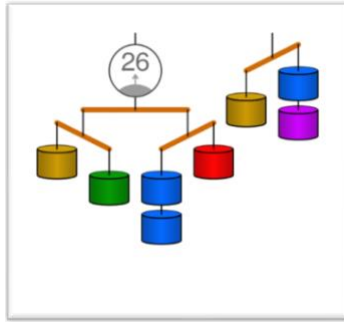




### 7<sup>th</sup> Grade Unit 2: Reasoning with Expressions, Equations, and Inequalities



#### Overview:

The second unit of 7<sup>th</sup> grade math builds upon the students' understanding of mathematical properties, such as commutative, associative, and distributive, and conventions, such as order of operations, by utilizing them to rewrite equivalent expressions and interpret expressions in context. In this unit, students will extend properties used with whole and rational numbers in multiple formats, like fractions and decimals, and solve equations and inequalities to solve contextual problems and interpret their solutions.

#### Learning Targets:

In Unit 2, students will:

- Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients
- Rewrite an expression in different forms from a contextual problem to clarify the problem and show how the quantities in it are related
- Construct algebraic equations to solve practical problems leading to equations of the form  $px + q = r$  and  $p(x + q) = r$ , where  $p$ ,  $1$ , and  $r$  are specific rational numbers, and interpret the solution based on the situation
- Construct, graph, and interpret algebraic inequalities to solve realistic situations and problems, leading to inequalities of the form  $px + q > r$ ,  $px + q < r$ ,  $px + q \leq r$ , or  $px + q \geq r$ , where  $p$ ,  $q$ , and  $r$  are specific rational numbers

[Key Vocabulary:](#) (linked to GA DOE Interactive Glossary)

Algebraic Expression	Constant	Equation	Inequality
Numerical Expression	Rate of Production	Rate of Attrition	Variable
Percentage	Term		

#### Supporting Resources:

<http://ctlslearn.cobbk12.org/>

<https://gavirtual.instructure.com/courses/34330>

[Operations with Linear Expressions](#)

[Solving Inequalities](#)