

# MATHEMATICS PRESCHOOL CURRICULUM CONSUMER REPORT



THE NATIONAL CENTER ON  
Quality Teaching  
and Learning



The *Mathematics Preschool Curriculum Consumer Report* was developed before the 2015 release of the *Head Start Early Learning Outcomes Framework*. As a result, you will find references in this report to items associated with its predecessor; the *Head Start Child Development and Early Learning Framework*, published in 2010. Please know that the domains and domain elements of the *Head Start Child Development and Early Learning Framework* are still applicable for reviewing effective curricula.

SPRING 2015



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# INTRODUCTION

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## **Purpose**

The *Mathematics Preschool Curriculum Consumer Report* provides information and guidance for Head Start programs as they select curricula based on the strengths and needs of their participating children and teachers. The curricula reviewed in this report were rated for their implementation in center-based programs, and each includes elements designed to strengthen the teaching and learning of children's mathematics skills. This report is intended to complement the *Preschool Curriculum Consumer Report* (2014), which reviewed comprehensive curricula that covered multiple Head Start learning domains (i.e., Language Development, Literacy Knowledge & Skills, Mathematics Knowledge & Skills, Social & Emotional Development). In this report, additional curricula are reviewed that focus on the domain of mathematics.

Programs should decide whether a domain specific curriculum might be needed in addition to their comprehensive curriculum. This decision is made based on whether or not school readiness goals and child outcome goals are being met. If they are, there may not be a need to add additional domain specific curricula. If goals are not being met, mainly in the area of mathematics, this *Mathematics Preschool Curriculum Consumer Report* can help you choose a mathematics curriculum that best meets your needs. A mathematics curriculum, paired with a comprehensive curriculum, could increase the number and quality of mathematics activities that are being implemented.

## **Target Audience**

This report is primarily designed for Head Start grantees, early childhood education (ECE) specialists, preschool center directors, and others who are making decisions about curricula.

## **Overview of the Report**

Included in this report are descriptions of 12 components of an effective mathematics preschool curriculum; guidance on curriculum selection; and a set of ratings for 9 mathematics curricula on the 12 components of an effective curriculum. The introductory material in this report provides information that is essential to interpreting the curriculum ratings and using the ratings to help make curricular decisions.



# INCLUDED MATHEMATICS PRESCHOOL CURRICULA

## Selection Criteria

A curriculum was considered for inclusion in this report if it addressed the Mathematics Knowledge & Skills learning domain in the Head Start Child Development and Early Learning Framework (HSCDELFF) and met the following inclusion criteria:

- The curriculum meets the definition of a curriculum, as defined by the *Head Start Program Performance Standards*.
- The curriculum's main emphasis includes explicit mathematics instruction.
- The curriculum is commercially available, and curriculum materials were provided to the National Center on Quality Teaching and Learning (NCQTL) by the publishers.

## Definition of Curriculum

In this report, 'mathematics curriculum' was defined as a curriculum that addressed the Mathematics Knowledge & Skills learning domain, as specified by the HSCDELFF. The curricula reviewed in this report address the Mathematics Knowledge & Skills learning domain in an explicit way and state that improving children's mathematics knowledge and skills is a primary goal.

## Availability of Curriculum

A key criterion of the review was that a curriculum must be commercially available to be considered for inclusion, either at no cost online or for purchase from a publisher. We therefore excluded curricula that were described as part of a research intervention study but were not publicly available for consumers. After curricula were identified for review, we requested materials from publishers of curricula that were not fully available online.





# BACKGROUND

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The *Preschool Curriculum Consumer Report* (2014) rated comprehensive curricula on 13 components. Nine of the components were drawn from the document, *Choosing a Preschool Curriculum*. These include: comprehensive domains of learning; specific learning goals; well-designed learning activities; responsive teaching; culturally and linguistically responsive teaching; individualized instruction; ongoing assessment; family involvement; and appropriateness for program staff, children, and families.

In addition, the *Preschool Curriculum Consumer Report* (2014) also rated whether the curriculum is: grounded in child development principles, is evidence-based, shows effects on child outcomes, and shows depth for each covered learning domain.

Since the focus of this report is on Mathematics Knowledge & Skills, the components examined for comprehensiveness and depth are specific to this domain. We also do not rate whether the curricula are grounded in sound child development principles as defined by Head Start, as these are more applicable to comprehensive curricula. The 12 components used to rate each curriculum are described in the following section.

## COMPONENTS OF AN EFFECTIVE MATHEMATICS CURRICULUM

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### Overview

For this report, we considered the components of an effective curriculum in the context of the HSCDEL Mathematics Knowledge & Skills domain and domain elements:

- **Number Concepts & Quantities:** The understanding that numbers represent quantities and have ordinal properties (number words represent a rank order, particular size, or position in a list).
- **Number Relationships & Operations:** The use of numbers to describe relationships and solve problems.
- **Geometry & Spatial Sense:** The understanding of shapes, their properties, and how objects are related to one another.
- **Patterns:** The recognition of patterns, sequencing, and critical thinking skills necessary to predict and classify objects in a pattern.
- **Measurement & Comparison:** The understanding of attributes and relative properties of objects as related to size, capacity, and area.

### Component 1: Curriculum Is Evidence-Based

Rigorous studies, including randomized controlled trials, are needed to test the effectiveness of a curriculum. Multiple, diverse samples provide evidence that the curriculum is suited for many programs and children.

Questions for review:

- Has the curriculum been investigated in a preschool sample using a rigorous design (e.g. quasi-experimental, randomized control trial)?
- Are there studies that include measures of fidelity of implementation? Fidelity of implementation is the extent to which the curriculum is being implemented in the manner that was intended by the developers. Do the measures of fidelity indicate moderate to high levels of implementation?
- Has the curriculum been studied in more than one preschool sample? If so, do these samples allow the findings to be extended to diverse groups of children in terms of ethnicity/race and socio-economic status (SES)?



## Component 2: Curriculum Shows Effects on Child Outcomes for Mathematics Knowledge & Skills

The highest-quality research studies are completed independently from the curriculum publisher and are published in a peer-reviewed journal (Joseph & Strain, 2003) or by a large research organization (e.g., Westat, Child Trends, and Mathematica). Rigorous studies (i.e., quasi-experimental, experimental designs) which reflect a diverse or under-represented sample, provide evidence that the curriculum improves child outcomes.

Questions for review:

- What is the strength of the curriculum's effect on child outcomes?
- How many studies indicated moderate effects on child outcomes?

## Component 3: Comprehensive across Mathematics Knowledge & Skills Domain Elements

Curricula that cover multiple domain elements within a particular domain are comprehensively addressing children's skills within that domain. For the Mathematics Knowledge & Skills learning domain, a curriculum can address all of the domain elements including: Number Concepts & Quantities, Number Relationships & Operations, Geometry & Spatial Sense, Patterns, and Measurement & Comparison.

Question for review:

- How many domain elements are covered by the curriculum?

## Component 4: Depth for Each Covered Mathematics Knowledge & Skills Domain Element

The depth for each learning domain is made clear through an organized scope and sequence for each domain element, or a curricular map that identifies how the curriculum covers each domain element in a sequenced, progressive manner.

Questions for review:

- Does an organized scope exist that covers multiple skills within a particular domain element? (See Appendix D for a table summarizing depth of coverage of domain elements, across curricula).
- Is there an organized sequence for the learning domain element that links skills to individual learning activities?

Skills for Mathematics Knowledge & Skills Domain Elements:

- Number Concepts & Quantities
  - Recognizes numbers and quantities in the everyday environment
  - Recites numbers in the correct order and understands that numbers come "before" or "after" one another
  - Associates quantities and the names of numbers with written numerals
  - Uses one-to-one counting and subitizing (identifying the number of objects without counting) to determine quantity
  - Uses the number name of the last object counted to represent the number of objects in the set
- Number Relationships & Operations
  - Uses a range of strategies, such as counting, subitizing, or matching, to compare quantity in two sets of objects and describes the comparison with terms, such as more, fewer, greater than, less than, or equal to
  - Recognizes that numbers (or sets of objects) can be combined or separated to make another number through the grouping of objects
  - Identifies the new number created when numbers are combined or separated
- Geometry & Spatial Sense
  - Recognizes and names common shapes, their parts, and attributes
  - Combines and separates shapes to make other shapes
  - Compares objects in size and shape
  - Understands directionality, order, and position of objects, such as up, down, in front, behind
- Patterns
  - Sorts, classifies, and serializes (puts in a pattern) objects using attributes, such as color, shape, or size
  - Recognizes, duplicates, and extends simple patterns
  - Creates patterns through the repetition of a unit
- Measurement & Comparison
  - Compares objects using attributes of length, weight, and size (bigger, longer, taller, heavier)
  - Orders objects by size or length
  - Uses nonstandard and standard techniques and tools to measure and compare



### Component 5: Specific Learning Goals for Mathematics Knowledge & Skills

Clearly defined goals enable teachers and families to focus on what they are trying to accomplish and what skills are being measured. In addition, clear goals help establish alignment between the goals of the program and the goals of the curriculum, which leads to more cohesive and complete instruction.

Questions for review:

- Are there specific, measurable, child-focused, and developmentally appropriate goals for each learning activity?
- Is there alignment between the learning goals of the learning activity and the content within the learning activity?
- Is there alignment between learning goals for each learning activity and the scope and sequence?

### Component 6: Well-Designed Learning Activities for Mathematics Knowledge & Skills

Effective programs and curricula include well-designed, engaging learning experiences that support specific learning goals and objectives (Chambers et al., 2010). Young children learn best with highly interactive, experiential learning activities (Chambers et al., 2010; Galinsky, 2006). Additionally, clear and well-designed activities prompt and encourage teachers to use various strategies and interactive materials to further engage children in learning and development.

Questions for review:

- Are the learning activities easy to follow, and do they follow a similar pattern across different activities?
- Are multiple supports provided to facilitate implementation (e.g., guidelines for success or teacher's tips, list of materials for each activity, instructions for setting up the environment)?
- Does the curriculum prompt teachers to use multiple strategies and interactive materials?
- Is the purpose of the activity clear and meaningful?

### Component 7: Responsive Teaching

The most effective curricula provide support to teachers to intentionally use responsive teaching, where teachers purposefully use a combination of child-focused and direct teaching strategies to make learning more appropriate to children's needs (Galinsky, 2006). Higher quality emotional and instructional teacher-child interactions have been linked to improvements in preschool children's academic and language skills (Mashburn et al., 2008).

Questions for review:

- Do the learning activities include both child-focused and teacher-directed strategies?
- Is support provided within learning activities for how to engage in high-quality interactions with children?

### Component 8: Supports for Individualized Instruction

Effective curricula address individual differences among children (Ramey & Ramey, 1992). By providing guidance in how to adapt activities, materials, and the learning environment for children with special needs, the curriculum facilitates accessibility to the learning activities for all children.

Questions for review:

- Do learning activities provide activity-specific support for children who are below as well as for children who are above cognitive/academic expectations?
- Are there guidelines on how to adapt learning activities for children with physical and/or emotional needs?
- Are there guidelines for ways to adapt the materials and/or environment to meet different levels of need?



### Component 9: Culturally and Linguistically Responsive

The most effective curricula provide support so that teachers can be responsive to the cultural and linguistic needs of children, families, and communities (Galinsky, 2006). Children in preschool programs, in which teachers speak the children's home language, show better development of social skills (Chang et al., 2007). Programs that support both the development of English and of the children's home languages can help low-income children who are dual-language learners increase their proficiency in both languages (Winsler et al., 1999).

Questions for review:

- Does the curriculum provide materials for use inside the classroom and for families in languages other than English?
- Do materials present diversity in terms of culture, ethnicity, gender, etc.? Are they incorporated throughout most learning activities?
- Is there guidance provided to teachers in how to assist dual-language learners?
- Is there guidance provided to teachers in how to adapt the learning activities to meet a specific program's cultural and linguistic needs?

### Component 10: Ongoing Assessments for Mathematics Knowledge & Skills

The most effective programs and curricula include an ongoing assessment component (Barnett, 2008). Effective curricular assessments link to both the learning goals of the activities and to children's learning outcomes. In order to facilitate use and meaningfulness, assessments should be user-friendly and provide guidance for how teachers and programs analyze and interpret assessment data to help teachers tailor future instruction to increase children's learning and development (Galinsky, 2006). Additionally, evidence of validation provides support that the assessment is linked to child outcomes.

Questions for review:

- Are the assessments based on sound child development principles?
- Are the assessments aligned with learning goals covered in learning activities?
- Do the assessments measure children's skills on outcomes that are aligned with the HSCDELF?
- Are the assessments easily accessible, user-friendly, and efficient to implement?
- Does the curriculum provide support for how teachers should analyze and interpret assessment results, in order to adapt future learning activities?
- Is there research evidence that the assessments are linked to child outcomes?

### Component 11: Professional Development Opportunities

Individualized consultation and regular feedback are most effective in improving preschool teachers' use of instructional strategies (Pianta et al., 2008). By offering professional development in a variety of ways, the curriculum can facilitate teachers and staff with both initial and ongoing training.

Questions for review:

- Does the curriculum provide comprehensive initial as well as ongoing training?
- Are there a variety of levels of individualization provided?
- Is professional development (PD) available for staff members other than teachers?
- Are there multiple modes (e.g., initial group, supplemental webinars) of PD that are available at different entry points (e.g., initial, ongoing, mastery)?
- Is there evidence that the PD supports have a positive change on a teacher's implementation practices?

### Component 12: Family Involvement Materials

The most effective programs and curricula include strong family education and/or support components (Galinsky, 2006; Barnard, 2004). Incorporating families into the classroom is an essential part of engaging families in their children's learning. Materials provided to families suggest ways to extend classroom learning into the home.

Questions for review:

- Are materials provided for teachers to distribute to caregivers that review what children are learning in the classroom?
- Are strategies provided for families to review and extend learning outside of the classroom?
- Is guidance provided on how teachers can link learning goals to home?
- Are there suggestions for how to incorporate parent and family volunteers in the classroom?
- Are there suggestions for how to establish and maintain a positive family-teacher relationship?



# PRIORITIZING COMPONENTS

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## No Curriculum Is Perfect

Each mathematics curriculum presented in this report has its strengths and weaknesses. We make no specific recommendations or endorsements for any of the curricula presented. No single curriculum will be the best fit for all programs. Prior to selecting a curriculum, individuals from the program need to assess the strengths and weaknesses of their program resources (e.g., staff, curriculum).

## Strengths and Weaknesses of Your Program

Evaluating program strengths and weaknesses is an important step to take in order to choose a curriculum that best fits classroom needs. One suggestion is to create a curriculum-focused self-assessment team that may include staff, families, policy group members, and community members. This team can assist in identifying areas that need improvement based on child outcome data. Component 1 (Curriculum is Evidence Based) and Component 2 (Curriculum Shows Effects on Child Outcomes) address whether rigorous research has been conducted on the curriculum, and whether there is evidence of impact of the curriculum on children's outcomes. Using this information, a program might select a curriculum where there is evidence of positive child outcomes in mathematics.

Another suggestion is to explore the resources available on the Early Childhood Learning and Knowledge Center (ECLKC) website that may help assess your current curriculum or curricula. See Appendix C for a list of resources.

## Process of Prioritizing

Of the 12 components of an effective curriculum presented in this report, a program must prioritize which ones are more important according to the needs of the program. Here are two scenarios to consider.

- If a program has many teachers with little experience teaching preschool, one consideration might be to choose a curriculum that has a strong evidence base for supporting child outcomes (Component 2), clear organization of goals (Component 5), activities (Component 6), assessments (Component 10), and guided, prompted support for implementation. Extensive initial training and professional development opportunities should be available as well (Component 11).
- If a program's self-assessment suggests that children are getting a lot of exposure to Number Concepts & Quantities, but not the other Mathematics Knowledge & Skills domain elements, one consideration might be to choose a curriculum that shows comprehensiveness across domain elements (Component 3) and depth for each covered domain element (Component 4).



