

UbD	
STAGE 1 – DESIRED RESULTS	
<p><b>Unit Title: Multiplication (Math)</b></p> <p><b>Established Goals (big ideas):</b> – include BC curriculum citation</p> <ul style="list-style-type: none"> <li>- Computational fluency and flexibility with numbers extend to operations with larger (multi-digit) numbers</li> </ul> <p>BC's New Curriculum. (2014). Mathematics 5   Building Student Success - BC's New Curriculum. Retrieved from <a href="https://curriculum.gov.bc.ca/curriculum/mathematics/5">https://curriculum.gov.bc.ca/curriculum/mathematics/5</a></p>	
<p><b>Rationale</b> <i>Why are you doing this and why is it relevant to your students</i></p> <p>Students will learn several different methods of multiplying numbers together. By the end of this unit, students will be able to multiply two numbers together by using each method introduced throughout this unit. This fundamental numeracy skill is essential for student learning as they continue to progress as learners in mathematics and life.</p>	
<p><b>Essential Question(s):</b> <i>What drives the learning?</i></p> <ul style="list-style-type: none"> <li>- What are some strategies or methods that I can use to multiply numbers together?</li> <li>- What are some strategies that I can use to skip count?</li> <li>- What are some strategies that I can use for mental math?</li> <li>- How can I problem solve using multiplication?</li> </ul>	
<p><b>Students will be able to:</b> <i>(competencies – include BC curriculum citation)</i></p> <p><u>Reasoning &amp; Analyzing</u></p> <ul style="list-style-type: none"> <li>- Develop mental math strategies and abilities to make sense of quantities</li> <li>- Use technology to explore mathematics</li> <li>- Model mathematics in contextualized experiences</li> </ul> <p><u>Understanding &amp; Solving</u></p> <ul style="list-style-type: none"> <li>- Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving</li> <li>- Develop and use multiple strategies to engage in problem solving</li> </ul> <p><u>Communicating &amp; Representing</u></p> <ul style="list-style-type: none"> <li>- Communicate mathematical thinking in many ways</li> <li>- Use mathematical vocabulary and language to contribute to mathematical discussions</li> </ul> <p><u>Connecting &amp; Reflecting</u></p> <ul style="list-style-type: none"> <li>- Connect mathematical concepts to each other and to other areas and personal interests</li> </ul> <p>BC's New Curriculum. (2014). Mathematics 5   Building Student Success - BC's New Curriculum. Retrieved from <a href="https://curriculum.gov.bc.ca/curriculum/mathematics/5">https://curriculum.gov.bc.ca/curriculum/mathematics/5</a></p>	<p><b>Students will know;</b> <i>(content– include BC curriculum citation)</i></p> <ul style="list-style-type: none"> <li>- Number concepts to 1 000 000</li> <li>- Multiplication and division to three digits, including division with remainders</li> <li>- Multiplication and division facts to 100 (emerging computational fluency)</li> </ul> <p>BC's New Curriculum. (2014). Mathematics 5   Building Student Success - BC's New Curriculum. Retrieved from <a href="https://curriculum.gov.bc.ca/curriculum/mathematics/5">https://curriculum.gov.bc.ca/curriculum/mathematics/5</a></p>

STAGE 2 – ASSESSMENT EVIDENCE	
<p><b>Performance Tasks and/or culminating tasks:</b></p> <ul style="list-style-type: none"> <li>- <i>Problem of the Day</i></li> <li>- <i>Daily Tasks/Problems</i></li> <li>- <i>Weekly Math Centre Assessment</i></li> </ul>	<p><b>Other Evidence: formative and summative</b></p> <p><u>Formative:</u></p> <p>Students will be assessed formatively throughout this unit through the following activities: <i>Problem of the Day</i> and <i>Daily Tasks/Problems</i>. Over the course of this unit, I plan to get away from things like worksheets and textbook questions; instead, I plan to work collaboratively with my students through each lesson as we go through problems</p>

