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**Lesson Plan Template (Revised 2020)**

**Elementary Years**

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| **Name:** | **Daniel Mulhall** |

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| **Grade** | 4 | **Topic** | Multiplication Unit – Doubling Number Talk and Games |  |
| **Date** | February 11, 2021 | **Allotted Time** | 55 minutes |  |
| **STAGE 1: Desired Results**  **Cite sources used to develop this plan:** | | | |
| <https://curriculum.gov.bc.ca/curriculum/mathematics/4/core>  ‘Mastering the Basics: The Multiplication Facts’ – Carole Fullerton  ‘Number Talks: Helping Children Build’ – Sherry Parish  ‘Multiplication Thinking’ – Carole Fullerton  ‘Making Number Talks Matter’ – Cathy Humphreys & Ruth Parker | | | |

**Rationale**: *How is this lesson relevant at this time with these students? Why is it important?*

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| Students have been working through the unit on multiplication, with each lesson building upon the last. This week, the lessons have covered the foundations of multiplication: repeated addition, groupings, and arrays. This lesson will build upon these strategies and begin to introduce students to the first multiplication rule: doubling. This lesson will continue to use the approaches I have established in my previous math lessons, such as starting with a number talk/discussion, using manipulatives, utilizing games/activities, and ending with a craft to maximize student engagement. I have scanned my learners and know this lesson comes at the right time in their learning. This lesson is relevant at this time because it will bridge their foundational skills of multiplication with new strategies.  This lesson will introduce doubling, beginning with a class wide number talk. This will get the students engaged and thinking. Students will have the chance to share their thinking in a safe and supportive environment. After the number talk, the students will be presented with 2 games of various skill levels. This will allow easy differentiation for my students who struggle in math (Max, Luca, Nicholas) while still providing a challenge for my stronger students in math (Kyler, Raisa, Jacob). The lesson will then conclude with a discussion and chance to find patterns in our doubling, before ending with a fun craft to help students reflect on what they have learned. |

**Core Competencies:** <https://curriculum.gov.bc.ca/competencies> (refer to “profiles” for some ideas)

*Which sub-core competencies will be the focus of this lesson? Briefly describe how and why:*

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| **Communication**   * Communicating * Collaborating | **Thinking**   * Creative Thinking * Critical & Reflective Thinking | **Personal and Social**   * Personal Awareness & Responsibility * Positive Personal & Cultural Identity * Social Awareness & Responsibility |
|  | **Students will continue to think about multiplication and different strategies.**  **This lesson will require students to think creatively about how they solve problems (during the number talk and class discussion parts).**  **Students will continue to understand multiplication and how they can double numbers using the “x 2” formula. Students will be encouraged to think both creatively and critically about the questions presented to them.** |  |

**First Peoples Principles of Learning (FPPL):**

*How will Indigenous perspectives, knowledge & ways of knowing be acknowledged, honoured or integrated into this learning experience?* (Jo Chrona’s Blog: <https://firstpeoplesprinciplesoflearning.wordpress.com/>)

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| **FPPL to be included in this lesson:** | **How will the FPPL be embedded in lesson:** |
| Learning involves patience and time:  **“learning is most effective when it occurs in a setting where the learning can be applied in an authentic context”** | **Multiplication will continue to be taught using real world examples and context.**  **This lesson will allow students the time they need to explore the concept of doubling. Teacher scanning and assessing of student knowledge level will help direct the next lesson in this unit. Lessons will continue to progress naturally as students understand and feel comfortable being introduced to new concepts. If students require more time with a concept, the teacher will adapt the lessons to support the students as they need.**  **This lesson focuses on the application of knowledge and understanding, rather than memorization of information.**  **The number talk and class discussion will allow students to explore different ways of thinking in a safe and supportive environment. No “one way” of thinking or problem solving will be taught, instead, students will be encouraged to share their own unique voices and how they approach the problem presented to them.** |

**Curriculum Connections:** <https://curriculum.gov.bc.ca/> (Curriculum)

*What Big Ideas (Understand),Curricular Competencies (Do), Content (Know) does this lesson develop?*

