**Lesson Segment Title:** [Multiplication]

**Grade:** [5]

**Context:**

Students in the class: [20] Males: [6] Females: [14]

Students with IEPs: \_\_1\_\_\_ Focusing Issues

Students with 504 Plans: \_\_1\_\_ Focusing Issues

English Language Learners: \_\_\_3\_\_

Language Proficiency Level (# of students at each level):

Beginning: \_\_1\_\_\_ Intermediate: \_\_2\_\_\_ Advanced: \_\_0\_\_ Advanced High: \_0\_\_

Students with Other Learning Needs: \_\_1\_\_ Mobility Issues

**Central Focus:**  The central focus for this learning segment is analyzing how to multiply with fluency and accuracy three-digit numbers by two-digits numbers within a variety of multiplication problems. The students must understand what the terms product, sum, times, difference, algorithm, and multiply mean. In order to recognize how and why three-digit by two-digit multiplication are used students will review instances of simple multiplication steps and the general multiplication rules. The purpose for teaching this content is that being able to apply what they already know about multiplication will help students understand how to multiply three-digit numbers by two-digit numbers using the standard algorithm and solve multistep multiplication problems.

**Lesson Title**: [Three-digit by two-digit multiplication]

**Content Standards**

**TEKS:** [(3) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to:

(B) multiply with fluency a three-digit number by a two-digit number using the standard algorithm;]

**ELPS:** [(C) learn new language structures, expressions, and basic and academic vocabulary heard during classroom instruction and interactions

 (ii) learn new expressions heard during classroom instruction and interactions]

**Learning Objectives:**

**SWBAT #1: (function)** [ Multiply three-digit numbers by two-digit numbers with fluency and accuracy.]

**SWBAT # 2: (vocabulary)** [ Define the words multiply, multiplied by, product, sum, difference, times algorithm.]

**SWBAT #3: (discourse)** [Multiply three-digit numbers by two-digit numbers by using the standard algorithm.]

**SWBAT #4: (syntax)** [Apply the rules regarding multiplication to a solve a multistep multiplication problem of three-digit by two-digit numbers.]

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| --- | --- |
| **Language Demands** | **Language Supports** |
| **Function**Multiply three-digit numbers by two-digit numbers with fluency and accuracy. | * I will be modeling how to solve the three by two-digit multiplication to the class.
* I will be modeling more than one method on how to solve the problems to ensure students have multiple options to solve the problems I provide as an example.
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| **Vocabulary**Define the words multiply, multiplied by, product, sum, difference, times algorithm. | * Students will be provided with a key terms sheet as a resource to help define unknown words mentioned in the lesson.
 |
| **Discourse** Multiply three-digit numbers by two-digit numbers using the standard algorithm.  | * Students will use their class notes and examples modeled by the teacher to help solve the problems.
* Students can also look at the class anchor charts about multiplication to help answer any questions.
 |
| **Syntax** Apply the rules regarding multiplication to a solve a multistep multiplication problem of three-digit by two-digit numbers. | * Review a few simple step multiplication problems as a class to review past lessons
* There will be a poster posted in the classroom with the general multiplication rules
* There will be a model posted up on the wall during the lesson, so they can refer to it when needed.
* The times table poster will be posted in the classroom
 |

**Focus/Attention-Getter (5 min.):** I will present the multiplication times table (picture on the slideshow) and ask the open-ended question “who here can tell me what this is?” When a student responds to my question, I would then jokingly ask another question “who can recite this entire chart?”, however I would not take the time to quiz the students on every problem in the chart. If there is some time left, I would randomly ask students random problems from the chart to warm up their brains and memory of simple multiplication.

**SWBAT #4**

**Background Information/ Lesson Rationale (2 min.):** Today we are going to be learning how to multiply three-digit by two-digit multiplication with fluency. It is important to know how to do this so you can know how to work with larger numbers and apply it to multiple math problems! You can use this type of multiplication in different forms of math like division, fractions, and decimals!

**SWBAT #1**

**Input/Presentation/ Modeling (5 min.):** I will have a slideshow presented with instructions of the lesson listed and what materials and behavior is expected from the class. The students will each have a vocabulary reference sheet with the lesson’s vocabulary that is necessary to know and understand the lesson. I will also be including visual models in the slideshow of how different multiplication methods work ([Picture #1](https://shelleygrayteaching.com/represent-multiplication/), [Picture #2](https://www.teacherspayteachers.com/Product/Three-by-two-digit-multiplication-with-area-model-anchor-chart-and-poster-5234783?st=b00df66b1314ffe5c36f0f87a1159815).)

**SWBAT#2&4**

**Guided Practice (10 min.):** I will be modeling different multidigit multiplication problems in a variety of methods like lattice multiplication, grid method, and long multiplication. In order to monitor the students and make sure they are understanding I will be calling on different students to help me solve the problems I use as a model for the class. If students are not understanding the lesson, I will work backwards and start off with what they do know and understand and use the chunking method to break down the multiplication problem. Using different methods will also help the students have more opportunities to understand multidigit multiplication. During my class demonstrations the students are following along with me and writing in their math journal by taking notes on the different methods and how to properly solve the multiplication problems. After I demonstrate the few examples using different methods they will pair up in the classroom and work together to finish a worksheet and solve multiplication problems on their own. I will be walking around the classroom and checking in with all the pairs to make sure they are understanding the lesson.

