

Model, Record, and Check

Strand: Number, Number Sense, Computation, and Estimation

Topic: Adding and Subtracting Whole Numbers and Mixed Numbers

VESOL: M-5 8 (SOL 5.5b) The student will: Solve word problems involving addition and subtraction of whole numbers from 0 through 30 and adding mixed numbers ending in $\frac{1}{2}$ and $\frac{1}{4}$. Complexity Continuum: Given a context, numbers from 0 through 30 could be added or subtracted; mixed numbers ending in $\frac{1}{2}$ or $\frac{1}{4}$ could be added.

Materials

- [5.8 Whole Group Activity, PDF Version](#)
- [5.8 Virtual Manipulatives and Templates](#)
- [5.8 Small Group Activity # 1, PDF Version](#)
- [5.8 Small Group Activity # 2, PDF Version](#)
- [5.8 Small Group Activity # 3, PDF Version](#)

Vocabulary

Whole number, fraction, mixed number, whole, $\frac{1}{2}$, $\frac{1}{4}$

Addition, addend, plus, sum, counting on, more than, altogether, combine, increase

Subtraction, minuend, minus, subtrahend, difference, counting back, fewer than, less, take away, decrease

Equation (number sentence), missing number, problem solving, model

Student/Teacher Actions: What should students be doing? What should teachers be doing?

1. Teacher Actions - Use the interactive board to display the whole group activity, in slideshow mode, then click to start the 2 minute timer, keeping it minimized in the corner of the screen so the image can still be seen. Direct students to their designated learning environment and ask them to think about the image on the screen, letting them know the conversation will start when the timer is finished. Advance the slides, while facilitating the number talk.

Present the choice board (play, read, or do) to determine which mini-lesson the students are requesting. Tally student votes, then begin the requested mini-lesson. Pause to discuss examples or use manipulatives while modeling examples from the activity.

Display the group rotations slide and explain expectations. Play the first brain break song while the students transition to small groups or independent tasks. There are two timers (15 minute and 20 minute) that can be used during groups. These will help keep staff on schedule for rotations and help students manage their expectations for the length of time the activity is anticipated to last. The timer can also help keep reinforcement consistent (i.e. adding a token to the first/then board for every 3-4 minutes of appropriate academic behavior).

Lead small group rotations while supervising students who are completing independent tasks. After group rotations have concluded, display the reflection question to use as a shared writing experience. Facilitate a conversation with the students, reminding them of the learning target and key vocabulary (i.e. *whole number, fraction, mixed number, whole, $\frac{1}{2}$, $\frac{1}{4}$, addition, addend, plus, sum, counting on, more than, altogether, combine, increase, subtraction, minuend, minus, subtrahend, difference, counting back, fewer than, less, take away, decrease, equation, number sentence, missing number, problem solving, model*).

2. Teaching Assistant Actions - Reinforce academic concepts, provide accommodations, and collect data (as directed by the teacher). Implement positive behavior supports to provide encouragement for student engagement with the content and their peers. Gather and distribute manipulatives and materials. Co-teach whole group lessons, lead a small group activity, and supervise independent work tasks.

3. Student Actions -
 - a. Actively participate in a whole group conversation with staff and peers. Adhere to whole group and small group expectations regarding turn taking, being prepared to answer questions, and remaining within the designated learning environment.
 - b. Engage in small group guided practice:
 - i. Identify keywords and operations for solving word problems.
 - ii. Create a model.
 - iii. Record response.
 - iv. Check work (i.e. using a calculator).
 - c. Complete independent practice:
 - i. Produce a work sample (can be student generated responses that are transcribed by staff).

Assessments

- **Questions**
 - **Number Talk** - How many do you see? How do you see them?
- **Journal/writing prompts**
 - **Closing** - What new learning did you balance with your old understanding?
- **Other Assessments**
 - **Work Sample** - Small group activities have example problems.

Extensions and Connections (for all students)

- **Choice Board** -
 - **Play:** [YouTube Playlist: M-5 8 \(SOL 5.5b\) Word problems involving addition and subtraction of whole numbers from 0 through 30 and adding mixed numbers ending in 1/2 and 1/4.](#)
 - **Read:** [Epic! Collection \(Number Sense: Fractions - wholes, halves, quarters\)](#)
 - **Do:** [SplashLearn Games for Adding Mixed Numbers](#), [Starfall Geometry and Measurement](#), [Grade 3 Math](#), [Grades 4-5 Math](#)

Strategies for Differentiation (Including Assistive Technology)

- **Low Tech:**
 - Laminated construction paper (red, yellow, and blue) for color coded response cards when a field of two or three response options is being presented. Cut the paper size to match the student's mode of responding. For example, small or medium sized cards would be appropriate for touch or exchange. A larger card would be useful for students who communicate their responses through eye gaze or other focused movement.
- **Mid Tech:**
 - Questions and response options can be presented in a field of three, enlarged at the interactive board. Individual student copies can be printed to be added into the student's math journal. When printing, the number of problems per page can be adjusted by selecting how many slides are displayed per page. This can accommodate the need for reduced visual clutter and enlarged print.
- **High Tech:**
 - A single speech output device with three buttons (red, yellow, and blue) or three separate devices, to match the response option color coding.
 - More complex communication devices may have color names, the alphabet, or numbers that students can use as an alternate response method.