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Probing the foundations of algebra: grade-4 pattern items in NAEP.

Teach. Child. Math. 3, No. 6, 268-274 (1997).

From the text: In the next sections, we present some of the NAEP items that have been released to the public, discuss some of the aspects of patterns and relationships they assess, and provide information regarding how a nationally representative sample of fourth-grade students performed on those items. This look at the NAEP items and results gives a glimpse of what students in grade 4 know about patterns and relationships, an important element in the foundations of algebra in the elementary grades. We also suggest some ways in which these NAEP items might be adapted by teachers for use in the mathematics classroom.

Classification: H22 D62

Keywords: algebraic thinking; primary education; achievement measurement; misconceptions; pattern problems; student explanations; repeating patterns; increasing patterns of numbers; reasoning about patterns; informal algebraic concepts

<http://www.nctm.org/Publications/teaching-children-mathematics/1997/Vol3/Issue6/Probing-the-Foundations-of-Algebra.-Grade-4-Pattern-Items-in-NAEP/>