**SWBAT #1&3**

**Independent Practice (20 min.):** I will be creating math stations for the students with a variety of activities (they will stay at that station throughout the 20 min.). I will be including a technology station and they will be using the instructional program GeoGebra to practice multiplication on the computers ([GeoGebra activity](https://www.teacherspayteachers.com/Product/Three-by-two-digit-multiplication-with-area-model-anchor-chart-and-poster-5234783?st=b00df66b1314ffe5c36f0f87a1159815)), another group will be using multiplication flashcards and will use those flashcard to quiz their group mates, another group will be building multidigit numbers represented by math cubes and solving the problem, lastly the students who need extra support in the classroom will be meeting with me as we work through more multiplication problems using different methods. While the students who are meeting with me are solving the problems in the worksheet, they are assigned to do with me, I will be monitoring the class to make sure they are understanding and on task and answer any questions the students need.

**SWBAT #3**

**Modifications for Learners with Exceptionalities:**

Students with IEPs/504 Plans (ADD, ADHD)

* **Blank Sheet help:** Reducing distractions by using blank pieces of paper to cover all but one of the questions on a worksheet.
* **Checking Frustration Level:** Once a student teaches a level of frustration, they are no longer learning. Monitoring the student’s frustration allows for them to calm, and get back into a zone of learning
* **Checking in with the student:** During instruction, check in from time to time with the student to make sure the student understands the lesson.
* **Connect Everything:** Students should see how one concept relates to the next, building upon one another.
* **Allow for periodic physical activity:** Letting the students move, especially when they know it is coming, allows the students to focus on the task at hand before and after expressing their need to move
* **Seat students near the teacher:** With students in close proximity to the teacher, distractions will be limited. The teacher will also be able to monitor the student and their needs easier

Students with Specific Language Needs (ELL: 1 Beginning & 2 Intermediate)

* **Bilingual dictionary/glossary:** Letting a student utilize this tool will help the student find words that they are trying to use. It will also help further their vocabulary and understanding of the topic at hand.
* **Checking Frustration Level:** Once a student teaches a level of frustration, they are no longer learning. Monitoring the student’s frustration allows for them to calm, and get back into a zone of learning
* **Checking in with the student:** During instruction, check in from time to time with the student to make sure the student understands the lesson.
* **Connect Everything:** Students should see how one concept relates to the next, building upon one another.
* **Encourage students to ask questions, even if they are asked later:** Allow students to address questions and concerns with you, at any time. They may be hard to come up with in class, so giving students the opportunity to contact you with their problems will allow them to feel less pressured.
* **Seat students near the teacher:** With students in close proximity to the teacher, distractions will be limited. The teacher will also be able to monitor the student and their needs easier

Students with Other Learning Needs (Mobility issues)

* **Checking Frustration Level:** Once a student teaches a level of frustration, they are no longer learning. Monitoring the student’s frustration allows for them to calm, and get back into a zone of learning
* **Checking in with the student:** During instruction, check in from time to time with the student to make sure the student understands the lesson.
* **Connect Everything:** Students should see how one concept relates to the next, building upon one another.
* **Encourage students to ask questions, even if they are asked later:** Allow students to address questions and concerns with you, at any time. They may be hard to come up with in class, so giving students the opportunity to contact you with their problems will allow them to feel less pressured.
* **Flexible Seating:** Flexible seating, like wiggle chairs, standing desks, footrests, seat cushions, or resistance bands on chair legs, allows for sensory input, and for these students to have these small amounts of movements that they need while working
* **Seat students near the teacher:** With students in close proximity to the teacher, distractions will be limited. The teacher will also be able to monitor the student and their needs easier

**Assessment (10 min.):** I will be creating a quiz that contains two parts:

Part one: There is going to be a matching item for vocabulary words product, sum, difference, times, algorithm.

Part two: there will be three multidigit multiplication questions, one for each solving methods (long multiplication method, lattice method, and grid method)

**Evaluation Criterion Template:**

**Student Name** \_\_\_\_\_\_\_Sample\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Date** \_\_\_\_\_\_\_Sample\_\_\_\_\_\_\_\_

 **Lesson Title** [ Three-digit by two-digit multiplication]

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| --- | --- | --- | --- | --- | --- |
| **Level****Criteria Evaluated** | **Excellent** | **Proficient** | **Adequate** | **Limited\*** | **Insufficient/****Blank\*** |
| Define all key vocabulary words from the lesson(Product, sum, difference, times, algorithm) | Defined all five vocabulary words correctly | Defined four out of the five words correctly | Defined three out of the five words correctly | Defined less than three words correctly  | No score is awarded because there is insufficient evidence of student performance based on the requirements of the assessment task. |
| Multiplied three-digit by two-digit multiplication problems with fluency | Correctly solved all three questions with no mistakes | Correctly solved two out of three questions and partially one question. | Correctly solved two out of three questions | Partially solved all three questions/ had no correct answers |
| Able to apply the rules of all three multiplication methods to a solve a three-digit by two-digit multiplication problem  | Correctly applied the rules of all three methods | Correctly applied the rules of two methods and partially one question | Correctly applied the rules of only two methods | Partially applied the rules to all three methods/ did not apply the rules correctly to any method |
| Able to show their thought process and steps to solve the multiplication questions | Showed their work/thought process on all three multiplication questions | Showed their work/thought process on only two questions and partially one question | Showed their work/thought process on only two questions | partially showed their work/thought process to all three questions/ no questions  |

When work is judged to be limited or insufficient, the teacher makes decisions about appropriate intervention to help the student improve. https://aac.ab.ca/materials/rubric-materials/

**Closure (3 min.):** I am going to make an exit ticket that rates how confident the student is on the new topic on a scale of one to ten and then I will also ask what one new thing they learned in this lesson that they did not already know.

**Materials:** computers, multidigit multiplication flashcards, math cubes (building blocks), multidigit multiplication worksheet, slideshow