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| ***Understand***  Big Idea(s):  Development of computational fluency and multiplicative thinking requires analysis of patterns and relations in multiplication and division.  *Essential or Guiding Question(s):*  How can we develop multiple strategies to solve multiplication problems?  How can we double?  What is doubling? Why do we do it?  How can we build upon our understanding of multiplication strategies?  How can we visualize doubling?  How can we problem solve?  How can we use games to learn mathematical concepts? |
| ***Do***  Curricular Competencies (Learning Standards):  **Reasoning and analyzing**  Use reasoning to explore and make connections  Develop mental math strategies and abilities to make sense of quantities  **Understanding and solving**  Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving  Visualize to explore mathematical concepts  Develop and use multiple strategies to engage in problem solving  **Communicating and representing**  Communicate mathematical thinking in many ways  Explain and justify mathematical ideas and decisions  **Connecting and reflecting**  Reflect on mathematical thinking |
| ***Know***  Content (Learning Standards):  multiplication and division of two- or three-digit numbers by one-digit numbers  multiplication and division facts to 100 (introductory computational strategies) |

**STAGE 2: Assessment Plan**

FORMATIVE ASSESSMENT: (Assessment as Learning; Assessment for Learning)

Students will learn through class discussion and a number talk.

Teacher will ask open ended questions to allow students to demonstrate their understanding and share their thinking. This thinking will allow the teacher to scan the room and formatively assess learners understanding. Teacher will listen to student responses to ensure they are understanding the content. Active participation in the lesson will provide the teacher with insight into student understanding.

Students will also learn through play and their participation in the doubling games. Students will share their thinking with their partner as they brainstorm.

SUMMATIVE ASSESSMENT: (Assessment of Learning)

This particular lesson will not have a summative assessment piece. This lesson is part of a larger unit plan which will have a summative assessment piece next week. This lesson will focus more on the formative assessment and student growth in understanding as they explore and play with new multiplication concepts.

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| **The Learning Intention:**  *What will students learn in this lesson? (i.e. Learning Standards)* | Students will learn about doubling, how to double, and different strategies for doubling.  Students will continue to learn multiplication strategies and techniques.  Students will learn through discussion and sharing ideas.  Students will continue to scaffold their learning through lessons that build upon one another.  Students will collaborate with each other to develop ideas and new ways of thinking.  Students will begin to learn multiplication rules. |
| **Evidence of Learning:**  *How will students demonstrate their learning? What does it look like?* | Student focused discussion, during the lesson, will allow students to demonstrate their learning.  Students will participate and play the doubling games.  Students will “check in” with teacher as they circulate the room and demonstrate their understanding during these “check ins”.  Students will actively participate in the class discussion.  Students will actively participate in the number talk.  Students can demonstrate their learning by sharing their thinking. |
| Criteria: *What do students need to do to meet or achieve the learning intention?* | Students need to participate and be active listening during the lesson.  Students need to contribute to discussions by responding to questions and prompts to demonstrate learning.  Students need to ask questions and for clarification when needed.  Students need to show respect and patience for fellow classmates to ensure the number talks remain a safe space for all.  Students need to participate in the doubling games.  Students need to complete the end of lesson craft. |

**Planning for Diversity:**

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| **Learning Target:** *In what ways does the lesson meet the needs of diverse learners?*  *How will you plan for students who have learning/behaviour difficulties or require enrichment?* | | |
| Students need to/must do  Students need to listen to the number talk.  Students need to play the doubling games.  Students need to complete the craft.  Access/All | Students can do  Students can share and contribute to the number talk.  Students can play the doubling games to the best of their ability and collaborate with partner to develop new thinking.  Students can complete the craft and reflect on how it summarizes our lesson.  Most | Students could do/try to  Students could try to actively participate and share deeper thinking and ideas during the number talk.  Students could try to be leaders with their partner and assist other students in their thinking and development of new ideas.  Student could try to complete the craft, reflect on how it summarizes our lesson, and use the craft to further their learning and make new connections.  Few/Challenge |

