

Let's Do Some Math -
Notice and Wonder

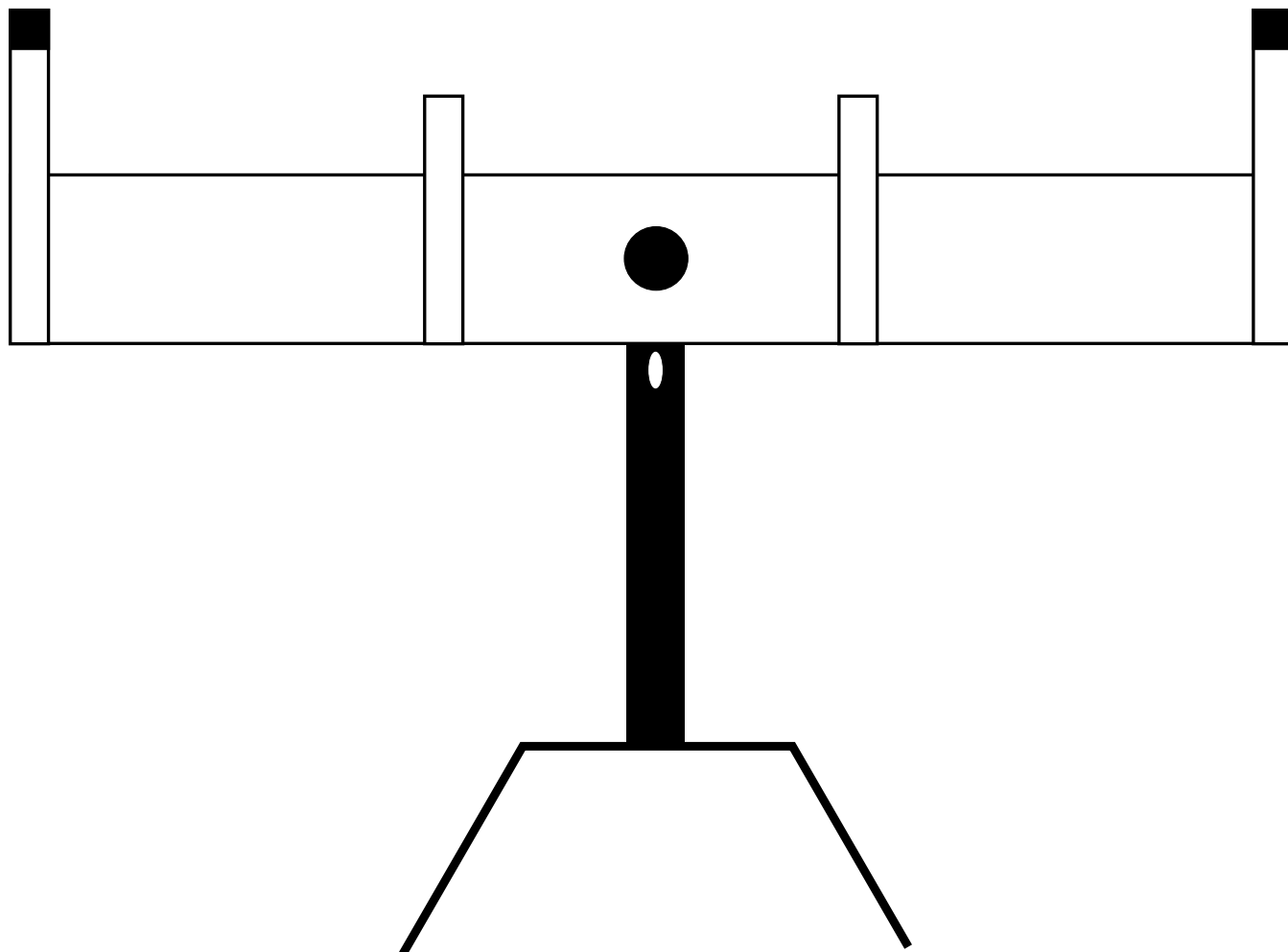


Standards Unpacking		
Key	Standard	Prerequisites/Vocabulary
Put a box around the <u>conceptual component</u> of the standard. Underline the <u>procedural/fluency component</u> of the standard. Put a cloud around the <u>application component</u> of the standard.	6.EE.1- Write and evaluate numerical expressions involving whole-number exponents.	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?
	6.EE.2- Write, read, and evaluate expressions in which letters stand for numbers.	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?
	6.EE.2a- Write expressions that record operations with numbers and with letters standing for numbers. <i>For example, express the calculation "Subtract y from 5" as $5 - y$.</i>	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?

