UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

LESSON PLAN

Candidate's name: Ocean

Grade/Class/Subject:	Grade 2/3 / MATH	School:	Thornhill Primary
Date:	Nov. 15 2024	Allotted Time:	35 min
Topic/Title:	Count up math strategy		

1. LESSON ORIENTATION

Key resources: Instructional Design Map

Briefly, describe purpose of lesson, and anything else to note about the context of lesson, students, or class, e.g. emergent learning needs being met at this time, elements of focus or emphasis, special occasions or school events.
In this lesson, students will complete a word problem worksheet focusing on the "count up" strategy used when adding the numbers 1, 2, or 3. At this point, students are still developing their ability to think critically about word problems and will be guided through the first section of the worksheet. At the end of the class, there will be an exit ticket containing questions that require either the previously learned "add zero" strategy or the "count up" strategy.

2. CORE COMPETENCIES

Key resources: https://curriculum.gov.bc.ca/competencies

Core /Sub-Core Competencies *(check all that apply):*	*Describe briefly how you intend to embed Core Competencies in your lesson, or the role that they have in your lesson.*

x COMMUNICATION – Communicating COMMUNICATION – Collaborating x THINKING – Creative Thinking THINKING – Critical Thinking x THINKING – Reflective Thinking x PERSONAL AND SOCIAL – Personal Awareness and Responsibility x PERSONAL AND SOCIAL – Positive Personal and Cultural Identity PERSONAL AND SOCIAL – Social Awareness and Responsibility	**Communication:** • Students will practice communicating with the group and with the teacher using mathematical language. • In familiar settings, students will engage in communication with peers and adults, fostering an environment where they respond meaningfully to communication from others (Profile 1). • Through purposeful communication, using practiced forms and strategies, students will develop their ability to express themselves effectively (Profile 3). **Collaboration:** • Students will practice collaboration skills by respectfully listening to their peers and offering assistance to those who may need help. They will also practice collaborating to complete a group project. • In familiar situations, students will participate with others and cooperate for specific purposes, fostering a sense of belonging and teamwork (Profile 2). **Critical and Reflective Thinking:** • Analyzing and interpreting graphs requires critical thinking skills. Students must identify patterns, make comparisons, and draw conclusions based on the data presented. By engaging in these activities, students develop their ability to think critically, solve problems, and make informed decisions. **Personal and Social Responsibility:** • The lesson encourages students to actively participate in group activities, share their ideas, and respect the contributions of others. Through these experiences, students develop their sense of personal and social responsibility, including their ability to work collaboratively, demonstrate empathy, and contribute positively to their classroom community. Social and Emotional Learning: Engaging in group activities and discussions provides students with opportunities to develop their social and emotional skills, such as communication, cooperation, empathy, and self-regulation. These skills are essential for building healthy relationships, managing emotions, and navigating social situations effectively.

3. INDIGENOUS WORLDVIEWS AND PERSPECTIVES

Key resources: First Peoples Principles of Learning (FPPL); Aboriginal Worldviews and Perspectives in the Classroom

FPPL to be included in this lesson *(check all that apply):*	*How will you embed Indigenous worldviews, perspectives, or FPPL in the lesson?*

X Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors. X 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. X Learning involves generational roles and responsibilities. Learning recognizes the role of Indigenous knowledge. X Learning is embedded in memory, history, and story. Learning involves patience and time. X 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.	**Holistic and Relational Learning**: The group work and collaborative problem-solving emphasize connectedness and reciprocal relationships, fostering a sense of community. Students support each other in learning strategies, building relational skills alongside mathematical understanding. **Experiential Learning**: The use of real-world word problems provides an experiential context for learning, making the math more relevant and meaningful. Students actively engage with the material through hands-on problem-solving and reflection. **Generational Roles and Responsibilities**: By emphasizing routines, behavioural expectations, and accountability, this lesson encourages students to take responsibility for their learning and actions, fostering skills they will use in broader generational and community contexts. **Embedded in Memory, History, and Story**: Word problems are rooted in storytelling, encouraging students to connect their learning to everyday experiences and build understanding through narrative contexts. This approach aligns with the principle of embedding learning in memory and story.

4. BIG IDEAS

Key resources: https://curriculum.gov.bc.ca/ (choose course under Curriculum, match lesson to one or more Big Ideas)

What are students expected to understand? How is this lesson connected to Big Idea/s or an essential question?

Students are expected to understand that:

- Addition and subtraction strategies, such as "add zero" and "count up," are tools to solve problems effectively.
- Developing fluency in these strategies helps them work with numbers up to 100.
- Solving problems requires identifying and analyzing key information.