**STAGE 3: Learning Plan**

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

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| 15 copies of “Cover UP! A doubles Game” printed and ready to go (copied from ‘Mastering the Basics: The Multiplication Facts’ – Carole Fullerton  Red/Yellow manipulative chips for gameplay.  10 sided dice for gameplay  15 copies of “Doubles for 2 players” printed and ready to go (copied from ‘Mastering the Basics: The Multiplication Facts’ – Carole Fullerton  Plastic sheet protectors and dry erase markers for gameplay.  6 sided dice for game play.  Projector screen ready to go so class time is not wasted setting up (dice for number talk display on projector).  28 copies of the craft (doubles wristwatch photocopied onto cardstock paper). |

**Organizational/Management Strategies:** *(anything special to consider?)*

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| There are 5 students who have been dominating my number talks, so during this lesson I will use the popsicle stick method of selecting students to contribute. I will ensure this does not cause any anxiety by reminding the class all answers are valid and showing support and validating all students’ responses! The popsicle stick method has shown success in other lessons in this class and students are familiar and comfortable with it.  As I am getting more comfortable with number talks, I will ensure I remind students of my expectations: the classroom will become a space for all sharing and thinking. Everyone will have the opportunity to share and reflect on their thinking without risk of judgment. This is crucial for the success of my number talks, which have been going well so far.  Discussion with classroom Education Assistant on best ways to assist Nicholas and Luca during the game play.  Consideration for the IEP’s in my class and discussion with coaching teacher about how best to support their learning. Differentiation has been a focus of mine during this unit, and that will continue in this lesson.  2 games of different skill levels, so students can assess their understanding and pick the game they feel will benefit them the most. This allows students to self-assess and make decisions about their own learning. This is part of my continued practice for students to practice self-autonomy on their learning. |

**Lesson Development:**

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| **Connect:**  *How will you introduce this lesson in a manner that engages students and activates their thinking? Activate or build background knowledge, capture interest, share learning intention.* | | Pacing |
| **Teacher will**  Gather the focus of the class and announce that we will be starting our math lesson in 2 minutes. Allow them this time to put away what they are currently working in during soft start. (These announced transitions also support all students in the room).  When the 2 minutes is up, ask students to put away their supplies and be seated in their desks.  Ask the lights helper to turn off the lights and ask the screen helper to pull down the screen (these are jobs for the classroom that they take pride in doing).  Remind students of expectations of number talks and how we can keep this a supportive space for all.  On the projector, show a single dice with the 6-side facing up.  Ask students how many dots they see (they will answer 6 and think this is simple).  Ask them to share how they counted the dots.  Be supportive of all answers and shares. When a student answers, ask the rest of the class if they used the same method of counting the dots. (We have just covered repeated addition, grouping, and arrays, so different ways of counting the dots will be shared). This allows students to see their own thinking reflected amongst their peers and allows them to consider new ways of thinking.  When all students have shared, add another 6-side dice to the original. Ask them how many dots there are now (students will call out 12 right away).  Ask them how they counted the dots so fast… “How were you able to count the dots so fast?” (look for students to share about doubling or how we just doubled the 6). Make a point to show that doubling things is something we may find easy because we do it so much in regular everyday life (provide a few fun examples).  Now ask what would happen if I did this (add 2 more 6 side dice, so there are 4). (They will shout out 24).  Ask a few students to share (using popsicle sticks to avoid the same students answering). Remain supportive and continue to ask students if anyone else used the same approach.  Now put up eight 6-side dice and ask students to share a strategy to count the dots now. (Some students will say they skip counted by 6, others will say they doubled 24, etc). Continue to support and validate all answers. Continue to ask students to share their thinking with the class.  Pick up all the dice, shake them in hand, and throw them down. Ask students to count the dots now (this will take them longer). Ask the class to consider why this is harder than counting all of the 6-sided dice…. Ask probing questions as they think critically about their thinking.  Continue to ask open ended questions and provide prompts for their thinking.  Arrange the dice again, but this time with all 3sides with a cool design. Ask them to count the dots now. Once again, ask students to share how what techniques they used and how they reached their answers.  Continue to ask questions until all students have participated and no new answers are being shared.  Naturally end the number talk, advise we are going to continue our thinking about doubling by playing some games and engaging with the concepts further. | **Students will**  Listen as the teacher provides a time reminder for the transition into math. Finish up current activity and begin to tidy up supplies/desk.  When the time is up, be seated in desk and ready to begin.  Look at the projector screen and remember the expectations for number talks as they are provided again.  Consider the images and questions being asked by the teacher.  Share ideas/thinking/strategies/reflections with the class as the teacher asks open ended questions and prompts for the number talk.  Remain supportive of all other student answers and ensure the number talk remains a safe space for all students.  Consider what other students are sharing, consider if their thinking is similar.  Reflect and consider new ideas, how they relate to their own ideas, and how new ideas can be explored.  Continue to follow along as the number talk continues.  Continue to answer teacher questions and consider/think/share.  Consider how they counted the dice, consider what techniques they used, consider what strategies they used. | 20 mins |