# ENHANCING A CURRICULUM

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## Suggestions for Ways to Enhance a Curriculum to Meet the Needs of Your Program

After a program has decided on a curriculum or a set of curricula, the work is not yet complete. To meet the unique needs of the teachers, children, and families in a program, a curriculum needs to be enhanced to best fit these needs both at the beginning of the year and on an ongoing basis throughout the year. By enhancing a curriculum, the content or scope and sequence is not significantly altered, rather it is tailored to meet the specific needs of the program. If a significant change is made, it may influence the outcomes a program is expecting. A curriculum can be enhanced to meet the needs of a specific program:

- Find opportunities throughout the day to extend math concepts in ways that represent diversity in children’s culture and ethnicity. For example, look for patterns in fabrics from children’s cultural backgrounds; ask children to “share fairly” or pass out equal portions of foods from different cultures.
- Look for high-quality mathematics professional development materials and activities to help teachers become more comfortable and gain knowledge in this area.
- Incorporate opportunities for teachers and teacher aides to plan together, in order to better support and facilitate mathematics small group learning.
- Encourage teachers to plan together within the same age level and across different age levels. This helps to better align children’s mathematics experiences and support mathematics development across different ages.

# CURRICULA RATINGS

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## How to Read Tables

The curricula ratings are presented in two ways. The first is in an overall table, which includes ratings for all curricula across all components. The second is in individual curriculum tables, which includes information about the curriculum, as well as ratings and a brief rationale for each rating. The mathematics curricula are presented in alphabetical order in these tables. Numeric ratings from 1 to 4 were assigned.

These were converted to star ratings.

## Overall Table—Ratings for all Curricula for all Components

The overall table is set up with the 12 components of an effective curriculum listed in columns, and the curricula that have been reviewed listed (in alphabetical order) in rows. These tables provide the reader with an overview of ratings at a glance.

## Individual Curriculum Tables—Description and Ratings

For each individual curriculum, there are two tables. The first table provides a general description of the curriculum, including target population, delivery format, cost per classroom, domain elements covered, training, and materials reviewed by raters. This table also indicates whether a specific domain element (e.g., Number Concepts & Quantities) is covered with sufficient depth. If the majority of skills for a particular domain element were covered (see skills listed in Component 4), this is indicated with a  symbol next to the domain element. If the majority of skills were not covered, this is with a  next to the domain element.

The second table includes the ratings for the curricula across the 12 components of an effective curriculum, as well as a brief rationale for each rating. For a more detailed description about the sections of each table, see Appendix B.



# LIMITATIONS

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This document contains a set of 12 components of an effective curriculum, as identified by a careful review of literature and consultation with child development and early education specialists from NCQTL. Although we believe these components fully address what is necessary for inclusion in a high-quality, effective domain-specific curriculum, we make no claims that these are the only components of an effective curriculum. Systematic reviews of preschool curricula may use other criteria, sometimes more rigorous or more restricted. In our review, we sought to balance the need for a research-based curriculum with supporting evidence with other programmatic concerns, such as meeting the needs of enrolled children. A diligent

effort was made to ensure that all available and published curricula that met the inclusion requirements and were used by at least some Head Start programs were included in the report. Although a stringent and extensive review occurred for each curriculum (see Appendix A), ratings should be considered as only one factor in making a decision about a curriculum. Other factors included in the decision process may be cost, available materials, specific program needs, and familiarity with a curriculum.



For more information, contact us at: [NCQTL@UW.EDU](mailto:NCQTL@UW.EDU) or **877-731-0764**

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# MATHEMATICS PRESCHOOL CURRICULUM CONSUMER REPORT

Name of Curriculum	Evidence-Based	Effects on Child Outcomes	Comprehensive Across Domain Elements	Depth for Each Covered Domain Element	Specific Learning Goals	Well-Designed Learning Activities	Responsive Teaching	Supports for Individualized Instruction	Culturally and Linguistically Responsive	Ongoing Assessments	Professional Development Opportunities	Family Involvement Materials
<i>Big Math for Little Kids</i>	★	★	★	★	★	★	★	★	★	★	☆	★
<i>Building Blocks Pre-K</i>	★	★	★	★	★	★	★	★	★	★	☆	★
<i>Everyday Mathematics®</i>	☆	☆	★	★	★	★	★	★	★	★	★	★
<i>Growing With Mathematics</i>	☆	☆	★	★	★	★	★	★	★	★	☆	★
<i>Harcourt School Publishers (HSP) Math</i>	☆	☆	★	★	★	★	★	★	★	★	☆	★
<i>McGraw-Hill My Math©</i>	☆	☆	★	★	★	★	★	★	★	★	★	★
<i>Number Worlds</i>	☆	☆	★	★	★	★	★	★	★	★	☆	★
<i>Numbers Plus Preschool</i>	☆	☆	★	★	★	★	★	★	★	☆	★	★
<i>Pre-K Mathematics Curriculum</i>	★	★	★	★	★	★	★	★	☆	★	☆	★

☆	★	★	★
No evidence	Minimal evidence	Some evidence	Solid, high-quality evidence









<h2>Big Math for Little Kids</h2>	
<p><b>Target Population</b> Preschool children, ages 3–4</p>	<p><b>Curriculum Description</b> <i>Big Math for Little Kids</i> is a comprehensive mathematics program that builds upon what young children already know and are capable of doing mathematically. It is based on research and field testing in early childhood classrooms. Pearson Education, Inc. (2014). <i>Big Math for Little Kids</i>. Retrieved from: <a href="http://www.pearsonschool.com/index.cfm?locator=PSZu6e&amp;PMDBProgramId=1140">http://www.pearsonschool.com/index.cfm?locator=PSZu6e&amp;PMDBProgramId=1140</a></p>
<p><b>Cost per Classroom</b> Classroom Kit (English): \$488.97 Classroom Set (Spanish): \$500.47 Pre-Kindergarten Manipulative Kit: \$283.97 Story Book Collections (English): \$62.47 Story Book Collections (Spanish): \$62.47 Teacher’s Guide (English): \$97.47 Teacher’s Guide (Spanish): \$97.47</p> <p>Retrieved from: <a href="http://www.pearsonschool.com/index.cfm?locator=PSZu6e&amp;PMDBSUB-CATEGORYID=&amp;PMDBSITEID=2781&amp;PMDBSUBSOLUTIONID=&amp;PMDBSOLUTIONID=&amp;PMDB-SUBJECTAREAID=&amp;PMDBCATEGORYID=&amp;PMDBProgramID=34742">http://www.pearsonschool.com/index.cfm?locator=PSZu6e&amp;PMDBSUB-CATEGORYID=&amp;PMDBSITEID=2781&amp;PMDBSUBSOLUTIONID=&amp;PMDBSOLUTIONID=&amp;PMDB-SUBJECTAREAID=&amp;PMDBCATEGORYID=&amp;PMDBProgramID=34742</a></p>	<p><b>Delivery</b></p> <ul style="list-style-type: none"> <li>• Small Group Instruction</li> <li>• Whole Group Instruction</li> </ul> <p><b>Domain Elements Covered</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense</li> <li><input checked="" type="checkbox"/> Patterns</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison</li> </ul>
<p><b>Training</b> No training provided</p>	
<p><b>Curriculum Materials Reviewed by Raters</b> Classroom Kit • Pre-Kindergarten Manipulative Kit • Story Book Collections • Teacher’s Guide</p>	

No evidence	Minimal evidence	Some evidence	Solid, high-quality evidence







## BIG MATH FOR LITTLE KIDS

<p><b>Evidence-Based</b></p>		<p>At the time of this review, there was one research study conducted on <i>Big Math for Little Kids</i> (BMLK).</p> <ul style="list-style-type: none"> <li>• <b>Research Rigor:</b> Presser et al. (2015) investigated the curriculum effectiveness over two years, using a cluster-randomized controlled designed study.</li> <li>• <b>Curriculum Implementation:</b> Presser et al. (2015) found that the majority of teachers (69% in year 1 and 85% in Year 2 of the study) implemented the curriculum with high levels of fidelity.</li> <li>• <b>Replication/Generalization:</b> <i>BMLK</i> has been studied in a racially/ethnically and linguistically diverse sample, which allows findings to be generalized in terms of ethnicity/race and language spoken.</li> </ul>
<p><b>Effects on Child Outcomes</b></p>		<ul style="list-style-type: none"> <li>• <b>Evidence of Child Outcomes:</b> Presser et al. (2015) assessed children’s mathematics knowledge using the Early Childhood Longitudinal Study-Birth Cohort (ECLS-B) Direct Mathematics Assessment. The <i>BMLK</i> children significantly outperformed children in the control group with a medium effect size (Cohen’s <math>d=0.32</math>). In addition, <i>BMLK</i> children showed indications of improved mathematical language on piloted language tasks.</li> </ul>
<p><b>Comprehensive Across Domain Elements</b></p>		<ul style="list-style-type: none"> <li>• <b>Number of Domain Elements Covered:</b> <i>BMLK</i> covers all five of the Mathematics Knowledge &amp; Skills learning domain elements: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities: Unit 1</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations: Unit 5</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense: Unit 2</li> <li><input checked="" type="checkbox"/> Patterns: Unit 3</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison: Unit 4</li> </ul> </li> </ul>
<p><b>Depth for Each Covered Domain Element</b></p>		<ul style="list-style-type: none"> <li>• <b>Organized Scope and Sequence – Number Concepts &amp; Quantities:</b> <i>BMLK</i> covers all five of the Number Concepts &amp; Quantities skills identified in the Head Start Child Development and Early Learning Framework (HSCDEL). There is a clear instructional sequence that presents multiple skills linked to individual learning activities in the Program Overview.</li> <li>• <b>Organized Scope and Sequence – Number Relationships &amp; Operations:</b> <i>BMLK</i> covers all three of the Number Relationships &amp; Operations skills identified in the HSCDEL. There is a clear instructional sequence that presents multiple skills linked to individual learning activities in the Program Overview.</li> <li>• <b>Organized Scope and Sequence – Geometry &amp; Spatial Sense:</b> <i>BMLK</i> covers all four of the Geometry &amp; Spatial Sense skills identified in the HSCDEL. There is a clear instructional sequence that presents multiple skills linked to individual learning activities in the Program Overview.</li> <li>• <b>Organized Scope and Sequence – Patterns:</b> <i>BMLK</i> covers all three of the Patterns skills identified in the HSCDEL. There is a clear instructional sequence that presents multiple skills linked to individual learning activities in the Program Overview.</li> <li>• <b>Organized Scope and Sequence – Measurement &amp; Comparison:</b> <i>BMLK</i> covers two out of three (Compares objects using attributes of length, weight and size; Uses nonstandard and standard techniques and tools to measure and compare) of the Measurement &amp; Comparison skills identified in the HSCDEL. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities in the Program Overview.</li> </ul>







## BIG MATH FOR LITTLE KIDS

<p><b>Specific Learning Goals</b></p>		<ul style="list-style-type: none"> <li>• <b>Goals or Objectives:</b> <i>BMLK</i> provides goals for each learning activity that are specific, measurable, child-focused, and developmentally appropriate.</li> <li>• <b>Alignment between Goals and Learning Activities:</b> There is evidence of a match between the learning goals and the activity, but it is not clear what specific parts of the activity are aligned with which goals.</li> <li>• <b>Alignment between Goals and Scope and Sequence:</b> There is evidence of alignment between the learning goals for each learning activity and the scope and sequence in the Program Overview.</li> </ul>
<p><b>Well-Designed Learning Activities</b></p>		<ul style="list-style-type: none"> <li>• <b>Organization of Learning Activities:</b> The learning activities are logical and follow a similar pattern across different activities. Activities are in a logical order, progressing so that skills build on one another.</li> <li>• <b>Ease of Implementation:</b> There are multiple supports provided to facilitate the implementation. There are clear instructions given to teachers for getting ready, setting up, and carrying out activities. There are also instructions for suggested pacing, group size, and language to use for each activity.</li> <li>• <b>Variety:</b> The curriculum prompts teachers to use multiple activity formats (i.e., large group, small group, individual) and interactive materials to meet a wide variety of learning styles. Activities use varied materials.</li> <li>• <b>Purpose of Activity Is Clear and Meaningful:</b> <i>BMLK</i> identifies objectives which include a stated purpose.</li> </ul>
<p><b>Responsive Teaching</b></p>		<ul style="list-style-type: none"> <li>• <b>Variety of Strategies:</b> The majority of activities are primarily teacher-directed, but there is some evidence of child-focused strategies. One of the few mentions of child-focused strategies includes a statement that some field-test teachers left activity materials in a center for children to use; however this is presented as a general example and is not connected to any specific activities.</li> <li>• <b>Guidelines for Teacher-Child Interactions:</b> <i>BMLK</i> provides a strong support for teachers on how to provide high-quality interactions that are embedded within learning activities. For example, in the “Building Language, Literacy, &amp; Communication Skills” section of the Program Overview, there are suggestions for encouraging discussion and having children predict what will happen in stories.</li> </ul>
<p><b>Supports for Individualized Instruction</b></p>		<ul style="list-style-type: none"> <li>• <b>Support for Children Performing below Cognitive/Academic Expectations:</b> Most learning activities provide activity-specific support for differentiating for children who are below cognitive or academic expectations. For example, the “Field-test Notes” that accompany many of the activities include suggestions for adapting activities for children who may have difficulty with the activity. Similarly, the “Focused Assessments” that accompany some of the activities include a “Re-teaching and Practice” section that provides suggestions for giving low performing children extra support.</li> <li>• <b>Support for Children Performing above Cognitive/Academic Expectations:</b> Most learning activities provide activity-specific support for differentiating for children who are above cognitive or academic expectations. Each activity features a “More to Do” section which provides suggestions on ways to extend or broaden the explorations of children who would benefit from greater challenges.</li> <li>• <b>Differentiating Support for Children with Physical and/or Emotional Needs:</b> No guidelines are provided.</li> <li>• <b>Material Adaptation:</b> There are multiple guidelines for ways to adapt the materials to meet different levels of need.</li> <li>• <b>Environment Adaptation:</b> There are some guidelines provided for how to adapt the environment to meet different levels of need.</li> </ul>



## BIG MATH FOR LITTLE KIDS

<p><b>Culturally and Linguistically Responsive</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials Represent Diversity of Language:</b> <i>BMLK</i> provides multiple materials in languages other than English, for use inside the classroom and for families. For example, the Family Letters and Take-Home activities for each unit are available in both English and Spanish. The storybooks for use in the classroom are also available in Spanish (for additional purchase).</li> <li>• <b>Materials Represent Diversity:</b> Multiple materials represent diversity in terms of culture, ethnicity, gender, etc., but are limited to only some learning activities. For example, the storybook illustrations represent cultural diversity in the characters portrayed.</li> <li>• <b>Support for Dual-Language Learners:</b> There are minimal prompts provided for the teacher to support dual-language learners (DLLs) in the classroom. For example, the Program Overview provides a very general guidance for “Meeting the Needs of English Language Learners”. There is also an “ELL/ESL Strategies” section at the beginning of each unit; however, these short sections seem to only provide highlights of which strategies that already exist in each activity suit DLL’s needs instead of addressing how teachers can support DLLs beyond that.</li> <li>• <b>Meeting Cultural Needs Specific to a Center:</b> No guidance is provided.</li> </ul>
<p><b>Ongoing Assessments</b></p>		<ul style="list-style-type: none"> <li>• <b>Meaningful Alignment to Learning Activities:</b> There is evidence that the assessments align with learning goals covered in learning activities. Within each Unit Guide, there are assessment records provided at the end of each unit that indicate which activities link to the specific unit goals.</li> <li>• <b>Meaningful Alignment to Head Start Outcomes:</b> The assessments measure children’s skills on outcomes that are fully aligned with the HSCDEL Mathematics Knowledge &amp; Skills domain elements.</li> <li>• <b>Using Assessment Information:</b> The curriculum provides support for how to reflect on assessment results in order to adapt future learning activities. For example, a “Re-teaching and Practice” section is provided with each Focused Assessment, providing guidance on how to proceed with children who did not score well on the assessment.</li> <li>• <b>Teacher-friendly Assessments:</b> The assessments are easily accessible, user-friendly, and efficient to implement. The Program Overview describes three types of assessment with details on how to conduct them and where they are located within the curriculum materials.</li> <li>• <b>Validated Assessments:</b> The assessments are based on sound child development principles; however, there is no evidence that they have been validated and linked to children outcomes.</li> </ul>
<p><b>Professional Development Opportunities</b></p>		<ul style="list-style-type: none"> <li>• <b>Initial Training:</b> No initial training is provided.</li> <li>• <b>Continued Professional Development:</b> No continued professional development is provided.</li> <li>• <b>Level of Individualization:</b> No level of individualization is provided.</li> <li>• <b>Other Program Staff:</b> No professional development is provided.</li> <li>• <b>Multiple Modes:</b> No professional development is provided.</li> <li>• <b>Evidence of Validation:</b> No professional development is provided.</li> </ul>
<p><b>Family Involvement Materials</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials:</b> There are materials (e.g., “Dear Family” newsletter) provided for teachers to distribute to caregivers that review what children are learning in the classroom and provide strategies for families to review/extend learning outside of the classroom.</li> <li>• <b>Teacher Guidance:</b> There is general guidance given in the Program Overview booklet section “Involving the Family”. In addition, teachers are provided with activities and storybooks that are aligned with classroom activities to send home for families to use with their children.</li> <li>• <b>Incorporating Family Volunteers in Classroom:</b> No guidance is provided.</li> <li>• <b>Parent-Teacher Relationships:</b> <i>BMLK</i> provides some suggestions for how to establish parent-teacher relationships, but does not instruct teachers on how to maintain the relationships throughout the year.</li> </ul>