Connection to the Big Idea:

The lesson aligns with the **Big Idea**: *Development of computational fluency in addition and subtraction with numbers to 100 requires an understanding of place value*.

- By practicing specific strategies, students build fluency in manipulating numbers and understanding their structure, which strengthens their grasp of place value.

Connection to an Essential Question:

- **How can we use strategies to solve addition and subtraction problems?**
  This question guides the lesson as students explore how tools like "add zero" and "count up" help them approach and solve word problems effectively.

Through this lesson, students connect problem-solving to real-world contexts, develop their number sense, and deepen their understanding of how numbers relate to one another.

5. LEARNING STANDARDS/INTENTIONS

Key resources: https://curriculum.gov.bc.ca/ (choose course under Curriculum)

Curricular Competencies: *What are students expected to do?*	**Content:** *What are students expected to learn?*

Grade 2 Competencies

In this lesson, students are expected to:

- **Use reasoning to explore and make connections** by identifying relationships between the "count up" strategy and other addition strategies they have learned, such as "add zero."
- **Develop mental math strategies and abilities to make sense of quantities** through practice adding 1, 2, or 3 using the "count up" strategy in word problems.
- **Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving** by engaging with guided and independent word problem-solving tasks.
- **Reflect on mathematical thinking** by discussing their approach to solving problems as a group and identifying the reasoning behind their answers.
- Build **fluency with math strategies for addition and subtraction** by practicing the "count up" strategy and applying it to real-world scenarios.

Grade 3 Competencies :

Use reasoning to explore and make connections between multiple strategies (e.g., "count up" vs. "add zero") and explain why one might be more efficient in certain contexts.

- **Develop and use multiple strategies to engage in problem solving** by practicing flexibility in choosing between strategies based on the problem requirements.
- **Use mathematical vocabulary and language** to contribute to discussions about the strategies used and the reasoning behind their choices.
- **Explain and justify mathematical ideas and decisions** by sharing their approach to solving word problems with peers or the teacher.

Addition and subtraction facts to 20:
Students will practice solving word problems that involve adding small numbers (1, 2, or 3), supporting emerging computational fluency.

Adding and subtracting numbers to 20:
Students will apply the "count up" strategy to solve problems within this range.

Demonstrating fluency with math strategies for addition and subtraction:
Students will build their understanding of the "count up" strategy, connecting it to other strategies they have learned, such as "add zero," to develop efficiency and flexibility.

Recall of addition facts to 20:
This lesson contributes to the long-term goal of fluency with addition facts to 20 by reinforcing mental math strategies and encouraging repeated practice in meaningful contexts.

6. ASSESSMENT PLAN

Key resources: Instructional Design Map and https://curriculum.gov.bc.ca/classroom-assessment

*How will students demonstrate their learning or achieve the learning intentions? How will they know if they are proficient? How will the evidence be collected, documented and shared? Will you use **observation**s, have targeted **conversations**, or collect **products**? Mention any opportunities for feedback, self-assessment, peer assessment and teacher assessment. What tools, structures, or rubrics will you use to assess student learning (e.g. Performance Standard Quick Scale)? Will the assessments be **formative**, **summative**, or both?*
The exit ticket is a formative assessment that will be recorded, this will tell me if students are grasping the concept of the "count up" strategy. The worksheet serves as an observational formative assessment as every student will correctly finish it with varying amounts of assistance and or time. This along with the exit ticket will allow me to see if students are struggling with the count up strategy and or if they are struggling with their ability to read and understand a word problem.

7. DESIGN CONSIDERATIONS

Key resources: Instructional Design Map

Make brief notes to indicate how the lesson will meet needs of your students for: differentiation, especially for known exceptionalities, learning differences or barriers, and language abilities; inclusion of diverse needs, interests, cultural safety and relevance; higher order thinking; motivations and specific adaptations or modifications for identified students or behavioural challenges. Mention any other design notes of importance, e.g. cross-curricular connections, organization or management strategies you plan to use, extensions for students that need or want a challenge.

Differentiation for Language and Learning Differences
I chose to start with question C as a group activity because its language is more complex, and I anticipate that some students may struggle with comprehension. This will allow me to guide them through the challenging vocabulary and model how to identify key information, supporting students with lower language abilities or reading difficulties.

Inclusion and Accessibility
By keeping struggling students on the carpet, they will face fewer distractions than they would at their desks. This setup also allows for proximity, making it easier for me to identify and assist multiple students at once. Additionally, early finishers will move away from their desks during exit tickets to minimize distractions for students who need more time and focus.

Motivations and Behaviour Management
Student H will benefit from early check-ins to ensure he starts the assessment smoothly. Once he begins, he should be able to work independently. If Student J is hesitant to go to his desk, I'll provide a clipboard and highlight five specific questions (two "add zero" and three "count up") to guide his focus and reduce overwhelm.

