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LESSON PLAN: "Groups Of" Multiplication Strategy Practice

Candidate's name: Madison Webb

Grade/Class/Subject:	Grade 3 Mathematics	School:	[redacted]
Date:	March 4, 2024	Allotted Time:	30 minutes
Topic/Title:	"Groups Of" Multiplication Strategy Practice		

1. LESSON ORIENTATION

Key resources: Instructional Design Map

Briefly, describe purpose of lesson, and anything else to note about the context of lesson, students, or class, e.g. emergent learning needs being met at this time, elements of focus or emphasis, special occasions or school events.
During this lesson, students will continue practicing solving multiplication problems using the "groups of" strategy. The lesson will begin with guided practice drawing out "groups of" on individual whiteboards and then transition into students working independently on a worksheet. The purpose of this lesson is to allow students to practice solving multiplication problems using a strategy we have been developing over the last four lessons.

2. CORE COMPETENCIES

Key resources: https://curriculum.gov.bc.ca/competencies

Core /Sub-Core Competencies *(check all that apply):*	*Describe briefly how you intend to embed Core Competencies in your lesson, or the role that they have in your lesson.*
☑ COMMUNICATION – Communicating ☐ COMMUNICATION – Collaborating ☐ THINKING – Creative Thinking ☑ THINKING – Critical Thinking & Reflective Thinking ☑ PERSONAL AND SOCIAL – Personal Awareness and Responsibility ☐ PERSONAL AND SOCIAL – Positive Personal and Cultural Identity ☑ PERSONAL AND SOCIAL – Social Awareness and Responsibility	**Communicating: I communicate purposefully, using forms and strategies I have practiced.** ● Students will communicate their thinking as they use the whiteboards. They will also participate in the lesson by responding verbally to my questions. Students will listen and respond to our class discussion respectfully. **Critical Thinking & Reflective Thinking: I can use evidence to make simple judgments.** ● Students will share their thinking as they respond to the interactive practice questions using their whiteboards and by volunteering to tell the class about how they worked out the questions. **Personal Awareness & Responsibility: I can initiate actions that bring me joy and satisfaction and recognize that I play a role in my well-being.** ● Students will be encouraged to express their needs and ask for help during independent work time. Students will be responsible for completing a certain level of work before they are allowed to participate in centres. Students recognize that they play a role in how their day unfolds and can take action to help ensure they reach the desired outcome. **Social Awareness & Responsibility: In familiar settings, I can interact with others and my surroundings respectfully.** ● Students will be responsible for treating their whiteboards, markers, and rags respectfully. We will review how to

	responsibly use the whiteboard supplies at the beginning of the lesson.

3. INDIGENOUS WORLDVIEWS AND PERSPECTIVES

Key resources: First Peoples Principles of Learning (FPPL); Aboriginal Worldviews and Perspectives in the Classroom

FPPL to be included in this lesson *(check all that apply):*	*How will you embed Indigenous worldviews, perspectives, or FPPL in the lesson?*
☑ Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors. ☑ Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place). ☐ Learning involves recognizing the consequences of one's actions. ☐ Learning involves generational roles and responsibilities. ☐ Learning recognizes the role of Indigenous knowledge. ☐ Learning is embedded in memory, history, and story. ☑ Learning involves patience and time. ☐ Learning requires exploration of one's identity. ☐ Learning involves recognizing that some knowledge is sacred and only shared with permission and/or in certain situations.	• Learning multiplication concepts ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors. Multiplication concepts are used frequently in daily life as people shop, plan and cook meals, plan for the future, etc. These foundational math concepts will help students succeed in learning future math concepts that build upon the ones explored in this lesson. Additionally, this lesson will be delivered in a manner that prioritizes student well-being and does not place unnecessary stress on students as they learn. • Students will have the opportunity to learn using individual whiteboards and engage in group learning. The non-permanent nature of whiteboard practice will hopefully help students feel secure enough to take risks and try difficult problems. This approach will allow students to learn experientially, build reciprocal relationships, and foster connectedness as we work together as a class to solve the practice problems. • Plenty of time to practice multiplication problems will be provided. This lesson is part of a series of lessons designed to allow students time to develop their understanding and practice multiplying. Students will be aware that these important concepts may take time to learn and that we can learn from our mistakes to improve our skill sets for the future. Allowing students to use individual whiteboards to practice solving problems demonstrates patience, respect for individuality, and an understanding that learning takes time.