<h2>Building Blocks Pre-K</h2>		<p><b>Curriculum Description</b>  <i>Building Blocks Pre-K</i> is designed for use with preschool children, and embeds mathematical learning in Pre-K students' daily activities. <i>Building Blocks Pre-K</i> ranges from designated math activities to circle and story time to help children relate their informal math knowledge to more formal mathematical concepts.</p> <p>McGraw Hill Education. (2014). <i>Building Blocks</i>.            Retrieved from: <a href="https://www.mheonline.com/program/view/4/4/2626/0076BB2012/">https://www.mheonline.com/program/view/4/4/2626/0076BB2012/</a></p>	
<p><b>Target Population</b>            Preschool children, ages 3–4</p>		<p><b>Delivery</b></p> <ul style="list-style-type: none"> <li>• Small Group Instruction</li> <li>• Whole Group Instruction</li> <li>• Learning centers</li> </ul>	
<p><b>Cost per Classroom</b>            Teacher Package: \$421.20            Teacher Edition, Volume 1: \$98.25            Teacher Edition, Volume 2: \$98.25            Teacher Resource Book: \$61.35            Assessment Guide: \$37.44            Manipulative Kit: \$358.4</p> <p>Retrieved from: <a href="https://www.mheonline.com/program/view/4/4/2626/0076BB2012/">https://www.mheonline.com/program/view/4/4/2626/0076BB2012/</a></p>		<p><b>Domain Elements Covered</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense</li> <li><input checked="" type="checkbox"/> Patterns</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison</li> </ul>	
<p><b>Training</b>            No training provided</p>			
<p><b>Curriculum Materials Reviewed by Raters</b>            Teacher Edition, Volumes 1 &amp; 2 • Teacher Resource Book • Assessment Guide • Storybooks</p>			

No evidence	Minimal evidence	Some evidence	Solid, high-quality evidence






BUILDING BLOCKS PRE-K

<p><b>Evidence-Based</b></p>		<p>At the time of this review, there are many rigorous research studies of the <i>Building Blocks</i> curriculum (Clements &amp; Sarama, 2007, 2008; Clements, Sarama, Wolf, &amp; Spitler, 2013; Sarama, Lange, Clements, &amp; Wolfe, 2013; Weiland et al., 2013).</p> <ul style="list-style-type: none"> <li>• <b>Research Rigor:</b> Several studies have used a randomized control trial to examine <i>Building Blocks</i> (Clements &amp; Sarama, 2007, 2008; Clements et al., 2013; Sarama et al., 2013). In addition, more recent research studies that incorporated the <i>Building Blocks</i> curriculum also used multiple measures to investigate math outcomes (Weiland et al., 2013).</li> <li>• <b>Curriculum Implementation:</b> One study found that teachers implemented the curriculum with a medium to high level of fidelity (Clements &amp; Sarama, 2007). Another study used a fidelity rating scale, measured from 0 to 4, and found that teachers who implemented <i>Building Blocks</i> averaged a score of 3.0 (Clements &amp; Sarama, 2008).</li> <li>• <b>Replication/Generalization:</b> Studies of Building Blocks have included racially, ethnically, and socioeconomically diverse samples. Weiland et al. (2013) tested Building Blocks at-scale in the Boston Public Schools.</li> </ul>
<p><b>Effects on Child Outcomes</b></p>		<ul style="list-style-type: none"> <li>• <b>Evidence of Child Outcomes:</b> There are multiple studies that indicate strong effects on child outcomes. For example, Clements et al. (2011) found that children in the <i>Building Blocks</i> group learned more mathematics, using the Research-Based Early Mathematics Assessment, than the children in the control group (effect size = 0.72). Results also suggest that effects of the Building Blocks curriculum persist beyond pre-k, especially when kindergarten and first grade teachers receive mathematics training. Clements et al. (2013) used a cluster-randomized trial designed to evaluate the persistence of effects of <i>Building Blocks</i>.</li> </ul>
<p><b>Comprehensive Across Domain Elements</b></p>		<ul style="list-style-type: none"> <li>• <b>Number of Domain Elements Covered:</b> <i>Building Blocks</i> covers all five of the domain elements. The Teacher Edition, Volume 1 outlines the learning trajectories addressed in the <i>Building Blocks</i> curriculum. The learning trajectories clearly align with HSCDLF’s Mathematics Knowledge &amp; Skills domain elements.             <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities: Volume 1 and Volume 2</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations: Volume 1 and Volume 2</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense: Volume 1 and Volume 2</li> <li><input checked="" type="checkbox"/> Patterns: Volume 1 and Volume 2</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison: Volume 1 and Volume 2</li> </ul> </li> </ul>






BUILDING BLOCKS PRE-K

<p><b>Depth for Each Covered Domain Element</b></p>		<ul style="list-style-type: none"> <li>• <b>Organized Scope and Sequence</b> – <i>Number Concepts &amp; Quantities: Building Blocks</i> covers all five Number Concepts &amp; Quantities skills throughout the curriculum, and there is an identifiable instructional sequence that presents multiple skills linked to individual learning activities. The Building Blocks Teacher Edition, Volume 1 outlines the learning trajectories addressed in the curriculum. In the Teacher Edition, the authors of the curriculum share the math learning trajectories and provide a detailed description of the trajectory a child would follow in mastering the steps within that skill area. The trajectories are aligned with the HSCDEL at the domain element level, and many go deeper within the skill levels that make up that domain element.</li> <li>• <b>Organized Scope and Sequence</b> – <i>Number Relationships &amp; Operations: Building Blocks for Math</i> covers all three of the Number Relationships &amp; Operations skills throughout the curriculum. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence</b> – <i>Geometry &amp; Spatial Sense: Building Blocks for Math</i> covers all four Geometry &amp; Spatial Sense skills throughout the curriculum. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence</b> – <i>Patterns: Building Blocks for Math</i> covers all three Patterns skills throughout the curriculum. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence</b> – <i>Measurement &amp; Comparison: Building Blocks for Math</i> covers all three Measurement &amp; Comparison skills throughout the curriculum. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> </ul>
<p><b>Specific Learning Goals</b></p>		<ul style="list-style-type: none"> <li>• <b>Goals or Objectives:</b> <i>Building Blocks</i> provides goals for each learning activity that are specific, measurable, child-focused, and developmentally appropriate. There are objectives listed for each week, and these objectives are cross-walked with each activity. The objectives are developmentally appropriate and the activities allow students to follow a developmental path throughout the curriculum.</li> <li>• <b>Alignment between Goals and Learning Activities:</b> here is evidence of alignment between the learning goals of the learning activity and the activities within the learning activity. The overview and weekly planner sections of each week’s activities within the Building Blocks curriculum gives the teacher “big ideas” for the week ahead, objectives, how children meet these objectives, and various other ideas for preparing the activities. The learning objectives are aligned with the activities and the day-to-day planners provide details on the various components of the activities that meet those objectives.</li> <li>• <b>Alignment between Goals and Scope and Sequence:</b> There is evidence of alignment between the learning goals for each learning activity and the scope and sequence.</li> </ul>
<p><b>Well-Designed Learning Activities</b></p>		<ul style="list-style-type: none"> <li>• <b>Organization of Learning Activities:</b> The learning activities are logical and follow a similar pattern across different activities. There is an overview section that previews center activities, Learning Trajectories, objectives for the week, and a summary of daily activities.</li> <li>• <b>Ease of Implementation:</b> Multiple supports are provided to facilitate implementation, including a weekly overview with “big ideas”, teaching tips to increase teachers’ content and pedagogical knowledge, guidelines for helping teachers understand where children’s skills are falling on the learning trajectory, and information on how to prepare for center activities.</li> <li>• <b>Variety:</b> <i>Building Blocks</i> prompts teachers to use multiple activity formats and interactive materials to meet a wide variety of learning styles.</li> <li>• <b>Purpose of Activity Is Clear and Meaningful:</b> The purpose of each activity is well-defined and appears to be a meaningful part of the overall curriculum.</li> </ul>



BUILDING BLOCKS PRE-K

<p><b>Responsive Teaching</b></p>		<ul style="list-style-type: none"> <li>• <b>Variety of Strategies:</b> Although whole group activities are generally teacher directed, the <i>Building Blocks</i> curriculum includes a combination of child-focused and direct teaching strategies.</li> <li>• <b>Guidelines for Teacher-Child Interactions:</b> <i>Building Blocks</i> provides teachers with general information on teacher-child interactions. In addition, each activity includes a reflection component with open-ended questions that indicate high instructional interactions between teachers and students.</li> </ul>
<p><b>Supports for Individualized Instruction</b></p>		<ul style="list-style-type: none"> <li>• <b>Support for Children Performing below Cognitive/Academic Expectations:</b> Learning activities provide activity-specific support for differentiating for children who are below cognitive or academic expectations. The “Monitoring Student Progress” boxes provide ideas on how teachers can differentiate instruction to a child’s academic level. Appendix A in the Teacher Volumes also includes an overall and specific direction on how to differentiate instructions for children who may need more support to meet the learning trajectories.</li> <li>• <b>Support for Children Performing above Cognitive/Academic Expectations:</b> Most learning activities provide activity-specific support for differentiating for children who are above cognitive or academic expectations. The “Monitoring Student Progress” boxes located throughout the curriculum includes a section, “if children excel then”; giving ideas on how teachers can differentiate instruction to a child’s academic level if they are performing above the learning trajectories.</li> <li>• <b>Differentiating Support for Children with Physical and/or Emotional Needs:</b> No guidelines are provided.</li> <li>• <b>Material Adaptation:</b> There are multiple, clear guidelines for ways to adapt the materials to meet different levels of need. The <i>Building Blocks</i> curriculum encourages teachers to consider the adaptation of materials, including altering presentation of materials, adding other materials, and changing questioning techniques. Details are provided for specific activities for children who are still developing fine motor control, as well as incorporating additional materials to provide scaffolding for children.</li> <li>• <b>Environment Adaptation:</b> There are multiple, clear guidelines for ways to adapt the environment to meet different levels of need. For example, the curriculum provides guidelines on how to adapt posters, create a visual schedule, and create visual placemats for children to use.</li> </ul>
<p><b>Culturally and Linguistically Responsive</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials Represent Diversity of Language:</b> <i>Building Blocks</i> offers materials for families in languages other than English. In the Teacher’s Resource Guide, there are newsletters for sending home to families each week. These appear to be available in Spanish via the ConnectED component of the curriculum (<i>Building Blocks</i> brochure, see <a href="http://www.mheonline.com">www.mheonline.com</a>).</li> <li>• <b>Materials Represent Diversity:</b> There are multiple materials that represent diversity in terms of culture, ethnicity, gender, etc., but they are limited to only some learning activities. There are numerous books provided within the curriculum kit that include representation of various races and cultures.</li> <li>• <b>Support for Dual-Language Learners:</b> <i>Building Blocks</i> provides guidance and specific strategies for how English-speaking teachers can communicate with children who speak languages other than English. The curriculum provides a <i>Teacher’s Resource Guide</i>, which provides a section on “English Learner Support.”</li> <li>• <b>Meeting Cultural Needs Specific to a Center:</b> <i>Building Blocks</i> provides suggestions for how to adapt the learning activities to meet a specific center’s cultural and linguistic needs. The curriculum supports gathering information from families regarding their home cultures to develop meaningful environments and activities for the children.</li> </ul>





## BUILDING BLOCKS PRE-K

<p><b>Ongoing Assessments</b></p>		<ul style="list-style-type: none"> <li>• <b>Meaningful Alignment to Learning Activities:</b> There is evidence that suggested assessments align with learning goals covered in learning activities. The Building Blocks curriculum includes a teacher workbook on “Assessment” that contains: Weekly Record Sheets (for tracking which lessons the teacher has completed and when); Small Group Record Sheets (for tracking the small group participation and performance of each child); Learning Trajectory Records (for “...identifying children’s proficiency in each area of mathematics”); and Trajectory Progress Chart that are completed for each child to track progress in these developmental areas.</li> <li>• <b>Meaningful Alignment to Head Start Outcomes:</b> The assessments measure students’ skills on outcomes that are fully aligned with the HSCDELF Mathematics Knowledge &amp; Skills domain elements. All domain elements are covered in the Learning Trajectory Records.</li> <li>• <b>Using Assessment Information:</b> The curriculum provides support for how to reflect on assessment results in order to adapt future learning activities.</li> <li>• <b>Teacher-friendly Assessments:</b> The assessments are easily accessible, user-friendly, and efficient to implement. The Building Blocks Assessment manual contains direction for administering the various assessment tools. The curriculum website contains information regarding the online assessment and tracking capabilities of the Building Blocks software, which also notes that teachers can use various mobile devices, their computer or pen-paper to gather and enter the assessment information into the online system.</li> <li>• <b>Validated Assessments:</b> The assessments are based on sound child development principles; however, there is no evidence that the assessments have been validated and linked to children’s outcomes.</li> </ul>
<p><b>Professional Development Opportunities</b></p>		<ul style="list-style-type: none"> <li>• <b>Initial Training:</b> No initial training is provided.</li> <li>• <b>Continued Professional Development:</b> No continued professional development is provided.</li> <li>• <b>Level of Individualization:</b> No level of individualization is provided.</li> <li>• <b>Other Program Staff:</b> No professional development is provided.</li> <li>• <b>Multiple Modes:</b> No professional development is provided.</li> <li>• <b>Evidence of Validation:</b> No professional development is provided.</li> </ul>
<p><b>Family Involvement Materials</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials:</b> <i>Building Blocks</i> provides materials for teachers to distribute to caregivers that review what children are learning in the classroom and provide strategies for families to review/extend learning outside of the classroom. The curriculum also provides a weekly “Math News” letter for teachers to send home to families that are in both English and Spanish.</li> <li>• <b>Teacher Guidance:</b> <i>Building Blocks</i> provides guidance to teachers on how to link learning goals to home in a meaningful way. In the <i>Teacher Resource Guide</i>, each “Math News” letter includes the week’s learning goals and a section “Help-at-Home Math Tips” with activities for the family to complete with the child that extends each week’s learning goals to learning at home.</li> <li>• <b>Incorporating Family Volunteers in Classroom:</b> There are suggestions provided for how to use parent and family volunteers when they come into the classroom.</li> <li>• <b>Parent-Teacher Relationships:</b> <i>Building Blocks</i> mentions the importance of parent-teacher relationships, but does not provide specific instructions about ways to establish or maintain the relationships.</li> </ul>








