# Unit 2 Solving Equations

Content Area:    **Math**
Course(s):        **CP Algebra 1**
Time Period:     **Marking Period 1**
Length:             **2**
Status:              **Published**

## Unit Overview

This unit allows students to master creating and solving equations.  Students will also be able to reason with equations and inequalities.

Link to optional Desmos lessons for 2.1-2.4: https://teacher.desmos.com/activitybuilder/custom/60fac765cbf648084eb07221?collections=60f9919b8ff90d67bf67ecb0 and for challenge and review: https://teacher.desmos.com/activitybuilder/custom/60fad14893ff814d169f3b8e?collections=60f9919b8ff90d67bf67ecb0

Link to optional Desmos Curriculum: https://teacher.desmos.com/collection/61bcc95700581818dff1d4d7?intro-banner-expanded=true

## Enduring Understandings

- Students will understand how to apply the rules of algebra to manipulate variables.
- Students will understand how to keep an equation balanced and how to solve for an unknown to solve for a solution.
- Students will be able to find percentages, solve proportions, and understand unit rates and conversions.

## Essential Questions

How can we write an unknown as an algebraic equation?

How can we solve algebraic equations?

How can we use the properties of algebra to solve equations and proportions?

How can we isolate an unknown quantity?

How can we apply the concept of equations to real world applications involving proportions and percents?

## New Jersey Student Learning Standards (No CCS)

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| MA.F-IF.B | Interpret functions that arise in applications in terms of the context |
| MA.A-SSE.B | Write expressions in equivalent forms to solve problems |
| MA.F-IF.C | Analyze functions using different representations |
| MA.F-IF.C.8 | Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. |
| MA.F-BF.A.1 | Write a function that describes a relationship between two quantities. |
| MA.A-CED.A.1 | Create equations and inequalities in one variable and use them to solve problems. |
| MA.F-BF.B | Build new functions from existing functions |
| MA.A-REI.B | Solve equations and inequalities in one variable |

## Interdisciplinary Connections

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|---|---|
| LA.W.9-10.6 | Use technology, including the Internet, to produce, share, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically. |
| SCI.HS-ETS1-2 | Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. |
| TECH.8.1.12.C.CS4 | Contribute to project teams to produce original works or solve problems. |

## Technology Standards

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|---|---|
| TECH.8.1.12.C.CS4 | Contribute to project teams to produce original works or solve problems. |
| TECH.8.1.12.D.CS3 | Exhibit leadership for digital citizenship. |
| TECH.8.1.12.E.CS4 | Process data and report results. |
| TECH.8.1.12.F.CS3 | Collect and analyze data to identify solutions and/or make informed decisions. |
| TECH.8.1.12.F.CS4 | Use multiple processes and diverse perspectives to explore alternative solutions. |
| TECH.8.2.12.C.CS2 | The application of engineering design. |

## 21st Century Themes/Careers

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| CAEP.9.2.12.C.3 | Identify transferable career skills and design alternate career plans. |

## Financial Literacy Integration

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| PFL.9.1.12.C.1 | Compare and contrast the financial benefits of different products and services offered by a variety of financial institutions. |
| PFL.9.1.12.C.2 | Compare and compute interest and compound interest and develop an amortization table using business tools. |
| PFL.9.1.12.C.3 | Compute and assess the accumulating effect of interest paid over time when using a variety of sources of credit. |