	<p>together – using individual whiteboards or manipulatives to work on multiplication strategies, methods, and problems. I believe that this will keep us at a pace that will support each learner, and I will be able to continually check on the progress of each student with daily check-ins (thumb up/thumb down). Each lesson will begin with a <i>Problem of the Day</i> that will allow the students to work on a problem related to content learned from the previous lesson – I will check in with each student as they work through the problem and assess their understanding before going through the problem together and moving on in the lesson. After each lesson’s instruction, students will be tasked with a handful of problems to solve, and the early-finishers will be assigned to come up with problems of their own to answer or get a partner to solve.</p> <p><b><u>Summative</u></b></p> <p>I will also be using summative assessment within this unit as I believe this form of assessment has a role in Math. Using summative assessment will allow me to assess which concepts my students have grasped on to, and what we will need to spend additional time on. The <i>Weekly Math Centre Assessment</i> activities will allow me to assess each learner after each week’s math activities to gain an understanding of where each student is at and prep for what we need to do next week in order to support each learner’s needs. On the last day of each week, our math class will consist of games and activities that “test” each student on what we have learned throughout the week. We will have 4-5 stations around the class, and one will involve a station where students are provided with 3-5 different math questions that “test” students on that week’s content. This station’s work will be handed in to me and I will assess each student’s work and get a better understanding of which concepts have been grasped, and which hasn’t. Students will be assessed through a rubric at the end of this unit which will highlight areas of each students’ learning, and given to families as a learning snapshot.</p>
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STAGE 3 – LEARNING PLAN	
Learning intentions	Learning activities
<p><b>Lesson 1</b></p> <ul style="list-style-type: none"> <li>- Understand that multiplication is a short form for addition</li> <li>- Be able to represent a multiplication statement with arrays</li> </ul>	<p><b>Lesson 1</b></p> <ul style="list-style-type: none"> <li>- <i>Problem of the Day</i></li> <li>- Write multiplication statements as addition statements</li> <li>- Represent multiplication statements as arrays</li> </ul>
<p><b>Lesson 2</b></p> <ul style="list-style-type: none"> <li>- Students will be able to represent a multiplication statement with arrays</li> <li>- Students will understand that the order of multiplication sequences does not matter – done through word problems and creating arrays</li> </ul>	<p><b>Lesson 2</b></p> <ul style="list-style-type: none"> <li>- <i>Problem of the Day</i></li> <li>- Write multiplication statements as arrays</li> <li>- Multiplication word problems using arrays</li> <li>- Drawing arrays &amp; representing areas in multiplication statements</li> <li>- Create a word problem</li> </ul>
<p><b>Lesson 3</b></p> <ul style="list-style-type: none"> <li>- Students will demonstrate their learning from this week through math games and activities</li> </ul>	<p><b>Lesson 3</b></p> <ul style="list-style-type: none"> <li>- <i>Math Centres</i> (games, activities, assessment station)</li> </ul>
<p><b>Lesson 4</b></p> <ul style="list-style-type: none"> <li>- Students will be able to add strings of numbers using multiplication and adjusting their answers as needed</li> </ul>	<p><b>Lesson 4</b></p> <ul style="list-style-type: none"> <li>- <i>Problem of the Day</i></li> <li>- Add strings of numbers using multiplication</li> </ul>

- Students will be able to turn addition sentences into multiplication sentences (using counters)	- Create multiplication sentences using counters
<b>Lesson 5</b> - Students will be able to multiply through skip counting	<b>Lesson 5</b> - <i>Problem of the Day</i> - Skip counting using number lines - Skip counting using our hands
<b>Lesson 6</b> - Students will demonstrate their learning from this week through math games and activities	<b>Lesson 6</b> - <i>Math Centres</i> (games, activities, assessment station)
<b>Lesson 7</b> - Students will be able to turn products into smaller products and sums	<b>Lesson 7</b> - <i>Problem of the Day</i> - Create multiplication sentences using number lines and arrays - Challenge questions – multiplication with numbers added on without using arrays - Turn products into a smaller product and sum without using arrays
<b>Lesson 8</b> - Students will be able to multiply by multiples of 10	<b>Lesson 8</b> - <i>Problem of the Day</i> - Base 10 modules – looking for patterns as we increase the multiplication - Multiplication questions involving creating tens, hundreds, and thousands
<b>Lesson 9</b> - Students will demonstrate their learning from this week through math games and activities	<b>Lesson 9</b> - <i>Math Centres</i> (games, activities, assessment station)
<b>Lesson 10</b> - Students will be able to use arrays to understand the Distributive Law	<b>Lesson 10</b> - <i>Problem of the Day</i> - Practice Distributive Law through questions and problems
<b>Lesson 11</b> - Students will be able to multiply large numbers by breaking them into smaller numbers	<b>Lesson 11</b> - <i>Problem of the Day</i> - Splitting arrays to create simpler multiplications
<b>Lesson 12</b> - Students will be able to multiply 2-digit numbers by 1-digit numbers using the standard algorithm (without regrouping ones)	<b>Lesson 12</b> - <i>Problem of the Day</i> - Breaking up problems into two easier problems - 2 by 1-digit multiplication problems using The Modified Standard Method of Multiplication - 2 by 1-digit multiplication problems using The Standard Method of Multiplication
<b>Lesson 13</b> - Students will multiply any 2-digit number by any 1-digit number using the standard algorithm	<b>Lesson 13</b> - <i>Problem of the Day</i> - Regrouping using base ten models for multiplication - Multiplication problems – recording the ten that comes from regrouping the ones using the standard algorithm
<b>Lesson 14</b> - Students will demonstrate their learning from this week through math games and activities	<b>Lesson 14</b> - <i>Math Centres</i> (games, activities, assessment station)