<h2>Everyday Mathematics®</h2>		<p><b>Curriculum Description</b>  <i>Everyday Mathematics</i> is a comprehensive Pre-K through Grade 6 mathematics program engineered for the Common Core State Standards. Developed by The University of Chicago's School Mathematics Project, <i>Everyday Mathematics</i> was designed to help students build conceptual understanding, computational fluency, and real-world, problem-solving skills. The curriculum reinforces math concepts through real-world applications and reinforces math concepts across learning progressions.            McGraw Hill Education. (2012). <i>Everyday Mathematics</i>.            Retrieved from: <a href="http://www.everydaymath.com/">http://www.everydaymath.com/</a></p>	
<p><b>Target Population</b> Pre-K–Grade 6</p>		<p><b>Delivery</b></p> <ul style="list-style-type: none"> <li>• Small Group Instruction</li> <li>• Whole Group Instruction</li> <li>• Learning centers</li> </ul>	
<p><b>Cost per Classroom</b>            Pre-K Teacher's Guide to Activities: \$57.36            Pre-K Basic Classroom Manipulative Kit: \$257.73            Grade Pre-K Math Mats (Sets of 3): \$34.02            EC Teacher's Reference Manual: \$53.16            EC Home Connections Handbook: \$24.84            PK Math Masters: \$30.39            PK Resources for the PK Classroom: \$50.64            PK Assessment Handbook: \$11.85            PK Minute Math: \$11.85            CRP Grade PK: \$176.16            Retrieved from: <a href="https://www.mheonline.com/program/view/1/16/2442/EVMATH2012/">https://www.mheonline.com/program/view/1/16/2442/EVMATH2012/</a></p>		<p><b>Domain Elements Covered</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense</li> <li><input checked="" type="checkbox"/> Patterns</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison</li> </ul>	
<p><b>Training</b>            Web-based resources including webinars videos are available free of charge. For purchases of \$20,000 or more, a full-day initial training is provided for all teachers using the curriculum. Additional in-person training is available for \$2,500 per day.</p>			
<p><b>Curriculum Materials Reviewed by Raters</b>            Pre-K Teacher's Guide to Activities • EC Teacher's Reference Manual • Pre-K Assessment Handbook • Pre-K Resources for the Pre-K Classroom • EC Home Connections Handbook • Pre-K Math Masters • Mathematics at Home • Pre-K Minute Math</p>			

No evidence	Minimal evidence	Some evidence	Solid, high-quality evidence







EVERYDAY MATHEMATICS

<p><b>Evidence-Based</b></p>		<ul style="list-style-type: none"> <li>• <b>Research Rigor:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> <li>• <b>Curriculum Implementation:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> <li>• <b>Replication/Generalization:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> </ul>
<p><b>Effects on Child Outcomes</b></p>		<ul style="list-style-type: none"> <li>• <b>Evidence of Child Outcomes:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> </ul>
<p><b>Comprehensive Across Domain Elements</b></p>		<ul style="list-style-type: none"> <li>• <b>Number of Domain Elements Covered:</b> Everyday Mathematics curriculum covers all five of the learning domain elements within the Mathematics Knowledge &amp; Skills domain of the HSCDELF.</li> </ul>
<p><b>Depth for Each Covered Domain Element</b></p>		<ul style="list-style-type: none"> <li>• <b>Organized Scope and Sequence – Number Concepts &amp; Quantities:</b> <i>Everyday Mathematics</i> covers all five of the Number Concepts &amp; Quantities skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities. The curriculum states that the eight topics covered, "...are not 'units' that you should work through from beginning to end. Rather, choose and intersperse activities from all of the topic areas over the course of the year..." (p. xxix). However, there are three levels of activities within each topic ("Beginning," "Building," and "Expanding") and the curriculum materials do state that these levels indicate the order in which children should acquire the skills covered. In that sense, there is a defined sequence within each topic, even if teachers are not limited to going through one topic at a time.</li> <li>• <b>Organized Scope and Sequence – Number Relationships &amp; Operations:</b> <i>Everyday Mathematics</i> covers all three of the Number Relationships &amp; Operations skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Geometry &amp; Spatial Sense:</b> <i>Everyday Mathematics</i> covers all four of the Geometry &amp; Spatial Sense skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Patterns:</b> <i>Everyday Mathematics</i> covers all three of the Patterns skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Measurement &amp; Comparison:</b> <i>Everyday Mathematics</i> covers all three of the Measurement &amp; Comparison skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> </ul>
<p><b>Specific Learning Goals</b></p>		<ul style="list-style-type: none"> <li>• <b>Goals or Objectives:</b> <i>Everyday Mathematics</i> provides goals for each learning activity that are specific, measurable, child-focused, and developmentally appropriate. The beginning of each activity includes a broad objective at the top. Each activity also includes a "Key Mathematics Concepts and Skills" section that lists goals for that lesson that are specifically linked to the grade-level goals for pre-kindergarten.</li> <li>• <b>Alignment between Goals and Learning Activities:</b> There is evidence of alignment between the learning goals for each learning activity and the activities within the learning activity. For this curriculum, there is only one objective per activity, so it is implied that the entirety of the activity is aligned with that objective.</li> <li>• <b>Alignment between Goals and Scope and Sequence:</b> There is evidence of alignment between the learning goals for each learning activity and the scope and sequence. The objectives for each activity are connected to the sequence for each topic in the "Activities in Perspective" section for each topic.</li> </ul>






EVERYDAY MATHEMATICS

<p><b>Well-Designed Learning Activities</b></p>		<ul style="list-style-type: none"> <li>• <b>Organization of Learning Activities:</b> The learning activities are logical and follow a similar pattern across different activities, and this pattern is described in the Teacher’s Guide to Activities Introduction.</li> <li>• <b>Ease of Implementation:</b> There are multiple supports provided to facilitate implementation. All activities begin with a list of materials needed, an indication of the activity’s format (i.e., whole group, small group, partners, or center), and detailed instructions for carrying out the activity. Additionally, “Planning Tips” and “Note Boxes” are often included for further support.</li> <li>• <b>Variety:</b> Everyday Mathematics prompts teachers to use multiple group formats and interactive materials to meet a wide variety of learning styles.</li> <li>• <b>Purpose of Activity Is Clear and Meaningful:</b> The purpose of each activity is well-defined and appears to be a meaningful part of the overall curriculum. The purpose for each group of activities is given in the introduction to each topic.</li> </ul>
<p><b>Responsive Teaching</b></p>		<ul style="list-style-type: none"> <li>• <b>Variety of Strategies:</b> There is a presence of both child-focused and teacher-directed strategies, and the curriculum provides room for incorporating children’s perspectives. The <i>Teacher’s Guide to Activities</i> book includes a section labeled “Mathematics All Around” which details the importance of providing a balance between child-initiated and teacher-directed activities. The Teacher’s Reference Manual and the Resources for the Pre-kindergarten Classroom includes information about how to set up the classroom to encourage children’s exploration and help teachers recognize and expand on children’s natural explorations.</li> <li>• <b>Guidelines for Teacher-Child Interactions:</b> <i>Everyday Mathematics</i> provides strong support regarding how to provide high-quality interactions that are embedded within learning activities.</li> </ul>
<p><b>Supports for Individualized Instruction</b></p>		<ul style="list-style-type: none"> <li>• <b>Support for Children Performing below Cognitive/Academic Expectations:</b> Some learning activities provide support for differentiating for children who are below cognitive or academic expectations.</li> <li>• <b>Support for Children Performing above Cognitive/Academic Expectations:</b> Some learning activities provide support for differentiating for children who are above cognitive or academic expectations specific to the activity.</li> <li>• <b>Differentiating Support for Children with Physical and/or Emotional Needs:</b> No guidelines are provided.</li> <li>• <b>Material Adaptation:</b> There are multiple, clear guidelines for ways to adapt the materials to meet different levels of need. The activities include specific guidance on ways to adapt the materials to meet the needs of children.</li> <li>• <b>Environment Adaptation:</b> There are multiple, clear guidelines for ways to adapt the environment to meet different levels of need.</li> </ul>
<p><b>Culturally and Linguistically Responsive</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials Represent Diversity of Language:</b> The curriculum provides materials in English only.</li> <li>• <b>Materials Represent Diversity:</b> Most materials represent a single, majority culture, but occasionally materials are incorporated that represent diversity. Examples that include diversity are pictures in the Mathematics at Home books, Home Connection Handbook, and Resources for the Pre-Kindergarten Classroom.</li> <li>• <b>Support for Dual-Language Learners:</b> There are minimal prompts provided for teachers to support dual-language learners in the classroom. In the Teacher’s Guide to Activities book, there is some support in the sidebar section labeled “Developing Oral Language”; however, this support for dual-language learners is limited to mathematics vocabulary.</li> <li>• <b>Meeting Cultural Needs Specific to a Center:</b> No guidance is provided.</li> </ul>



## EVERYDAY MATHEMATICS

<p><b>Ongoing Assessments</b></p>		<ul style="list-style-type: none"> <li>• <b>Meaningful Alignment to Learning Activities:</b> There is evidence that suggested assessments align with learning goals covered in learning activities. The individual Profiles of Progress provided in the Assessment Handbook align with the goals listed in the <i>Teacher's Guide to Activities</i>.</li> <li>• <b>Meaningful Alignment to Head Start Outcomes:</b> The assessments measure children's skills on outcomes that are fully aligned with the HSCDEL Mathematics Knowledge &amp; Skills domain elements.</li> <li>• <b>Using Assessment Information:</b> There is minimal instruction provided for teachers to reflect on the assessment information.</li> <li>• <b>Teacher-friendly Assessments:</b> The assessments are easily accessible and efficient to implement; however, there are numerous pieces to organize and strands/goals to track, which may require teachers some time to learn to implement.</li> <li>• <b>Validated Assessments:</b> The assessments are based on child development principles, but there is no evidence of validation.</li> </ul>
<p><b>Professional Development Opportunities</b></p>		<ul style="list-style-type: none"> <li>• <b>Initial Training:</b> A full-day initial training is available and includes content on implementing the curriculum.</li> <li>• <b>Continued Professional Development:</b> The curriculum provides opportunities for ongoing professional development through a Curriculum Specialist who meets with teachers onsite or via webinar, and an online learning community, which includes access to message boards, classroom videos, and webinars.</li> <li>• <b>Level of Individualization:</b> Professional development is individualized to meet specific needs (e.g., mini-sessions on observing students for differentiation needs, observing for assessment, setting up centers).</li> <li>• <b>Other Program Staff:</b> Additional content is available for administrators and other staff (e.g., classroom assistants/aids) as requested.</li> <li>• <b>Multiple Modes:</b> Customized in-person and web-based professional development is available.</li> <li>• <b>Evidence of Validation:</b> There is no evidence of validation.</li> </ul>
<p><b>Family Involvement Materials</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials:</b> Materials are provided for teachers to distribute to caregivers that review what children are learning in the classroom and provide strategies for families to review/extend learning outside of the classroom. However, there is no support provided for ways to adapt materials to best meet the specific needs of the classroom. The curriculum provides a "Home Connection Handbook" as a guide for how to involve families/caregivers in their child's school experience. "Home Links" handouts, with math activities for children and their families, are provided for distribution.</li> <li>• <b>Teacher Guidance:</b> There is guidance provided to teachers on how to link learning goals to home in a meaningful way. For example, guidance is provided for which "Family Connection" worksheet teachers may want to send home to coincide with classroom activities.</li> <li>• <b>Incorporating Family Volunteers in Classroom:</b> There are suggestions provided for how to use parent and family volunteers when they come into the classroom. The Home Connection Handbook includes a section on "Parents in the Classroom", which presents ideas for welcoming and incorporating family visits and for soliciting feedback.</li> <li>• <b>Parent-Teacher Relationships:</b> There are suggestions provided for how to establish and maintain positive parent-teacher relationships. For example, the Home Connection Handbook includes guidelines for school events, things to send home, displays for parents, and using parents in the classroom.</li> </ul>








<h2 style="margin: 0;">Growing with Mathematics</h2>		<p><b>Curriculum Description</b>  <i>Growing with Mathematics</i> Pre-K program integrates the practices of both early childhood education and mathematics education. Its development was informed by research on how young children learn and the factors that make early mathematics education effective and successful.</p> <p>McGraw Hill Education. (2014). <i>Growing with Mathematics</i>.            Retrieved from: <a href="https://www.mheonline.com/program/view/5/4/307/007GWM/">https://www.mheonline.com/program/view/5/4/307/007GWM/</a></p>	
<p><b>Target Population</b>            Preschool children, ages 3–4</p>		<p><b>Delivery</b></p> <ul style="list-style-type: none"> <li>• Small Group Instruction</li> <li>• Whole Group Instruction</li> </ul>	
<p><b>Cost per Classroom</b>            Classroom Kit: Grade Pre-K © 2001: \$1,537.86            Manipulative Kit: Grade Pre-k © 2001: \$498.69            Comprehensive Classroom Kit (includes Classroom Kit and Manipulative Kit):            Grade Pre-K © 2002: \$1,983.18            Retrieved from: <a href="https://www.mheonline.com/program/view/5/4/307/007GWM/">https://www.mheonline.com/program/view/5/4/307/007GWM/</a></p>		<p><b>Domain Elements Covered</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense</li> <li><input checked="" type="checkbox"/> Patterns</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison</li> </ul>	
<p><b>Training</b>            No training provided</p>			
<p><b>Curriculum Materials Reviewed by Raters</b>            Comprehensive Classroom Kit</p>			

No evidence	Minimal evidence	Some evidence	Solid, high-quality evidence






## GROWING WITH MATHEMATICS

<p><b>Evidence-Based</b></p>		<ul style="list-style-type: none"> <li>• <b>Research Rigor:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> <li>• <b>Curriculum Implementation:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> <li>• <b>Replication/Generalization:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> </ul>
<p><b>Effects on Child Outcomes</b></p>		<ul style="list-style-type: none"> <li>• <b>Evidence of Child Outcomes:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> </ul>
<p><b>Comprehensive Across Domain Elements</b></p>		<ul style="list-style-type: none"> <li>• <b>Number of Domain Elements Covered:</b> <i>Growing with Mathematics</i> covers all five of the Mathematics Knowledge &amp; Skills learning domain elements. <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities: Unit 6</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations: Units 8, 9, and 10</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense: Unit 11</li> <li><input checked="" type="checkbox"/> Patterns: Unit 11</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison: Units 5 and 10</li> </ul> </li> </ul>
<p><b>Depth for Each Covered Domain Element</b></p>		<ul style="list-style-type: none"> <li>• <b>Organized Scope and Sequence – Number Concepts &amp; Quantities:</b> <i>Growing with Mathematics</i> covers all five of the Number Concepts &amp; Quantities skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities. The units are ordered numerically with a specified sequence of topics and a specified sequence of activities within the topics.</li> <li>• <b>Organized Scope and Sequence – Number Relationships &amp; Operations:</b> <i>Growing with Mathematics</i> covers all three of the Number Relationships &amp; Operations skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Geometry &amp; Spatial Sense:</b> <i>Growing with Mathematics</i> covers all three of the Geometry &amp; Spatial Sense skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Patterns:</b> <i>Growing with Mathematics</i> covers all four of the Patterns skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Measurement &amp; Comparison:</b> <i>Growing with Mathematics</i> covers all three of the Measurement and Comparison skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> </ul>
<p><b>Specific Learning Goals</b></p>		<ul style="list-style-type: none"> <li>• <b>Goals or Objectives:</b> <i>Growing with Mathematics</i> provides goals for the large group activities that are specific, measurable, child-focused, and developmentally appropriate. The goals are listed in the “Learning Expectations” sections in the introduction to each topic booklet. However, there are no goals listed for the small group activities, center activities, and free choice activities.</li> <li>• <b>Alignment between Goals and Learning Activities:</b> There is evidence of a match between the learning goals and the activity for the large group activities; however the small group activities, center activities, and free choice activities are not linked to specific goals for the week or the topic as a whole.</li> <li>• <b>Alignment between Goals and Scope and Sequence:</b> There is evidence of alignment between units and scope and sequence at a broad level. The scope and sequence align with the subdivision of the “expectations” listed on topic divider cards (i.e., algebra, measurement, etc.); however, these expectations only broadly align, and are not the same as the Learning Expectations listed in each topic booklet. The Learning Expectations within each topic booklet are not explicitly linked to the scope and sequence.</li> </ul>