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| **Process:**  *What steps and activities are you going to use to help students interact with new ideas, build understanding, acquire and practice knowledge, skillsand/or attitudes? In what ways have you built in guided practice?* | | Pacing |
| **Teacher will**  Advise the class that they will have the option of 2 games that explore doubling.  Explain each game’s rules and set the criteria for playing the games (preload them before allowing them to break into their partners).  Put the first game on the projector screen (“Cover UP! A doubles Game”) and model how to play the game. Provide a demon of how to play the game and answer all student questions as they arise.  Explain that this game is a great start for those who are still getting familiar with doubling and want to continue to practice (this game was picked with specific students in mind).  Put the second game on the projector screen (“Doubles for 2 players”) and model how to play the game. Provide a demon of how to play the game and answer all student questions as they arise.  Explain that this game is for students who are comfortable with doubling and require more of a challenge (this game was picked with specific students in mind).  Turn on the lights and turn off the projector.  Allow students to decide which game they would like to play with their partner. Make suggestions to students as skill levels require.  Provide game supplies and game sheets to students. Ask them to find a space in the class with their partner.  Advise they will have 10 minutes to play the game.  As the students begin to play, circulate the room and check in with each student. Ensure they are playing the game correctly, working well in collaborating with their partner, and challenging themselves. some students may need to change the game they are playing based on their skill level.  Check in with every student at least once.  If student asks a good question or has a recommendation for how to play the game better, gather the attention of the class and share (this prevents multiple students asking the same questions and provides the students with autonomy to think critically about the games they are playing and feel comfortable sharing ideas for how to play them better).  After 10 minutes, switch up the partners. this will ensure students are playing with multiple people and being exposed to multiple ways of thinking.  Allow the games to continue with the new partners. Continue to circulate the room and check in with all students, watching them play and scanning/assessing how their understanding of doubling is.  At this point in the practicum, I know which students to check in with to support them.  At the end of the allotted time (give or take a few minutes depending on natural timing of lesson pacing) regather the attention of the class**. Take one of the active game sheets from the second game** (**with markings on it)** and ask all students to return to their desks and return the supplies.  When all students are seated, ask the helpers to pull down the screen again and turn off the lights. | **Students will**  Follow along as the 2 games are presented and modelled by the teacher.  Ask questions for clarification as required.  Consider own learning and consider which game would be most beneficial and appropriate.  Take game supplies required and find a spot with partner.  Check in with teacher as they circulate the room.  Share thinking and thoughts with teacher when prompted.  Work well with partner, share ideas, help, offer assistance, and participate in the game.  Ask questions or offer suggestions for gameplay to the teacher.  Switch partners when prompted.  Return supplies, game sheets, and return to desks. | 20 mins |

