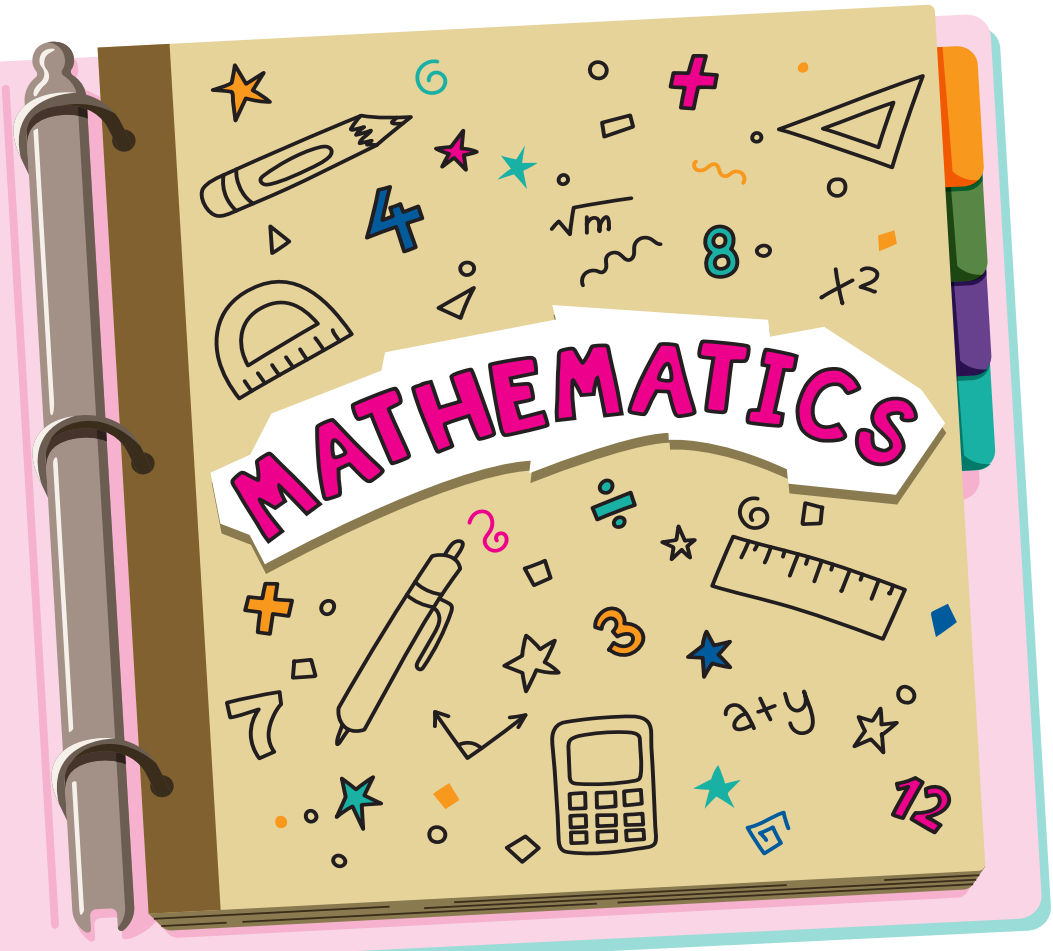
standards PLUS

Grade 3

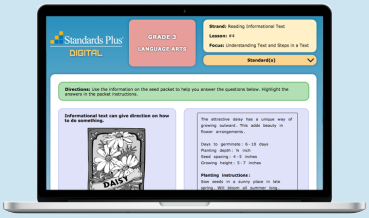
High Impact Standards



Program Overview and Sample Lessons

Teachers are the most important factor in student learning.

That's why every Standards Plus Lesson is directly taught by a teacher.



The High Impact Standards Program includes:

- Standards Plus Online Digital Platform
- Access to an Intervention Program – Printable Tier 2 & 3 Intervention Lessons
- Printed Teacher Edition & Student Editions

Standards Plus Works in Any Setting:

In-Class **and** **Distance Learning**

- Teachers directly teach lessons to the students in-class **or** in a virtual setting.

- Students complete the lessons in the Standards Plus Digital Platform **or** printed student edition.

How Standards Plus Increases Student Achievement

- **TEACHERS** are the most important factor in student learning.
- **DIRECT INSTRUCTION** lessons are proven to foster the most significant gains in student achievement.
- **DISCRETE LEARNING TARGETS** provide easily understood instruction that allow students to retain information.
- **MULTIPLE EXPOSURES TO EACH STANDARD/SKILL**
  Skills are presented in four to eight lessons, providing students multiple opportunities to practice and retain information.
- **IMMEDIATE FEEDBACK** after every lesson provides the most powerful single modification that enhances student achievement.
- **FORMATIVE ASSESSMENTS** are proven to be highly effective in providing information that leads to increased student achievement.
- **IMMEDIATE INTERVENTION**
  Provides scaffolded instruction to assist students in mastering the standards.
- **BUILT ON RESEARCH AND BACKED BY EVIDENCE**
  All Standards Plus lessons are designed according to educational research and meet ESSA evidence-based guidelines.

