**Week-at-a-Glance Unit:** Solving Exponential Equations **Course:** Advanced Algebra **Week:** September 29–Oct 3, 2025

**Georgia Standards of Excellence (GSE):**

* **AA.FGR.3.6** — Create, interpret, and solve exponential equations to represent relationships between quantities and analyze the relationships numerically with tables, algebraically, and graphically.
* **AA.A.CED.1** — Create equations in one variable and use them to solve problems, including exponential equations.
* **AA.A.SSE.3** — Choose and produce equivalent forms of expressions to reveal properties of the quantity represented.

| **Day** | **Learning Target (LT) & Success Criteria (SC)** | **Activation of Learning (5 min)** | **I DO – Focused Instruction (10 min)** | **WE DO – Guided Instruction (10 min)** | **Y’ALL DO – Collaborative Learning (10 min)** | **YOU DO – Independent Learning (10 min)** | **Closing (5 min)** |
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| **Mon** | **LT:** I can identify bases and exponents in exponential expressions.**SC1:** I can point out the base and the exponent.**SC2:** I can expand exponential expressions. | **Quick Write:** “What does 2³ mean?” and share. | Teacher models how to read exponential notation (base vs. exponent) using color coding and expanded form. | Students and teacher highlight base/exponent on 5 examples and expand them together. | Partners do “Exponent Match” cards (base/exponent to expanded form). **Strategy:** *Hands-On Matching* | Students complete 5 practice problems labeling base/exponent. | **Fist-to-Five:** Confidence rating on exponents. |
| **Tues** | **LT:** I can multiply exponential expressions with the same base.**SC1:** I can add exponents when multiplying same bases.**SC2:** I can simplify the expression. | **Anticipation Guide:** True/False “2³×2² = 2⁶” | Teacher shows 2³×2² = 2⁵ by expanding then combining like factors. | Students solve 3 examples together, adding exponents. | Small groups do “Exponent Sort” — match problems to correct simplified answers. **Strategy:** *Sorting* | Students solve 5 problems using product rule. | **Think-Pair-Share:** How did you know to add the exponents? |
| **Wed** | **LT:** I can divide exponential expressions with the same base.**SC1:** I can subtract exponents when dividing same bases.**SC2:** I can simplify the expression. | **Vocabulary Frayer Model:** “Exponent” and “Quotient.” | Teacher shows 5⁶÷5² = 5⁴ by canceling common factors and writing the rule. | Students and teacher do 3 divide examples together. | Pairs use “Exponent Towers” blocks to build/cancel factors and find answers. | Students solve 5 divide problems. | Exit ticket: Solve one divide problem. |
| **Thurs** | **LT:** I can solve exponential equations with the same base.**SC1:** I can rewrite both sides with the same base.**SC2:** I can set the exponents equal and solve. | **Socratic Prompt:** “How can we make the bases match?” | Teacher models: 2³ = 2ˣ → x=3 and 3² = 9 → 3² = 3ˣ → x=2. | Students solve 2 problems step-by-step with teacher. | Groups do “Find the Base” — rewrite numbers as powers of same base, solve. **Strategy:** *Collaborative Problem-Solving* | Students solve 4 equations with same base. | **Peer Share:** Explain your steps to a partner. |
| **Fri** | **LT:** I can solve exponential equations by rewriting to a common base.**SC1:** I can find an equivalent base for both sides.**SC2:** I can solve for the variable. | **Review Game:** Kahoot/Quizlet on exponent rules | Teacher models: 8ˣ = 2⁶ → 8 = 2³ → (2³)ˣ = 2⁶ → 2³ˣ = 2⁶ → 3x=6 → x=2. | Students and teacher solve 1 multi-step example together. | Teams do “Exponent Relay Race” solving and checking each other’s work. **Strategy:** *Academic Competition* | Students complete 5-question quiz (mix of product, quotient, solving common/non-common base). | **Reflection Quick Write:** “One thing I learned and one I still want help with.” |