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| **Math Lesson** | **Adding by Joining**  | **Date** |  |
| **Subject/Grade Level** | Math Grade 1  | **Time Duration** | 30 minutes  |
| **Unit** | Numbers: Adding and Subtracting  | **Teacher** |  |

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| **OUTCOMES FROM ALBERTA PROGRAM OF STUDIES**  |
| **General Learning Outcomes:** | **Numbers: Develop a number sense**  |
| **Specific Learning Outcomes:** | **N9.** Demonstrate an understanding of addition facts, concretely, pictorially and symbolically, by:* using familiar mathematical language to describe additive action
* creating and solving problems in context that involve addition
* modelling addition using a variety of concrete and visual representations, and recording the process symbolically.

**N10.** Describe and use mental mathematics strategies, such as: * counting on
* making 10
* using doubles
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| **LEARNING OBJECTIVES** |
| **Students will:**1. Describe the action of addition using informal math language
2. Choose a method to solve a problem
3. Describe their thinking as they solve problems
4. Create and model an addition number story
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| **ASSESSMENTS** |
| **Observations:** | * Watch and listen for indications that students can
* Add numbers by joining
* Visualize number stories
* Communicate number stories
* Watch and listen for indications that students can
* Create and model an addition number story
* Describe the action of addition using informal math language
* Describe their thinking as they solve problems
* Walk around and make myself available for questions, ask students to explain their number story, provide clarification if needed.
* Watch and listen for indications that students can
* Individually add by joining
* Combine two groups to create a sum
* Admit when they need help (provide clarification if needed, provide positive feedback)
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| **Key Questions**: | * Various questions during the School Bus activity: *What did we do? Do you see a pattern here? What did we do that was the same? What did we do that was different?*
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| **Products/Performances:** | * Bus story
* Written equations
* Addition Poster
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| **LEARNING RESOURCES CONSULTED** | **MATERIALS AND EQUIPMENT** |
| * Small, M. (2008). Introducing Addition and Subtraction. In *Math focus 1*. Toronto: Thomson Nelson.
* YouTube Addition Videos
* Program of Studies
 | * SMARTBoard
* YouTube
* Number Lines
* Bus Storyboard
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| **PROCEDURE** |
| ***Prior to lesson*** | Prepare materials  |
| **Introduction** | **Time** |
| ***Attention Grabber*** | Addition Video: Putting groups together song (<http://www.youtube.com/watch?v=Nhp8-Q8xMfo>)Counting on song (<http://www.youtube.com/watch?v=kNJSKhIT4U4>)Addition Rock (<http://www.youtube.com/watch?v=auem1DFtDrY>) | 5 minutes |
| ***Assessment of Prior Knowledge*** | Review last math class, review (+) sign, what an equation is, adding by counting on | 2 minutes |
| ***Expectations for Learning and Behaviour*** | Classroom rules. Enforce the behaviour chart discipline set out by my TA. |  |
| ***Transition to Body*** | We are going to try the bus story again. This time we are going to write down the equations together.  | 1 minute |
| **Body** | **Time** |
| ***Learning Activity #1*** | **Bus story**Have the paper wrangler hand out a blank piece of paper and a number line to each student. Have the SMART Board person stand up by the board and be ready to write equations. Start by:* **Say**: *We are all going to pretend we are getting onto a bus. (Act as the bus driver)*
* Choose 3 students to get on the bus (stand behind you). Have the class count the 3 students. Then ask 1 more student to hop on the bus and count again.
* **Ask**: *What did we do?*
* Students should say that 1 more child joined the group, or 1 more child was added to the group.
* Explain that 1 child was just added to the group. Have the board person write the addition sentence on the SMART Board. (3 + 1 = 4). Ask everyone to write it down on their papers.
* **Say**: *Let's try it again.*
* Continue as above, using numbers to 9 with 1 child joining the group.
* **Ask**: *Do you see a pattern here?*
* Students should see that the number went up by 1 each time.
* **Say**: *Now we are going to try something different.*
* Repeat the activity, only this time call different numbers of students, but don't add more students to each group.
* **Ask**: *What did you notice this time?*
* Students should notice that if no students are added to the group, the number remains the same. (e.g., 3 + 0 = 3, 5 + 0 = 5)
* Tell students to go sit down.
* **Say**: Ask one student to hop on the bus. Then ask 2 more to hop on.
* Write 1 + 2 = 3 on the SMART Board. Ask students to write it on their papers.
* **Say:** Not what if the 2 students got on and then the 1 student (ask students to act it out).
* Write 2 + 1 = 3 on the SMART Board. Have students to write it on their papers.
* **Ask:** *What do you notice?*
* **Ask**: *What did we do that was the same? What did we do that was different?*
* Make sure students recognize that the order of the adding didn't change the sum. Repeat with some other facts.

**Say**: *If you know an addition fact, you can put it in a different order and you will know another fact. So, if you know 1 fact, you know 2 facts.* | 10-15 minutes |
| *Teacher Notes: Assessments/ Differentiation* | I will pick students that need movement to come up to the front. Use objects as visuals for the equations rather than just write it. As I walk around the class being the school bus driver I will ask the students to point to their number lines as students are called up (2 students get on the bus, the students sitting in desks will point on their number lines), this will help the struggling students. The students that need more of a challenge will have to fill out The Bus Storyboard (draw the number of students on the bus as they get called upon). Between each equation I will stop and explain to the students how to write an equation or ask a student to explain what they have written down. Observations: Watch and listen for indications that students can * Add numbers by joining
* Visualize number stories
* Communicate number stories

Watch for students that struggle with addition and students that need even more of a challenge. (Formative Assessment) |  |
| ***Learning Activity #2*** | ***Addition Poster*** * Review addition poster
* Can we add anything to the poster? Write other words associated with Addition. What does it look like? Add more visual pictures on the bottom of the poster
 | 2-5 minutes |
| *Teacher Notes: Assessments/ Differentiation* | (Formative Assessment)Call on students to assess their knowledge of addition. Go through a variety of equations if the students do not understand. Pick a few students to come up and draw on the poster. If the students all understand the concept of addition have them create their own posters (start them-won’t be able to finish).  |  |
| **Closure** | **Time** |
| ***Consolidation of Learning:*** | *Point and Count:* Ask students to point to a group of things around the classroom (rocking chair (1), pointers (3), Canada flag (1)). How many things did you point to?” Add things to Gus the Plus poster (join, sum, what does it look like)Write down your own equation on the piece of paper. Show it to me.  | 2-5 minutes |
| ***Feedback From Students:*** | Class discussions.Number Story – School Bus Addition Poster |  |
| ***Feedback To Students*** | Provide feedback to students throughout the lesson. Provide help if needed. As you go for lunch look for groups of things and join them together. How many things are there in total? |  |
| ***Transition To Next Lesson*** | Have students clean off their desks, put materials away, line upNext math lesson – ‘Steeds’ go to gym, ‘Cowboys’ stay for math. Walk around the classroom pretending to drive a bus have all the students hop on the bus by groups (one, twos, threes). Once everyone is on the bus walk over to the carpet, have everyone sit in a circle)  |  |