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4. BIG IDEAS

Key resources: https://curriculum.gov.bc.ca/ (choose course under Curriculum, match lesson to one or more Big Ideas)

What are students expected to understand? How is this lesson connected to Big Idea/s or an essential question?
Big Idea: Development of computational fluency in addition, subtraction, multiplication, and division of whole numbers requires flexible decomposing and composing. This lesson will provide students with an opportunity to practice using the "groups of" strategy to solve multiplication problems. We will review the vocabulary terms and concepts we learned during the last four math lessons which will further students' learning and understanding of these terms. After guided practice and completing an independent worksheet, students will have a functional understanding of how to solve a multiplication problem using the "groups of" strategy. They will understand that the first number in the multiplication sentence tells us how many groups there are and the second number in the multiplication sentence tells us how many are in each group. The essential questions this lesson addresses are: 1. What are the parts of a multiplication equation and what do the factors tell us? 2. How can "groups of" be used to understand and work through multiplication problems?

5. LEARNING STANDARDS/INTENTIONS

Key resources: https://curriculum.gov.bc.ca/ (choose course under Curriculum)

Curricular Competencies: *What are students expected to do?*	**Content:** *What are students expected to learn?*
Reasoning and analyzing: ● Use reasoning to explore and make connections ● Model mathematics in contextualized experiences **Understanding and solving:** ● Visualize to explore mathematical concepts ● Develop and use multiple strategies to engage in problem solving **Communicating and representing:** ● Use mathematical vocabulary and language to contribute to mathematical discussions ● Represent mathematical ideas in concrete, pictorial, and symbolic forms	**Multiplication concepts:** ● Understanding concepts of multiplication (e.g. groups of, arrays, repeated addition) ● Provide opportunities for concrete and pictorial representations of multiplication

6. ASSESSMENT PLAN

Key resources: Instructional Design Map and https://curriculum.gov.bc.ca/classroom-assessment

*How will students demonstrate their learning or achieve the learning intentions? How will they know if they are proficient? How will the evidence be collected, documented and shared? Will you use **observations**, have targeted **conversations**, or collect **products**? Mention any opportunities for feedback, self-assessment, peer assessment and teacher assessment. What tools, structures, or rubrics will you use to assess student learning (e.g. Performance Standard Quick Scale)? Will the assessments be **formative**, **summative**, or both?*
Students are still developing their understanding of multiplication and the "groups of" strategy. Therefore, all assessments connected to this lesson will be formative. During the guided whiteboard practice portion of this lesson, the following strategies will be used: ● I will make observational assessments of student progress by circulating the room as they work out their answers. Students will wait to erase their answers until I have seen their answers and given them approval to

erase their work. I will make adjustments as necessary to the pace of the lesson depending on the development of student understanding I observe in their whiteboard responses.

- "Thumbs Up" self-assessments will also be used to gauge students' self-assessed understanding during instruction.

Students will complete an independent multiplication practice worksheet during this lesson. The worksheet will be assessed for ability to show the steps to solve the practice problems, accuracy, and understanding. Students will have the opportunity to work through any corrections they may have. The following assessment strategies will be used:

- Observational assessments. I will circulate the room as students work to answer any questions and ensure they are on the right track. I will provide feedback as I circulate.

- As students finish their worksheets, I will assess them. Students with corrections will be sent back to their desks to complete their corrections.

7. DESIGN CONSIDERATIONS

Key resources: Instructional Design Map

Make brief notes to indicate how the lesson will meet needs of your students for: differentiation, especially for known exceptionalities, learning differences or barriers, and language abilities; inclusion of diverse needs, interests, cultural safety and relevance; higher order thinking; motivations and specific adaptations or modifications for identified students or behavioural challenges. Mention any other design notes of importance, e.g. cross-curricular connections, organization or management strategies you plan to use, extensions for students that need or want a challenge.

Differentiation: The number of practice problems students will be required to complete may be differentiated. Students who demonstrate diligence during their independent practice time but do not manage to finish all the practice problems may not be required to complete the entire booklet during unfinished work/centre time. I will work one-on-one with these students to gauge their understanding and make a decision at that point.