High Impact Standards Includes:

High Impact Grade Level Lessons and Assessments

56 Lessons and 34 Assessments (DOK 1-2)

Students learn essential grade level skills with targeted 15-20 minute lessons. Brief formative assessments are provided to monitor student progress.

Tier 2 & Tier 3 Intervention Lessons

50+ Lessons (DOK 1-2)

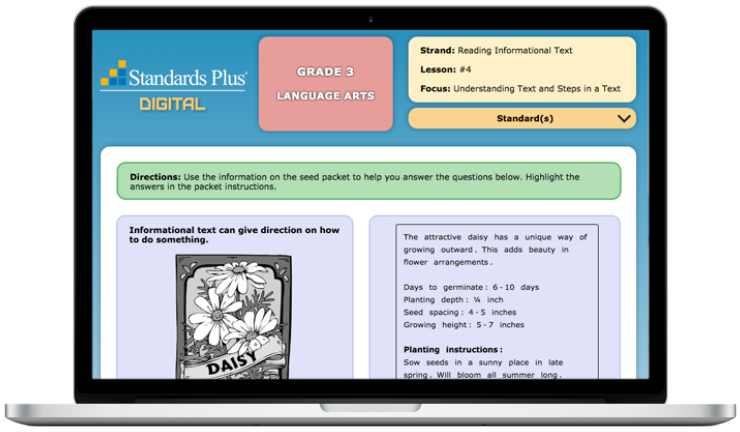
Students learn prerequisite skills that scaffold below grade-level. These lessons are for students that need more support and are available to print in the Standards Plus Digital Platform. Printed student editions can be purchased separately.

Performance Lessons

5+ Lessons (DOK 3)

Performance lessons require students to apply the skills they learned in previous Standards Plus lessons. These lessons provide students the opportunity to incorporate technology, text analysis, reflection and research.

Teach a Grade Level Concept with Four Concise Lessons



Lessons can be completed online in the Standards Plus Digital Platform or in the printed student edition.

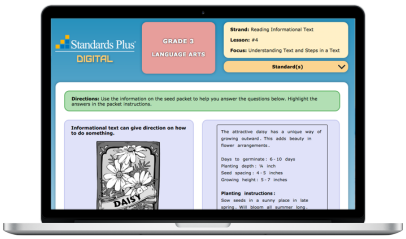
Standards Plus lessons are grouped in **sets that teach a grade-level concept.**

TEACH Lesson 1	**TEACH** Lesson 2	**TEACH** Lesson 3	**TEACH** Lesson 4	**ASSESS** Assessment 1

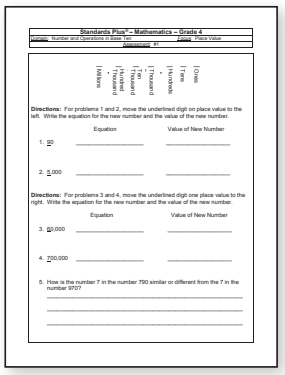
A Standards Plus **lesson set** includes 4 lessons and 1 assessment.

Assessments

Use the assessments to identify student's understanding of the concepts taught in the lesson set and identify students for Standards Plus Intervention.



Digital Assessment



Print Assessment

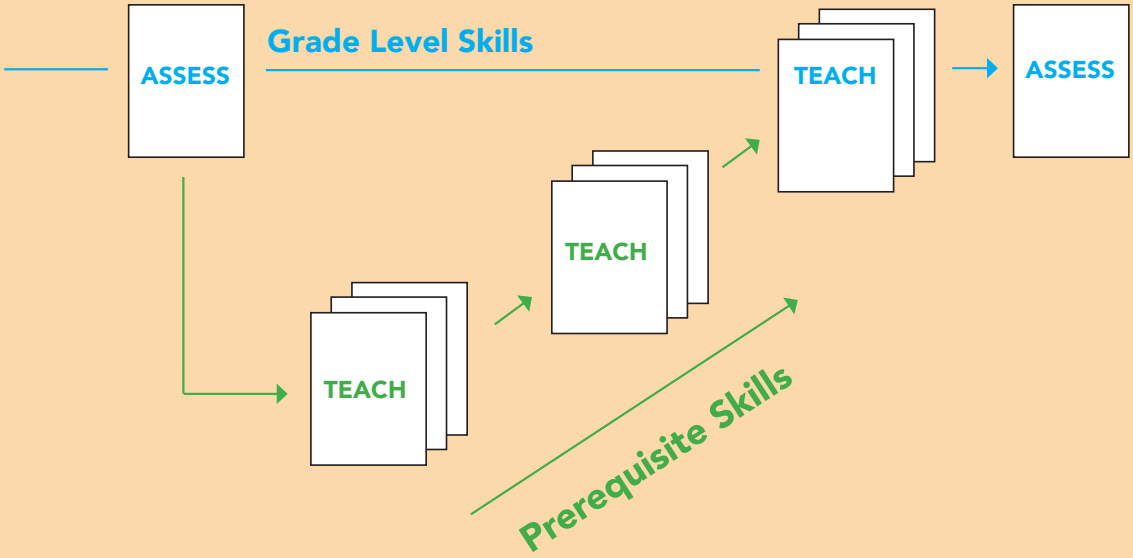
Assessments can be completed online in the Standards Plus Digital Platform or in the student edition

