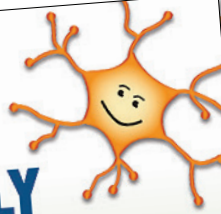


K-8

**100 BRAIN-FRIENDLY
LESSONS** for
Unforgettable
**TEACHING
and LEARNING**



MARCIA L. TATE

CORWIN

Thank you

**FOR YOUR
INTEREST IN
CORWIN**

Please enjoy this complimentary excerpt from *100 Brain-Friendly Lessons for Unforgettable Teaching and Learning, Grades K-8*, by Marcia Tate. Use this lesson with your Grades 3-5 students to show them how to use repeated addition to calculate multiplication problems.

LEARN MORE about this title, including Features, Table of Contents and Reviews.

MATHEMATICS GRADES 3–5 LESSON 1

Multiplication

Lesson Objective(s): *What do you want students to know and be able to do?*

Use the meaning of repeated addition to calculate multiplication problems.

Assessment (Traditional/Authentic): *How will you know students have mastered essential learning?*

Observe calculations of repeated addition as multiplication in *Pattern Block Spinner* game.

Ways to Gain/Maintain Attention (Primacy): *How will you gain and maintain students' attention? Consider need, novelty, meaning, or emotion.*

Play the video *Three is a Magic Number* <https://www.youtube.com/watch?v=aU4pyiB-kq0>

Lesson Segment 1: Use Repeated Addition to Calculate Multiplication Problems

• Activity 1: Multiplication

Explain the concept to students with the following problem:

The total of equal groups of objects is called multiplication. The symbol (\times) means to multiply. The numbers multiplied are the factors. Point out that addition and subtraction are analogous. They are simply inverse operations, as are multiplication and division. Multiplication is a faster way of adding.

The class could order square pizzas. If 6 pizzas were ordered, how many sides would there be?

Find 4 sides of 6 pizzas.

One way: $4 + 4 + 4 + 4 + 4 + 4 = 24$

Another way: Write a multiplication sentence.

$$\begin{array}{ccccc}
 \underbrace{\hspace{1.5cm}} & & \underbrace{\hspace{1.5cm}} & & \underbrace{\hspace{1.5cm}} \\
 \# \text{ of sides} & & \# \text{ of pizzas} & & \text{total} \\
 4 & \times & 6 & = & \underline{24} \\
 \text{factor} & & \text{factor} & & \text{product}
 \end{array}$$

← find the unknown or missing value

So 4 groups of 6 is 24. The unknown is 24 sides.

• **Activity 2: Pattern Block Work Mats**

Set up four work mats or stations. At each of the four work mats or stations, there is one type of pattern block.

Work mat 1: 6 green triangles

Work mat 2: 5 blue rhombi

Work mat 3: 4 yellow hexagons

Work mat 4: 3 red trapezoids

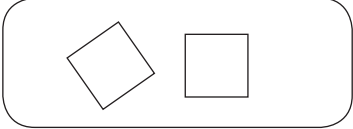
At each work mat, have students write a multiplication sentence for the pattern block sides in their journals.

$$\begin{array}{c} \text{\# of sides} \\ \underbrace{\hspace{2cm}} \\ \text{factor} \end{array} \times \begin{array}{c} \text{\# of blocks} \\ \underbrace{\hspace{2cm}} \\ \text{factor} \end{array} = \begin{array}{c} \text{total} \\ \underbrace{\hspace{2cm}} \\ \text{product} \end{array}$$

← find the unknown or missing value

Example for 2 orange squares

$$\begin{array}{c} \text{\# of sides} \\ \underbrace{\hspace{2cm}} \\ \underline{4} \\ \text{factor} \end{array} \times \begin{array}{c} \text{\# of blocks} \\ \underbrace{\hspace{2cm}} \\ \underline{2} \\ \text{factor} \end{array} = \begin{array}{c} \text{total} \\ \underbrace{\hspace{2cm}} \\ \underline{8} \\ \text{product} \end{array}$$

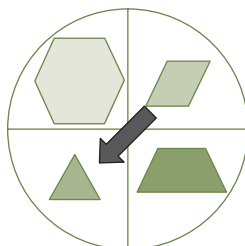


← find the unknown or missing value

• **Activity 3: Pattern Block Spinning**

Have students use the pattern block spinner, a six-sided die, game markers, and a 100 chart according to the following directions: Spin the spinner, roll the die. Multiply those two together. Triangle (3) X die side (4) = 12. Move 12 spaces on the hundred chart. Alternate turns. The first one to 100 wins!

Pattern Block Spinner and 100 Chart are both in the plan.



									10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Brain-Compatible Strategies: *Which will you use to deliver content?*

<input checked="" type="checkbox"/> Brainstorming/Discussion	<input type="checkbox"/> Music/Rhythm/Rhyme/Rap
<input checked="" type="checkbox"/> Drawing/Artwork	<input checked="" type="checkbox"/> Project/Problem-Based Learning
<input type="checkbox"/> Field Trips	<input checked="" type="checkbox"/> Reciprocal Teaching/Cooperative Learning
<input checked="" type="checkbox"/> Games	<input type="checkbox"/> Role Plays/Drama/Pantomimes/Charades
<input type="checkbox"/> Graphic Organizers/Semantic Maps/Word Webs	<input type="checkbox"/> Storytelling
<input type="checkbox"/> Humor	<input checked="" type="checkbox"/> Technology
<input checked="" type="checkbox"/> Manipulatives/Experiment/Labs/Models	<input type="checkbox"/> Visualization/Guided Imagery
<input checked="" type="checkbox"/> Metaphors/Analogies/Similes	<input checked="" type="checkbox"/> Visuals
<input type="checkbox"/> Mnemonic Devices	<input type="checkbox"/> Work Study/Apprenticeships
<input type="checkbox"/> Movement	<input checked="" type="checkbox"/> Writing/Journals

100 Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

