interactives to help students prepare for the upcoming chapter.

Recall		From G3	G3 Reteach	G3 APHW	G3 TG/SB	Key Concept Interactive
Qns	Objective	Chp/Section				
1	Solve a real-world problem involving division facts.	3N	3N(1), 3N(2)	3N(1), 3N(2)	3A C3 p 163-166, 3A C3 p 167-170	G3 Share Equally, G3 Divide by Grouping
2	Complete multiplication and division facts.	Chapter 3, Chapter 4	Chapter 3, Chapter 4	Chapter 3, Chapter 4	Chapter 3, Chapter 4	
3	Solve a two-step word problem involving multiplication and division.	4G	4G(2)	4G(2)	3A C4 p 253-256	

**APHW:** Additional Practice and Homework | **TG:** Teacher's Guide | **SB:** Student Book

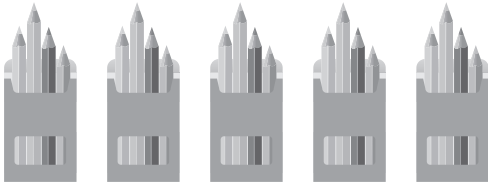
# Looking Back

Grade 3 Chapter 3 includes the following:

In Grade 2, students learn multiplication as repeated addition. In this chapter, students extend their knowledge from Grade 2 to understand multiplication and division of 2, 3, 4, 5, and 10 through equal groups, equal sharing, arrays, and related facts.

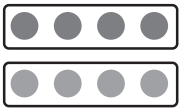
## Key Ideas

- Understand multiplication by relating to equal groups and arrays.

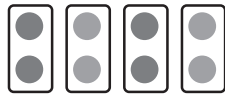


$$\begin{aligned} 5 \text{ groups of } 4 &= 5 \times 4 \\ &= 20 \end{aligned}$$

- Understand the commutative property of multiplication.



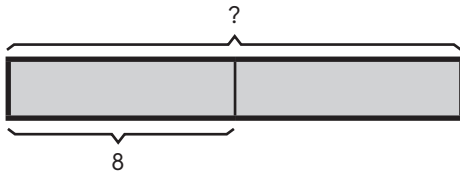
$$2 \times 4 = 8$$



$$4 \times 2 = 8$$

- Learn multiplication facts of 2, 3, 4, 5, and 10 through skip counting, equal groups, arrays, and using related facts.
- Bar models can be used to solve one-step multiplication and division word problems.

A chef bakes 2 pizzas. He cuts each pizza into 8 slices. How many slices of pizza are there in all?



- Division can be represented by sharing or grouping scenarios.

## NOTES:

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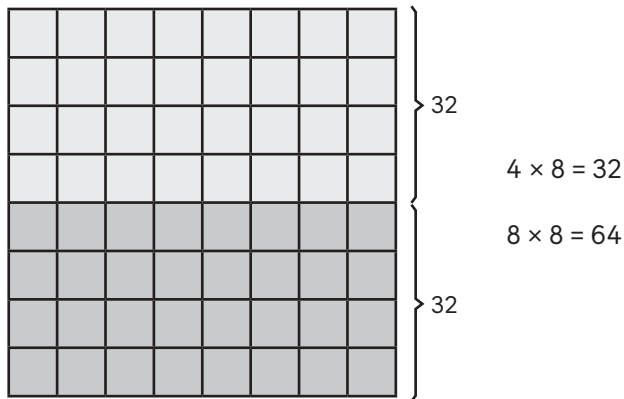
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**Grade 3 Chapter 4** includes the following:

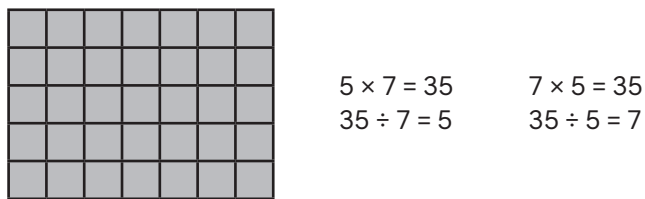
In this chapter, students’ knowledge from Chapter 3 on multiplication and division with 2, 3, 4, 5, and 10 is extended to understanding multiplication and division with 6, 7, 8, and 9. They will also multiply 1-digit numbers by tens and 2-digit numbers by 1-digit numbers. Students will solve two-part and two-step problems involving the four operations. The terms “product” and “quotient” are introduced.

**Key Ideas**

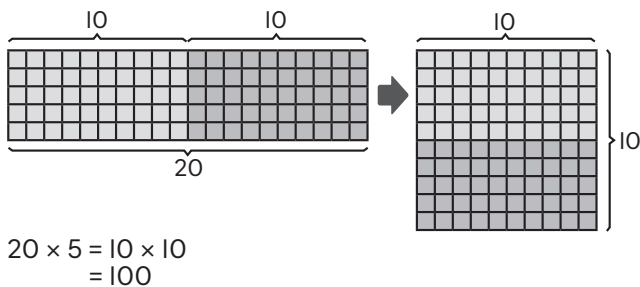
- New facts can be derived from known and related facts.



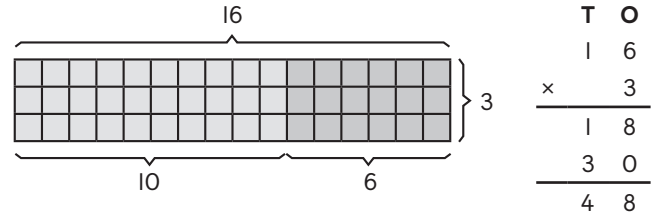
- Multiplication and division have an inverse relationship.



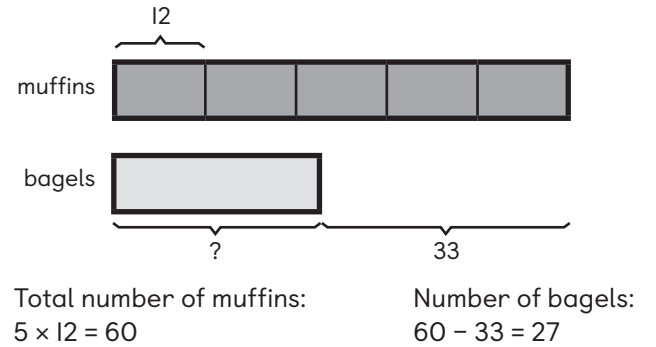
- Multiplying by tens is related to multiplying by 10.



- Area models can be used to multiply a 2-digit number by a 1-digit number.



- Bar models can be used to solve multiplication and division word problems.



**NOTES:**

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