The practice questions in the prepared slide deck are colour-coded to match the anchor chart students can reference as they work to solve their multiplication questions. The first factor which tells us how many groups to draw is always green, the second factor which tells us how many to draw in each group is always blue, and the product is always red. This colour coding system helps students to read the questions and identify what each number in the multiplication sentence communicates to them.

Management & Motivation: Smiley face stamps will be stamped onto work that is approved to be submitted to the math bin. Students must complete all of their work for the day before they can play at centres so this will serve as a motivator. I also give out star stickers to students who demonstrate that they are "stars of neatness" by producing exceptionally neat work.

Required preparation: *Mention briefly the resources, material, or technology you need to have ready, or special tasks to do before the lesson starts, e.g. rearrange desks, book a room or equipment.*

Materials & Preparation Needed:

- Anchor chart displaying what each factor in the multiplication problem tells us
- Individual whiteboards (1 for each student)
- Whiteboard markers (1 for each student)
- Access to Smartboard
- Access to document camera
- Access to prepared slides with colour-coded practice questions
- Class set of multiplication practice problems worksheet booklets
- Printed out lesson plan

8. LESSON OUTLINE

Instructional Steps	**Student Does/Teacher Does** *(learning activities to target learning intentions)*	**Pacing**
OPENING: *e.g. greeting students, sharing intentions, look back at what was learned, look ahead to what will be learning, use of a hook, motivator, or other introduction to engage students and activate thinking and prior knowledge*	The prepared slide deck of practice problems will be displayed on the Smartboard when the lesson begins. I do: Greet students with, "Good morning Grade 3!" They respond by saying, "Good morning Miss Webb." I do: Share the learning activities for this lesson. ● "Today, we are going to practice solving multiplication problems using our whiteboards again and then you will do a worksheet on your own." I do: Review the guidelines for proper whiteboard use with the students. ● "What are some of the rules we talked about last class for how to use our whiteboards responsibly?" Call upon students who volunteer. These are the whiteboard rules. ○ We only use the rag to erase our work. (Not our sleeves or our hands). ○ We press down gently on the marker so the tip stays nice. ○ We only write our work on our whiteboard. (No doodling). ○ We do not erase our work until Miss Webb has seen it and has said we may erase it. I do: Instruct the students in charge of handouts to distribute the whiteboards, markers, and rags. (One student will be in charge of the whiteboards and one will be in charge of the markers and rags.) I do: Once everyone has their whiteboard supplies, remind students to place the caps of their markers in their desks so they do not fiddle with them as we work. *Once distributed, transition into practice problems.*	3-5 minutes

BODY: ●*Best order of activities to maximize learning -- each task moves students towards learning intentions* ●*Students are interacting with new ideas, actively constructing knowledge and understanding, and given opportunities to practice, apply, or share learning, ask questions and get feedback* ●*Teacher uses learning resources and strategic opportunities for guided practice, direct instruction, and/or modelling* ●*Can include: transitions, sample questions, student choices, assessment notes (formative or otherwise), and other applications of design considerations*	**Part 1: Whiteboard Practice** I do: Read out the first practice question (5 x 2 =). Allow students a moment to write the practice question across the top of their boards. I do: Ask the class, "Who can tell me how many groups we are going to draw?" Call on someone to respond. Then, draw out the groups on the board as students draw the groups on their boards. I do: Ask the class, "Who can tell me how many dots are going to be in each group?" Call on someone to respond. Then, draw out dots in the groups on the board as students draw out the dots in the groups on their own boards. I do: Ask the class, "Who can tell me what the product is?" Call on someone to respond. Then, ask that student how they know. (Hopefully, they will explain the repeated addition needed to solve the question.) Then, write out the repeated addition so that it is neatly lined up with the drawn groups. Write the product at the end of the repeated addition sentence and at the end of the multiplication sentence at the top of the board. I do: Circulate the room as students work to show their work on their whiteboards and provide feedback. Repeat this process with the following questions: ● 3 x 6 = ● 9 x 4 = I do: Display the next practice problem on the Smartboard (6 x 5 =) and read it out. Instruct students to write it across the top of their whiteboards. Let students attempt this problem more independently. ● "Think about how many groups you are going to draw and how many dots will be in each group. The question is 6 x 5. Please do not erase your work until I have told you I have seen your work." ● Circulate the room and assess each student's work. ● Once all students have responded on their boards, ask students to do a "Thumbs up" self-assessment to tell me how they felt about that question. Then, demonstrate how to solve the problem on the Smartboard by asking students to describe the steps. Repeat this process with 4 x 10 = I do: Instruct students to erase what is on their boards, put the cap back on their markers, and set their supplies on their desks. Instruct the students in charge of collections to collect all the whiteboard supplies. *Transition to Independent practice.* **Part 2: Independent Practice** I do: Once all students are seated, briefly explain to students that they will now complete a multiplication practice worksheet. The worksheet asks them	10 minutes for whiteboard practice 15 minutes for independent work

