Properties of Multiplication, Introduction – Part 1

By Julie Hatch, EDT 631, Fall 2018

Screen Number	Audio Script (Closed Captioning)	Text Onscreen	Video/Visuals/Onscreen Animation Effects	Notes
1	Upbeat music

Scenario:
Hi boys and girls! | Title:
Smarty Marty Explains "The Properties of Multiplication, Part 1: Introduction & Zero Property"

By: Julie Hatch, EDT 631 Productions | Image:
Smarty Marty

Animation for Titles and Pictures | Background:
Template theme color |
| 2 | I'm Marty and I'm a fourth grader. When I was 3rd grader just like you, I was a little nervous because I knew I had to learn multiplication. | Text:
Smarty Marty at 3rd Grade

"I can't do this! It's too hard!" | Background:
Template color

Scroll:
Variety of multiplication problems images

Image:
Marty character confused 1 | Background:
Template theme color |
| 3 | Now, multiplication sounds like a complicated word and it looks really hard to do, but I found that there is a way to make multiplication easier. | Text:
MULTIPLICATION

Math Facts!

"It looks complicated and hard to do!" | Collage Background:
Multiplication properties' names as a transparent image

Image:
Smarty Marty confused 2 Image of multiplication facts and magnifying glass | Background:
Template theme color |

			Animation for Text	
4	Do you want to know the secret?	Text: Do you want to know the secret? Let's find out. "Multiplication is so easy now!"	Animation for Text Image: Smarty Marty smiling	Background: Template theme color
5	It is knowing how to use the Properties of Multiplication. If you know these properties and apply them while solving multiplication problems,	Text: Properties of Multiplication • Zero • Identity • Commutative • Distributive • Associative "You will get to the answer more efficiently!"	Marty character smiling Animation for Text Animation for Text	Background: Template theme color
6	I promise, you will get to the correct answer more efficiently…(hey, that's a fancy word for easier and faster). And I like that!	Text: Efficiently	Images: Smarty Marty Smiling	Background: Template theme color
7	Let me show you how I use them so that multiplication is easier for you. ~50 seconds.	Text: Properties of Multiplication • Zero		Background: Template theme color

		- Identity - Commutative - Distributive - Associative (Same as Slide 5)		
8	Multiplication is a process where a number is added to itself a certain number of times. We call the numbers being multiplied factors. A typical multiplication equation looks like this: factor x factor = product	Multiplication is a process where a number is added to itself a certain number of times. Factor factor x factor = product	Animation for Image: Growing image of multiplying sets of things Animation for Text Animation for Text	Background: Template theme color
9	Learning how to multiply doesn't have to be hard. There are a few properties that will help make multiplication problems easier to solve. - The Zero Property - The Identity Property - The Commutative Property - The Distributive Property - The Associative Property They provide the rules for quickly solving problems according to properties that always apply to certain equations.	The Properties of Multiplication - Zero - Identity - Commutative - Distributive - Associative (Same as Slide 5)	Animation for Text: Bold/Unbold emphasis	Background: Template theme color

10	I'll go over the first of the five properties with you…The Zero Property In our follow-up videos, I will go over the other properties of multiplication. Are you ready to explore? Let's go!	Text: The Zero Property	Animation for Text to emphasize first property The Zero Property Animation for Image: Fade in hand motioning "come here"	Background: Template theme color
11	Zero is a strange number and it has its own unique rules. Its unique properties make math interesting. One of the properties is the Multiplication Property of Zero.	Text: The Zero Property	Animation for Text Image of 0	Background: Template theme color
12	The Zero property states When any factor is multiplied by 0, the product is always 0. It doesn't matter what the factor is, when you multiply it by 0, you always get zero as the answer. So $3 \times 0 = 0$ $64 \times 0 = 0$ $253{,}239 \times 0 = 0$ and so on, and so on.	Text: When any factor is multiplied by 0, the product is always 0. $3 \times 0 = 0$ $64 \times 0 = 0$ $253{,}239 \times 0 = 0$	Animation for Text Animation for Text	Background: Template theme color
13	Here's a real-life example of the Zero Property in action: My mom was going to bake cookies for my birthday party and I told her I wanted to put an equal number of cookies in a treat bag for each of my 20 friends. So, I bought 20 treat bags.	Text Example of The Zero Property My mom was going to bake cookies for my birthday party and I told her I wanted to put an equal number of cookies in	Animation for Text Animation for Images 	Background: Template theme color

	Unfortunately, she didn't bake the cookies at all. The question is… How many cookies were put in the treat bags?	a treat bag for each of my 20 friends. So, I bought 20 treat bags. How many cookies were put in the treat bags?		
14	We can show how many cookies were put in the treat bags by solving the problem mathematically. The 1st factor is 0 cookies The 2nd factor is 20 treat bags 0 times 20 equals 0 So, zero cookies – or nothing – was put in the treat bags.	Text: How many cookies were put in the treat bags? Text: 1st factor is 0 cookies 2nd factor is 20 treat bags 0 x 20 = 0 cookies in 20 treat bags.	Animation for Text Animation for Images	Background: Template theme color
15	If you go back to the definition of multiplication, that multiplication is a process where a number is added to itself a certain number of times, you can see that we put nothing, zero in each of the 20 bags.	Text: 0+0+0+0+0+0+0+0+0+ 0+0+0+0+0+0+0+0+0+0=0	Animation for Text Animation for Images	Background: Template theme color
16	To review the Zero Property of Multiplication If any factor is zero in a multiplication equation, then the product is always zero. Now that you have learned the Zero Property, let's explore the other properties.	Text: f x 0 = 0 0 x f = 0	Animation for Text Marty character smiling	Background: Template theme color

17	Now that you have learned the Zero Property, let's explore the other properties.	Text: Let's Explore the Other Properties	Animation for Text Marty character smiling	Background: Template theme color