

Lesson Plan: Mathématiques - multiplication/division (differentiated)

Name: Nathalie Boulanger

Grade	4-5	Topic	Mathématiques - multiplication/division
Date	April 28	Allotted Time	45 mins
Cite sources used to develop this plan:			Chenelière Mathématiques 4 and 5 (textbooks and cahier de l'élève, feuilles photocopiables) video: Multiplication : https://fr.brainpop.com/mathematiques/nombresetoperations/multiplication/

1. **Rationale:** *Why is this lesson relevant at this time with these students?*

I have done a diagnostic test last week for multiplication and division. I have been able to form 3 main groups of students in order to provide differentiated instruction. I will try a system of rotation where groups alternate between a teacher led lesson with guided practice, independent practice/problem solving sessions, and math games to practice multiplication tables and mental math. One student will have her own independent practice because she is really ahead of the others in terms of strategies but she will join the group C for games and word problem because she will benefit from practicing her multiplication tables and increasing her mental math speed.

Provincial Learning Standards: *What competencies and concepts and content does this lesson develop?*

Curricular Competencies (Grade 4 and 5)

Students will be able to problem solve.

Analyzing a problem

Use multiple strategies to develop, construct, and apply mathematical understanding through problem solving
Estimate quantities reasonably using large whole-number, decimal, and fraction benchmarks, and the reasonableness of large whole-number and decimal calculations
Develop and apply mental math strategies for all operations to deepen understanding and develop fluency in making computations

Reasoning and proof

Reason and use logic to explore, make connections, analyze observations, make generalizations from patterns, and test these generalizations

Communicating

Communicate in many ways (concretely, pictorially, symbolically, and using spoken and written language) to express, describe, explain, represent, clarify, modify, reinforce, and apply mathematical ideas

Connecting

Visualize and describe mathematical concepts
Connect mathematical concepts to each other, and make mathematical connections to the real world

Representing

Develop mathematical understanding through concrete, pictorial, and symbolic representations

Use technology appropriately to explore mathematics, solve problems, record, communicate, and represent thinking

Concepts and Content

Students will know and understand the following concepts and content:

multiplication and division of two- or three-digit numbers by one-digit numbers (grade 4)

multiplication and division up to three digits, including division with remainders (grade 5)

2. Assessment

<p>Lesson Outcome What will students learn?</p>	<p>Sources of Evidence What product or action will show what students have learned?</p>	<p>Criteria What will you look for in this evidence?</p>
<p>GROUP A SWBAT représenter une multiplication avec des matrices en utilisant des objets (jetons, cubes de base 10), dessins, papier quadrillé).</p> <p>GROUP B SWBAT review and practice multiplication tables and increase speed</p> <p>GROUP C SWBAT use regularities to complete multiplication table and to skip count from a known multiplication to find one that is hard to remember. SWBAT reverse multiplication tables to divide.</p>	<p>students will make matrices (with manipulatives, drawings on square paper, etc)</p> <p>completed multiplication table card games</p> <p>completed multiplication table work from textbook p. 72-75 student worksheet p. 44-45</p>	<p>student can associate the array, the multiplication sentence and the answer.</p> <p>student accurately fills multiplication table and checks answers student can recall multiplication facts from 1-10</p> <p>student accurately fills multiplication table Student can use skip counting from a known multiplication to find answer Student can reverse multiplication tables to answer basic divisions</p>

3. Resources, Material and Preparation: *What resources, materials and preparation are required?*

Group A (7 students): video, projector, computer
counters, or cubes: $7 \times 25 = 175$
7 sheets of papier quadrillé
(7 feuilles lignées)

Group B (8 students): 8 empty multiplication tables that I will fill with some of the numbers.
4 set of cards (1-10) for card games

Group C (9 students): 9 Grade 5 textbooks p. 72
 9 photocopies of p. 28-29 cahier de l'élève
 9 photocopies of p.74 teacher guide (multiplication table)
 jetons

4. Lesson Development	Pacing
<ul style="list-style-type: none"> ● Introduction: <i>How will you introduce this lesson in a manner that engages students and activates their thinking?</i> <p>Explain that I have created 3 groups. Groups on the board A B C. Explain rotation. Talk about expectations and responsibility for our learning.</p> <ul style="list-style-type: none"> ● J'écoute attentivement les explications ● Je travaille à l'endroit qui m'a été assigné ● Je fais ce que Madame Nathalie a demandé ● Je parle à voix basse ● Je demande de l'aide lorsque j'en ai besoin (à un ami, ou à un prof) ● Je range toutes mes feuilles de travail dans mon duo-tang vert <p>First, A and B will watch a video on multiplication while I get group C started. C comes in the pod. When the video is over, B will go in the pod, A will sit at the front of the class, C will sit at the back and work independently.</p>	<p>10 minutes</p>
<p>Hook : Intro Group A: Brainpop video Group B: Brainpop video</p> <p>Group C: Opérations correspondantes (while group A and B watch the video), take group C in pod and review opérations correspondantes. Show them that they will take the textbook p. 72 and proceed with completing the multiplication table, sitting at the back of the classroom. They follow the textbook and work on the questions, writing their answers on a lined paper.</p>	<p>5 minutes</p>
<ul style="list-style-type: none"> ● Teaching/Learning Sequence: <i>What steps and activities are you going to use to help students acquire and practice the knowledge, skills and/or attitudes needed to meet the outcome?</i> <p>1) Group A gets 25 counter each and sit in the front of class while I get group B started Group C is working at back of the class Group B is in pod. They get started on multiplication table. Valerie will explain the card game when they are finished. They will check their answers during the card game using the multiplication table.</p>	<p>3 minutes</p>

<p>2) Group A gets started. I will follow the lesson from jumpmath teacher's guide (attached), guiding them to work with arrays using manipulatives and coloring on square paper.</p> <p>Group B is working in the pod with Valerie</p> <p>Group C is working in the class. If they have a question, they will stand a book on their desk and keep working. Check in with students and answer questions while group A is working.</p>	<p>30-40 minutes</p>
<ul style="list-style-type: none"> ● Closure: <i>How will you solidify the learning that has taken place and deepen the learning process?</i> <p>Self-evaluation</p>	<p>5 minutes</p>

5. **Accommodations** (adaptations, extensions, other): *How will you plan for students who have learning/behaviour difficulties or require enrichment?*
- Incorporated in the lesson plan (differentiated groups)