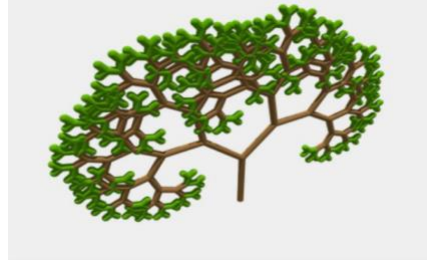# 8ᵗʰ Grade Unit 1: Investigating Linear Expressions, Equations, and Inequalities in One Variable

Overview:

In this unit, students will incorporate patterning and algebraic reason to create, interpret, solve, and graph linear equations and inequalities in one variable that will contain rational coefficients and variables on both sides whose solutions require the distributive property and combining of like terms. Students will learn to interpret expressions with multiple factors and/or terms and manipulate linear and literal equations expressed in various forms.

Learning Targets:

In Unit 1, students will:

- Create and interpret expressions in relevant situations

- Describe and solve linear equations in one variable with one solution, infinite solutions, and no solutions

- Real-life applications of linear equations & inequalities in one variable

- Justify the steps of a one-solution equation or inequality

- Manipulate equations and inequalities that are formulas

- Use algebraic reasoning to manipulate all types of equations and formulas

Key Vocabulary: (linked to GA DOE Interactive Glossary)

Algebraic Properties	Coefficient	Equation	Equivalent Equation
Expression	Factor	Inverse Operations	Linear Equation in One Variable
Linear Inequality in One Variable	Literal Equation	Terms	Variable

Supporting Resources:

http://ctlslearn.cobbk12.org/	Balancing Equations
https://gavirtual.instructure.com/courses/34331	Virtual Algebra Tiles
Multi-Step Inequality Word Problems	Solving Linear Equations
Solving Linear Inequalities	Solving Literal Equations