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| **Transform:**  *How will students apply or practice their learning? Can they show or represent their learning in personalized ways? What are the choices for student task?* | | Pacing |
| **Teacher will**  Put the used game sheet on the projector (it will have a lot of the squares checked off).  This game sheet is a chart with numbers 1 to 140, students have 2 dice and they roll both dice to create a 2 digit number (they get the choice of which way to arrange to digits). Then they double that number, and mark off the number on the chart. The point of the game is for students to get 5 squares in a row. The game sheet being projected will have been played/used and will have lots of squares crossed off.  Ask the students to consider what they notice about this game sheet.  Ask students to turn to their pods and discuss. Allow a minute for this.  After a minute, ask students to share what they noticed. Students will share a few ideas but may miss the “main point” I am trying to make.  Ask students to brainstorm as a class about what they notice.  Ask students to share again.  **The point I am trying to have them notice is that no numbers in the odd columns will be crossed off, because doubling always results in an even number. Instead of just telling the students this rule, I want them to notice it themselves.**  Direct and lead discussion towards this answer.  Have them share ideas, brainstorm, and discuss with partners to reach the conclusion.  When a student points it out, ask all students to consider if they noticed that.  Ask students why this is “Why are not odd numbers crossed off? What can this mean?” Ask students to once again discuss what this can mean.  On the white board, write: 1x2=2  2x2=4  2x3=6  2x4=8  2x5=10  2x6=12  2x7=14  2x8=16  2x9=18  2x10=20  Ask students to talk to a partner about what they notice.  Ask a few students to share.  Direct students to noticing the answers are increasing by twos.  Ask students if they can think of a number that when multiplied by 2, equals an odd number. Test any answers from the students to show it will always be even.  Advise this is a rule for doubling and multiplying by 2’s.  Advise class we will end the lesson with a fun little craft to solidify our learning from today. | **Students will**  Follow along as the game sheet is presented to the class.  Consider what they notice about the game sheet on the screen.  Turn to pod and discuss ideas and thinking.  Share ideas with class. Remain support of other student shares.  Share again.  Follow along and actively participate in the discussion.  Consider if they noticed a certain way of thinking. Always be reflecting.  Talk to a partner and discuss what they notice about the writing on the board.  Offer suggestions and experiment to see if the rule always applies. Think critically. | 10 mins |

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| **Closure:**  *How will you solidify the learning that has taken place and deepen the learning process?*  *Refer back to the learning intention, connect to next learning.* | | Pacing |
| **Teacher will**  Hand out the doubling craft (a card stock paper watch with all of the “x 2” formulas.  Advise students they have to fill it in, colour it, design it, cut it out, and tape it onto their wrist.  Make this fun and a nice way to conclude this lesson. Students will practice writing: 1x2=2  2x2=4  2x3=6  2x4=8  2x5=10  2x6=12  2x7=14  2x8=16  2x9=18  2x10=20  But will practice this in a fun way. The watches are just a simple way for students to interact with the multiplication rules without it being boring.  Allow 5 minutes for this and assist students who may require help with the cutting out.  End the lesson on a positive note and explain we will be continued on from this tomorrow. | **Students will**  Take a card stock watch.  Fill it in, colour it, decorate it, design it, and put on wrist.  Consider the content of the watch and reflect on how it summarizes our lesson.  Try to be class leaders and assist others who may require assistance.  End the lesson on a positive note, consider what was learned, and consider what tomorrows lesson will bring. | 5 mins |

**Reflection***What was successful in this lesson? If taught again, what would you change to make this lesson even more successful and inclusive for diverse and exceptional students?*

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Lesson Planning Guide (adapted from Thompson Rivers University)

*The lesson plan template is designed as a guide for students to use when planning lessons. The plan may be adapted to specific subject areas and modified as students gain experience or to suit their presentation style. The template is a basic outline that can be used directly as printed or expanded from the electronic version. It is important that the lesson plan be sufficiently clear and detailed so that another teacher could use the plan to teach the lesson.*

