Essentials 2
Area Model
Unit 4 Lessons 4 & 5

You will explore the use of the area model to multiply integers and algebraic expressions

DIRECTIONS

- Click through the slides
- Follow directions on slides
- Watch videos
- Write down your answers on separate sheet of paper

- Complete the following multiplication problem:

  16 x 27

- Click on the following link to learn how multiply integers using the area model: http://tiny.cc/pu55lz

- Click on the following link to practice another multiplying integers with area model:

https://www.khanacademy.org/math/4th-engage-ny/engage-4th-module-3/4th-**module-3-topic-c/v/understanding-multiplication-through-area-models**

Extend area model multiplication to algebra:

Multiply: $(4x - 3)(x + 2y - 5)$

	x	$2y$	-5
$4x$	$4x^2$	$8xy$	$-20x$
-3	$-3x$	$-6y$	15

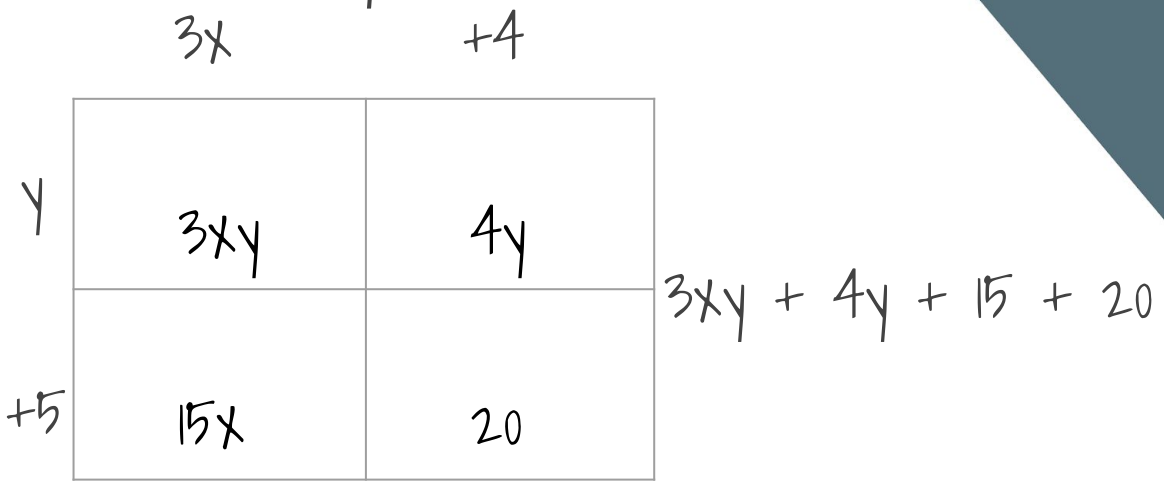
$(x + 2y - 5)(4x - 3) = 4x^2 + 8xy - 23x - 6y + 15$

Practice Area Model with algebra:

- $(3x + 4)(y + 5)$
- $(6 + 2f)(7g - 9)$
- $(2w - 3)(2x + 4y - 5)$

Answers to practice with algebra:

- $(3x + 4)(y + 5)$



$3xy + 4y + 15 + 20$

- $(2w - 3)(2x + 4y - 5)$

	$2w$	-3
$2x$	$4wx$	$-6x$
$4y$	$8wy$	$-12y$
-5	$-10w$	15

$= 4wx - 6x + 8wy - 12y - 10w + 15$

- $(6 + 2f)(7g - 9)$

	6	2f
7g	42g	14gf
-9	-54	-18f

$= 42g + 14gf - 54 - 18f$

Additional Resources:

https://youtu.be/MVZRD4Fa1OY

https://www.ixl.com/math/grade-4/multiply-2-digit-numbers-by-2-digit-numbers-usindels-ii

https://drive.google.com/open?id=1At9DST9c6EMMLghSqB5QsRiW4aFuldpVrhrGj8BbhaE