

Math Handbooks Research Base

Includes: *Math to Learn, Math to Know, Math at Hand, Math on Call, Algebra to Go, Geometry to Go, Teacher Resource Books, and Parent Guides*

The handbooks offer comprehensive instruction and review of key topics at each grade level.

The math handbooks are student-friendly, comprehensive resources for essential math concepts at each grade level. They are organized around topics, not chapters, which allow students to review information that is essential for understanding new concepts. Activating prior knowledge is important in learning new material (Balas, 1997). By grouping skills related to a topic in the same section, students have information they need to fill in gaps in prior knowledge, review how concepts fit together, and access information they need to assimilate new information (Suydam, 1984). The math handbooks give students a reference tool that empowers them to become more responsible for their own learning, reviewing, relearning, and researching.

The math handbooks present information that appeals to various learning styles to help every student achieve.

Many students have trouble understanding their primary math textbook and the math handbooks offer these students additional examples or alternative explanations of key concepts. Every lesson is presented in more than one way with several examples so students who process information in diverse methods have alternative models. The handbooks provide clear explanations in a student-friendly design that includes visual models to illustrate examples (Burnette, 1982). This makes it easy for students to access important information without digging through dense chapters (Bergerud, 1988).

Vocabulary instruction offers students another point of entry into mathematics.

The math handbooks provide students with concise definitions of important math vocabulary and key terms. Vocabulary instruction is often overlooked in mathematics instruction and its inclusion offers a point of entry for students who have difficulty with computation (McKeown & Beck, 1988).

When parents get involved, students achieve.

The handbooks are a perfect resource for parents as they help their child with his or her homework. For parents who want to help their children with their homework but need refreshers on certain skills, the math handbooks can provide parents with the guidance they need to help their children succeed. Parental involvement is a more accurate predictor of a student's academic achievement than family income or social status (Henderson & Berla, 1994; Keith & Keith, 1993). Students with involved parents have improved grades and test scores, complete their homework more consistently, and try harder (Desimone, 1999; Epstein, 1995; Keith, Reimers, Fehrmann, Pottebaum, & Aubey, 1986). The *Parent Guides* offer parents advice on how best to help their kids. This guide instructs parents on how to create a good learning environment for their child at home, how to motivate students, and how to help struggling learners.

Familiarity with test question format helps students succeed on standardized tests.

In the *Teacher Resource Books*, test preparation is integrated into ongoing instructional activities to familiarize students with test-format so that they don't miss test questions solely because they misunderstand the design of the test (Ligon & Jones, 1982; Matter, 1986; Mehrens, 1989).

References

- Balas, A. K. (1997). The mathematics and reading connection. *ERIC Digest* [ED 432 439].
- Bergerud, D., Lovitt, T.C., & Horton, S. (1988). The effectiveness of textbook adaptation in life science for high school students with learning disabilities. *Journal of Learning Disabilities*, 21, (2)70-76.
- Burnette, J. (1987). Adapting instructional materials for mainstreamed students. *ERIC Digest* [ED 297 557].
- Desimone, L. (1999). Linking Parental Involvement with student achievement: Do race and income matter? *Journal of Educational Research*, 93: 11-30.
- Epstein, J. L. (1995). School/family/community partnerships: Caring for the children we share. *Phi Delta Kappan*, 76 (9), 701-712.
- Henderson, A.T., & Berla, N. (1994). A new generation of evidence: The family is critical to student achievement. St. Louis, MO: Danforth Foundation. [ED 375 968]
- Keith, T.Z., Reimers, T.M., Fehrmann, P.G., Pottebaum, S.M., and Aubey, L.W. (1986). Parental involvement, homework, and TV time: Direct and indirect effects on high school achievement. *Journal of Educational Psychology*, 78: 373-380.
- Keith, T.Z., & Keith, P.B. (1993). Does parental involvement affect eighth-grade student achievement? Structural analysis of national data. *School Psychology Review*, 22(3), 474-496.
- Ligon, G.D. & Jones, P. (April 2, 1982). Preparing students for standardized testing: One district's perspective. Paper presented at the annual meeting of the American Educational Research Association, New York.
- Matter, M.K. (1986). Legitimate ways to prepare students for testing: Being up front to protect your behind." In J. Hall & F. Wolmut (Eds.) National Association of Test Directors 1986 Symposia (pp. 10-11). Oklahoma City, OK: Oklahoma City Public Schools.
- Mehrens, W.A. (December 1989). *Preparing students to take standardized achievement tests*. ERIC Clearinghouse on Tests Measurement and Evaluation: ERIC Digest, ED314427.
- McKeown, M.G. & Beck, I.L. (1988). Learning vocabulary: Different ways for different goals. *Remedial and Special Education (RASE)*, 9(1), 42-46. [EJ 367 432].
- Stevenson, D.L. & Baker, D.P. (1987). The family-school relation and the child's school performance. *Child Development*, 58(5), 1348-1357.
- Suydam, M. N. (1984). The role of review in mathematics instruction. *ERIC Digest* [ED 260 891].

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