

Unit 7 Exponents

Content Area: **Math**
Course(s): **CP Algebra 1**
Time Period: **Marking Period 3**
Length: **2**
Status: **Published**

Unit Overview

This unit allows students to master exponent rules and the real number systems. Students will be prepared to use these rules later when working with exponential functions.

Optional link to 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.
- The students will understand the laws of exponents and be able to apply them to simplify and solve problems involving them.

Essential Questions

How can we write an unknown as an algebraic expression?

How can we evaluate algebraic expressions?

How can we use the properties of algebra to simplify expressions?

How can we simplify an expression using the law of exponents?

How are geometric sequences related to exponential functions?

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| MA.A-SSE.B.3c | Use the properties of exponents to transform expressions for exponential functions. |
| MA.F-IF.C.8b | Use the properties of exponents to interpret expressions for exponential functions. |
| MA.F-LE.A | Construct and compare linear and exponential models and solve problems |
| MA.F-LE.A.1 | Distinguish between situations that can be modeled with linear functions and with exponential functions. |

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. |
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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. |