UNIT PLANNING TEMPLATE

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|  | **Unit Topic / Guiding Question: Math - Addition** | | | | | | |
|  | **Rationale:**  **Students have been developing their skills in relation to number concepts since September (gr. 1 numbers to 20, gr. 2 numbers to 100). Students have also been working on place value to tens over the last few months. They are now ready to start learning about addition strategies.** | | | | | | |
|  | **STAGE 1: Desired Results** | | | | | | |
|  | **UNDERSTAND** | **Big Ideas** | | | **Essential Questions** | | |
| -Gr. 1: Addition and subtraction with numbers to 10 can be modelled concretely, pictorially, and symbolically to develop computational fluency.  -Gr. 2: Development of computational fluency in addition and subtraction with numbers to 100 requires an understanding of place value. | | | *-What is addition? How can numbers be added together (strategies)? What does addition look like?*  *-How does place value help with our understanding of addition?* | | |
|  | **DO** | **Core Competencies:** | | | | | |
| **Communication** | **Thinking** | | | **Personal & Social** | |
| * Communicating * Collaborating   -Students will communicate and work with classmates during specific games designed to help them practice and understand different addition strategies. | * Creative Thinking * Critical & Reflective Thinking   -Students will have to use multiple strategies to add numbers. Students will have to decide which strategy will work best when faced with an addition equation.  -Students will have the opportunity to model their thinking using many different types of manipulatives. | | | * Personal Awareness & Responsibility * Positive Personal & Cultural Identity * Social Awareness & Responsibility   -Students will work on their own personal awareness as they are faced with the challenge of learning a new skill and persevering through any challenges they may face while attempting addition.  -Students will have the opportunity to help other students in the class that may be struggling with certain concepts. Students must remember to act respectfully when helping other students that may be struggling with a certain concept. | |
|  | **Learning Standards – Curricular Competencies:**  **Both Gr. 1/2:**  -Develop and use multiple strategies to engage in problem solving  -Develop mental math strategies and abilities to make sense of quantities  -Model mathematics in contextualized experiences  -Represent mathematical ideas in concrete, pictorial, and symbolic forms | | | | | |
|  | **KNOW** | **Learning Standards - Content:**  **Gr. 1**  -Addition and subtraction to 20 (understanding of operation and process)  -Change in quantity to 20, concretely and verbally  **Gr. 2**  -Addition and subtraction facts to 20 (introduction of computational strategies)  -Addition and subtraction to 100 | | | | | |
|  | **First Peoples Principles of Learning** | * *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.* | | | | | **Comments on how you will address the FPPL:**  **Learning a new skill takes patience and time. Students must remember this FPPL when learning a new skill such as addition. Ultimately students will grasp some understanding of addition and will carry this knowledge with them and use this skill daily for the rest of their life.** |
|  | **STAGE 2: Assessment Plan** | | | | | | |
|  | **Summative Assessment (Assessment of Learning):** | | | | | | |
|  | *- Students will be assessed at the end of each strategy to see their comprehension and understanding. This will be done using Carole Fullerton’s flash cards for each addition strategy. Students in grade 2 will be assessed on their fluency for addition facts to 20.*  *Grade 1: Exceeding = Fluent in addition facts to 20.*  *Grade 2: Exceeding = Fluent in addition facts beyond 20.* | | | | | | |
|  | **Formative Assessment (Assessment as Learning and Assessment for Learning):** | | | | | | |
|  | *-students will play games and do activities where they will use modeling, and manipulatives as well as writing and speaking to explain and show their learning of various addition strategies. The teacher will collect anything tangible that students produce in order to check their understanding and inform further practice and teaching. Teacher will also be constantly checking in with students to see how they are doing and to listen to them explain their thinking and processes (mini conferences)*  *-Whiteboard work where students are practicing the strategy at the carpet before being released to work on their own. Teacher will monitor this and watch students while they are doing this whiteboard work. Teacher will keep track of how students are doing by writing notes on students and what has been witnessed (try and focus on at least 5 students a day and see how they are doing based on the curricular competency/content) Teacher will also conference with these students to see how they are doing.*  *-Teacher will work closely with students who may be struggling more than others.* | | | | | | |