Put a box around the conceptual component of the standard. Underline the <u>procedural/fluency component</u> of the standard. Put a cloud around the application component of the standard.	6.EE.2b- Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. <i>For example, describe the expression $2(8 + 7)$ as a product of two factors; view $(8 + 7)$ as both a single entity and a sum of two terms.</i>	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?
	6.EE.2c- Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). <i>For example, use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.</i>	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?
	6.EE.3- Apply the properties of operations to generate equivalent expressions. <i>For example, apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$; apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$; apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$.</i>	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?
	6.EE.4- Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). <i>For example, the expressions $y + y + y$ and $3y$ are equivalent because they name the same number regardless of which number y stands for.</i>	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?

Put a box around the conceptual component of the standard. Underline the <u>procedural/fluency component</u> of the standard. Put a cloud around the  application component of the standard.	6.EE.5- Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?
	6.EE.6- Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?
	6.EE.7- Solve real-world and mathematical problems by writing and solving equations and inequalities of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers. Inequalities will include $<$, $>$, $\leq$, and $\geq$.	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?

LESSON 23: One-Step Equations – Add and Subtract



LESSON 23: One-Step Equations – Add and Subtract

Directions: Complete the following SOLVE problem with your teacher. You will only complete the S step.

Maria’s mother is planning to help her buy a new pair of jeans. They are on sale. The total cost of the jeans, including tax, is \$17.00. Her mother gave her \$14.50. How much more money does Maria need to purchase the jeans?

S Underline the question.

This problem is asking me to find _____.

Directions: Complete this page with your teacher and partner.

Addition Equations

1. $c + 2 = 3$

Model:	Check:
Pictorial	Solve the equation
Check:	Check:

Directions: Complete this page with your teacher and partner.

2. $c + 4 = 6$ Model	Check:
Pictorial	Solve the equation
Check:	Check:
3. $c + 3 = 7$ Model	Check:
Pictorial	Solve the equation
Check:	Check:

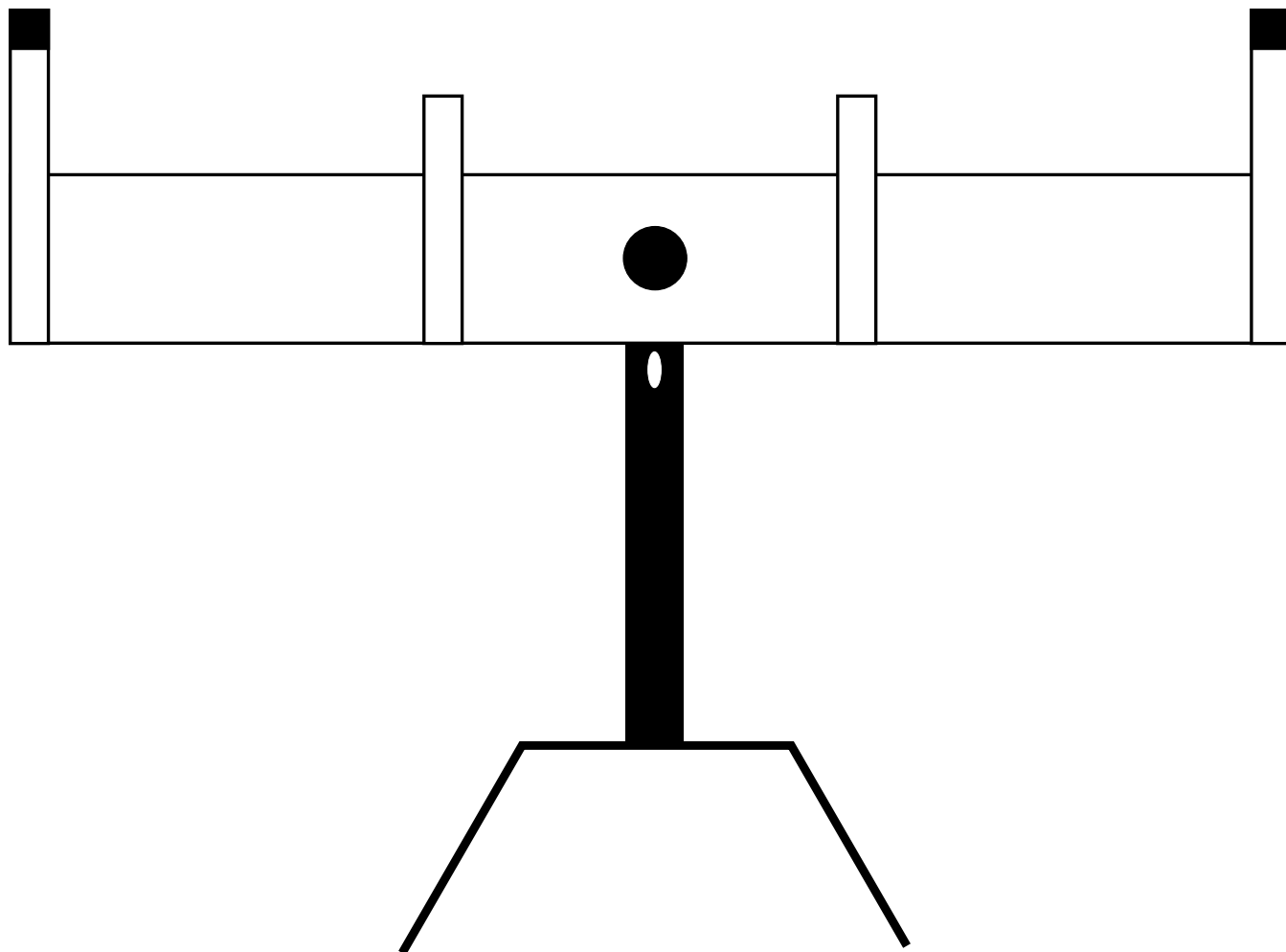
LESSON 23: One-Step Equations – Add and Subtract

