Director’s Corner: Textile Math

Our whole school study of Textiles affords abundant opportunities to deepen children’s foundational math concepts in fun ways. With the diversity of fabrics around us, we can easily ask questions to help us explore all five domains of math: How Many? What Shape? What Patterns? How Big? How Frequent? As I’ve mentioned in previous articles, the process begins with simply noticing that math is everywhere, just ready for us to explore. For example, as I sit in my favorite spot in my den at home to write this article, there are 5 pillows within easy reach, each with a different textile cover (and most likely varied textile fills).

Here are some ideas about how to engage children in conversations about the math that is literally woven or sewn into the fabrics:

1) **Number & Operations** *(Arithmetic)* – Certainly, there’s lots to count here, but also think about the ways that counting one part of a regular arrangement (such as the center squares) can be used to also tell you the number of dots, rings, and outer squares without having to count. Also consider whether there are more birds, flowers, or leaves, and for older children how many more.

2) **Patterns & Functions** *(Algebra)* – Patterns are most obvious horizontally and vertically on one pillow but diagonally on another. On closer inspection, one can see the in and out pattern of embroidery on the pinecone pillow, the warp and weft on the woven pillows, and the up and down of zigzag stitches on the metallic circles design.

3) **Shapes & Spatial Arrangements** *(Geometry)* – Here the circles and squares are the most obvious and easily named shapes, so start with those, add new terms like “concentric”, and note that some shapes are created by lines while others are created by arrangements of smaller shapes. Challenge more advanced children with naming and identifying symmetry in less regular shapes, like the leaves, berries, flowers, house, etc.

4) **Measurement** – Begin with comparative size by arranging the pillows from biggest to smallest or thickest to thinnest. For older children, discuss the problem of the rectangular pillow being longer but narrower than the largest square one. Which IS biggest? Maybe prove your point by measuring.

5) **Data Analysis & Probability** *(Statistics)* – With these pillows, or better yet with all the pillows in the house, we could create physical pillow bar graphs to learn the frequency of square vs. rectangular pillows (4 to 1), patterned vs. scenes (3 to 2), cotton vs. synthetic (1 to 4), etc.

Clearly, you can go as far as your imagination and the children’s interest takes you. Enjoy!