When students take the assessment online, the platform will create groups of students that scored below 60% and recommend intervention lessons.

Tier 2 & Tier 3 Intervention

These lessons are for students that need more support and are available to print in the Standards Plus Digital Platform.

How the Intervention Lessons Work



Our scaffolded intervention lessons teach the prerequisite skills necessary to master grade-level standards.

Performance Lessons (DOK 3)

These lessons require students to apply what they have learned using reasoning, planning, and knowledge gained from the prior lessons.

Many standards are assessed at this level of rigor on state assessments.

Vocabulary:

Multiply: To find the total number of objects in a number of groups.

Factor: A number being multiplied in a multiplication equation.

Product: The solution in a multiplication equation.

Quotient: The solution in a division equation.

Dividend: The number being divided.

Divisor: The number by which the dividend is being divided.

Divide: To find the number of equal groups of objects in a total.

Equation: A number sentence with an equal sign.

Array: A set of numbers or objects arranged in columns and rows that follow a specific pattern.

Symbol: A box, question mark, letter, or other mark that represents an unknown number.

Inverse Operation: An operation that undoes another operation; addition and subtraction are inverse operations; multiplication and division are inverse operations.

Skip-count: To count by a number other than one.

Directions: Read the problems and answer the questions.

1. Create a word problem to match the groups and products below:

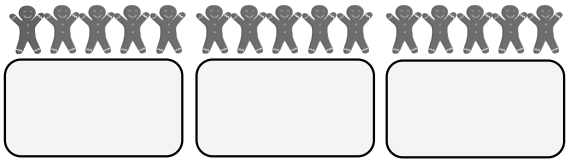
_____ + _____ + _____ + = _____

Rewrite the problem as a multiplication sentence: _____ × _____=_____

What are the factors in the problem? _____

What is the product in the problem? _____

2. Create a word problem to match the items to be grouped below:



_____ ÷ _____ = _____

Show another way to work the problem.

What is the dividend in the problem? _____

What is the divisor in the problem? _____

What is the quotient in the problem? _____

3. Draw a diagram and an array to show the total number of ice cubes you would have if you placed 6 glasses with 5 ice cubes in each on the table. Write a number sentence for each drawing.

Pacing Options

14-Week Implementation

Teach one lesson per day.

7-Week Implementation

Teach two lessons per day.

Intensive / Bootcamp Implementation

Catch up on the high impact standards in three weeks.

Teach four lessons per day.

Grade 3 Mathematics High Impact Standards
Lesson Index

Grade 3 Mathematics High Impact Standards
Lesson Index

Grade 3 Mathematics High Impact Standards
Lesson Index

Domain	Lesson	Focus	Standard(s)	TE Pg	St. Ed. Pg
Number and Operations – Fractions	1	Understand Fractions as Part of a Whole	3.NF.1: Understand a fraction 1/*b* as the quantity formed by 1 part when a whole is partitioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by *a* parts of size 1/*b*.	140	78
	2	Understand Fractions as Part of a Whole		142	79
	3	Understand Fractions as Part of a Whole		144	80
	4	Understand Fractions as Part of a Whole		146	81
	A1	Assessment - Understand Fractions as Part of a Whole		148	82
	5	Fractions on a Number Line	3.NF.2a: Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.	150	84
	6	Fractions on a Number Line		152	85
	7	Fractions on a Number Line	3.NF.2b: Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.	154	86
	8	Fractions on a Number Line		156	87
	A2	Assessment - Fractions on a Number Line	3.NF.2a, 3.NF.2b	158	88
	P10	**Performance Lesson #10 –** *Modeling Fractions*		160-161	90-92
	9	Understand Equivalent Fractions	3.NF.3a: Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.	166	93
	10	Understand Equivalent Fractions		168	94
	11	Equivalent Fractions & Whole Numbers	3.NF.3c: Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.*	170	95
	12	Equivalent Fractions & Whole Numbers		172	96
	A3	Assessment - Equivalent Fractions & Whole Numbers	3.NF.3a, 3.NF.3c	174	97

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High Impact Standards

Sample Lessons

Operations and Algebraic Thinking

Lesson	Focus	Standard(s)
1	Products of Whole Numbers	3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*
2	Products of Whole Numbers	
3	Products of Whole Numbers	
4	Products of Whole Numbers	
A1	Assessment - Products of Whole Numbers	

Sample Teacher Lesson Plan

Each lesson includes a step by step lesson plan.