| ***Plan for Diversity:*** | Grade 1:  All: Can explain what addition is either verbally, written, or show it using manipulatives.  Most: Can do addition to 20 using various strategies and/or manipulatives (hands, counters, base 10 blocks, etc.)  Few: Fluent in addition to 20 using flash cards.  Grade 2:  All: Can do addition to 20 using various strategies and/or manipulatives (hands, counters, base 10 blocks, etc.)  Most: Fluent to addition to 20 using flash cards.  Few: Fluent in addition beyond 20.  \*adaptations:  -dice with varying numbers of sides, give students the option to choose their dice by providing an entire range.  -have dice with numbers on it and with the dots for students that have trouble recognizing numbers. These will be made available for all students.  -use images of items alongside numbers to help students who struggle with recognizing numbers. These will be made available for all students. | | | | | | |
|  | **Stage 3: Learning Plan** | | | | | | |
| **Date/Lesson** | **Learning Intentions** | | | **Instructional Activities**  **(brief description here – lesson plans will be used to flesh out each lesson)** | | | |
| **Each lesson is meant to be taught in order but not necessarily the next day after the first lesson. One concept is taught in each lesson and each concept is meant to be practiced and worked on for more than one day until students are ready to move on. There will also be days at the end of the unit for review and assessment.** | | | | | | | |
| *Lesson 1* | *I can use various strategies when doing addition.* | | | **Guiding Questions: What is it? Why is it important? Where do we see it daily?**  -Have a bunch of manipulatives/objects. Have students sort the objects and tell me how many there are. How do they know this?  -Give students dice and have them physically roll the dice and then then move them over to the other side of the equal sign so that they can understand how addition works.  -Read *The Mission of Addition* to students. Discuss addition in this book.  -How and where is addition used daily?  -if time have students take a look at pictures and try and create an addition equation with the picture. | | | |
| *Lesson 2* | *I can use various strategies when doing addition.* | | | **Add 0 to a number and the number stays the same. Ex. 3 + 0 = 3**  -Create an anchor chart that will be used for all strategies to describe the learning intention of each strategy.  -Teacher will do a lesson at the carpet where she will have manipulatives for the students in a group. Ex. 7 pompoms will be on the floor and the teacher will tell students that she added zero to them. How many are there? The teacher will show this on the board with an equation ex. 7+0= 7  -The teacher will tell students that she is adding five pompoms to zero. Teacher will model this equation on the whiteboard Ex. 0+5=5. This will be done a few times until students show an understanding of this.  -Teacher will have students practice their own +0 equations on their whiteboards. Students will have the opportunity to share these with the rest of the class if they would like.  -Teacher will have students come up with their own equations and model them on the board.  -Students will then go back to their desks and complete their penguin adds zero sheets.  -Teacher will collect these worksheets as formative assessment in order to inform further teaching. If students have grasped this concept of adding zero then the teacher will move on the next day to lesson 2. IF students are still struggling, the teacher will collect more resources to have students practice and will reteach any parts of the lesson that students struggled with.  **\*For Grade 2 give them examples with numbers from 0 to 100. Ex. 99+0 Or 0+99** | | | |
| *Lesson 3* | *I can use various strategies when doing addition.* | | | **Count up when adding on small numbers such as 1.**  **-**add strategy to anchor chart.  -Teacher will teach this lesson at the carpet.  -Start with your biggest number and then add the small number to that. Ex. 5+1, start with 5 and then count on to add 1. Or 1+5 you should still start with the bigger number.  -Use ten frames to introduce this topic to student.  - Do some examples with students on the board. Ex. 7+1 or 1+7. Students will take turns in partners rolling dice and saying out loud for example: “7+1=8.” Teacher will provide students with multiple dice options with different numbers of sides to allow for differentiation.  -Show students multiple ways ex. Ten frames, equations, pictures.  -Once teacher believes students are ready to work on this concept on their own she will let them go to their seats to work on a worksheet that will help them with their counting on skills by counting on by 1.  -Teacher will collect this worksheet for formative assessment and identify where students need more help and where they are understanding certain concepts.  -The next day the teacher will introduce students to counting on strategies using number lines. This will help them when they go to add larger numbers such as 16+3 (for grade 1) or 38+2 (for grade 2) \*students will still only be using the number lines for adding 1.  -Students will complete a worksheet for their grade level using number lines. The teacher will collect this for formative assessment and plan next steps based on the results of this lesson.  **Grade 2: number lines to 100**  **Grade 1: number lines to 20** | | | |
