📘 PARENT GUIDE

Equity in Numbers: Pre-Algebra Foundations

A Self-Directed Math Course for Middle-Grade Students

Built on the Cognitive Apprenticeship Model

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1. Welcome Letter

Dear Parent or Guardian,

Thank you for allowing your child to participate in *Equity in Numbers: Pre-Algebra Foundations* — a groundbreaking math course that teaches essential Pre-Algebra skills **through real-life issues of fairness and equity**.

In this course, your child will learn that math is more than numbers. It is a tool for problem-solving, storytelling, and understanding how the world works. Students will explore topics like income changes, school funding, transportation, access to healthcare, graduation rates, and more — all while mastering key Pre-Algebra concepts.

The course is fully **self-directed**, meaning students work at their own pace, with videos, step-by-step guides, and activities designed to build independence and confidence.

This Parent Guide will help you support your child throughout the program — not by teaching math, but by understanding the learning process and encouraging a positive mindset.

We're honored to partner with you in your child's learning journey.

Warmly,
Dr. Derrick Campbell
Founder & CEO
Quarantine Racism Educational Services
Creator, *Equity in Numbers: Pre-Algebra Foundations*

2. About the Course

This 30-lesson self-directed course teaches students:

- Core Pre-Algebra skills
- How to interpret and analyze real-life data
- How math connects to fairness and equity
- How to use math to ask powerful questions about the world

Students explore math through:

- Real problems
- Real communities
- Real meaning

Every lesson includes a video, a guided example, a practice section, a reflection, and an applied "authentic task."

3. What Makes This Course Different

Most math lessons teach procedures first and meaning later.

This course does the opposite.

It uses an approach called the **Cognitive Apprenticeship Model**, which helps students understand not just *how* to solve problems but *why* the process works — and how professionals think when solving meaningful issues.

Students learn math the way real analysts, planners, and researchers do.

4. Understanding the Cognitive Apprenticeship Model (Parent-Friendly)

Cognitive Apprenticeship is a research-based learning method that mirrors real-world learning.

It includes **six stages**, used in every lesson:

1. Modeling

The teacher demonstrates the skill or strategy, step-by-step.

2. Coaching

The student practices with support, hints, or prompts.

3. Scaffolding

Tools, visuals, checklists, and vocabulary guides help students stay on track.

4. Articulation

Students explain their thinking, either in short written answers or discussion-style responses.

5. Reflection

Students compare their approach to strong models and identify areas for growth.

6. Exploration

Students apply the skill to a real-life fairness issue.

Why this matters:
Students don't just memorize — they internalize.
They don't just solve problems — they think like problem-solvers.

5. How Each Lesson Works (All 30 Lessons Follow This Structure)

Each lesson includes:

1. Launch

A real-world story or fairness challenge sets the purpose.

2. Modeling Video (Stage 1)

A step-by-step explanation of the new math skill.

3. Guided Practice (Stage 2)

Students work through an example with assistance.

4. Scaffolding Tools (Stage 3)

- vocabulary
- formula boxes
- visual models

- checklists

5. Student Practice (Stage 4 & 5)

Problems that build independence and require articulation.

6. Reflection Prompt

A short question tying math to fairness.

7. Exploration Task (Stage 6)

A mini-project applying the math to a real-life scenario.

6. What Your Child Will Learn

Students will learn 30 major Pre-Algebra topics such as:

- Integers
- Absolute value
- Fractions
- Decimals
- Percentages
- Ratios
- Proportions
- Linear relationships
- Coordinate plane
- Mean, median, mode
- Box plots and histograms
- Probability
- Compound probability
- Volume
- Area
- Statistical fairness

Students will analyze real-world contexts like:

- Test score gaps
- Internet access
- Wage differences
- Housing density
- Transportation delays
- School funding
- Healthcare access

7. Your Role as a Parent

You are not expected to teach math.

Instead, your role is to:

Support the Routine

Set a regular time for your child to complete a lesson.

Celebrate Their Work

Praise effort, not perfection.

Encourage Perseverance

Remind them that struggle is part of learning.

Ask Reflection Questions

- “What fairness issue did you study today?”
- “How did the math help you understand it?”
- “What strategy worked best for you?”

Monitor Progress

Check that lessons and reflections are being completed.

8. Helping Your Child Through the Six Stages

Here's how you can support each stage:

Modeling

Ask:
"What did the teacher show you today?"

Coaching

Encourage:
"Try your best first — then use the hint."

Scaffolding

Suggest:
"Check your vocabulary sheet. It might help."

Articulation

Ask:
"How would you explain this step to someone younger?"

Reflection

Prompt:
"What did today's math help you notice about fairness?"

Exploration

Celebrate:
"You solved a real problem on your own — amazing!"

9. Technology & Setup Guide

What You Need

- Laptop, Chromebook, desktop, or tablet
- Internet access
- Headphones or earbuds
- A quiet working space

Logging In

1. Use the dashboard link provided.
2. Enter your child's username and password.
3. Click "Start Lesson."

Best Practices

- Use full screen for videos
- Keep a notebook nearby
- Take breaks between lessons

10. Weekly Routine Suggestions

Suggested Weekly Plan

- **2–3 lessons per week**
- **30–40 minutes per lesson**
- **Optional weekend reflection**
- **Parent check-in every Friday**

Weekly Parent Check-In Questions

1. "What was the most interesting part this week?"
2. "What fairness issue stood out to you?"
3. "Which math steps felt easy? Hard?"
4. "What did you learn about yourself as a thinker?"

11. Tracking Progress & Success Indicators

Weekly Progress Indicators

- Video watched
- Guided example attempted
- Practice problems completed
- Reflection question answered

- Exploration task completed

Signs of Success

- Improved confidence
- Better explanations
- Deeper questions
- Growth mindset
- Willingness to try a new problem

12. Frequently Asked Questions

Do parents need to know math?

No — the course is fully self-directed.

What if my child gets stuck?

Encourage use of:

- hints
- videos
- vocabulary sheets
- reflection prompts

How long does the course take?

Typically 10–14 weeks depending on pace.

Is this course graded?

The focus is on mastery, not grades.

How is fairness part of math?

Students analyze real data related to equity issues and learn how math reveals patterns in society.

13. Tips for Encouraging Math Confidence at Home

- Praise effort (“You worked hard”)
- Compare math to real life
- Celebrate small wins
- Encourage breaks when frustrated
- Model curiosity (“Let’s figure this out together”)

14. Course Values and Equity Principles

The course teaches students that:

- Math is a tool for justice
- Everyone deserves fair access to opportunities
- Numbers can tell stories of change
- Data should be used with responsibility and care

15. Closing Message from Dr. Campbell

Dear Parents,

Thank you for choosing a course designed to build thinkers, dreamers, and leaders.

Your child is learning not only math — but how to use math to create a fairer, more equitable world.

I hope this guide helps you support your child every step of the way.
We are grateful to partner with your family.

Warmly,
Dr. Derrick Campbell
Quarantine Racism Educational Services