General description/overview

Aprendizaje Temprano de las Matemáticas (ATM) is the first of the ¡Avanzando! Matemáticas™ products. ATM is a Spanish translation and adaptation of Early Learning in Mathematics (ELM), the Moving Up! Mathematics™ core (Tier 1) program for kindergarten students. With instruction in Spanish, ATM provides the foundation for every student to develop conceptual understanding and procedural fluency with critical kindergarten mathematics concepts and skills.

- Core (Tier 1) kindergarten curriculum with 120 comprehensive lessons
- Accelerates student mathematics achievement
- Builds proficiency in mathematical thinking and problem solving
- Instructional objectives aligned with the Common Core State Standards in Mathematics (CCSS-M) for kindergarten.

Product information

- Aprendizaje Temprano de las Matemáticas (ATM) is a Spanish kindergarten core (Tier 1) mathematics curriculum aligned to the Common Core State Standards. ATM, which has been field tested and iteratively revised based on teacher feedback, is designed to develop foundational knowledge and conceptual understanding of mathematical concepts for a full range of learners.
- Because Aprendizaje Temprano de las Matemáticas is a translation of and directly aligned to Early Learning in Mathematics, you can be confident that students being taught in Spanish with ATM are learning the same math content as students being taught in English with ELM.
- Each of the 120 lessons includes:
  - 30 minutes of teacher-facilitated whole-class instruction;
  - 15 minutes for students to engage in written Math Practice worksheets;
  - Additional 15 minutes of calendar activities to teach, reinforce, and apply math concepts and skills in the context of “morning circle” time.
- Lessons are composed of 4 to 5 activities and include initial instruction, practice, and review.
- Three learning strands, Number and Operations, Geometry, and Measurement, incorporate all the domains and standards in the CCSS-M for kindergarten.
- Students are exposed to numbers through 100, with the goal of mastery of numbers 1 – 30.
- ATM was developed and evaluated with funding from the Institute of Education Sciences (IES), U.S. Department of Education

Conceptual Framework

- Students develop conceptual understanding through engagement with mathematical models, including number lines, hundreds chart, ten-frames, finger models, tally marks, and base-ten models.
- Procedural Fluency and Automaticity is achieved through systematic practice and review within and across lessons, with frequent opportunities for student engagement.
- Vocabulary and Discourse are featured throughout the program.
  - Key mathematical vocabulary is identified and explicitly taught and reviewed.
  - Scripted lessons ensure continuity and precise definitions.
  - Students are provided opportunities to use mathematical vocabulary to reason and provide justification.

Instructional Design Components:

- Unique strand design introduces skills gradually through explicit instruction and continues practice across lessons.
- Problem-solving activities are the focus of every fifth lesson
- Home-School connections occur daily as every Math Practice worksheet includes a “Note Home” in English and Spanish, summarizing math concepts addressed in the daily lesson and providing suggestions for additional practice at home.
- Kids Are Teachers (KAT) activities allow a student to act as the “teacher” and lead a variety of math activities.
- Quarterly In-Program Assessments gauge students’ mastery of objectives.
Materials

All materials are included in a Teacher Kit, and some materials may be purchased separately. Formats consist of downloadable PDFs for self-printing according to a Distribution License Agreement, or as pre-printed materials that will be shipped to you. Required manipulatives are commonly available in kindergarten classrooms or may be purchased from educational retailers.

<table>
<thead>
<tr>
<th>Item</th>
<th>Included in Teacher Kit</th>
<th>Sold Separately</th>
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<tbody>
<tr>
<td>Quarterly Teacher Books</td>
<td>✓</td>
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<tr>
<td>ATM Calendar Book</td>
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<tr>
<td>Math Practice worksheets</td>
<td>✓</td>
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<tr>
<td>Big Number Book</td>
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<tr>
<td>Program Support Materials</td>
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Libros de Lecciones Trimestrales (Quarterly Teacher Books)
Includes:
• Teacher’s Guide
• 120 thirty-minute, teacher-directed lessons divided into four books of 30 lessons each
• List of manipulatives and list of Program Support Materials needed for program implementation
• Teacher copy of Math Practice worksheets for each lesson
• Available in the Teacher Kit, and also sold separately as a downloadable PDFs for self-printing

Libro de actividades para la hora del calendario (Calendar Book)
• Daily 15-minute lessons (in addition to the 30-minute ATM lessons)
• Saying the days of the week, identifying what day is yesterday and tomorrow, saying the months and seasons of the year, counting the number of days before an event and identifying patterns on the hundreds chart
• Available in the Teacher Kit, and also sold separately as a downloadable PDF for self-printing

Práctica de Matemáticas (Math Practice worksheets)
• Daily 15-minute written worksheets
• Reinforce objectives for each lesson
• Include a “Note Home” with tips to practice concepts and skills
• Available in the Teacher Kit as a class set of 30 copies; single licenses are also sold separately for self-printing; a classroom set of 30 may be ordered pre-printed.