GROWING WITH MATHEMATICS

<p><b>Well-Designed Learning Activities</b></p>		<ul style="list-style-type: none"> <li>• <b>Organization of Learning Activities:</b> The learning activities are logical and follow a similar pattern across different activities. Each topic booklet includes overviews for each week with material lists and preparation instructions. Each topic booklet also includes sections on mathematics background for teachers, learning expectations, assessment, and cross-curricular connections. Individual tasks are laid out in the same order across topics and use color-coding to help organize different sections.</li> <li>• <b>Ease of Implementation:</b> There are multiple supports provided to facilitate implementation. Each topic booklet includes a table of contents and overview for each week of the topic, which has materials lists and preparation instructions for individual activities. There are also other supports for teachers, such as sections on transition ideas related to each topic.</li> <li>• <b>Variety:</b> Everyday Mathematics prompts teachers to use multiple activity formats and interactive materials to meet a wide variety of learning styles. In addition, songs, art projects, and games are incorporated through activities.</li> <li>• <b>Purpose of Activity Is Clear and Meaningful:</b> The purpose of each activity is well-defined and appears to be a meaningful part of the overall curriculum. A “Mathematical Background” section for teachers is provided at the beginning of each topic. The section includes links between specific tasks children will complete and their overall development of math skills.</li> </ul>
<p><b>Responsive Teaching</b></p>		<ul style="list-style-type: none"> <li>• <b>Variety of Strategies:</b> There is a presence of both child-focused and teacher-directed strategies, and the curriculum provides room for incorporating children’s perspectives.</li> <li>• <b>Guidelines for Teacher-Child Interactions:</b> <i>Growing with Mathematics</i> provides strong support regarding how to have high-quality interactions that are embedded within learning activities. For example, the Overview Booklet provides guidance for asking questions that challenge students to use language to describe their thinking, and encourages teachers to create opportunities for students to engage in active exploration where they can construct and modify ideas.</li> </ul>
<p><b>Supports for Individualized Instruction</b></p>		<ul style="list-style-type: none"> <li>• <b>Support for Children Performing below Cognitive/Academic Expectations:</b> Some learning activities provide support for differentiating for children who are below cognitive or academic expectations specific to the activity. Each topic booklet includes an “Additional Support” section at the front suggesting extra support for each week; however, it is not clear whether or not these suggestions are for use with the entire class or a subset of children.</li> <li>• <b>Support for Children Performing above Cognitive/Academic Expectations:</b> Some learning activities provide support for differentiating for children who are above cognitive or academic expectations specific to the activity. Each topic booklet includes an “Extension” section at the front suggesting additional challenges for children who are performing above expectations. However, these guidelines are only tied to some specific activities.</li> <li>• <b>Differentiating Support for Children with Physical and/or Emotional Needs:</b> No guidelines are provided.</li> <li>• <b>Material Adaptation:</b> Some guidelines are provided for how to adapt the environment to meet different levels of need. The general guidelines are mostly in the Additional Support section that share guidance for altering materials (or supplementing materials—usually adding manipulatives) to help children learn the concepts.</li> <li>• <b>Environment Adaptation:</b> No guidelines are provided.</li> </ul>





## GROWING WITH MATHEMATICS

<b>Culturally and Linguistically Responsive</b>		<ul style="list-style-type: none"> <li>• <b>Materials Represent Diversity of Language:</b> The curriculum provides multiple materials for use inside the classroom and for families to use at home (e.g., discussion books, family newsletter, calendar kits) in both English and Spanish.</li> <li>• <b>Materials Represent Diversity:</b> Multiple materials represent diversity in terms of culture, ethnicity, gender, etc.; however, there are no suggestions for selecting culturally responsive materials.</li> <li>• <b>Support for Dual-Language Learners:</b> The curriculum provides high-quality guidance and specific strategies for how English-speaking teachers can communicate with children who speak languages other than English. Additionally, the curriculum provides guidance in how teachers can model English. There is also guidance for teachers who speak the home language of the children, and information is included for ways to encourage development of the home language.</li> <li>• <b>Meeting Cultural Needs Specific to a Center:</b> There are suggestions provided for how to adapt the instruction to meet a specific center's cultural and linguistic needs, but they are not activity specific.</li> </ul>
<b>Ongoing Assessments</b>		<ul style="list-style-type: none"> <li>• <b>Meaningful Alignment to Learning Activities:</b> There is evidence that assessments align with learning goals covered in learning activities. Each assessment item also indicates the particular activity the item is tied to.</li> <li>• <b>Meaningful Alignment to Head Start Outcomes:</b> The assessments measure children's skills on outcomes that are fully aligned with the HSCDEL Mathematics Knowledge &amp; Skills domain elements.</li> <li>• <b>Using Assessment Information:</b> There is no instruction provided on how to use the assessment information.</li> <li>• <b>Teacher-friendly Assessments:</b> The assessments are easily accessible (in a separate spiral bound notebook) and user-friendly, with clearly labeled check boxes and spaces for writing notes. The assessments also appear to be efficient to implement, as prompts for teachers to use are carefully scripted.</li> <li>• <b>Validated Assessments:</b> The assessments are based on child development principles, but there is no evidence of validation.</li> </ul>
<b>Professional Development Opportunities</b>		<ul style="list-style-type: none"> <li>• <b>Initial Training:</b> No initial training is provided.</li> <li>• <b>Continued Professional Development:</b> No continued professional development is provided.</li> <li>• <b>Level of Individualization:</b> No individualization of professional development is provided.</li> <li>• <b>Other Program Staff:</b> No professional development is provided.</li> <li>• <b>Multiple Modes:</b> No professional development is provided.</li> <li>• <b>Evidence of Validation:</b> No professional development is provided.</li> </ul>
<b>Family Involvement Materials</b>		<ul style="list-style-type: none"> <li>• <b>Materials:</b> There are math newsletters provided for teachers to distribute to caregivers that review what children are learning in the classroom and provide strategies (e.g., games) for families to review/extend learning outside of the classroom.</li> <li>• <b>Teacher Guidance:</b> There is guidance provided to teachers on how to link learning goals to home in a meaningful way. The teachers are instructed when to distribute home activities, which align with classroom learning goals.</li> <li>• <b>Incorporating Family Volunteers in Classroom:</b> No guidance is provided.</li> <li>• <b>Parent-Teacher Relationships:</b> No guidance is provided.</li> </ul>








<h2>Harcourt School Publishers (HSP) Math</h2>	
<p><b>Target Population</b> Preschool children, ages 3–4</p>	<p><b>Curriculum Description</b>  <i>HSP Math</i> offers an assortment of learning materials designed to provide students with meaningful and diverse educational experiences.            Houghton Mifflin Harcourt. (2014). <i>Harcourt School Publishers Math</i>.            Retrieved from: <a href="http://www.hmhco.com/shop/k12/Harcourt-School-Publishers-Math/9780153412585">http://www.hmhco.com/shop/k12/Harcourt-School-Publishers-Math/9780153412585</a></p>
<p><b>Cost per Classroom</b> \$98.40 Quote sent from Houghton Mifflin Harcourt 8/19/14</p>	<p><b>Delivery</b></p> <ul style="list-style-type: none"> <li>• Small Group Instruction</li> <li>• Whole Group Instruction</li> </ul> <p><b>Domain Elements Covered</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense</li> <li><input checked="" type="checkbox"/> Patterns</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison</li> </ul>
<p><b>Training</b> No training provided</p>	
<p><b>Curriculum Materials Reviewed by Raters</b> Teacher Edition • Pre-K Activity Book • Math Concept Readers • Interactive Poster Pack • Storybooks</p>	

No evidence	Minimal evidence	Some evidence	Solid, high-quality evidence







HARCOURT SCHOOL PUBLISHERS (HSP) MATH

<p><b>Evidence-Based</b></p>		<ul style="list-style-type: none"> <li>• <b>Research Rigor:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> <li>• <b>Curriculum Implementation:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> <li>• <b>Replication/Generalization:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> </ul>
<p><b>Effects on Child Outcomes</b></p>		<ul style="list-style-type: none"> <li>• <b>Evidence of Child Outcomes:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> </ul>
<p><b>Comprehensive Across Domain Elements</b></p>		<ul style="list-style-type: none"> <li>• <b>Number of Domain Elements Covered:</b> HSP Math covers all five of the Mathematics Knowledge &amp; Skills domain elements:             <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities: Unit 2</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations: Unit 7</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense: Units 3 and 5</li> <li><input checked="" type="checkbox"/> Patterns: Unit 4</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison: Unit 6</li> </ul> </li> </ul>
<p><b>Depth for Each Covered Domain Element</b></p>		<ul style="list-style-type: none"> <li>• <b>Organized Scope and Sequence – Number Concepts &amp; Quantities:</b> HSP Math covers all five of the Number Concepts &amp; Quantities skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities. The units and lessons are laid out sequentially and there is a unit planner provided at the beginning of each unit, specifying the order in which lessons and accompanying activities should be used. Skills presented within units build on those previously covered.</li> <li>• <b>Organized Scope and Sequence – Number Relationships &amp; Operations:</b> HSP Math covers all three of the Number Relationships &amp; Operations skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Geometry &amp; Spatial Sense:</b> HSP Math covers all four of the Geometry &amp; Spatial Sense skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Patterns:</b> HSP Math covers all three of the Patterns skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Measurement &amp; Comparison:</b> HSP Math covers all three of the Measurement &amp; Comparison skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> </ul>
<p><b>Specific Learning Goals</b></p>		<ul style="list-style-type: none"> <li>• <b>Goals or Objectives:</b> HSP Math provides a weekly goal on the unit planner page provided at the beginning of each unit, and objectives are listed on the first page of each weekly lesson; however, there is no evidence of daily goals. The learning goals are child-focused and developmentally appropriate but they are stated in a more broad way, i.e. “compare and sort objects” and “match objects that are alike.”</li> <li>• <b>Alignment between Goals and Learning Activities:</b> There is evidence of a match between the learning goals and the activity, but pieces of the activity are not labeled to match components of the objective. There is no indication of which objective is addressed by each individual activity within the lesson.</li> <li>• <b>Alignment between Goals and Scope and Sequence:</b> There is evidence of alignment between the learning goals for each learning activity and the scope and sequence. The learning goals for each week are provided within the scope and sequence, and then broken down into more specific objectives for each week.</li> </ul>






HARCOURT SCHOOL PUBLISHERS (HSP) MATH

<p><b>Well-Designed Learning Activities</b></p>		<ul style="list-style-type: none"> <li>• <b>Organization of Learning Activities:</b> The learning activities are logical and follow a similar pattern across different activities. For example, each unit is introduced in the same way, with a “unit at a glance” section, a “unit planner”, and a description of center activities. Individual lessons are all organized in the same way, listing materials first followed by bulleted instructions for the teacher.</li> <li>• <b>Ease of Implementation:</b> There are multiple supports provided to facilitate implementation. For example, there is a list of vocabulary for each lesson and materials at the beginning of each activity. Teacher tips are also provided in the margin of each lesson to help facilitate activities.</li> <li>• <b>Variety:</b> The curriculum prompts teachers to use multiple group formats and interactive materials to meet a wide variety of learning styles.</li> <li>• <b>Purpose of Activity Is Clear and Meaningful:</b> <i>HSP Math</i> identifies the purpose for the unit or week as a whole, but not for individual lessons. Each weekly lesson has an “about the math” section that provides the purpose of that week’s activities.</li> </ul>
<p><b>Responsive Teaching</b></p>		<ul style="list-style-type: none"> <li>• <b>Variety of Strategies:</b> There is a presence of both child-focused and teacher-directed strategies. Children are allowed some, although limited, opportunities to incorporate their ideas.</li> <li>• <b>Guidelines for Teacher-Child Interactions:</b> <i>HSP Math</i> provides strong support regarding how to provide high-quality interactions that is embedded through suggested questions and comments for each activity.</li> </ul>
<p><b>Supports for Individualized Instruction</b></p>		<ul style="list-style-type: none"> <li>• <b>Support for Children Performing below Cognitive/Academic Expectations:</b> Most learning activities provide support for differentiating for children who are below cognitive or academic expectations. Each lesson provides a “differentiated instruction” section with guidance for either making an activity “easy” for children performing below cognitive expectations or to “enrich” it for those performing above academic expectations, but not both for any one lesson.</li> <li>• <b>Support for Children Performing above Cognitive/Academic Expectations:</b> Some learning activities provide support for differentiating for children who are above cognitive or academic expectations specific to the activity.</li> <li>• <b>Differentiating Support for Children with Physical and/or Emotional Needs:</b> No guidance is provided.</li> <li>• <b>Material Adaptation:</b> There are multiple, clear guidelines for ways to adapt the materials to meet different levels of need.</li> <li>• <b>Environment Adaptation:</b> Some guidelines are provided for how to adapt the environment to meet different levels of need. For example, drawing a number line on the board could help children who may be having a difficulty.</li> </ul>
<p><b>Culturally and Linguistically Responsive</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials Represent Diversity of Language:</b> <i>HSP Math</i> provides multiple materials for use inside the classroom and for families in both English and Spanish.</li> <li>• <b>Materials Represent Diversity:</b> There are multiple materials that represent diversity in terms of culture, ethnicity, gender, etc., but they are limited to only some learning activities.</li> <li>• <b>Support for Dual-Language Learners:</b> <i>HSP Math</i> provides high-quality guidance and specific strategies for how English-speaking teachers can communicate with children who speak languages other than English. Guidance for working with dual-language learners is included within each lesson in the “Differentiated Instruction: ELL” segments. Concrete suggestions for modifying activities and modeling English are provided.</li> <li>• <b>Meeting Cultural Needs Specific to a Center:</b> <i>HSP Math</i> provides high-quality suggestions for how to adapt instruction to meet a specific center’s cultural and linguistic needs, but does not address gathering information from families or other outside sources.</li> </ul>



HARCOURT SCHOOL PUBLISHERS (HSP) MATH






<p><b>Ongoing Assessments</b></p>		<ul style="list-style-type: none"> <li>• <b>Meaningful Alignment to Learning Activities:</b> There is evidence that the assessments align with learning goals covered in learning activities. Each assessment is linked to an Individual Record Form that provides a table with each lesson’s learning goal for recording observations.</li> <li>• <b>Meaningful Alignment to Head Start Outcomes:</b> The assessments measure children’s skills on outcomes that are fully aligned with the HSCDEL F Mathematics Knowledge &amp; Skills domain elements.</li> <li>• <b>Using Assessment Information:</b> No information on using assessments is provided.</li> <li>• <b>Teacher-friendly Assessments:</b> The assessments are easily accessible, user-friendly with clear instructions, including materials needed and questions to guide observations. The assessments also appear to be efficient to implement, as most of the activities around the assessments seem short.</li> <li>• <b>Validated Assessments:</b> There is evidence that the assessments are based on sound child development principles, but there is no evidence of validation.</li> </ul>
<p><b>Professional Development Opportunities</b></p>		<ul style="list-style-type: none"> <li>• <b>Initial Training:</b> No initial training is provided.</li> <li>• <b>Continued Professional Development:</b> No continued professional development is provided.</li> <li>• <b>Level of Individualization:</b> No individualization of professional development is provided.</li> <li>• <b>Other Program Staff:</b> No professional development is provided.</li> <li>• <b>Multiple Modes:</b> No professional development is provided.</li> <li>• <b>Evidence of Validation:</b> No professional development is provided.</li> </ul>
<p><b>Family Involvement Materials</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials:</b> There are materials (e.g., newsletters called School Home Connections) provided for teachers to distribute to caregivers that review what children are learning in the classroom and provide strategies for families to review/extend learning outside of the classroom.</li> <li>• <b>Teacher Guidance:</b> There is minimal guidance provided to teachers on how to link learning goals to home. The School Home Connections newsletter encourages teachers to send materials home at various time points.</li> <li>• <b>Incorporating Family Volunteers in Classroom:</b> No guidance is provided.</li> <li>• <b>Parent-Teacher Relationships:</b> No guidance is provided.</li> </ul>