Teacher Lesson Plan

Standards Plus® – Mathematics – Grade 3		
Domain: Operations & Algebraic Thinking	Focus: Products of Whole Numbers	Lesson: #1
Standard: 3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each.		

Lesson Objective: The students will interpret products of whole numbers by determining the number of grouped objects that create a set and recording the repeated addition sentence that explains the problem.

Introduction: "Today we will learn about *multiplication* and understand how a total number of objects can be determined by combining a specific number of groups with the same number of objects in each group."

Instruction: "Sometimes we have groups of objects and we need to determine the overall total quickly. When we have groups of objects, and we need to determine their total, we can use *multiplication* to help us. *Multiplication* is repeated addition. We simply add each group of objects over and over until we have added all of the groups. Look at Example A. We have 5 packages of cookies with 7 cookies in each package. To find the total, we would add the number 7 five times and find there are 35 cookies altogether in the five packages."

Guided Practice: "Listen as I read the problem for Example B. *Mark has four groups of comic books. He has three comic books in each group. How many comic books does he have in his collection?* Now look at the picture of the comic books. As I record the number of comic books in each group, you record the same number on your sheet. The first group has 3 comic books, so we will write a 3 in the blank to show the repeated addition sentence. (Continue recording the number 3 in each blank 3 + 3 + 3 + 3 = 4 × 3 = 12). Now let's record the product, or total number, of comic books in Mark's collection, 12, on the blank."

Independent Practice: "Now you will complete the problems independently. Read each problem. Draw a picture of the groups of objects. Record the repeated-addition sentence and the total number of objects on the line to complete each number sentence."

Review: Discuss problems with the students. Allow students to share their drawings for each problem.

Closure: "Today we learned about *multiplication* and how a total number of objects can be determined by combining a specific number of groups with the same number of objects in each group."

Answers:

1. Student draws three groups of two cupcakes per group;
   2 + 2 + 2 = 3 × 2 = 6
2. Student draws four groups of four golf balls per group;
   4 + 4 + 4 + 4 = 4 × 4 = 16

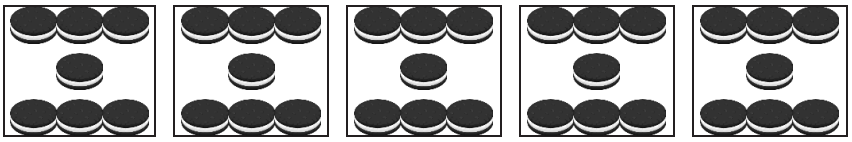
Sample Student Lesson

Each lesson also has an easy to follow student page.

Student Page

Standards Plus® – Mathematics – Grade 3		
Domain: Operations & Algebraic Thinking	Focus: Products of Whole Numbers	Lesson: #1
Standard: 3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each.		

Example A:

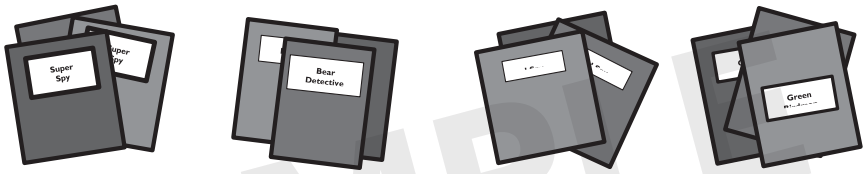


= 5 groups of 7

7 + 7 + 7 + 7 + 7 = 5 × 7 = 35

Example B:

Mark has four groups of comic books. He has three comic books in each group. How many comic books does he have in his collection?



___ + ___ + ___ + ___ = 4 × 3 = ____

Directions: Read each problem below. Draw a picture of the objects and the groups. Record the repeated-addition sentence and the total number of objects on the line to complete each number sentence.

