



Algebra Concepts and Connections Unit 5: Modeling and Analyzing Exponential Expressions and Equations



Overview:

In this unit, students will interpret exponential expressions, one variable exponential equations in context, and understand parameters of two variable exponential equations.

Learning Targets:

In Unit 5, students will:

- Interpret parts of an exponential expression, such as terms, factors, leading coefficient, coefficients, constant, and degree in context
- Interpret exponential expressions in context
- Create one-variable exponential equations
- Use one-variable exponential equations to solve problems
- Create two-variable exponential equations to represent relationships between quantities, such as growth and decay
- Graph exponential equations on coordinate axes with labels and scales
- Represent constraints of exponential equations
- Interpret data points as possible or not possible in the context of exponential equations

Key Vocabulary: (linked to GA DOE Interactive Glossary)

| | | | | |
|------------------------|------------------------|--------------------------|---------------------|-------------|
| Asymptotic Behavior | Decay | Exponential Model | Increasing Interval | y-intercept |
| Average Rate of Change | Decreasing Domain | Exponential Relationship | Notation | |
| Coefficient | End Behavior | Geometric | Parameter | |
| Constraint | Exponential Expression | Sequence | Range | |
| Continuous | | Growth | Term | |
| | | | x-intercept | |

Supporting Resources:

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

[Laws of Exponents](#)

[Writing exponential functions from tables](#)

[GA Virtual - Working with Exponential Relationships](#)

[What is Exponential Growth](#)

