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| Standard: **AA.FGR.3.2 – Analyze, graph, and compare exponential and logarithmic functions.****AA.FGR.3.3: Use the definition of a logarithm, logarithmic properties, and the inverse relationship between exponential and logarithmic functions to solve problems in context.**Assessment: ☐ Quiz ☐ Unit Test ☐ Project ☐ Lab ☐ None |
|  | *C:\Users\thiyasr\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\FEF22E5.tmp* **Learning Target** **Success Criteria 1** **Success Criteria 2** | **Activation of Learning***(5 min)* | **Focused Instruction***(10 min)****\*I DO*** | **Guided Instruction***(10 min)****\*WE DO*** | **Collaborative****Learning***(10 min)****\*Y’ALL DO*** | **Independent Learning***(10 min)****\*YOU DO*** | **Closing***(5 min)* |
| * Do Now
* Quick Write\*
* Think/Pair/Share
* Polls
* Notice/Wonder
* Number Talks
* Engaging Video
* Open-Ended Question
 | * Think Aloud
* Visuals
* Demonstration
* Analogies\*
* Worked Examples
* Nearpod Activity
* Mnemonic Devices\*
 | * Socratic Seminar \*
* Call/Response
* Probing Questions
* Graphic Organizer
* Nearpod Activity
* Digital Whiteboard
 | * Jigsaw\*
* Discussions\*
* Expert Groups
* Labs
* Stations
* Think/Pair/Share
* Create Visuals
* Gallery Walk
 | * Written Response\*
* Digital Portfolio
* Presentation
* Canvas Assignment
* Choice Board
* Independent Project
* Portfolio
 | * Group Discussion
* Exit Ticket
* 3-2-1
* Parking Lot
* Journaling\*
* Nearpod
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| **Monday** | ** Learning Target: I will  Learning Objective (I Can):I can graph basic logarithmic functions and identify their key features (domain, range, intercepts, asymptotes).**** Success Criteria:✅ I can explain how logarithms are the inverse of exponentials.✅ I can plot points to sketch a logarithmic graph.✅ I can identify the vertical asymptote and intercepts.** | Quick review of exponential graphs; connect to how logarithms are the inverse. | Teacher models graphing basic logarithmic functions (e.g., y=log⁡b(x)y = \log\_b(x)y=logb​(x)), discussing domain, range, intercepts, and asymptotes | Class graphs y=log⁡2(x)y = \log\_2(x)y=log2​(x) and y=log⁡10(x)y = \log\_{10}(x)y=log10​(x) together on graph paper/Desmos. | In pairs, students graph given logarithmic functions and describe transformations. | Students complete 2 practice problems individually. | Exit ticket – Describe one key difference between exponential and logarithmic graphs. |
| **Tuesday** | ** Learning Objective (I Can):I can describe and graph transformations of logarithmic functions.**** Success Criteria:✅ I can shift, reflect, and stretch/shrink a logarithmic graph.✅ I can explain how changing the base affects the graph’s shape.✅ I can compare exponential and logarithmic graphs.** | Warm-up: Match exponential functions with their inverse logarithmic graphs. | Teacher models how shifts, reflections, and stretches affect log functions (e.g., y=log⁡(x−2)+3y = \log(x-2) + 3y=log(x−2)+3). | Class graphs a transformed function together, highlighting asymptote shifts. | Groups graph multiple transformationsand present observations. | Students practice graphing 2–3 transformed log functions. | Quickwrite – “How does changing the base of a logarithm affect its graph?” |
| **Wednesday** | ** Learning Objective (I Can):I can solve simple logarithmic equations by rewriting them in exponential form.**** Success Criteria:✅ I can rewrite a logarithmic equation as an exponential equation.✅ I can solve for the variable correctly.✅ I can check that my solution is valid for the domain.** | Solve an exponential equation, then ask: “What if the variable is inside a log?” | Teacher demonstrates solving log equations by rewriting in exponential form (e.g., log⁡2(x)=3\log\_2(x) = 3log2​(x)=3). | Solve 2 problems together, emphasizing domain restrictions. | Pairs solve practice equations, checking answers with calculators. | Students solve 2 problems independently. | Exit slip – Solve one log equation and explain steps. |
| **Thursday** | ** Learning Objective (I Can):I can solve logarithmic equations using properties of logarithms (product, quotient, and power rules).**** Success Criteria:✅ I can apply log properties to combine or expand expressions.✅ I can solve multi-step logarithmic equations.✅ I can check for and eliminate extraneous solutions.** | Review log properties (product, quotient, power). | Teacher models solving equations using log properties (e.g., log⁡(x)+log⁡(x−3)=1\log(x) + \log(x-3) = 1log(x)+log(x−3)=1). | Class solves one multi-step problem with properties. | Small groups work on 2–3 problems requiring multiple log properties. | Students complete an individual problem set. | Exit ticket – Explain why it’s important to check solutions for extraneous answers in log equations. |
| **Friday** | ** Learning Objective (I Can):I can analyze, graph, and solve problems involving exponential and logarithmic functions.**** Success Criteria:✅ I can match exponential and logarithmic functions as inverses.✅ I can graph both basic and transformed logarithmic functions.✅ I can solve logarithmic equations with and without properties.✅ I can explain my reasoning on GADOE review problems.** | Quick Kahoot/Quizizz review warm-up (exponential vs. logarithmic functions). | Teacher models one review problem from GADOE material. | Solve one graphing and one equation problem together. | Groups work through selected GADOE review problems. | Students complete a mini-review quiz individually. | Reflect – “What skill from this week do you feel strongest in, and what do you need to keep practicing?” |

*\*key literacy strategies*