1. Vicki bought three packages of cupcakes. Each package had two cupcakes in it. How many cupcakes did Vicki buy?

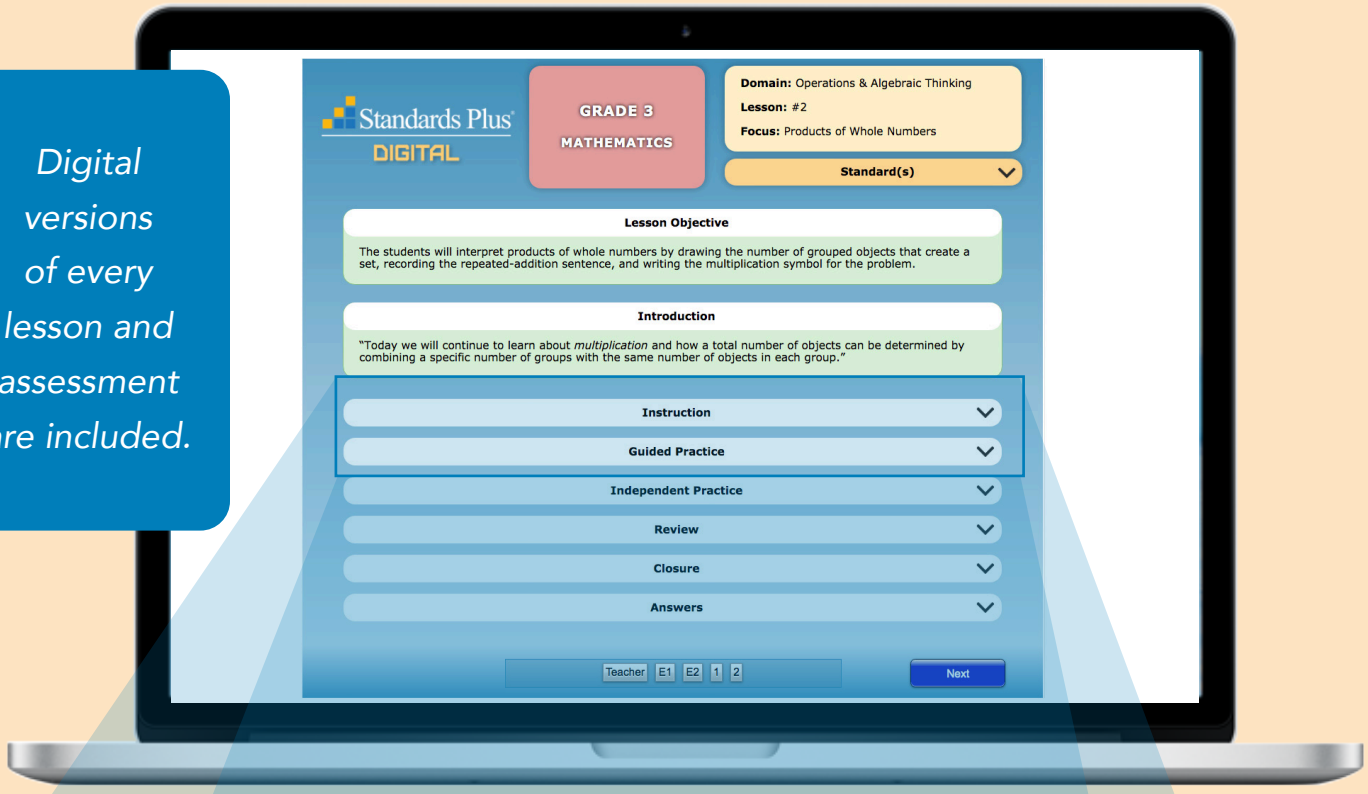
____ + ____ + ____ = 3 × 2 = _____

2. Russ bought four boxes of golf balls to practice his swing. Each package had four golf balls in it. How many golf balls did Russ have to practice his swing?

____ + ____ + ____ + ____ = 4 × 4 = _____

Sample Digital Teacher Lesson Plan

Digital versions of every lesson and assessment are included.