	to show their work in the same way we have been practicing on our whiteboards. I do: Read out the instructions on the worksheet. ● "For each question, solve the multiplication problem by drawing it out, writing the repeated addition, and finding the product." I do: Instruct the students in charge of handouts to distribute the worksheet. As the worksheets are being handed out, remind students that the multiplication reference chart is up at the front of the room. I do: Release students to independent work and let them know that if they need help they can raise their hands. I do: As they finish their work, they will bring it up to me at the teacher's desk and I will assess it. Students will have the opportunity to attend to their corrections and bring it back up to me.	
CLOSING: ●*Closure tasks or plans to gather, solidify, deepen or reflect on the learning* ● *review or summary if applicable* ●*anticipate what's next in learning* ●*"housekeeping" items (e.g. due dates, next day requirements*	I do: Thank students for their efforts today. Ask that they finish working on the question they are currently focused on and turn their worksheets in. I do: Let students know that those who have not yet finished their work will have an opportunity to complete it during our unfinished work block in the afternoon. I do: Let students know that during our next lesson, we will continue practicing this multiplication strategy.	2 minutes

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9. **REFLECTION** *(anticipate if possible)*

- *Did any reflection <u>in</u> learning occur, e.g. that shifted the lesson in progress?*
- *What went well in the lesson (reflection <u>on</u> learning)?*
- *What would you revise if you taught the lesson again?*
- *How do the lesson and learners inform you about necessary next steps?*
- *Comment on any ways you modelled and acted within the Professional Standards of BC Educators and BCTF Code of Ethics?*
- *<u>If this lesson is being observed, do you have a specific observation focus in mind?</u>*

Overall, this lesson went quite well. Students were successful in their understanding of the "groups of" strategy during whiteboard practice and the majority continued to demonstrate successful understanding in their independent worksheet practice. I was mindful about demonstrating each practice problem on the board using the exact same steps and colour patterns. I was also mindful about speaking clearly, loudly, and more firmly because this is an area I am working to polish. I feel that I was more successful in this area than I was in my earliest lessons, but I will continue to work on this. Additionally, I incorporated a lot of positivity and positive praise into this lesson which was very helpful for classroom management, the flow of the lesson, and student participation. [Professional Standards 1 & 3].

I had initially planned that students would complete a booklet of 8-10 written worksheet questions, however, the whiteboard practice consumed more time than I anticipated. Still, I think the amount of whiteboard practice we did (3 questions together and 2 independent practice questions) was valuable and well managed. As the lesson unfolded, I decided to assign the first two questions in the booklet and allow time to work through the remaining problems during tomorrow's math lesson. All students managed to complete their work during this time. I worked one-on-one with a few students who had corrections in the afternoon to provide additional support. Based on their written worksheet practice, I know that some students need more time to independently practice the "groups of" multiplication strategy. Students who are demonstrating the ability to show all the steps of their work, communicate their thinking, and neatly line up their work will also benefit from the opportunity to solidify their learning with more practice. Solidifying this learning will help prepare students to engage with multiplication word problems later in the week. [Professional Standards 1, 3, & 5].

If I taught this lesson again, I would be more mindful of the pacing of the lesson and allow more time for students to independently practice. I would also work to ensure that all of my directions sounded like explicit instructions so they cannot be mistaken as suggestions. Sometimes I phrase things as suggestions or questions (Eg. "You can go ahead and…" or "Can you turn to …?") that are really directions which can lead to confusion for students, so I am working to remedy that. I would also announce that it was time to clean up and transition to Social Studies more loudly.