Focus on Behavioural Expectations and Procedural Clarity
This lesson involves significant behavioural and procedural expectations, which are skills our class has been practicing with varying success. Since this is the second time following this specific routine, the focus will be on reinforcing these behaviours to build consistency. This repetition aims to help students develop a routine, allowing them to shift their attention to the curriculum rather than procedural concerns. I will provide reminders to keep expectations clear and minimize off-task behaviour.

Higher Order Thinking and Engagement
This lesson encourages higher-order thinking by involving students in problem-solving activities that require them to use strategies like "add zero" and "count up." Group practice helps students understand the reasoning behind these strategies, while individual questions challenge them to apply the strategies on their own

Cross-Curricular Connections: The focus on mathematical word problems ties directly into real-world application of mathematical concepts, reinforcing numeracy skills while developing problem-solving strategies that can be applied across subjects.
Organization & Management: I will circulate the room frequently to monitor student progress, providing one-on-one support as needed, and ensure a smooth transition between tasks. This will also help maintain focus and minimize distractions.

Required preparation: *Mention briefly the resources, material, or technology you need to have ready, or special tasks to do before the lesson starts, e.g. rearrange desks, book a room or equipment.*

Worksheets and exit tickets printed for every student.
Document camera set up.
Timer
Clip boards at the front of the classroom

8. LESSON OUTLINE

Instructional Steps	**Student Does/Teacher Does** *(learning activities to target learning intentions)*	**Pacing**
OPENING: *e.g. greeting students, sharing intentions, look back at what was learned, look ahead to what will be learning, use of a hook, motivator, or other introduction to engage students and activate thinking and prior knowledge*	Tell students to bring their pencils to the carpet and settle in the carpet area. Ensure that students are ready to learn. If a calm game of catch worked well in the morning, I will repeat that; if not, I'll try "If your eyes are on me, touch your head…" Remind students that on Wednesday, we worked on three-word problems using the "add zero" strategy, and they all did great! Today, we will do three more word problems, this time using the "count up" strategy. Practice the "count up" strategy a few times to remind students. Explain that we will first complete the worksheets on the carpet. Then, at 11:20, we will all go to our desks and have 10 minutes to complete the assessment.	10
BODY: • *Best order of activities to maximize learning -- each task moves students towards learning intentions* • *Students are interacting with new ideas, actively constructing knowledge and understanding, and given opportunities to practice, apply, or share learning, ask questions and get feedback* • *Teacher uses learning resources and strategic opportunities for guided practice, direct instruction, and/or modelling* • *Can include: transitions, sample questions, student choices, assessment notes (formative or otherwise), and other applications of design considerations*	Choose students based on their carpet behaviour to grab their clipboards first, reminding them to sit up when using the clipboards. Tell the students to place their finger on the first word in question C and that we will pause at important information, circling it as we read. Instruct the students to read question C together, pausing at the end of each sentence to circle the numbers. Use a popsicle stick to choose a student to provide the first number in our equation, and select another student to provide the next number. Practice the "count up" strategy as a group to find the answer. Read question B together, circling important information in each sentence. Instruct students to complete question B independently, then question A. When they are done, they can quietly raise their hand, and I will check their work. Early finishers may return their clipboards and go to their desks to doodle. I will assist students who are still struggling on the carpet. At 11:20, everyone will transition to their desks. If some students haven't completed their worksheet, I will collect their clipboards and worksheets to be completed later during centers.	15

CLOSING: • *Closure tasks or plans to gather, solidify, deepen or reflect on the learning* • *review or summary if applicable* • *anticipate what's next in learning* • *"housekeeping" items (e.g. due dates, next day requirements*	Before starting, remind students that for some questions, they will use the "count up" strategy, but for others, they will need to use the "add zero" strategy. (It's a hint!) Instruct students that the assessment must be silent, and if they are finished or need help, they can raise their hand, and I will assist them when I am available. I will set a timer, and students can begin. Remind them to put their name on their worksheet. I will circulate the room to encourage any students who have not started. I will collect finished work, releasing those students to silent reading or allowing them to complete their worksheet if they haven't already. After the timer goes off, we will prepare for lunch.	10

9. **REFLECTION** *(anticipate if possible)*

• *Did any reflection <u>in</u> learning occur, e.g. that shifted the lesson in progress?* • *What went well in the lesson (reflection <u>on</u> learning)?* • *What would you revise if you taught the lesson again?* • *How do the lesson and learners inform you about necessary next steps?* • *Comment on any ways you modelled and acted within the Professional Standards of BC Educators and BCTF Code of Ethics?* • *If this lesson is being observed, do you have a specific observation focus in mind?*