Instruction

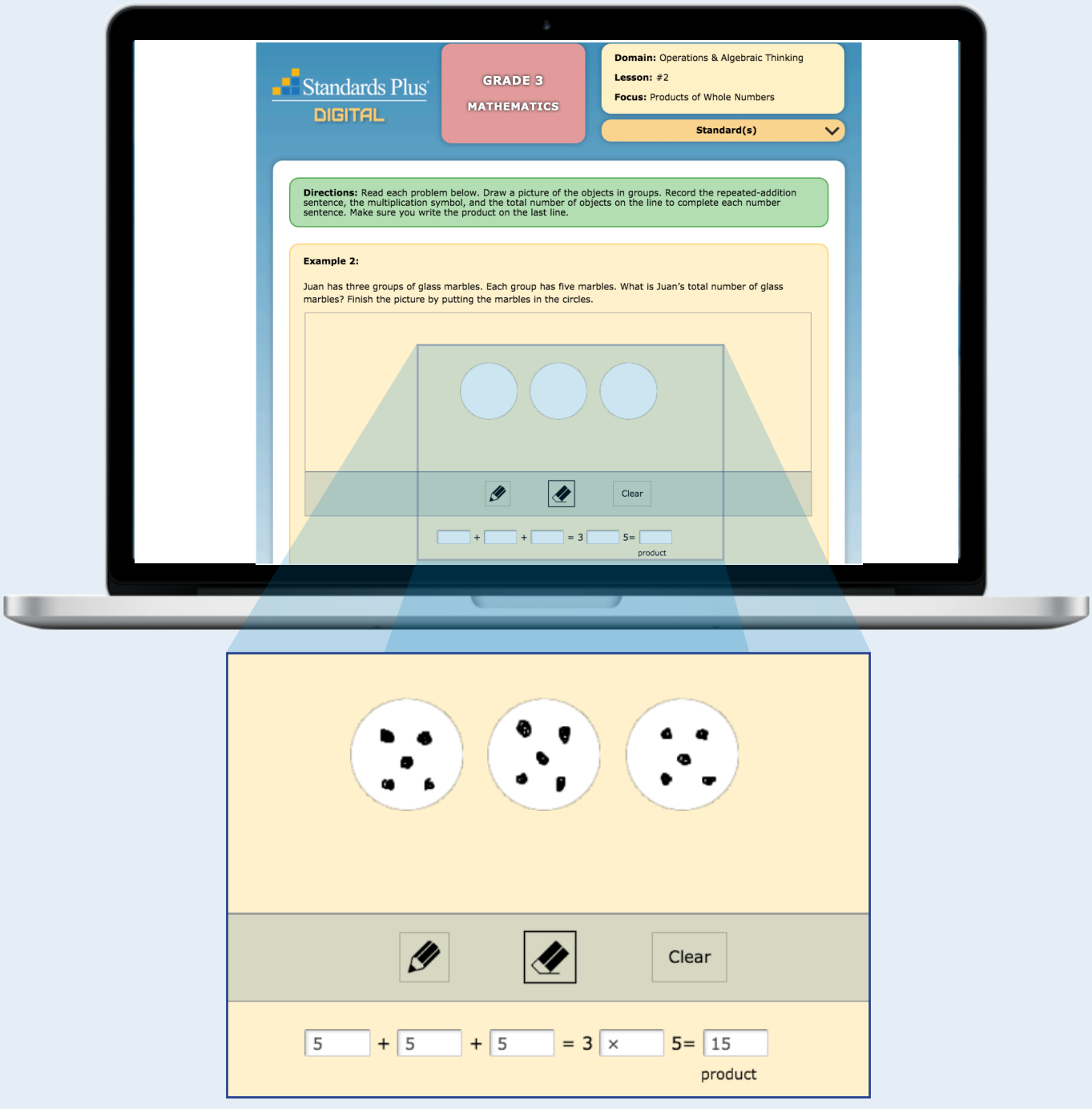
"We have learned that when we have groups of objects and we want to determine the total number of objects, we can *multiply*. We *multiply* by adding the same number over and over again. Look at Example 1. Maria has 4 boxes of limes. Each box has 4 limes in it. To find out the total number of limes Maria has, we add 4 + 4 + 4 + 4. We can also write this 4 × 4. The product is 16 limes. *Multiplication* lets us add more quickly and efficiently."

Guided Practice

"Let's look at some problems involving groups of objects. Listen as I read the problem for Example 2. *Juan has three groups of glass marbles. Each group has five marbles. What is Juan's total number of glass marbles?* Now we will draw the problem to show each group of marbles. As I draw each group of marbles, you draw each group on your sheet. We will record the number of marbles in each group on the lines to show repeated addition of the number of objects in each group. The first group has 5 marbles so we will write a 5 in the blank. (Continue recording the number 5 in each blank: 5 + 5 + 5 = 3 × 5 = 15. Next we will show that the two *factors*, or numbers, are multiplied. We will use an x to show it is multiplication in the blank."

Each section of the digital lesson plan is expandable.

Sample Digital Student Lesson



Students respond online in the digital lessons. In this example students draw marbles to show repeated additon and type below.

Sample Teacher Lesson Plan

Each lesson plan includes the following direct instruction components:

Introduction

Instruction

Guided Practice

Independent Practice

Review

Closure

Teacher Lesson Plan

Standards Plus® – Mathematics – Grade 3		
Domain: Operations & Algebraic Thinking	Focus: Products of Whole Numbers	Lesson: #3
Standard: 3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each.		

Lesson Objective: The students will interpret products of whole numbers by determining the number of grouped objects that create a set and recording the multiplication sentence to illustrate the problem.

Introduction: "Today we will continue to learn about *multiplication* and how to write the appropriate number sentence to explain a multiplication situation."

Instruction: "Multiplication allows us to think of things in *groups* of objects. Thinking of objects in groups with a number of objects in each group allows us to *multiply* by adding the same number over and over again *repeatedly*. *Factors* are the numbers being multiplied and the *product* is the total number of objects. The *first factor* tells us the number of groups or sets of objects. The *second factor* tells us the number of objects in each group, or set. By understanding the order of the *factors* we can better understand the meaning of each multiplication sentence." Review the terms as presented at the top of the student page.