| *Lesson 4* | *I can use various strategies when doing addition.* | | | **Count up when adding on small numbers such as 2.**  -add strategy to anchor chart  -Teacher will teach this lesson at the carpet.  -Start with your biggest number and then add the small number to that just like the counting up by 1 strategy. Ex. 5+2, start with 5 and then count on to add two. Or 2+5 you should still start with the bigger number.  -Use ten frames to introduce this topic to student.  - Do some examples with students on the board. Ex. 7+2 or 2+7. Students will take turns in partners rolling dice and saying out loud for example: “7+2=9.” Teacher will provide students with multiple dice options with different numbers of sides to allow for differentiation.  -Show students multiple ways ex. Ten frames, equations, pictures.  -Once teacher believes students are ready to work on this concept on their own she will let them go to their seats to work on a worksheet that will help them with their counting on skills by counting on by 2.  -Teacher will collect this worksheet for formative assessment and identify where students need more help and where they are understanding certain concepts.  -The next day the teacher will introduce students to counting on strategies using number lines. This will help them when they go to add larger numbers such as 16+3 (for grade 1) or 38+2 (for grade 2) \*students will only be using the number lines to learn the counting on strategy for adding 2.  -Students will complete a worksheet for their grade level using number lines. The teacher will collect this for formative assessment and plan next steps based on the results of this lesson. | | | |
| *Lesson 5* | *I can use various strategies when doing addition.* | | | **Count up when adding on small numbers such as 3.**  -Add strategy to anchor chart.  -Teacher will teach this lesson at the carpet.  -Start with your biggest number and then add the small number to that just like the counting up by 1 and 2 strategy. Ex. 5+3, start with 5 and then count on to add three. Or 3+5 you should still start with the bigger number.  -Use ten frames to introduce this topic to student.  - Do some examples with students on the board. Ex. 7+3 or 3+7. Students will take turns in partners rolling dice and saying out loud for example: “7+3=10.” Teacher will provide students with multiple dice options with different numbers of sides to allow for differentiation.  -Show students multiple ways ex. Ten frames, equations, pictures.  -Once teacher believes students are ready to work on this concept on their own she will let them go to their seats to work on a worksheet that will help them with their counting on skills by counting on by 3.  -Teacher will collect this worksheet for formative assessment and identify where students need more help and where they are understanding certain concepts.  -The next day the teacher will introduce students to counting on strategies using number lines. This will help them when they go to add larger numbers such as 16+3 (for grade 1) or 38+2 (for grade 2) \*students will only be using the number lines to learn the counting on strategy for adding 3.  -Students will complete a worksheet for their grade level using number lines. The teacher will collect this for formative assessment and plan next steps based on the results of this lesson.  **\*Additional days will be spent on this strategy with different numbers and by adding on 1, 2, and 3 using pictures, ten frames, and number lines.** | | | |
| *Lesson 6* | *I can use various strategies when doing addition.* | | | **Add numbers in any order and the total stays the same. Ex. 3 + 1 = 4, 1 + 3 = 4**  -Students will wear signs around their neck (using page holders/protectors with yarn looped around for a necklace) that have either a number or an addition or = sign. Students will then stand at the front of the class and the whole class will do the math equation Ex. 4+6=10. The students wearing the number signs will move to the appropriate spots so that the equation is correct. The teacher will then ask 4 and 6 to switch spots. The teacher will ask the class If the equation is still correct. Why or Why not?  -Will do this multiple times with different numbers and different students participating.  -Turn around facts game.  -Students will have the opportunity to create their own math stories in their journals where they will draw a story representing an equation on one page and then reverse the equation and draw a new picture on the other page.  -Turn around facts worksheet. | | | |