***Rationale****: Why are you teaching this particular lesson at this time? One consideration is the context for the lesson (e.g. this introductory lesson determines what students know and want to know about the topic, this lesson relates to previous and future learning by . . .) Another consideration is student motivation (e.g. what are some reasons the learner might care about the content/concepts/ skills for future learning, careers, or interests?).*

***Curricular Connections:***

The curriculum asks you to plan what the students will DO, what they will KNOW, and then what they will UNDERSTAND. ***Big ideas*** *capture the “big picture” or general area of learning (e.g. interdependence of living things with the environment, stories are a source of creativity and joy) and will be what students come to UNDERSTAND.* ***Curricular competencies*** *are what students will DO in their learning activities (e.g. using comprehension strategies, sorting and classifying data, making ethical judgments) that are related to each discipline. The* ***learning standards for content or concepts*** *are a more specific consideration of what students will come to KNOW. Many of the standards are written in broad, general terms to allow flexibility. You can, using the intention of the standard, make it clearer and more specific (e.g. learners will be able to describe the main idea in a paragraph or story, learners will be able to classify leaves based on properties they identify). The lesson should make a connection to both types of learning standards – curricular competencies as well as content. A reminder that the direction of new curriculum has identified core competencies of thinking, communication, and personal / social development as a foundation for all curricula.*

***Learning Intentions:*** *How can you make clear and share with your learners what they are going to learn or have learned or accomplished? Statements like: “I can add two fractions” help frame their learning in positive student language.*

***Prerequisite Concepts and Skills:*** *What concepts and skills are needed for students to be successful? This communication helps connect lessons together in a logical sequence by building/scaffolding new knowledge onto previous learning. For example, if students are going to be engaged in debate did you build or scaffold group work strategies, communication skills, expected etiquette, criteria beforehand?*

***Materials and Resources /References*** *List all materials and resources that you and the students will need. What things do you need to do before the lesson begins? (e.g. prepare a word chart.) What things do the students need to do? (e.g.read a chapter in the novel.) Have you honoured the sources of ideas or resources? Disorganized materials can ruin a great lesson.*

***Differentiated Instruction (DI): (accommodations):****How will you accommodate for diverse learners in your class? How will you allow for some variety in expression of learning? How can you modify the learning activities for success? How can you provide engaging extra challenges for those that are ready? How might you alter the learning environment if needed? Have you considered Aboriginal and cultural influences? IEP’s?*

***Assessment and Evaluation:*** *Did the students learn what you taught them? What tools might you use for assessment (e.g. check list, rubric, anecdotal record). How will you provide formative feedback to students about their learning? The results of the assessment should be directly connected to what your students were able to write say or do related to the learning intentions and or curriculum. Strive for accuracy and build assessment into teaching and learning and not as an “add on” at the end.*

***Organizational/Management Strategies:****Have you thought-out organizational management strategies to facilitate a proactive positive classroom environment? Some examples are: organizing for movement, distributing and collecting materials, grouping strategies, blended grade classroom logistics.*

***Aboriginal Connections / First Peoples Principles of Learning:*** *Are there any connections to Aboriginal or other cultural knowledge, worldviews, or principles of learning?*

###### Lesson Activities/Structure:

***Connect****: How will you get students interested/motivated/ hooked into learning? How will you connect this lesson to past and future lessons? How can you share the learning intentions in student friendly language? How will you provide a lesson overview?*

***Process****: What sequence of activities will the student’s experience? What will you do? What will they do? Estimate how much time will each activity take (pacing)? What are grouping/materials strategies? There are many ways to describe the body (step by step, two columns dividing student and teacher activities, visual flow chart of activities and connections, others?)*

***Transform****: How will students apply and personalize the learning? What will they do or create to show you that they have learned?*

***Closure:*** *How will the lesson end? (e.g. connecting back to learning intentions, summarizing learning, sharing of accomplishments, connecting to next lessons). Google “40 ways to close a lesson.”*

***Reflections****: Complete the reflections section as soon as possible after teaching the lesson. What went well? What revisions would you make to the lesson? Anything else***?**