<h2>McGraw-Hill My Math<sup>®</sup></h2>		<p><b>Curriculum Description</b>  <i>McGraw-Hill My Math</i> is designed to develop conceptual understanding, computational proficiency, and mathematical literacy. It has been specifically designed as a foundation for the Common Core State Standards. The Teacher Edition contains explanations of the math background that serves as the premise for each lesson as it pertains to the progression of a student’s understanding.</p> <p>McGraw Hill Education. (2013). <i>McGraw-Hill My Math</i>.  Retrieved from: <a href="https://www.mheonline.com/program/view/1/16/2557/MYMATH2013/">https://www.mheonline.com/program/view/1/16/2557/MYMATH2013/</a></p>	
<p><b>Target Population</b>  Preschool children, ages 3–4</p>		<p><b>Delivery</b></p> <ul style="list-style-type: none"> <li>• Small Group Instruction</li> <li>• Whole Group Instruction</li> </ul>	
<p><b>Cost per Classroom</b>  Complete System © 2013: \$673.92  Retrieved from: <a href="https://www.mheonline.com/program/view/1/16/2557/MYMATH2013/2641/0021293058/">https://www.mheonline.com/program/view/1/16/2557/MYMATH2013/2641/0021293058/</a></p>		<p><b>Domain Elements Covered</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense</li> <li><input checked="" type="checkbox"/> Patterns</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison</li> </ul>	
<p><b>Training</b>  Web-based resources including webinars videos are available free of charge. Custom webinars are available for \$1,000 and in-person training can be provided for \$2,500 per day.</p>			
<p><b>Curriculum Materials Reviewed by Raters</b>  Teacher Edition • Flipbook</p>			

No evidence	Minimal evidence	Some evidence	Solid, high-quality evidence






<p><b>Evidence-Based</b></p>		<ul style="list-style-type: none"> <li>• <b>Research Rigor:</b> At the time of this review, there are no available research studies in published, peer-reviewed journals.</li> <li>• <b>Curriculum Implementation:</b> At the time of this review, there are no available research studies in published, peer-reviewed journals.</li> <li>• <b>Replication/Generalization:</b> At the time of this review, there are no available research studies in published, peer-reviewed journals.</li> </ul>
<p><b>Effects on Child Outcomes</b></p>		<ul style="list-style-type: none"> <li>• <b>Evidence of Child Outcomes:</b> At the time of this review, there are no available research studies in published, peer-reviewed journals.</li> </ul>
<p><b>Comprehensive Across Domain Elements</b></p>		<ul style="list-style-type: none"> <li>• <b>Number of Domain Elements Covered:</b> <i>My Math</i> covers all five of the Mathematics Knowledge &amp; Skills domain elements: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities: Weeks 1–4</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations: Weeks 24–26</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense: Weeks 5–6</li> <li><input checked="" type="checkbox"/> Patterns: Weeks 10–11</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison: Partially covered throughout (see component number 4)</li> </ul> </li> </ul>
<p><b>Depth for Each Covered Domain Element</b></p>		<ul style="list-style-type: none"> <li>• <b>Organized Scope and Sequence – Number Concepts &amp; Quantities:</b> <i>My Math</i> covers all five of the Number Concepts &amp; Quantities skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Number Relationships &amp; Operations:</b> <i>My Math</i> covers all three of the Number Relationships &amp; Operations skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Geometry &amp; Spatial Sense:</b> <i>My Math</i> covers all four of the Geometry &amp; Spatial Sense skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Patterns:</b> <i>My Math</i> covers all three of the Patterns skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Measurement &amp; Comparison:</b> <i>My Math</i> covers all three of the Measurement &amp; Comparison skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> </ul>
<p><b>Specific Learning Goals</b></p>		<ul style="list-style-type: none"> <li>• <b>Goals or Objectives:</b> <i>My Math</i> specifies goals for each learning activity that are specific, measurable, child-focused, and developmentally appropriate.</li> <li>• <b>Alignment between Goals and Learning Activities:</b> There is evidence of alignment between the learning goals and the learning activities. It is indicated which pieces of each activity meet which goals. The objective stated at the beginning of each lesson aligns with the activities in that lesson.</li> <li>• <b>Alignment between Goals and Scope and Sequence:</b> There is evidence of clear alignment between the learning goals for each learning activity and the scope and sequence.</li> </ul>



<p><b>Well-Designed Learning Activities</b></p>		<ul style="list-style-type: none"> <li>• <b>Organization of Learning Activities:</b> The learning activities are logical and follow a similar pattern across different activities. For example, the activities follow a similar pattern with objectives, vocabulary, and resources needed, as well as the developmental “What’s the Math” section.</li> <li>• <b>Ease of Implementation:</b> There are multiple supports provided to facilitate implementation. For example, each activity provides a Resources section that includes materials needed, manipulatives, and books to use. In addition, there are clear instructions provided for each activity along with sample questions and prompts to use with children.</li> <li>• <b>Variety:</b> My Math prompts teachers to use various activity formats (whole, group, small group, transitions) and a variety of interactive materials.</li> <li>• <b>Purpose of Activity Is Clear and Meaningful:</b> The purpose of each activity is well-defined and appears to be a meaningful part of the overall curriculum. The “Chapter Overview” provided at the beginning of each chapter describes the purpose of the activities within that chapter and is meaningfully connected to the content within the chapter.</li> </ul>
<p><b>Responsive Teaching</b></p>		<ul style="list-style-type: none"> <li>• <b>Variety of Strategies:</b> There is a presence of both child-focused and teacher-directed strategies. Children are allowed some, although limited, opportunities to incorporate their ideas.</li> <li>• <b>Guidelines for Teacher-Child Interactions:</b> My Math provides strong support regarding how to provide high-quality interactions that is embedded within learning activities.</li> </ul>
<p><b>Supports for Individualized Instruction</b></p>		<ul style="list-style-type: none"> <li>• <b>Support for Children Performing below Cognitive/Academic Expectations:</b> Most learning activities provide activity-specific support for differentiating for children who are below cognitive or academic expectations. For example, there is guidance for differentiated instruction provided throughout each chapter, including “Stepping Back” sections that provide guidance for learners “approaching” the level of the main lesson.</li> <li>• <b>Support for Children Performing above Cognitive/Academic Expectations:</b> Most learning activities provide activity-specific support for differentiating for children who are above cognitive or academic expectations. For example, there is guidance for differentiated instruction provided throughout each chapter, including “Going Farther” sections that provide guidance for learners “beyond” the level of the main lesson.</li> <li>• <b>Differentiating Support for Children with Physical and/or Emotional Needs:</b> No guidelines are provided.</li> <li>• <b>Material Adaptation:</b> There are multiple, clear guidelines for ways to adapt the materials to meet different levels of need.</li> <li>• <b>Environment Adaptation:</b> No guidelines are provided.</li> </ul>
<p><b>Culturally and Linguistically Responsive</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials Represent Diversity of Language:</b> Songs and visual vocabulary cards are available in Spanish, but the majority of materials, including those for families, are available only in English.</li> <li>• <b>Materials Represent Diversity:</b> Materials provided (the Teacher Edition and Flipbook) portray diversity; however, there is no mention of selecting culturally responsive materials.</li> <li>• <b>Support for Dual-Language Learners:</b> The curriculum provides high-quality guidance and specific strategies for how English-speaking teachers can communicate with children who speak languages other than English. For example, the “English Language Learners” sections provided throughout each chapter provide guidance for teachers, including how to model vocabulary.</li> <li>• <b>Meeting Cultural Needs Specific to a Center:</b> No guidance is provided.</li> </ul>





<p><b>Ongoing Assessments</b></p>		<ul style="list-style-type: none"> <li>• <b>Meaningful Alignment to Learning Activities:</b> There is evidence that the assessments align with learning goals covered in learning activities. The “Progress Checklists” assess the same skills that are the stated objectives for each chapter.</li> <li>• <b>Meaningful Alignment to Head Start Outcomes:</b> The assessments measure children’s skills on outcomes that are fully aligned with the HSCDEL’s Mathematics Knowledge &amp; Skills.</li> <li>• <b>Using Assessment Information:</b> My Math provides support for how to reflect on assessment results in order to adapt future learning activities. The end of each lesson includes a “Let’s Assess” section with guidance for teachers to assess the class’s progress.</li> <li>• <b>Teacher-friendly Assessments:</b> The assessments, Let’s Assess and Progressive Checklists, are easily accessible, user-friendly, and efficient to implement.</li> <li>• <b>Validated Assessments:</b> None provided.</li> </ul>
<p><b>Professional Development Opportunities</b></p>		<ul style="list-style-type: none"> <li>• <b>Initial Training:</b> On-site and web-based initial trainings are available.</li> <li>• <b>Continued Professional Development:</b> On-site and web-based continued professional development is available.</li> <li>• <b>Level of Individualization:</b> Customized webinars and on-site professional development are available.</li> <li>• <b>Other Program Staff:</b> PD is available for other program staff to attend.</li> <li>• <b>Multiple Modes:</b> Professional development is available in-person and online.</li> <li>• <b>Evidence of Validation:</b> There is no evidence that professional development is validated.</li> </ul>
<p><b>Family Involvement Materials</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials:</b> There are materials provided for teachers to distribute to caregivers that review what children are learning in the classroom and provide strategies for families to review/extend learning outside of the classroom. The curriculum provides Family Letters and Trip Talk handouts to be sent home at the beginning of each chapter. These include activities for families to do with their children to extend their learning. There is no guidance for adapting materials for different classrooms.</li> <li>• <b>Teacher Guidance:</b> There is minimal guidance provided to teachers on how to link learning goals to home.</li> <li>• <b>Incorporating Family Volunteers in Classroom:</b> No guidance is provided.</li> <li>• <b>Parent-Teacher Relationships:</b> No guidance is provided.</li> </ul>



<h2>Number Worlds</h2>		<p><b>Curriculum Description</b>  <i>Number Worlds</i> (Level A, Pre-K) is designed to prepare students to meet Common Core State Standards. Number Worlds Weekly Planners map out the week of lessons. Teachers can access all digital planning tools and resources online. <i>Number Worlds</i> uses interactive games, embedded activities, digital resources, and project-based learning. Every <i>Number Worlds</i> activity is tied to a Key Common Core State Standard. A variety of assessment options can be used to evaluate student proficiency.</p> <p>McGraw Hill Education. (2013). <i>Number Worlds</i>.</p> <p>Retrieved from: <a href="https://www.mheonline.com/programMHID/view/0076NW2015">https://www.mheonline.com/programMHID/view/0076NW2015</a></p>	
<p><b>Target Population</b>          Preschool children, ages 3–4</p>		<p><b>Delivery</b></p> <ul style="list-style-type: none"> <li>• Small Group Instruction</li> <li>• Whole Group Instruction</li> <li>• Individual computer work</li> </ul>	
<p><b>Cost per Classroom</b>          Prevention Package, 6-year subscription for Level A, Number Worlds: \$676.02          Student License, 1-year subscription, 5 students, for Level A, Number Worlds: \$60.00          Assessment Level A, Number Worlds: \$51.00          Manipulative Plus Pack Level A, Number Worlds: \$165.36</p> <p>Retrieved from: <a href="https://www.mheonline.com/programMHID/view/0076NW2015">https://www.mheonline.com/programMHID/view/0076NW2015</a></p>		<p><b>Domain Elements Covered</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense</li> <li><input type="checkbox"/> Patterns</li> <li><input type="checkbox"/> Measurement &amp; Comparison</li> </ul>	
<p><b>Training</b>          No training provided</p>			
<p><b>Curriculum Materials Reviewed by Raters</b>          Teacher Edition • Implementation Guide</p>			

No evidence	Minimal evidence	Some evidence	Solid, high-quality evidence







## NUMBER WORLDS

<p><b>Evidence-Based</b></p>		<ul style="list-style-type: none"> <li>• <b>Research Rigor:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> <li>• <b>Curriculum Implementation:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> <li>• <b>Replication/Generalization:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> </ul>
<p><b>Effects on Child Outcomes</b></p>		<ul style="list-style-type: none"> <li>• <b>Evidence of Child Outcomes:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> </ul>
<p><b>Comprehensive Across Domain Elements</b></p>		<ul style="list-style-type: none"> <li>• <b>Number of Domain Elements Covered:</b> <i>Number Worlds</i> covers all five of the Mathematics Knowledge &amp; Skills learning domain elements. <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities: Weeks 1–4</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations: Weeks 24–26</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense: Weeks 5–6</li> <li><input checked="" type="checkbox"/> Patterns: Weeks 10–11</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison: Throughout</li> </ul> </li> </ul>
<p><b>Depth for Each Covered Domain Element</b></p>		<ul style="list-style-type: none"> <li>• <b>Organized Scope and Sequence – <i>Number Concepts &amp; Quantities</i>:</b> <i>Number Worlds</i> covers all five of the Number Concepts &amp; Quantities skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities. The “Contents” pages list topics by week and within each week activities are numbered to indicate order. The Implementation Guide provides Developmental Learning Trajectories for math skills, which coincide with the order of topics presented in the Contents.</li> <li>• <b>Organized Scope and Sequence – <i>Number Relationships &amp; Operations</i>:</b> <i>Number Worlds</i> covers all three of the Number Relationships &amp; Operations skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – <i>Geometry &amp; Spatial Sense</i>:</b> <i>Number Worlds</i> covers three out of four of the Geometry &amp; Spatial Sense skills. Understands directionality, order, and position of objects, such as up, down, in front, behind, is not covered. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – <i>Patterns</i>:</b> <i>Number Worlds</i> covers one of out of three of the Patterns skills. Recognizes, duplicates, and extends simple patterns is not covered. Creates patterns through the repetition of a unit is not covered. The Learning Trajectories provided in the Implementation Guide include levels for patterning and early algebra, but the content on patterning is not reflected in the curriculum’s lessons with the exception of two project activities.</li> <li>• <b>Organized Scope and Sequence – <i>Measurement &amp; Comparison</i>:</b> <i>Number Worlds</i> covers one out of three of the Measurement &amp; Comparison skills. In the scope and sequence section, it is stated that length, capacity, weight is not addressed until elementary school. Orders objects by size or length is not covered. Uses nonstandard and standard techniques and tools to measure and compare is not covered.</li> </ul>
<p><b>Specific Learning Goals</b></p>		<ul style="list-style-type: none"> <li>• <b>Goals or Objectives:</b> <i>Number Worlds</i> specifies goals for each learning activity that are specific, measurable, child-focused, and developmentally appropriate.</li> <li>• <b>Alignment between Goals and Learning Activities:</b> There is evidence of alignment between the learning goals of each learning activity and the activities within the learning activity. It is indicated which pieces of the activity meet which goals.</li> <li>• <b>Alignment between Goals and Scope and Sequence:</b> There is evidence of alignment between units and scope and sequence at a broad level.</li> </ul>






