Ideas for using the videos Supporting Mathematical Development in Young Children

About the videos:

- These videos feature providers from multiple early care and education settings (preschool, infant and toddler) in Connecticut. Many of the strategies employed could be shared with families as well.
- The video set includes multiple videos organized by strands in the CT ELDS domain of Mathematics.
- For each strand there is a brief introductory video that describes the big idea. The introductory video is followed by videos that describe many of the learning progressions within that strand.

  Strand A
  - **Counting**
  - **One-To-One Correspondence**
  - **Cardinality**
  - **Comparison**
  - **Recognition of Quantity**

  Strand B
  - **Number Operations**

  Strand C
  - **Measurement**
  - **Data**

  Strand D
  - **Geometry**
- The videos focus on mathematical development that typically occurs during the first five years.
- Videos feature content expert Dr. Sudha Swaminathan, Eastern Connecticut State University.
- Each video also provides brief examples of strategies that adults can use to support that specific skill.

Considerations when using this video to support professional development in different contexts:

Ideas for using the video have been organized by setting and for various audiences: within a **college course**, **training**, and **program**. Some of the strategies may be useful across settings, or could be modified to suit the needs of a particular group.

Major points of the videos:

- The videos focus on developmental progressions in mathematics and aim to engage viewers in considering the capabilities of young children in order to foster their mathematical understandings.
- The strategies are organized by three contexts:
  - **Explicit Teaching** – Research shows that young children benefit from intentional instruction of mathematic concepts. Once skills have been introduced, there should be opportunities for their application through an integrated curriculum with meaningful experiences including routines and play. Explicit Teaching should be active, engaging and interesting for young children. It should involve developmentally appropriate and effective practices.
  - **Routines** – Integrating mathematics into daily routines, ensures that children are getting regular exposure and practice. Routines provide opportunities to learn that mathematical practices are used everywhere throughout daily life to reason and problem solve.
  - **Play** – Children learn through play. It provides a safe context for trying out new ideas and practicing skills. Adults intentionally plan for how children might apply and practice new mathematics learning through multiple modalities and in creative ways when they play.

Possible talking points:

- Early childhood curriculum is not addressed in these videos. The learning contexts that are included were chosen because they are common to every setting. It will be useful to engage providers in considering how these mathematics concepts could be integrated into topics of study.
- The videos each focus on a specific mathematics concept. Many of these concepts are interrelated. While adults may have specific objectives, most experiences will provide opportunities for mathematical thinking on many levels across strands.
- Mathematical development is complex. It is important to observe children and listen to their reasoning. They do not employ the same logic as adults and benefit when our expectations match their current levels of understanding.

Technical Tips for using this video.