El Gran Libro de los Números (Big Number Book)
• Read-aloud poems introduce numbers 1-12.
• Available in the Teacher Kit

Program Support Materials
Includes the following reproducible materials:
• Quarterly Assessments with directions, student record form, class summary, and student worksheet
• Number Cards (with and without number models of ten-frames, tallies, fingers, and base-ten models)
• Shape, Vocabulary, Addition and Subtraction Cards
• Place Value Mat
• Quarterly Activity Tables
• KAT (Kids are Teachers) materials
• Family letter in English and Spanish
• Available in the Teacher Kit

Manipulative List
• Manipulatives are required for implementation of ATM and are NOT included with purchase. These are commonly available in kindergarten classrooms, or may be purchased from educational retailers.
Research

*Early Learning in Mathematics*, the English version of ATM, has shown positive outcomes for students. The Spanish program uses the same conceptual framework and instructional design principles as the English program. In addition, objectives and math content of the two programs are identical and directly aligned.

The following is a summary of research results related to *Early Learning in Mathematics*, the English program.

- At-risk children in ELM classrooms made significantly greater gains from pretest to posttest than their not-at-risk peers in ELM classrooms, a pattern that was not found in control classrooms.
- All effect sizes meet the What Works Clearinghouse standards (WWC, 2011) for showing a “substantively important positive effect”.
- Overall, results would describe ELM as having a “statistically significant positive effect” on student outcomes.

A randomized control trial of ELM was conducted with 64 classrooms. Control classrooms used district-adopted kindergarten curricula, and mathematics instructional time was controlled. We examined intervention effects by testing differences between ELM and control classrooms on changes in primary outcomes from the beginning to the end of kindergarten. Primary outcomes included the Test of Early Mathematics Ability (TEMA), and Early Numeracy - Testing differences between ELM kindergarten curricula, and mathematics instructional time was controlled. We examined intervention effects by

$$t = 3.29, \ p = .0017$$

and

$$t = 2.54, \ p = .0138$$

The Hedge’s g effect sizes were .24 on the TEMA and .22 on EN-CBM. Furthermore, at-risk children in ELM classrooms made significantly greater gains from pretest to posttest than their not-at-risk peers in ELM classrooms, a pattern that was not found in control classrooms. All effect sizes meet the What Works Clearinghouse standards (WWC, 2011) for showing a “substantively important positive effect” and overall results would describe ELM as having a “statistically significant positive effect” on student outcomes.

References:


**Pricing**

Formats consist of downloadable PDFs for self-printing in accordance with a *Distribution License Agreement* along with printing guidelines, or as pre-printed materials that will be delivered to you*. The table below is provided for planning purposes. See [https://dibels.uoregon.edu/market](https://dibels.uoregon.edu/market) for specific ordering information.

<table>
<thead>
<tr>
<th>Item</th>
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<th>Price for PDF license to print</th>
<th>Price for pre-printed materials</th>
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<tbody>
<tr>
<td>Kit del profesor (Teacher Kit). Includes Quarterly Teacher Books and Calendar Book, Math Practice worksheets (30 copies), Big Number Book, Program Support Materials and manipulative list**</td>
<td>Order one kit for each teacher who will use the ATM curriculum.</td>
<td>$400</td>
<td>$1,752</td>
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<tr>
<td>Práctica de Matemáticas (Math Practice worksheets) One worksheet per lesson</td>
<td>Each student should have the worksheets. The Teacher Kit includes worksheets for 30 students. Order additional worksheet for more than 30 students and for subsequent years.</td>
<td>$10 (license to print 1 copy)</td>
<td>$787 (classroom set of 30 copies)</td>
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<td>Primer trimestre Lecciones 1 a 30 (Quarter 1 Teacher Book)</td>
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<td>Segundo trimestre Lecciones 31 a 60 (Quarter 2 Teacher Book)</td>
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<tr>
<td>Tercer trimestre Lecciones 61 a 90 (Quarter 3 Teacher Book)</td>
<td>May be ordered in addition to the Teacher Kit for teaching assistants, or as a replacement.</td>
<td>$100</td>
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<td>Cuarto trimestre Lecciones 91 a 120 (Quarter 4 Teacher Book)</td>
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**Manipulatives are not included.