## NUMBER WORLDS

<p><b>Well-Designed Learning Activities</b></p>		<ul style="list-style-type: none"> <li>• <b>Organization of Learning Activities:</b> The learning activities are logical and follow a similar pattern across different activities. For example, each week includes four lessons, one “review” lesson and a “project-based learning” activity.</li> <li>• <b>Ease of Implementation:</b> There are multiple supports provided to facilitate implementation. There are clear instructions provided for each activity, and the materials needed for activities are listed in each of the Weekly Planner sections as well as the sidebar for each lesson. There are also Teacher’s Note boxes within some lessons with additional tips on instruction.</li> <li>• <b>Variety:</b> Number Worlds prompts teachers to use multiple setting and interactive materials to meet a wide variety of learning styles. While the main activities vary in setting, each lesson often begins with a group activity.</li> <li>• <b>Purpose of Activity Is Clear and Meaningful:</b> The purpose of each activity is well-defined and appears to be a meaningful part of the overall curriculum.</li> </ul>
<p><b>Responsive Teaching</b></p>		<ul style="list-style-type: none"> <li>• <b>Variety of Strategies:</b> The activities are primarily teacher-directed, but there is some evidence of child-focused strategies where teachers are encouraged to solicit children’s perspectives and choices of activity on review days.</li> <li>• <b>Guidelines for Teacher-Child Interactions:</b> Number Worlds provides strong support regarding how to provide high-quality interactions that are embedded within learning activities.</li> </ul>
<p><b>Supports for Individualized Instruction</b></p>		<ul style="list-style-type: none"> <li>• <b>Support for Children Performing below Cognitive/Academic Expectations:</b> Most learning activities provide activity-specific support for differentiating for children who are below cognitive or academic expectations. For example, each activity includes an “interactive differentiation” section with ideas for independent and supported practice.</li> <li>• <b>Support for Children Performing above Cognitive/Academic Expectations:</b> Most learning activities provide activity-specific support for differentiating for children who are above cognitive or academic expectations. Some activity cards include a “Challenge” section that suggests variations to make activities more challenging. In addition, the curriculum software used for individual practice includes interactive differentiation which makes activities more challenging for students who demonstrate mastery.</li> <li>• <b>Differentiating Support for Children with Physical and/or Emotional Needs:</b> There is minimal support provided for children with different physical or emotional needs.</li> <li>• <b>Material Adaptation:</b> There are multiple guidelines provided for adapting materials.</li> <li>• <b>Environment Adaptation:</b> There are some guidelines provided for adapting the environment.</li> </ul>
<p><b>Culturally and Linguistically Responsive</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials Represent Diversity of Language:</b> The curriculum offers materials for families in both English and Spanish.</li> <li>• <b>Materials Represent Diversity:</b> There are multiple materials that represent diversity in terms of culture, ethnicity, gender, etc.; however, there is no guidance for selecting classroom materials.</li> <li>• <b>Support for Dual-Language Learners:</b> <i>Number Worlds</i> provides high-quality guidance and specific strategies for how English-speaking teachers can communicate with children who speak languages other than English. The English Learner Support Guide (a separate booklet) provides teachers with specific strategies to support DLLs. There is general guidance provided in the way of best practices for teaching DLLs, as well as supplemental weekly lessons directly tied to the content the whole class is learning that week.</li> <li>• <b>Meeting Cultural Needs Specific to a Center:</b> <i>Number Worlds</i> provides high-quality suggestions for how to adapt the instruction to meet a specific center’s cultural and linguistic needs, but not in a manner that is specific to the learning activities. The majority of guidance is provided in the form of support for DLLs with some additional comments about differences other than language. However, there is no mention of talking to families about their culture or including their input.</li> </ul>



## NUMBER WORLDS

<p><b>Ongoing Assessments</b></p>		<ul style="list-style-type: none"> <li>• <b>Meaningful Alignment to Learning Activities:</b> There is evidence that assessments align with learning goals covered in learning activities. The formal assessments (weekly and cumulative) within the Assessment Guide align with the standards and the learning objectives listed for each week.</li> <li>• <b>Meaningful Alignment to Head Start Outcomes:</b> The assessments measure children’s skills on outcomes that are fully aligned with HSCDEL’s Mathematics Knowledge &amp; Skills.</li> <li>• <b>Using Assessment Information:</b> <i>Number Worlds</i> provides support for how to reflect on both the informal and formal assessment results in order to adapt future learning activities.</li> <li>• <b>Teacher-friendly Assessments:</b> The assessments are easily accessible, user-friendly, and efficient to implement. The “implementation guide” includes an introduction to the various levels of assessment, as well as the online component. The “placement test guide” and the assessment guide offers guidance and support for teachers to implement and use the assessments.</li> <li>• <b>Validated Assessments:</b> The assessments are based on child development principles; however, there is no evidence that they have been validated and linked to children’s outcomes.</li> </ul>
<p><b>Professional Development Opportunities</b></p>		<ul style="list-style-type: none"> <li>• <b>Initial Training:</b> No initial training is provided.</li> <li>• <b>Continued Professional Development:</b> No continued professional development is provided.</li> <li>• <b>Level of Individualization:</b> No individualization of professional development is provided.</li> <li>• <b>Other Program Staff:</b> No professional development is provided.</li> <li>• <b>Multiple Modes:</b> No professional development is provided.</li> <li>• <b>Evidence of Validation:</b> No professional development is provided.</li> </ul>
<p><b>Family Involvement Materials</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials:</b> There are materials provided for teachers to distribute to caregivers that review what children are learning in the classroom and provide strategies for families to review/extend learning outside of the classroom. Each weekly planner directs teachers to give each child a “Letter to Home” which includes an activity that teacher’s complete with children in class and then encourage them to share this activity at home.</li> <li>• <b>Teacher Guidance:</b> There is minimal guidance provided to teachers on how to link learning goals to home.</li> <li>• <b>Incorporating Family Volunteers in Classroom:</b> No guidance is provided.</li> <li>• <b>Parent-Teacher Relationships:</b> No guidance is provided.</li> </ul>








<h2>Numbers Plus Preschool Mathematics Curriculum</h2>	
<p><b>Target Population</b> Preschool children, ages 3–4</p>	<p><b>Curriculum Description</b> <i>Numbers Plus Preschool Mathematics Curriculum</i> is a comprehensive set of detailed plans for small- and large-group activities with ideas for extending mathematics learning throughout the program day. HighScope Educational Research Foundation. (2014). <i>Numbers Plus</i>. Retrieved from: <a href="http://secure.highscope.org/productcart/pc/viewPrd.asp?idproduct=1066">http://secure.highscope.org/productcart/pc/viewPrd.asp?idproduct=1066</a></p>
<p><b>Cost per Classroom</b> Numbers Plus Preschool Mathematics Curriculum: \$274.95 Retrieved from: <a href="http://secure.highscope.org/productcart/pc/viewPrd.asp?idproduct=1066">http://secure.highscope.org/productcart/pc/viewPrd.asp?idproduct=1066</a></p>	<p><b>Delivery</b></p> <ul style="list-style-type: none"> <li>• Small Group Instruction</li> <li>• Whole Group Instruction</li> </ul> <p><b>Domain Elements Covered</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense</li> <li><input checked="" type="checkbox"/> Patterns</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison</li> </ul>
<p><b>Training</b> A six-week online training is offered for \$250. The course, "... will introduce you to the importance of math learning for preschool children and use of the Numbers Plus Preschool Mathematics Curriculum." (<a href="http://www.highscope.org">www.highscope.org</a>)</p>	
<p><b>Curriculum Materials Reviewed by Raters</b> Teacher’s Manual • Activity Cards • Parent Booklets</p>	

No evidence	Minimal evidence	Some evidence	Solid, high-quality evidence





## NUMBERS PLUS PRESCHOOL MATHEMATICS CURRICULUM

<p><b>Evidence-Based</b></p>		<ul style="list-style-type: none"> <li>• <b>Research Rigor:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> <li>• <b>Curriculum Implementation:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> <li>• <b>Replication/Generalization:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> </ul>
<p><b>Effects on Child Outcomes</b></p>		<ul style="list-style-type: none"> <li>• <b>Evidence of Child Outcomes:</b> At the time of this review, there were no available published research studies conducted with a preschool sample of children.</li> </ul>
<p><b>Comprehensive Across Domain Elements</b></p>		<ul style="list-style-type: none"> <li>• <b>Number of Domain Elements Covered:</b> <i>Numbers Plus</i> covers all five of the Mathematics Knowledge &amp; Skills domain elements: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense</li> <li><input checked="" type="checkbox"/> Patterns</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison</li> </ul> </li> </ul>
<p><b>Depth for Each Covered Domain Element</b></p>		<ul style="list-style-type: none"> <li>• <b>Organized Scope and Sequence – Number Concepts &amp; Quantities:</b> <i>Numbers Plus</i> covers all five of the Number Concepts &amp; Quantities skills. The Introduction in the Teacher’s Manual acknowledges the importance of children needing to learn foundational math skills before proceeding to the next level; however, this curriculum “...sequence[s] learning and instruction within each activity” and says that the activities can be taught in any order with a few exceptions. For the purpose of this evaluation, this is not considered to be “sequenced” for this domain element.</li> <li>• <b>Organized Scope and Sequence – Number Relationships &amp; Operations:</b> <i>Numbers Plus</i> covers all three of the Number Relationships &amp; Operations skills. There is not a sequence for teaching Number Relationships &amp; Operations (see Number Concepts &amp; Quantities for description).</li> <li>• <b>Organized Scope and Sequence – Geometry &amp; Spatial Sense:</b> <i>Numbers Plus</i> covers all three of the Geometry &amp; Spatial Sense skills. There is not a sequence for teaching Geometry &amp; Spatial Sense (see Number Concepts &amp; Quantities for description).</li> <li>• <b>Organized Scope and Sequence – Patterns:</b> <i>Numbers Plus</i> covers all three of the Patterns skills. There is not a sequence for teaching Patterns (see Number Concepts &amp; Quantities for description).</li> <li>• <b>Organized Scope and Sequence – Measurement &amp; Comparison:</b> <i>Numbers Plus</i> covers all three of the Measurement &amp; Comparison skills. There is not a sequence for teaching Measurement &amp; Comparison (see Number Concepts &amp; Quantities for description).</li> </ul>
<p><b>Specific Learning Goals</b></p>		<ul style="list-style-type: none"> <li>• <b>Goals or Objectives:</b> <i>Numbers Plus</i> provides objectives for each activity; however, they are global and do not always correspond to the content of the activity.</li> <li>• <b>Alignment between Goals and Learning Activities:</b> The learning goals are provided in chunks (i.e., lists associated with categories, such as Counting), and therefore, all do not apply for each activity that specifies those goals.</li> <li>• <b>Alignment between Goals and Scope and Sequence:</b> Although no sequence was identified, there is a match between the learning goals within each topic and activities within the topic, but pieces of each activity are not labeled.</li> </ul>






## NUMBERS PLUS PRESCHOOL MATHEMATICS CURRICULUM

<p><b>Well-Designed Learning Activities</b></p>		<ul style="list-style-type: none"> <li>• <b>Organization of Learning Activities:</b> The learning activities are logical and follow a similar pattern across different activities, as described in the Teacher’s Manual. There is a built-in progression of skills within activities.</li> <li>• <b>Ease of Implementation:</b> There are multiple supports provided to facilitate implementation. There are strategies for supporting children’s skills provided in the introduction for each topic area. In addition, each activity card includes a list of materials and clear direction, including specific prompts teachers can use with children.</li> <li>• <b>Variety:</b> Numbers Plus prompts teachers to use multiple strategies and interactive materials to meet a wide variety of learning styles.</li> <li>• <b>Purpose of Activity Is Clear and Meaningful:</b> Numbers Plus identifies a purpose at the beginning of each unit, but not individual lessons.</li> </ul>
<p><b>Responsive Teaching</b></p>		<ul style="list-style-type: none"> <li>• <b>Variety of Strategies:</b> There is a presence of both child-focused and teacher-directed strategies, and the curriculum provides room for incorporating children’s perspectives.</li> <li>• <b>Guidelines for Teacher-Child Interactions:</b> <i>Numbers Plus</i> provides strong support regarding how to provide high-quality interactions, both within the Teacher’s Manual and individual activities.</li> </ul>
<p><b>Supports for Individualized Instruction</b></p>		<ul style="list-style-type: none"> <li>• <b>Support for Children Performing below Cognitive/Academic Expectations:</b> Most learning activities provide activity-specific support for differentiating for children who are below cognitive or academic expectations. Although the curriculum does not use the term “expectations,” teaching a range of skill levels is addressed in every activity in the “Developmental Range: Supporting children at different levels” section on the back of each activity card.</li> <li>• <b>Support for Children Performing above Cognitive/Academic Expectations:</b> Most learning activities provide activity-specific support for differentiating for children who are above cognitive or academic expectations.</li> <li>• <b>Differentiating Support for Children with Physical and/or Emotional Needs:</b> No guidelines are provided.</li> <li>• <b>Material Adaptation:</b> There are multiple, clear guidelines for ways to adapt the materials to meet different levels of need. For example, there are multiple activity cards that include directions for altering the use of materials to help children grasp the mathematical skills targeted by the activity.</li> <li>• <b>Environment Adaptation:</b> No guidelines are provided.</li> </ul>
<p><b>Culturally and Linguistically Responsive</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials Represent Diversity of Language:</b> The curriculum offers materials and instructions for conducting a parent workshop in both English and Spanish; however, the materials for use in the classroom are only provided in English.</li> <li>• <b>Materials Represent Diversity:</b> There are multiple materials that represent diversity in terms of culture, ethnicity, gender, etc. but are limited to only some learning activities.</li> <li>• <b>Support for Dual-Language Learners:</b> None provided.</li> <li>• <b>Meeting Cultural Needs Specific to a Center:</b> None provided.</li> </ul>





## NUMBERS PLUS PRESCHOOL MATHEMATICS CURRICULUM

<p><b>Ongoing Assessments</b></p>		<ul style="list-style-type: none"> <li>• <b>Meaningful Alignment to Learning Activities:</b> No assessments are provided.</li> <li>• <b>Meaningful Alignment to Head Start Outcomes:</b> No assessments are provided.</li> <li>• <b>Using Assessment Information:</b> No assessments are provided.</li> <li>• <b>Teacher-friendly Assessments:</b> No assessments are provided.</li> <li>• <b>Validated Assessments:</b> No assessments are provided.</li> </ul>
<p><b>Professional Development Opportunities</b></p>		<ul style="list-style-type: none"> <li>• <b>Initial Training:</b> There is an initial training provided to teachers in either a two-day, on-site workshop or a six-week online training.</li> <li>• <b>Continued Professional Development:</b> No continued professional development is provided.</li> <li>• <b>Level of Individualization:</b> <i>Numbers Plus</i> provides some opportunities for individualization. For example, teachers can choose from a menu of content areas and can engage in either in-person or online training. In addition, the description of the training implies some individualization of content based on teachers' needs; however, there do not seem to be any options for more intensive one-on-one help.</li> <li>• <b>Other Program Staff:</b> Other adults are invited to participate in the professional development, but there is no modified content.</li> <li>• <b>Multiple Modes:</b> The training is available as either a two-day, on-site workshop or as a six-week online training.</li> <li>• <b>Evidence of Validation:</b> There is no evidence of validation.</li> </ul>
<p><b>Family Involvement Materials</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials:</b> There are materials provided for teachers to distribute to caregivers that review what children are learning in the classroom and provide strategies for families to review/extend learning outside of the classroom. For example, a parent workshop and take-home booklet, "Helping Your Young Children Learn about Mathematics" convey the big ideas of what children are learning and give strategies for helping children at home.</li> <li>• <b>Teacher Guidance:</b> There is guidance provided on how to link learning goals to home, but in a general format.</li> <li>• <b>Incorporating Family Volunteers in Classroom:</b> No guidance is provided.</li> <li>• <b>Parent-Teacher Relationships:</b> No guidance is provided.</li> </ul>








<h2>Pre-K Mathematics Curriculum</h2>		<p><b>Curriculum Description</b>  <i>Pre-K Mathematics Curriculum</i> is designed to be used with 4-year-old children. The Curriculum Book used with the Curriculum Kit provides math lessons and manipulatives. The curriculum is designed to reinforce children’s understanding of mathematical concepts.</p> <p>Pearson Education, Inc. (2014). <i>Pre-K Mathematics Curriculum</i>.</p> <p>Retrieved from: <a href="http://www.pearsonschool.com/index.cfm?locator=PSZu6e&amp;PMDbProgramId=22107">http://www.pearsonschool.com/index.cfm?locator=PSZu6e&amp;PMDbProgramId=22107</a></p>	
<p><b>Target Population</b>          Preschool children, ages 3–4</p>		<p><b>Delivery</b></p> <ul style="list-style-type: none"> <li>• Small Group Instruction</li> </ul>	
<p><b>Cost per Classroom</b>          Numbers Plus Preschool Mathematics Curriculum: \$274.95</p> <p>Retrieved from: <a href="http://www.pearsonschool.com/index">http://www.pearsonschool.com/index</a></p>		<p><b>Domain Elements Covered</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense</li> <li><input checked="" type="checkbox"/> Patterns</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison</li> </ul>	
<p><b>Training</b>          No training provided</p>			
<p><b>Curriculum Materials Reviewed by Raters</b>          Pre-K Mathematics Curriculum Book</p>			

