Welcome to Zeno Essentials
Math is a Life Skill.
List of everyday activities that require math

- Gardening
- Making art
- Debating
- Sports
- Dancing
- Baking
- Time management
- Decorating your home
- Sewing
- Cooking
- Event planning
- Shopping & bargain hunting
- Driving
- Talking on the phone
- Banking
- Traveling
- Building furniture
Warm Up: Four Corners

Take turns sharing how the title of the book cover you chose relates to your early experiences learning math.
Warm Up: Four Corners

Take turns sharing how the title of the book cover you chose relates to your early experiences learning math.
LOVE OF MATH STARTS WITH CONFIDENCE
Zeno’s Equation for Success

Start Early + Make it Fun + Include Families + Work Through Partners
Remembering Our Parents

Fold a sheet of paper into thirds and then draw a picture or share a story in response to the prompt.

Remember a time your parents taught you something.

Remember a time your parents advocated for you or protected you.

How did these experiences make you feel?
What do parents bring to the table?
An Invaluable Resource!
Hurdles to parent engagement
WHAT ARE SOME OF THE BARRIERS THAT GET IN THE WAY OF A PARENTS ABILITY TO WORK WITH THEIR CHILDREN ON THEIR HOMEWORK OR ENCOURAGING THEM TO BECOME MORE EXCITED ABOUT MATH?
PERCENT OF 4TH GRADERS MEETING MATH STANDARDS

34% AFRICAN AMERICAN
27% - NATIVE AMERICAN
37% - LATINX
“WHAT IS STRIPPING OUR CHILDREN OF THEIR RIGHT TO FEEL CONFIDENT IN THEIR MATH ABILITIES?”
More likely to be expelled from Pre-K.
Less likely to be identified as gifted.
$23,000,000,000,000 FUNDING DEFICIT
GENERATIONAL CHALLENGES
WE MUST BREAK THE CYCLE
Parent Partnership Activity

Instructions
Children need time to freely explore without our direction.

Explore time is time for us to follow the child’s lead and let them take control of their learning.

Providing this time builds a child confidence that they can and already are doing math!
Children learn best through play and hands-on experiences.

Playing *with* children encourages them and demonstrates our support for their learning.

Play creates positive, hands-on learning experiences so that children do not grow up with math-anxiety and so they are able to move beyond rote learning.
We always start with where the child is ready and comfortable. Then, we slowly increase challenge to encourage growth. Challenge should be increased in small doses to ensure that a child does not lose confidence. If you increase the challenge and it becomes too difficult, then go back down a level until the child is ready.

This practice is built in to all of our games through leveled game play:

Seed: Game 1 - suited for ages 2-3 years old
Sprout: Game 2 - suited for ages 3-4 years old
Bloom: Game 3 - suited for ages 4-5 years old

• Scaffold: Tools and techniques that provide support to children in their learning.
  Example:
  Sorting Mats  Pattern
  Strips
  5 and 10 frames

• Saturation: Repetition—once is not enough!
Talking can be used to support and guide play and learning. It is a great way to build confidence, vocabulary, and to keep play focused.

- **Math Vocabulary**: Provide a quick, age-appropriate definition along with a hand motion.
  
  **Example**: 2-dimensional—flat (clap hands together)

- **Parallel-talk**: Narrating the child's actions using non-judgmental I see...” and “I notice...” sentences.
  
  **Example**: “I see that you put the red octagon on top of the green triangle.”

- **Self-Talk**: Narrating your thinking process or saying your thoughts out loud.
  
  **Example**: “We need 4 potatoes for dinner, one for each family member. I am going to count out 4 potatoes: 1, 2, 3, 4! Now I have 4 potatoes.”

- **Open-ended questions**: Questions that have no one “right” answer and that prompts children to explain their thinking.
  
  **Examples**:
  
  “How did you figure that out?”
  “What else could you do with...?”
  “How do you know?”
  “Why did you do that?”
  “What would happen if...?”
We connect math to the child’s everyday surroundings and interactions, and their interests.

- **Connecting to everyday environment/interactions examples:**
  - Finding shapes in street signs, food, toys, etc. Looking for numbers at the grocery store
  - Looking for patterns on clothing
  - Measuring ingredients when cooking
  - Counting steps up the stairs

- **Connecting to child’s interest examples:**
  - Comparing the size of stuffed animals
  - Seeing which ball bounces the highest
  - Finding shapes in drawings
Zeno 5 Practices

Explore
Allow children to explore freely without adult direction
- Follow the child’s lead and let them take control of their learning
- Builds a child’s confidence that they can and already are doing math

Play
Create playful, positive, and hands-on math experiences
- Playing with children encourages them and demonstrates our support for their learning
- Move beyond rote learning

Talk
Build vocabulary and understanding
- Supports and guides play and learning
- Builds confidence, vocabulary, and keeps play focused

Build
Encourage growth through challenges
- Start with where the child comfortable to build confidence and then build on current understanding to encourage growth
- Helps a child move along the continuum

Connect
Connect math to everyday things
- Shows children that math is all around them and in their daily lives
- Helps make math fun and playful
Heads, Heart, Feet Debrief

HEAD
What have I learned?

HEART
How do I feel about this?

FEET
What action steps will I take?