| *Lesson 7* | *I can use various strategies when doing addition.* | | | **Add the number to itself and that number doubles. Ex. 2 + 2 = 4**  **-Read students a book that relates to the double strategy.\*\*will find one in the school library**  -Teacher will ask students for an example of a double number. Ex. 4+4  -Teacher will explain that there are doubles facts that will help them with addition to 20.  -bring out manipulatives. Ask students to come up with a doubles question and show the class using manipulatives (manipulatives can include cubes, pompoms, etc.)  -Ask them for the double’s facts to 10 Ex. 1+1, 2+2, 3+3 and so on to 10+10.  -Do the doubles flip sheet so that each student has their own copy of the doubles and their answers to help with practice and fluency.  -Play snowy day doubles.  -Play doubles in a row.  -Use flash cards to assess for fluency and inform further instruction.  \*additional games/activities: hole punch folding page, doubles snakes and ladders, doubles song, double ladybug, etc. This concept will take longer for students to understand | | | |
| *Lesson 8* | *I can use various strategies when doing addition.* | | | **Double the number and add one more. Ex. 2 + 3 = 2 + 2 + 1**  -Once students have a good understanding of the doubles, have them practice the strategy of doubles plus 1.  -Teacher will write an equation on the whiteboard that is a doubles plus one. Ex. 2+3=… The teacher will ask students what they know about this equation. Students may say that they can count up to solve the equation. The teacher will ask if they could use doubles to solve the equation. Teacher will respond to any students who want to attempt this or the teacher can show students how you can use doubles plus one to answer this. Ex. 2+2+1=5 or 2+2=4 4+1= 5  -Students will be given snap cubes of different colours to show doubles plus 1, example have 6 red snap cubes and 1 white snap cube to show 3+3+1=6.  -Play doubles plus 1 bingo to practice strategy. Teacher will observe this and work closely with any students struggling. Once students grasped the concept they will be given a doubles plus 1 worksheet.  -Students will complete the doubles plus 1 worksheet. | | | |
| *Lesson 9* | *I can use various strategies when doing addition.* | | | **There are six sets of number pairs that make 10. Ex. 10+0, 9+1, 8+2, 7+3, 6+4, 5+5**  -Explain to students that there are six sets of number pairs that make 10.  -Ask students for an example of two numbers that make 10. Write it on the board.  -Have a blank rainbow on flip chart paper. Have students help fill it in in order to show the various ways you can make 10. \*this will be review for students. Can reuse the anchor chart that they already created.  - Friends of 10: 10 frame activity  -Create Friends of 10 stations. This will include friends of 10 go fish, friends of 10 matching, roll a friend and spot the friend of 10.  -Play friends of 10 SCOOT math game. This will be extra practice and will help the teacher assess fluency. | | | |
| *Lesson 10* | *I can use various strategies when doing addition.* | | | **When 10 is added to a number, the tens-place digit increases by 1.**  -Ex. 40+10=50 and 45+10=55  -Focus on grade specific examples. This will be done in two lessons.  Grade 1 will do numbers to 20 and grade 2 will do numbers to 100.  Grade 1 ex. 5+10=15  Grade 2 ex. 20+10=30  -Grade specific worksheets will be given to students. Teacher will collect these as part of formative assessment. | | | |
|  | **Resources needed:** | | |  | | | |
|  | -manipulatives (counters, base 10 blocks, magnetic ten frames for teacher, snap cubes, dice of various sizes, number lines to 20, number lines to 100).  -addition necklaces (string tied to a sheet protector with a number inside, various numbers to be switched in and out of the sheet protectors)  -various worksheets that practice each skill (details in each lesson)  -various games (details in each section)  -whiteboard (both the teacher and individual student ones, markers, and cloths)  -chart paper  -markers  -*The Mission of Addition* | | | | | | |
|  | **Interdisciplinary connections:**  (e.g. How did you weave ELA, Social Studies, Science, Math, Fine Arts, and/or ADST together in this instructional sequence?) | | | | | | |
|  | -ADST will be used throughout as students will be using a variety of manipulatives throughout the unit.  -ELA for the inclusion of math stories, students will be given opportunities to write their own math stories as well as using stories to talk about and explain addition concepts. Using pictures on pages to create math equations. | | | | | | |