ZENO 5 PRACTICES

FAMILY MATHWAYS COMPONENTS:

Professional Learning Sessions

- Up to two 90-minute Professional Learning sessions focused on one of the following topics:
  - Early Math Progressions
  - Family Engagement
  - Mathematizing Literature
  - Mathy Movements

Family Math Parties

- Up to three FMPs over the year, each with a different focus:
  - FMP 1: Explore and free play
  - FMP 2: Connecting math with everyday
  - FMP 3: Summer Math
- FMPs help to build families' excitement and investment in our partnership.
- Zeno will provide materials and at least one staff
- Partner staff will provide support

ZENO 5 PRACTICES

1. Explore

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!

2. Play

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.

3. Talk

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-d*imensional— 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 do you know?" *"How did you figure that out?"*
  "Why did you do that?" *"What else could you do with...?*
  "What would happen if...?"

4. Build

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!

5. Connect

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

Practice	Reasoning
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