

ZMATH 2016f.00850

West, John

Power patterns: extending number sense through last digit investigations.

Aust. Prim. Math. Classr. 21, No. 1, 29-33 (2016).

Summary: Problems sourced from national and international competitions such as the Australian Mathematics Competition are often used effectively as enrichment and/or extension activities for high achieving students. While this has meant that they are sometimes deemed too esoteric or trivial for use in the regular classroom, this paper takes the view that the study of patterns and relationships is at the heart of mathematics and that such problems provide an excellent opportunity for students to develop a deeper understanding and appreciation of mathematical reasoning. Thus problems that may be dismissed as mere mathematical curiosities may in fact represent a valuable resource for the time-poor teacher. Posamentier and Krulik suggest a range of strategies for motivating students in mathematics. These include: indicating a void in students' knowledge, discovering a pattern, presenting a challenge, enticing the class with a "gee-whiz" mathematical result and getting students involved in justifying mathematical curiosities. The investigation described here incorporates several of these strategies as students discover the cyclical pattern that exists in the last digits of the powers of various digits. The investigation is intended as a possible activity for upper primary students. (ERIC)

Classification: F30 F60 D80

Keywords: number sense; patterns; activities; high-achieving students