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Integrated learning solutions

UNIT: CREATIVE EXPRESSIONS IN MULTIPLICATION
MULTIPLICATION WITH MEDIEVAL TIMES
Grade Band: 3
Content Focus: Theatre & Math



LEARNING DESCRIPTION

Students will engage in the sport of fencing working in tandem to embody the process for multiplying a one digit number by a multiple of ten.

LEARNING TARGETS

Essential Questions	"I Can" Statements
What strategies can we use to break down a multiplication problem? How can we dramatize the process of multiplying numbers together?	I can use strategies to break down multi-digit numbers for multiplication. I can play a role within a group to enact a math process.

GEORGIA STANDARDS

Curriculum Standards	Arts Standards
3.PAR.3.5 Use place value reasoning and properties of operations to multiply one-digit whole numbers by multiples of 10, in the range 10-90. 3.PAR.3.6 Solve practical, relevant problems involving multiplication and division within 100 using part-whole strategies, visual representations, and/or concrete models.	TA3.PR.1 Act by communicating and sustaining roles in formal and informal environments.

SOUTH CAROLINA STANDARDS

Curriculum Standards	Arts Standards
3.NSBT.3 Multiply one-digit whole numbers by multiples of 10 in the range 10 – 90, using knowledge of place value and properties of operations.	**Anchor Standard 3:** I can act in improvised scenes and written scripts.

KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
• Multiplication - A mathematical operation used to calculate the total of one number added repeatedly a specific number of times • Equation - A mathematical sentence that has two equal sides separated by an equal sign • Factor - The numbers that are multiplied • Product - The answer to a multiplication problem • Multiplier - The number of groups • Multiplicand - The number of items in each group	• Role – A part or character in a scene, play, or movie • Stage combat –The process of creating the illusion of fighting through safe, choreographed performance • Props – Items that actors use in a performance to depict real-life objects. Props can also be used to help students brainstorm for their writing or character study. • Fencing - A sport that involves two competitors using fencing swords to score points by making contact with their opponent in specific target areas

MATERIALS

- Class set of fencing props made of paper towel rolls, rolled-up newspaper, or rolled-up craft paper
- Name tags, stickers, or another method of assigning a single digit (1-9) to each student
- Dry erase boards or paper and utensils

INSTRUCTIONAL DESIGN

Opening/Activating Strategy

Word Passing

- Have the class stand in a circle. Have one actor turn to their right and say the word "multiply" to the next person. Have each person then turn and say it to the person to their right in sequence.
- Once the class is comfortable smoothly passing the word, add a gesture – perhaps the forearms crossed to make an "X". Now, have students pass the word with the gesture.
- Repeat the process for the words "fence" and "fencing match" coming up with a gesture for each.
- Option: Try to pass two or all three of the words at once, starting them at equally-distanced points in the circle. Work as a class to try and keep all the words moving.
- Explain to the students that these words are part of the day's drama-integrated activity.

Work Session

Multiplication review

- Review multiplication in general, and the process for multiplying a one digit number by a multiple of 10 (10-90). Model the process on the board or screen, showing how each digit is used as a factor in a series of products that are added to arrive at the final product.

Medieval Times

- Ask the students what they know about medieval times. Gather prior knowledge, which might come from literature, movies, or even eponymously named dinner theatre experiences.
- Discuss knights, who were warriors that served kings, and squires, who were younger men who served or were in training with knights.
- Knights and squires were called by the honorifics "Sir" and "Master" respectively.
- Tell students that there were female knights who were called dames.
    - Tell students that there is no set word for a younger woman who served or was in training with a dame, so for the purposes of the lesson such a person will be called a lady.
- Explain that the class will be enacting multiplication problems taking on the roles of knights, squires, dames, and ladies through fencing matches.
- Establish the wordplay between multiplication and the word "times" in "medieval times".
- Explain that in each two-digit number, the digit in the tens place will be the knight or dame, and the digit in the ones place will be the squire or lady.
    - They will be called by the honorific and the digit they bear and the value it represents, E.g., Sir 7, Squire 3, Dame 4, Lady 6. *Note that because students are multiplying a whole single digit number by multiple of 10, the person representing*

the tens place will be the Knight or Dame and the person representing the ones place will be the Master or Lady.

- Invite three volunteers to the front. Assign them each a role with a numerical name tag. (For the example here, 20 and 4). In each pair, the actors to the left (as viewed by the audience) will be the knight or dame to represent the tens place (2) and a squire or lady to represent the ones place (0), and the actor to the right is the squire or lady representing the single digit whole number (4).
    - The two students representing the multiple of 10 should stand facing the single digit number.
- Have each team state their identities/values, encouraging them to speak in the style of medieval characters. E.g.: “We are Dame 2 and Lady 0.” “I am Squire 4.”
- Distribute fencing props to the actors, who represent factors.
    - Explain to students that they are props, to be used to enact the scenes. Explain that this activity is a form of stage combat, in which actors work together to simulate a scene of physical conflict. Remind them about safety rules in the classroom.
- Direct the actors/factors to enact the duels that comprise the "Multiplication with Medieval Times":
    - Two says, “Four, I challenge you.” Four says “Two, I challenge you.”
    - All say, “We shall battle to the bitter end – the product! Let us multiply with the Medieval Times!”
    - Both say, “En garde!” and bring their fencing props together to form an X.
    - Then they alternate sword taps to count out the groupings represented in their multiplication: Two groups of four feints, equaling eight! Write eight on a dry erase board in the tens place.
    - Then, zero says, “Four, I challenge you.” Four says, “Zero, I challenge you.” Ask students how many groups of feints they will perform. Students should say “Zero”. Write zero in the ones place on the board.
- Model with several groups with different numbers.
- Variations: Depending on class behavior and teacher comfort, restrict the lesson to a series of iterations until every student has had a chance to participate; or, after ample modeling, distribute name tags and fencing props and have student work in groups of four. If the groups are uneven, assign a fifth student to record the products and help guide the duels.

Closing/Reflection

- Ask students:
    - What did you like or learn in this lesson? What was interesting or fun?
    - How did the medieval-style stage combat help to reinforce the process for multiplying?
    - How did you use your voices and bodies to become medieval characters?

ASSESSMENTS

Formative

- Teacher will observe whether:

- Students are able to work their way through the sequence of four multiplication "duels" to arrive at a product.
- Students enact their roles with energy and clarity.
- Students work together with their partners and teams safely and efficiently.

Summative

- Students arrive at accurate products for their assigned numbers.
- Students explain the process for multiplying a single digit number by a multiple of ten.
- Students use their voices to embody medieval characters.

DIFFERENTIATION

Acceleration: Give students the opportunity to multiply other combinations numbers.

Remediation:

- Rather than having groups do independent practice, limit the lesson to guided practice with groups in front of the class.
- Start with problems that multiply a single-digit number by a single-digit number.

ADDITIONAL RESOURCES

- Basics of fencing from the US Olympic Team
- Mt. Lebanon High School fencing team demonstration video
- Basics of sword-fighting instructional video, from Shakespeare in Detroit: https://www.youtube.com/watch?v=8L4bvsNywjQ

CREDITS

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**This integrated lesson provides differentiated ideas and activities for educators that are aligned to a sampling of standards. Standards referenced at the time of publishing may differ based on each state's adoption of new standards.*

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