ESTABLISHING PURPOSE

1 **What are the key content standards I will focus on in this lesson?**

Content Standards:

Nebraska Mathematics Standards

MA 1.2.1.a. Use the meaning of the equal sign to determine if equations are true and give examples of equations that are true (e.g., 4 = 4, 6 = 7 - 1, 6 + 3 = 3 + 6, and 7 + 2 = 5 + 4).

MA 1.3.3.d. Order three objects by directly comparing their lengths, or indirectly by using a third object.

MA 1.1.2.d. Mentally find 10 more or 10 less than a two-digit number without having to count and explain the reasoning used (e.g., 33 is 10 less than 43).

MA 1.1.2.e. Add within 100, which may include adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10 using concrete models, drawings, and strategies which reflect understanding of place value.

Nebraska Mathematical Processes:

- Solves mathematical problems.
- Makes mathematical connections.

2 **What are the learning intentions (the goal and *why* of learning stated in student-friendly language) I will focus on in this lesson?**

Content: I am learning to understand how relationships between known values can help find unknown values and decide if values are reasonable.

Language: I am learning to understand the language of equality and comparisons in measurement situations (heavier, lighter, longer, shorter, the same length/weight as).

Social: I am learning to understand everyone contributes to our learning and to appreciate the connections among our reasoning.

3 **When will I introduce and reinforce the learning intention(s) so that students understand it, see the relevance, connect it to previous learning, and can clearly communicate it themselves?**

- Turn and tell
- Conference questions
- Sticky note self-evaluation

SUCCESS CRITERIA

4 **What evidence shows that students have mastered the learning intention(s)? What criteria will I use?**

I can statements:

- I can find unknown values and decide if a value is reasonable.
- I can mathematically model a real-life measurement problem.
- I can make connections between strategies and representations.
- I can use what I know about equality to solve new problems.

5 **How will I check students' understanding (assess learning) during instruction and make accommodations?**

Formative Assessment Strategies:

- *Conference/observation notes*
- *Student work*
- *Practice problems*
- *Sticky note self-evaluation*

Differentiation Strategies:

- *Differentiate the process and product by readiness: open questions*
- *Differentiate the process and product by interest: choice of materials*
- *Differentiate the process by readiness: purposeful small groups*

INSTRUCTION

6 **What activities and tasks will move students forward in their learning?**

- *Math talk: visualizing an unknown weight on a balance scale*
- *Mystery Box tasks*
- *Practice problems: Two Truths and a Lie*

7 **What resources (materials and sentence frames) are needed?**

Math binders

Math talk: sketch of a balance scale with weights

Mystery Box tasks with clues

Cuisenaire rods

Number balances

Number lines

Weights and balance scales

Rulers and yardsticks

Graph paper

Colored pencils

Scissors

Glue

Practice problems: Two Truths and a Lie

8 **How will I organize and facilitate the learning? What questions will I ask? How will I initiate closure?**

Instructional Strategies:

- *Math talk*
- *Bansho*
- *Conferences/observations*
- *Turn and talk*
- *Sticky note self-reflection*

Scaffolding Questions:

- *How could you represent the total weight/length?*
- *Which toys cannot fit in the mystery box? Why?*
- *Why is this value reasonable? What other values are reasonable?*
- *How can you use what you know to figure out what you don't know?*

Extending Questions:

- *How does your clue change the possible solutions?*
- *How can you represent this with an equation?*

Connecting Questions:

- *What do you notice is the same across all of the strategies and representations?*
- *How is this work related to our work with part-part-whole relationships in addition and subtraction?*
- *One of the important skills of our next unit is about measuring length: You can repeatedly line up a unit to measure length or you can find the distance between two units to measure length. Where do you see people using these skills already?*

Self-Reflection and Self-Evaluation Questions:

- *Green sticky note: met the success criteria*
- *Yellow sticky note: don't see evidence, need to make a revision*
- *Red sticky note: not sure how to meet the success criteria*