Directions: Complete this page with your teacher and partner.

Subtraction Equations: We do not model subtraction equations at the concrete level (with counters and cups), but we do use pictorial models.

1. $c - 3 = 5$ Pictorial Model:	Solve the equation	Check:
2. $x - 2 = 4$ Pictorial Model:	Solve the equation	Check:
3. $p - 4 = 6$ Pictorial Model:	Solve the equation	Check:
4. $r - 2 = 7$ Pictorial Model:	Solve the equation	Check:
5. $c - 1 = 8$ Pictorial Model:	Solve the equation	Check:

LESSON 24: One-Step Equations – Multiply and Divide



LESSON 24: One-Step Equations – Multiply and Divide

Directions: Complete the following SOLVE problem with your teacher. You will only complete the S step.

Tomeka collects stamps. She has 56 stamps, which she has divided into groups of 14. She wants to share the stamps with some friends. How many groups of stamps does Tomeka have?

S Underline the question.
This problem is asking me to find _____.

Directions: Complete this page with your teacher and partner.

Multiplication Equations

1. $3c = 6$ Model	Model Check:
Pictorial Pictorial Check:	Solve the equation Check:

LESSON 24: One-Step Equations – Multiply and Divide

Directions: Complete this page with your teacher and partner.

2. $2c = 8$	Model	Model Check:
Pictorial		Solve the equation
Pictorial Check:		Check:
3. $5c = 15$	Model	Model Check:
Pictorial		Solve the equation
Pictorial Check:		Check:

LESSON 24: One-Step Equations – Multiply and Divide

Directions: Complete this page with your teacher and partner.

Division: Division equations are not modeled at the concrete level or pictorial level. However, the same steps are followed for finding the value of the variable in the equation. First isolate the variable and then balance the equation by performing the same operation on both sides.

1. $\frac{c}{3} = 6$	Check:
2. $\frac{c}{7} = 9$	Check:
3. $\frac{s}{4} = 12$	Check:
4. $\frac{x}{10} = 8$	Check:

Understanding Modeling Questions Use this sheet as a reflection tool to support the understanding of the evidence statement around the modeling questions. After you engage/learn about the questions, use the tool to make notes around your take aways and implementation ideas.	
Current Unit Topics:	
	Evidence Statement for Modeling
What Content Standards Are Addressed in This Evidence Statement from the Current Unit?	
Takeaways About the Statement – What Do Students Need to Be Able to Do	
What Should Be Evident in a Student Response	

Think Quantities!	Think Structure!	Think Repetition!
What can I count? What can I measure? How are the quantities related? How can I represent the quantities so I can see relationships?	How is this situation behaving? What kind of problem is this? Does the problem remind me of another I've solved? Will changing the form help? How can I chunk this expressions/number/visual?	Is there a process that keeps repeating? Am I counting /building/drawing in the same way each time? Do I keep repeating the same calculations? How can I use repetition to write a rule?

Modeling Question – 6.D.1

Used from: NJ Released Questions – D.1 – Expressions and Equations – VF643084

The students in a club are selling flowerpots to raise money. Each flowerpot sells for \$15.

Part A

Write an expression that represents the total amount of money, in dollars, the students raise from selling x flowerpots.

Enter your expression in the space provided. Enter only your expression.

Part B

The goal of the students in the club was to raise \$500. They sold 43 flowerpots. By what amount did the students exceed their goal of raising \$500? Show or explain all your work.