No evidence	Minimal evidence	Some evidence	Solid, high-quality evidence



## PRE-K MATHEMATICS CURRICULUM




<p><b>Evidence-Based</b></p>		<ul style="list-style-type: none"> <li>• <b>Research Rigor:</b> <i>Pre-K Mathematics</i> has been investigated using an experimental design. Klein et al. (2008) used a randomized, controlled trial to determine whether <i>Pre-K Mathematics</i> was effective in Head Start and state preschool classrooms. In the Effects of Preschool Curriculum Programs on School Readiness (Preschool Curriculum and Evaluation Research Consortium, 2008) report, <i>Pre-K Mathematics</i> was investigated using block randomization where Head Start and public preschools were randomly assigned to either the treatment condition (Pre-K Mathematics supplemented with DLM Early Childhood Express Math software) or the control condition.</li> <li>• <b>Curriculum Implementation:</b> Klein et al. (2008) indicated that the overall fidelity scores for <i>Pre-K Mathematics</i> small-group activities across the year were found to be, on average, high (.90).</li> <li>• <b>Replication/Generalization:</b> <i>Pre-K Mathematics</i> has been studied in more than one sample (e.g., Klein et al., 2008; PCER, 2008) and the sample demographics allow findings to be generalized to diversity in terms of ethnicity/race or SES.</li> </ul>
<p><b>Effects on Child Outcomes</b></p>		<ul style="list-style-type: none"> <li>• <b>Evidence of Child Outcomes:</b> Klein et al. (2008) found that children in the intervention group, compared with children in the control group, had a greater increase in Child Math Assessment (CMA) scores across the pre-kindergarten year. The effect size for the change in CMA scores from fall to spring was 0.89 for the control group and 1.43 for the intervention group with the difference of 0.55 representing the effect size of the curricular intervention.</li> </ul>
<p><b>Comprehensive Across Domain Elements</b></p>		<ul style="list-style-type: none"> <li>• <b>Number of Domain Elements Covered:</b> <i>Pre-K Mathematics</i> covers all five of the Mathematics Knowledge &amp; Skills learning domain elements: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number Concepts &amp; Quantities</li> <li><input checked="" type="checkbox"/> Number Relationships &amp; Operations</li> <li><input checked="" type="checkbox"/> Geometry &amp; Spatial Sense</li> <li><input checked="" type="checkbox"/> Patterns</li> <li><input checked="" type="checkbox"/> Measurement &amp; Comparison</li> </ul> </li> </ul>
<p><b>Depth for Each Covered Domain Element</b></p>		<ul style="list-style-type: none"> <li>• <b>Organized Scope and Sequence – Number Concepts &amp; Quantities:</b> <i>Pre-K Mathematics</i> covers four out of five of the Number Concepts &amp; Quantities skills. The curriculum does not cover the skill: Recites numbers in the correct order and understands that numbers come “before” or “after” one another. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Number Relationships &amp; Operations:</b> <i>Pre-K Mathematics</i> covers all three of the Number Relationships &amp; Operations skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Geometry &amp; Spatial Sense:</b> <i>Pre-K Mathematics</i> covers all four of the Geometry &amp; Spatial Sense skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Patterns:</b> <i>Pre-K Mathematics</i> covers all three of the Patterns skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> <li>• <b>Organized Scope and Sequence – Measurement &amp; Comparison:</b> <i>Pre-K Mathematics</i> covers all three of the Measurement &amp; Comparison skills. There is an identifiable instructional sequence that presents multiple skills linked to individual learning activities.</li> </ul>
<p><b>Specific Learning Goals</b></p>		<ul style="list-style-type: none"> <li>• <b>Goals or Objectives:</b> <i>Pre-K Mathematics</i> specifies goals for each learning activity that are specific, measurable, child-focused, and developmentally appropriate.</li> <li>• <b>Alignment between Goals and Learning Activities:</b> There is evidence of alignment between the learning goals of the learning activity and the activities within the learning activity. It is indicated which pieces of the activity meet which goals.</li> <li>• <b>Alignment between Goals and Scope and Sequence:</b> There is evidence of alignment between the learning goals for each learning activity and the scope and sequence. The Sample Curriculum Plan, which describes the scope sequence, coincides with activity goals.</li> </ul>

PRE-K MATHEMATICS CURRICULUM

<p><b>Well-Designed Learning Activities</b></p>		<ul style="list-style-type: none"> <li>• <b>Organization of Learning Activities:</b> The learning activities are logical and follow a similar pattern across different activities. For example, all units and individual activities are organized with the same headings and sections.</li> <li>• <b>Ease of Implementation:</b> There are multiple supports provided to facilitate implementation. All activities include detailed instructions for implementing the activity, along with “Teacher Tips,” activity set-up, and necessary materials. Activities also include extensive model prompts for teachers to use.</li> <li>• <b>Variety:</b> <i>Pre-K Mathematics</i> prompts teachers to use multiple strategies and interactive materials to meet a wide variety of learning styles.</li> <li>• <b>Purpose of Activity Is Clear and Meaningful:</b> The purpose of the activities is well-defined and appears to be a meaningful part of the overall curriculum.</li> </ul>
<p><b>Responsive Teaching</b></p>		<ul style="list-style-type: none"> <li>• <b>Variety of Strategies:</b> All of the classroom and home activities are adult/teacher-directed.</li> <li>• <b>Guidelines for Teacher-Child Interactions:</b> Most learning activities include guidance, such as scripts and visuals, for teachers on how to introduce and implement the activity. There are specific questions for teachers to ask children to facilitate learning, as well as guidance on how to make the activity less challenging or more challenging, depending on the child’s developmental level.</li> </ul>
<p><b>Supports for Individualized Instruction</b></p>		<ul style="list-style-type: none"> <li>• <b>Support for Children Performing below Cognitive/Academic Expectations:</b> Learning activities provide activity-specific support for differentiating for children who are below cognitive or academic expectations. For example, each activity includes a “Downward extension” section that has ideas for modifying the activity to make it less challenging for children.</li> <li>• <b>Support for Children Performing above Cognitive/Academic Expectations:</b> Learning activities provide activity-specific support for differentiating for children who are above cognitive or academic expectations. For example, each activity includes an “Upward Extension” section that has ideas for modifying the activity to make it more challenging for children.</li> <li>• <b>Differentiating Support for Children with Physical and/or Emotional Needs:</b> No guidelines are provided.</li> <li>• <b>Material Adaptation:</b> There are multiple, clear guidelines for ways to adapt the materials to meet different levels of need.</li> <li>• <b>Environment Adaptation:</b> No guidelines are provided.</li> </ul>
<p><b>Culturally and Linguistically Responsive</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials Represent Diversity of Language:</b> The curriculum provides materials in English only.</li> <li>• <b>Materials Represent Diversity:</b> Most materials represent a single, majority culture, but occasionally materials are incorporated that represent diversity. For example, one of the few examples of diversity is the cover of the curriculum book, which portrays children of different races and genders.</li> <li>• <b>Support for Dual-Language Learners:</b> No guidance is provided.</li> <li>• <b>Meeting Cultural Needs Specific to a Center:</b> No guidance is provided.</li> </ul>



## PRE-K MATHEMATICS CURRICULUM

<p><b>Ongoing Assessments</b></p>		<ul style="list-style-type: none"> <li>• <b>Meaningful Alignment to Learning Activities:</b> There is evidence that the assessments align with learning goals covered in learning activities. Assessment Record Sheets are provided for each activity.</li> <li>• <b>Meaningful Alignment to Head Start Outcomes:</b> The assessments measure students’ skills on outcomes that are fully aligned with the HSCDELF Mathematics Knowledge &amp; Skills domain elements.</li> <li>• <b>Using Assessment Information:</b> There are minimal instructions or prompts provided for a teacher to reflect on assessment information.</li> <li>• <b>Teacher-friendly Assessments:</b> The assessments are easily accessible, user-friendly, and efficient to implement.</li> <li>• <b>Validated Assessments:</b> There is evidence that the assessments are based on child development principles; however, they have not been validated and linked to children’s outcomes.</li> </ul>
<p><b>Professional Development Opportunities</b></p>		<ul style="list-style-type: none"> <li>• <b>Initial Training:</b> No professional development is provided.</li> <li>• <b>Continued Professional Development:</b> No professional development is provided.</li> <li>• <b>Level of Individualization:</b> No professional development is provided.</li> <li>• <b>Other Program Staff:</b> No professional development is provided.</li> <li>• <b>Multiple Modes:</b> No professional development is provided.</li> <li>• <b>Evidence of Validation:</b> No professional development is provided.</li> </ul>
<p><b>Family Involvement Materials</b></p>		<ul style="list-style-type: none"> <li>• <b>Materials:</b> There are materials provided for teachers to distribute to caregivers that review what children are learning in the classroom and provide strategies for families to review/extend learning outside of the classroom. The curriculum manual includes “Home Activities” where parents are given information about a child’s goal for the activity, key vocabulary, materials needed as well as directions on how to implement the activity.</li> <li>• <b>Teacher Guidance:</b> There is minimal guidance provided to teachers on how to link learning goals to home.</li> <li>• <b>Incorporating Family Volunteers in Classroom:</b> No guidance is provided.</li> <li>• <b>Parent-Teacher Relationships:</b> No guidance is provided.</li> </ul>



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## Big Math for Little Kids

Presser, A., Clements, M., Ginsburg, H., & Ertle, B. (2015). Big Math for Little Kids: The effectiveness of a preschool and kindergarten mathematics curriculum. *Early Education and Development*.

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## Number Worlds

Griffin, S., Case, R. (1997). Re-Thinking the Primary School Math Curriculum: An Approach Based on Cognitive Science. *Issues in Education*, 4(1), 1–51.

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## Pre-K Mathematics Curriculum

Klein, A., Starkey, P., Clements, D., Sarama, J., & Iyer, R. (2008). Effects of a pre-kindergarten mathematics intervention: A randomized experiment. *Journal of Research on Educational Effectiveness*, 1, 155–178.

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# APPENDIX A: DETAILS ABOUT THE REVIEW PROCESS

## Selection of Reviewers

Curriculum reviewers were required to have an advanced degree (either MA or PhD) in Early Childhood Education, Child Development, or a related field. They were also required to have research or field experience in early childhood education or early childhood development. In total we had two reviewers rate each curriculum.

## Training of Reviewers

Reviewers were required to complete 10 to 15 hours of training before rating any of the curriculum. Reviewers were first required to read the following background material:

- Head Start Child Development and Early Learning Framework
- A checklist of Steps on How to Evaluate Pre-K Curricula
- Sections from the National Research Council's 2009 book, *Mathematics Learning in Early Childhood*

Reviewers then carefully reviewed the rating rubric. Once reviewers felt that they understood the rating rubric, they were given a "practice curriculum" to review and rate. This curriculum had been previously, independently reviewed by three core reviewers. These reviewers met together and came to a consensus for each rating of this curriculum and provided a detailed justification for each criterion within each component. Reviewers compared their individual ratings and justifications with this consensus rating. Trainees met with one of the core raters to discuss issues that arose from this practice training. Once all questions were clarified, raters were provided with curriculum to independently review.

## Review Process

Two reviewers, who were not associated with the curriculum, independently reviewed all curricular materials thoroughly. Each used the rubric to determine a rating for each criterion within each of the 12 components. Additionally, the reviewer wrote a rationale for each rating. Component ratings were determined by averaging the evidence across the criteria within the respective component. Each reviewer spent approximately 8 to 10 hours reviewing, scoring, and writing rationales for each curriculum.

Ratings and rationales were provided to the NCQTL core curricula team at the University of Virginia. An individual who did not serve as a reviewer compiled the ratings and rationales for each curriculum. A core rater reviewed both sets of ratings and justifications. If discrepancies existed between the two sets of ratings, then a core rater reviewed curricular materials in order to determine a final rating for each component.



For more information, contact us at: [NCQTL@UW.EDU](mailto:NCQTL@UW.EDU) or 877-731-0764

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# APPENDIX B: DETAILED DESCRIPTION OF INCLUDED TABLES

## The first table includes:

- Curriculum Description: A brief description of the curriculum
- Delivery: how the curriculum is administered (e.g. whole group, small group, individuals, pairs)
- Covered Learning Domain Elements: If the majority of skills for a particular domain element (see Appendix E) were covered, this is indicated with a  symbol next to the domain element. If the majority of skills were not covered, this is indicated with a  next to the domain element.
- Target Population: Intended audience of the curriculum
- Cost per Classroom: Total cost of curricular materials (e.g. manipulative kit, assessment materials, total curriculum package)
- Training: Professional development opportunities offered by the publishers, as well as the cost
- Curriculum Materials Reviewed by Raters: Curricular materials included in the review

## The second table includes:

- Ratings for each of the 12 components
- A rationale for the rating



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# APPENDIX C: LIST OF CURRICULUM RESOURCES

Following is a list of resources that are available to help programs choose and implement an early childhood education curriculum:

- **Linguistically and Culturally Relevant Early Childhood Environments**

The importance of culturally and linguistically diverse environments is described. This resource can be used to better understand Component 9. [http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/cultural-linguistic/Dual%20Language%20Learners/ecd/supportive\\_environments/Linguisticallyan.html](http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/cultural-linguistic/Dual%20Language%20Learners/ecd/supportive_environments/Linguisticallyan.html)

- **Parent, Family, and Community Engagement Framework—Head Start Approach to School Readiness**

The importance of family and community involvement in the education of children is addressed. This resource can be used to better understand Component 12. <http://eclkc.ohs.acf.hhs.gov/hslc/sr/approach/pfcef>

- **Head Start Approach to School Readiness—Overview**

A full report on the School Readiness approach is included on this page. Part of school readiness depends on having the appropriate curriculum, along with various other elements. <http://eclkc.ohs.acf.hhs.gov/hslc/sr/approach/>

- **Office of Head Start Summit—On the Road to School Readiness**

This page describes the Head Start Summit from February 2011. These is information on school readiness, the roles of curriculum, ongoing assessment and instruction, and using data for program self-assessment/improvement. <http://eclkc.ohs.acf.hhs.gov/hslc/hs/calendar/summit>

- **Using What You Learn from Observation—A Form of Assessment**

This page describes the purpose of ongoing assessment and observation. This resource can be used to better understand Component 10. [http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching/eecd/Assessment/Ongoing%20Assessment/edudev\\_art\\_00070\\_080505.html](http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching/eecd/Assessment/Ongoing%20Assessment/edudev_art_00070_080505.html)

- **Services to Children with Disabilities**

This page describes differentiation for children with various disabilities. This resource can be helpful in understanding Component 8. <http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching/Disabilities/Services%20to%20Children%20with%20Disabilities>

- **Planning and Curriculum**

This page has information on the definition and requirements of curriculum, planning to choose a preschool curriculum, the roles of staff/parents in curriculum, and teaching strategies for children who are advanced or perform below average. This resource can be used to understand Components 8, 11, and 12. <http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching/eecd/Curriculum>

- **Curriculum, Assessment and The Head Start Framework: An Alignment Review Tool**

This resource is designed to help programs determine how well an early childhood assessment or curriculum aligns with the domains and domain elements identified in the HSCDEL. <http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching/docs/alignment-guide.pdf>

- **Choosing a Preschool Curriculum**

This guide is designed to help programs make informed decisions about choosing a preschool curriculum and assuring high-quality implementation of the curriculum in their programs. <http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching/practice/curricula/docs/curriculum-choosing.pdf>



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# APPENDIX D: DEPTH OF COVERAGE FOR DOMAIN ELEMENTS

Name of Curriculum	Number Concepts & Quantities	Number Relationships & Operations	Geometry & Spatial Sense	Patterns	Measurement & Comparison
<i>Big Math for Little Kids</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Building Blocks Pre-K</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Everyday Mathematics®</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Growing With Mathematics</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Harcourt School Publishers (HSP) Math</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>McGraw-Hill My Math®</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Number Worlds</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Numbers Plus Preschool Mathematics Curriculum</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Pre-K Mathematics Curriculum</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

<input checked="" type="checkbox"/>	<input type="checkbox"/>
Curriculum covered the majority of skills for the domain element	Curriculum did not cover the majority of skills for the domain element

See pages 5 for a list of skills for each domain element.



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