Guided Practice: "Look at Example A on your student page. Read along as I read the problem aloud. *Juan has five groups of glass marbles. Each group has seven marbles. What is Juan's total number of glass marbles?* Now circle the number of groups of marbles Juan had. You should have circled *five groups*. Then circle the words that tell you the number of marbles in each group. You should have circled seven marbles. Next we will record the factors. As I record the number of groups of marbles, 5, and the number of marbles in each group, 7, you will record them on your sheet. Remember, the first factor, 5, shows the number of groups and the second factor, 7, shows the number of marbles in each group. Finally, we will multiply 5 times 7 to find the product, 35. Write the product, 35, after the equal sign in the equation." Repeat the process for Example B, 7 × 6 = 42.

Independent Practice: "Now you will complete the problems independently. Read each problem below. Record the multiplication sentence for each problem, numbers of groups, numbers in each group, and the product."

Review: Discuss answers to problems with the students. "What do we call the total or answer to a multiplication problem?"

Closure: "Today we continued learning about *multiplication* and how to write the appropriate number sentence to explain a multiplication situation."

Answers:

10 × 6 = 60
2 × 6 = 12
4 × 10 = 40

Sample Student Lesson

Each student page includes examples for Guided Practice...

...and items to be completed in Independent Practice.

Student Page

Standards Plus® – Mathematics – Grade 3		
Domain: Operations & Algebraic Thinking	Focus: Products of Whole Numbers	Lesson: #3
Standard: 3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each.		

Factors: the numbers being multiplied. (Number of groups, number in each group)
Product: the total number of objects. (Answer)

Factor	×	Factor	=	Product
Number of Groups		Number of Objects in Each Group		Total Number of Objects

Example A: Juan has five groups of glass marbles. Each group has seven marbles. What is Juan's total number of glass marbles?

_____	×	_____	=	_____
Number of Groups (Factor)		Number of Objects in Each Group (Factor)		Total (Product)

Example B: Jason has seven groups of different types of rocks in his collection. Each group has six of the same type of rock. What is the total number of rocks in Jason's collection?

_____	×	_____	=	_____
Number of Groups (Factor)		Number of Objects in Each Group (Factor)		Total (Product)

Directions: Read each problem below. Record the multiplication sentence for each problem, numbers of groups, numbers in each group, and the product. Circle the words that tell you the factors for each problem.

1. Each package of hot dog buns at the store has six hot dog buns. There are ten packages of hot dog buns on the shelf. What is the total number of hot dog buns at the store?

_____	×	_____	=	_____
Number of Groups		Number of Objects in Each group		Total (Product)

2. Mike has two packs of orange soda. Each pack of orange soda has six cans. What is the total number of soda cans Mike has altogether?

_____	×	_____	=	_____
				Total (Product)

3. Each box of cookies has ten cookies per box. Melissa bought four boxes of cookies for her party. How many cookies does Melissa have for her party?

_____	×	_____	=	_____
				Total (Product)

Sample Teacher Lesson Plan

Teacher Lesson Plan

Standards Plus® – Mathematics – Grade 3		
Domain: Operations & Algebraic Thinking	Focus: Products of Whole Numbers	Lesson: #4
Standard: 3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each.		

Lesson Objective: The students will interpret products of whole numbers by creating a word problem for a given number sentence and illustrating the number of grouped objects that create a set.

Introduction: "Today we will continue learning about *multiplication* and how to describe a multiplication situation using words and numbers."

Instruction: "Multiplication allows us to think of things in *groups* of objects rather than individual objects when we *compute*. Look at the top of your page. We know that *factors* refer to the numbers being *multiplied,* and *product* refers to the *total* number of objects in all of the groups. We also know that the order of the factors in a multiplication sentence allows us to understand the meaning of the situation. Remember that the *first factor* tells us the number of groups of objects. The *second factor* tells us the number of objects in each group. By understanding the order of the *factors,* we can describe situations and write specific multiplication sentences. For example, if we have the multiplication sentence 4 × 2, we can describe a situation with 4 groups of objects and 2 objects in each group to find the total of 8 objects. Ralph had 4 bags of cookies-groups-and each bag held 2 cookies. How many cookies did Ralph have?"

Guided Practice: "Let's describe the number sentence shown in the example: 7 × 3. This number sentence means there are seven groups of objects and there are three objects in each group. I will follow these steps as I write my problem:

- Step 1: Write a sentence about the number of groups.
- Step 2: Write a sentence about the number of objects in each group.
- Step 3: Write the product.
- Step 4: Draw a picture to show the meaning of the problem.

