

Professional Development

Addison Wesley Mathematics Makes Sense integrates professional development for teachers throughout the program resources, and provides in-service and other tools to ensure success of program implementation.


Professional Development built right into the program...

Each unit in the Teacher Guide provides planning detail that includes

- A **Mathematics Background** section, with information for the teacher about the key mathematics concepts to be developed
- **Across the Grades** summary, to show how the topic develops over a three-year window, from the previous grade, to this grade, to the next grade
- Information about how the unit makes connections between various mathematics strands, in **Across the Strands**
- Expert quotes that point to further reading for interested teachers.

Each lesson further supports professional development in a lesson model that offers

- Connect section to establish the key mathematical understanding of the lesson
- Focus statement to identify the key concepts of the lesson to teachers as well as parents and children
- A variety of instructional strategies detailed in the supporting Teacher Guide notes



UNIT
1

Sorting and Patterning

“Logical patterns exist and are a regular occurrence in mathematics. They can be recognized, extended, or generalized. The same pattern can be found in many different forms. Patterns are found in physical and geometric situations as well as in numbers.”

—John A. Van de Walle, *Elementary and Middle School Mathematics*, page 384

Mathematics Background

What Are the Big Ideas?

Sorting

- Classification is an essential step in number development. As children classify materials, they determine common attributes, then sort based on that classification. Sorting may be based on attributes such as colour, size, shape, thickness, texture, and function. Numerous and varied sorting activities are required before children are able to collect, organize, and describe data, all necessary steps when interpreting and constructing graphs.

Patterning

- Patterns are an integral part of mathematics. A pattern may be physical, visual, or auditory. Discovering a pattern requires detecting differences and similarities between the elements of the pattern.
- Young children participate in activities where they identify different patterns including colour (blue, white, blue, white, blue, white); size (large, small, large, small, large, small); shape (circle, square, circle, square, circle, square); texture (rough, smooth, rough, smooth, rough, smooth) or function (stand, sit, stand, sit, stand, sit). It's important to always show a complete cycle of each pattern.

Across the Strands

Children will apply their sorting and patterning skills as they recognize attributes in a variety of objects that are similar and different. Sorting skills are a necessary prerequisite for collecting and interpreting data.

FOCUS STRANDS

Patterning and Algebra
Data Management and Probability

SUPPORTING STRAND

Geometry and Spatial Sense






Curriculum across the Grades

Kindergarten	Grade 1	Grade 2
Children focus on sorting and begin to recognize simple patterns.	Unit 1: Children review and practice sorting skills, and compare and extend patterns. Unit 7: Children begin to develop an understanding of number patterns.	Children extend their experience with number patterns and begin to relate patterns to geometry and measurement.

Preparing Materials

The two-part mat found on EM 6 can be copied onto heavy paper and laminated for use in this unit and subsequent number units.

LEGEND

-  Literacy
-  Real World
-  Audio CD
-  Calculator
-  Computer

Unit 1: Sorting and Patterning 1

Teachers' confidence and understanding of mathematics is an essential criterion for their students' success.

– Trevor Brown, Program Author

Professional Development in direct support of the program

Pearson offers flexibility and choice with a range of professional development options.

Customized In-Service and Partnerships

- Workshops, institutes and on-line in-service led by leading local, national and international math educators



John A. Van de Walle



Craig Featherstone

Administrator's Handbook

- Authored by Mignonne Wood and Steve Cairns
- Designed to assist principals in implementing a new mathematics program
- Shows how to foster a positive attitude toward teaching mathematics by building understanding within the school community, with teachers and parents

Van de Walle Facilitator's Guide

- Based on *Elementary and Middle School Mathematics: Teaching Developmentally* by John A. Van de Walle, a teaching methodology resource for the elementary teacher of mathematics
- Provides an organization for a Van de Walle Book Study group model

Pearson Professional Learning

- Quality, sustained, comprehensive teacher professional development at affordable prices