<p><b>Lesson 15</b></p> <ul style="list-style-type: none"> <li>- Students will multiply any 3-digit number by a 1-digit number</li> </ul>	<p><b>Lesson 15</b></p> <ul style="list-style-type: none"> <li>- <i>Problem of the Day</i></li> <li>- Review 3 different forms of multiplication that we have used in the past – Expanded Form, Base Ten Materials, &amp; Standard Algorithm</li> <li>- 3-digit by 1-digit multiplication problems (emphasis on positioning of numbers – ones, tens, hundreds) – Expanded Form, Base Ten Materials, &amp; Standard Algorithm</li> </ul>
<p><b>Lesson 16</b></p> <ul style="list-style-type: none"> <li>- Students will be able to multiply 2-digit numbers mentally when one of the numbers is a multiple of 10</li> </ul>	<p><b>Lesson 16</b></p> <ul style="list-style-type: none"> <li>- <i>Problem of the Day</i></li> <li>- Problems that work on doubling the product</li> <li>- Continuing the sequence through multiplication</li> <li>- Doubling problems which include a multiple of 10</li> </ul>
<p><b>Lesson 17</b></p> <ul style="list-style-type: none"> <li>- Students will multiply 2-digit numbers by 2-digit multiples of ten (10, 20, 30 &amp; so on to 90) by using the standard algorithm</li> </ul>	<p><b>Lesson 17</b></p> <ul style="list-style-type: none"> <li>- <i>Problem of the Day</i></li> <li>- Review 2-digit by 1-digit products using the standard algorithm</li> <li>- 2-digit by 2-digit problems</li> </ul>
<p><b>Lesson 18</b></p> <ul style="list-style-type: none"> <li>- Students will be able to multiply 2-digit numbers by 2-digit numbers</li> </ul>	<p><b>Lesson 18</b></p> <ul style="list-style-type: none"> <li>- <i>Problem of the Day</i></li> <li>- 2-digit by 2-digit problems that are broken down (step by step)</li> </ul>
<p><b>Lesson 19</b></p> <ul style="list-style-type: none"> <li>- Students will demonstrate their learning from this week through math games and activities</li> </ul>	<p><b>Lesson 19</b></p> <ul style="list-style-type: none"> <li>- <i>Math Centres</i> (games, activities, assessment station)</li> </ul>

**Reflections:****Resources:**

BC's New Curriculum. (2014). Mathematics 5 | Building Student Success - BC's New Curriculum. Retrieved from

<https://curriculum.gov.bc.ca/curriculum/mathematics/5>

Jump Math. (2009). Teacher Resource for Grade 5. Retrieved from

[https://jumpmath.org/jump/sites/default/files/TG%20for%20Cdn%20Edition%20Book%205-1%20NS\\_0.pdf](https://jumpmath.org/jump/sites/default/files/TG%20for%20Cdn%20Edition%20Book%205-1%20NS_0.pdf)

Source: Understanding by Design, Unit Design Planning Template (Wiggins/McTighe 2005)