For example, Step 1: There are 7 bags of candy bars in the cupboard. Step 2: Each bag of candy has 3 candy bars. Step 3: How many candy bars are in the cupboard? Now that I have written my number sentence for the problem, I will draw a picture to show the problem. Draw your own picture to show the meaning of the problem and describe the problem in words. Complete the number sentence and write the product."

Each lesson plan includes an answer key

Independent Practice: "Now you will complete Problems 1 and 2 independently. Describe each multiplication sentence using words and pictures, and write the product."

Review: Answers will vary but should represent the factors shown. Allow all students to share their problems with a partner and select students to share their problems with the class.

Closure: "Today we continued learning about *multiplication* and how to describe a multiplication situation using words and numbers."

Answers:

1. Five groups of an object. Two objects in each group. The product = 10.
2. Three groups of objects. Nine objects in each group. The product = 27.

Sample Student Lesson

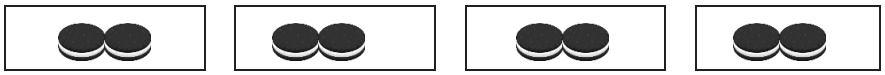
After students complete Independent Practice, review each item to check for understanding.

Student Page

Standards Plus® – Mathematics – Grade 3		
Domain: Operations & Algebraic Thinking	Focus: Products of Whole Numbers	Lesson: #4
Standard: 3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each.		

First Factor (Number of Groups) × **Second Factor** (Number of Objects in Each Group) = **Product** (Total Number of Objects)

4 × 2



Ralph had four bags of cookies in the cupboard. Each bag held two cookies. How many cookies did Ralph have?

Example:

- Write a sentence about the number of groups.
- Write a sentence about the number of objects in each group.
- Write the product.
- Draw a picture to show the meaning of the problem.

7 (Number of Groups) × 3 (Number of Objects in Each Group) = ____ (Product)

_____

_____

Directions: Describe each multiplication sentence using words and pictures. Write the product.

1. 5 (Number of Groups) × 2 (Number of Objects in Each Group) = ____ (Product)

_____

_____

2. 3 (Number of Groups) × 9 (Number of Objects in Each Group) = ____ (Product)

_____

_____

Sample Assessment - Teacher Page

Teacher Lesson Plan

Standards Plus® – Mathematics – Grade 3	
Domain: Operations and Algebraic Thinking	Focus: Products of Whole Numbers
Assessment: #1	

This assessment may be used in the following ways:

- As a formative assessment of the students' progress.
- As an additional opportunity to reinforce the vocabulary, concepts, and knowledge presented in the previous 4 lessons.

Standard: 3.OAT.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*

Procedure: Read the directions aloud and ensure that students understand how to respond to each item.

- If you are using this as a formative assessment, have the students complete the evaluation independently.
- If you are using this to reinforce instruction, determine the items that will be completed as guided practice, and those that will be completed as independent practice.

Additional Tips:

- All Standards Plus assessments are available in an **interactive digital format** in the Standards Plus Digital Platform.
- When the assessments are administered and scored digitally, the platform automatically creates intervention groups and recommends **additional printable intervention lessons.**
- You can also access the printable intervention lessons from the home screen in the digital platform.

Review: Review the correct answers with students as soon as they are finished.

Answers:

For Items 1 through 4, students write the following responses:

1. (3.OAT.1) Students draw five groups/boxes of four tennis balls per box/group: 4 + 4 + 4 + 4 + 4 = 5 × 4 = 20.
2. (3.OAT.1) Students draw six groups/packs of four mini cakes per pack/group: 6 × 4 = 24.
3. (3.OAT.1) Students draw three groups/packs of six sodas per pack/group: 3 × 6 = 18.
4. (3.OAT.1) While student answers will vary, the response situation should describe 4 × 2 = 8.

Sample Assessment - Student Page

Student Page

Standards Plus® – Mathematics – Grade 3	
Domain: Operations and Algebraic Thinking	Focus: Products of Whole Numbers
Assessment: #1	

Factors: The numbers being multiplied.
Product: The total number of objects.

Directions: Read each problem. Draw a picture of the problem, complete each number sentence, and determine the product. Record your answers on the appropriate blanks.

1. Russ bought five boxes of tennis balls to practice his game. Each box had four tennis balls in it. How many tennis balls did Russ have for practice?

____ + ____ + ____ + ____ + ____ = 5 × 4 = ____

2. Marie has six packs of mini-cakes. Each pack has four cakes in it. How many mini-cakes does Marie have altogether?

____ (Number of Groups) × ____ (Number of Objects in Each Group) = ____ (Total)

3. Mike has three packs of soda. Each pack has six cans. What is the total number of soda cans altogether?

____ × ____ = ____

4. Describe the multiplication sentence using words and pictures. Write the product.

4 × 2 = ____

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