

Subject/Grade: Mathematics, 5/6

Lesson Title: Thinking Classrooms: Adding and Subtracting

Teacher: Ms. Jozelle Sumat

Stage 1: Identify Desired Results

Outcome(s)/Indicator(s):

[N5.4](#) Develop and apply personal strategies for estimation and computation including:

- Front-end rounding
- Compensation
- Compatible numbers

[N5.7](#) Demonstrate an understanding of addition and subtraction of decimals (limited to thousandths)

Key Understandings: ('I Can' statements)

I CAN...

- Do the process of "carrying over" a number from one place value to the next.
- Do the process of "borrowing" a number from one place value to another.
- Regroup numbers.
- Add decimals.
- Subtract decimals.
- Do repeated addition.

Essential or Key Questions:

1. **What happens when we "carry" numbers?**
2. **What happens when we "borrow" numbers?**

Prerequisite Learning:

- Understanding of numbers
- Understanding of place values
- Understanding of addition

Instructional Strategies:

Class Discussion:

- As a class, students will discuss along with the instructor about subtracting numbers.
- (After the activity): Students will share their results with the whole class.

Randomized Groupings:

- Students will draw from a stack of cards to determine to group for the activity.

Learning Roles:

- Students will be given roles to engage during the activity.
- Roles:
 - Recorder: this student will be in charge of compiling their group's thoughts and writing them on VNPS
 - Inquirer: this student will be in charge of compiling their group's doubts/questions and asking them to the teacher.
 - Speaker: this student will be in charge of sharing their group's ideas to the class.

VNPS (Vertical Non-Permanent Surface):

- Each group will be assigned one VNPS to write all of their computations, thoughts, etc. down.

Stage 2: Determine Evidence for Assessing Learning

Exit Slips (attached below):

- The exit slip will contain some questions about their understanding of the idea of adding and subtracting whole numbers and decimals. Also, there will be two questions on subtracting decimals just for a little quiz.

VNPS:

- Will ask students to leave their work on the VNPS so the teacher can take a photo.

Peer Assessment (included in the exit slip):

- Students will assess their groupmates based on their participation and commitment to their role.

Stage 3: Build Learning Plan

Set (Engagement):

Length of Time: 15 minutes

(Get their attention! And then tell them what you are going to learn through this lesson)

****BEFORE CLASS STARTS:** The teacher will write the activity details on the board and cover it until the activity is introduced.

The teacher will start the class by asking students to bring out their “Adding and Subtracting Decimals” worksheet and turn to page 160. Students will focus on questions 1, 2, 3. These questions do not include “borrowing.” These questions are to serve as an introduction/refreshment to subtracting. Before getting to the next topic, the teacher will ask the students to do a “thumbs up” or “thumbs down” just to see what everybody is doing. Then students will turn their booklets to page 164 and focus on questions 1, 2, 3. The teacher will explain what happens during borrowing.

Development:

Length of Time: 35-40 minutes

After the discussion, the teacher will introduce the activity to the students. Students will read the note on the board while the teacher explains the task. Once all students understand the task, they will pick a card numbered from 1-7 with roles written on each other (Recorder, Inquirer, Speaker). Students will spend some time in their groups doing their activities, with their roles in mind.

Learning Closure:

Length of Time: 5 minutes

The class will share their computations (groups will have different ways of solving this activity). The speakers of the group, with other members support, will share their findings and open the class for discussions.

Materials/Resources:

1. VNPS
2. Dry-erase markers
3. Erasers for whiteboard
4. [“Planning a Class party” thinking task by Peter Liljedahl](#) (foundation of the activity. Not entirely copied)
5. “Adding and Subtracting Decimals” worksheet
6. Exit slips (print copies)

Possible Adaptations/ Differentiation:

- Students will have learning roles for the activity, but they are still encouraged to help each other beyond their assigned roles.
- If some groups are struggling, suggest that group to walk around and explore what other groups are doing.
- Students may switch roles with another member of their group (only if that member agrees to switch)

Management Strategies:

- Students who take on the role of an “Inquirer” will be in-charge of asking questions to the teacher.
- Students who take on the role of “Recorder” will be holding the marker to write all ideas down.
- Students who take on the role of “Speaker” will share their group’s thoughts with the class.
- Even though what students learned today is subtracting, they

could use any strategies (such as using addition) for their activity.

Safety Considerations:

- Make sure students are writing on the VNPS and not on any other surface.
- Students should understand expectations of how to collaborate with one another appropriately.

Stage 4: Reflection

(This part of the lesson is completed after the lesson has been delivered; this is where you can record how it went, what you would keep, and what would you change for next time)

PLANNING A CLASS PARTY

You are planning a class party. There are 24 students in the class and you have been given a budget of \$70 to spend on pop, chips, and pizza.

- A 2 litre bottle of pop costs \$1.79
- 1 large bag of chips costs \$3.45
- 1 large pizza (10 slices) costs \$8.50

How would you spend the money? You must make the decision how to spend the money.

There are many different ways that the money could be spent. Be sure to choose the solution that you think is the best. You must explain and defend why your solution is the best solution.

EXIT SLIP:

Name: _____

Group Number: _____

Circle your role below:

Recorder	Inquirer	Speaker
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Self-reflection:

On a scale from 1-10, how did you feel you contributed to the group discussion and problem-solving?

1	2	3	4	5	6	7	8	9	10
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On a scale from 1-10, how committed do you think you were in your group role?

1	2	3	4	5	6	7	8	9	10
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On a scale from 1-10, how do you feel about subtracting decimals? (1 being I do not feel confident and 10 being I feel extremely confident about my skills)

1	2	3	4	5	6	7	8	9	10
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Peer Assessment:

1st Group member name: _____

On a scale of 1-10, how committed were your groupmates to their role?

1	2	3	4	5	6	7	8	9	10
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On a scale of 1-10, how much do you feel your 1st groupmate contributed to this group activity?

1	2	3	4	5	6	7	8	9	10
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2nd group member name: _____

On a scale of 1-10, how committed were your groupmates to their role?

1	2	3	4	5	6	7	8	9	10
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On a scale of 1-10, how much do you feel your 2nd groupmate contributed to this group activity?

1	2	3	4	5	6	7	8	9	10
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3rd group member name (OPTIONAL): _____

On a scale of 1-10, how committed were your groupmates to their role?

1	2	3	4	5	6	7	8	9	10
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On a scale of 1-10, how much do you feel your 3rd groupmate contributed to this group activity?

1	2	3	4	5	6	7	8	9	10
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Exit Questions:

$$\begin{array}{r} 10.62 \\ - 9.83 \\ \hline \end{array}$$

$$\begin{array}{r} 14.62 \\ - 14.63 \\ \hline \end{array}$$