

Developing understanding in science and mathematics FS/KS1 and KS2 (QTS020N013Y/QTS020N036Y) (Academic year 2024-2025)

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1.
Johnston, J. Emergent science: teaching science from birth to 8. (Routledge, 2014).
 2.
Rutledge, G. N. Primary science: teaching the tricky bits (electronic resource). (McGraw-Hill Open University Press, 2010).
 3.
Allen, M. Misconceptions in primary science. (Open University Press, 2014).
 4.
Cooke, V. & Howard, C. Practical ideas for teaching primary science. vol. Critical teaching (Critical Publishing, 2014).
 5.
Johnston, J. Emergent science: teaching science from birth to 8. (Routledge, Taylor & Francis Group, 2014).
 6.
Cooke, V. & Howard, C. Practical ideas for teaching primary science. (Critical Publishing Ltd, 2014).

7.

Brunton, P. & Thornton, L. Science in the early years: building firm foundations from birth to five. (SAGE, 2010).

8.

Kelly, L. & Stead, D. Enhancing primary science: developing effective cross-curricular links. (Open University Press, 2013).

9.

Brunton, P. & Thornton, L. Science in the early years: building firm foundations from birth to five. (SAGE, 2010).

10.

Peacock, G., Sharp, J., Johnsey, R. & Wright, D. Materials. in Primary science: knowledge and understanding 88–105 (Sage Publications Ltd, 2014).

11.

Kelly, L. & Stead, D. Enhancing primary science: developing effective cross-curricular links. (Open University Press, 2013).

12.

Brunton, P. & Thornton, L. Science in the early years: building firm foundations from birth to five. (SAGE, 2010).

13.

Cooke, V. & Howard, C. Practical ideas for teaching primary science. (Critical Publishing Ltd, 2014).

14.

Rutledge, N. Primary science: teaching the tricky bits. (Open University Press/McGraw Hill, 2010).

15.

Allen, M. Misconceptions in primary science. (Open University Press, 2014).

16.

Frankland, M. Addressing special educational needs and disability in the curriculum: science. (Routledge, 2017).

17.

Allen, M. Misconceptions in primary science. (Open University Press, 2014).

18.

Turner, J. It's not fair - or is it? : a guide to developing children's ideas through primary science enquiry. (Millgate House Publications, 2011).

19.

Frankland, M. Addressing special educational needs and disability in the curriculum: science. (Routledge, 2017).

20.

Bianchi, L., Feasey, R. & Hesketh, S. Science beyond the classroom boundaries for 7-11 year olds. (McGraw-Hill Open University Press, 2011).

21.

Bianchi, L. & Feasey, R. Science and technology beyond the classroom boundaries for 7-11 year olds. (Open University Press, 2011).

22.

Bianchi, L., Feasey, R. & Hesketh, S. Science beyond the classroom boundaries for 3-7 year olds. (McGraw-Hill, 2011).

23.

Bianchi, L., Feasey, R. & Hesketh, S. Science beyond the classroom boundaries for 3-7 year olds. (McGraw Hill/Open University Press, 2011).

24.

Howe, A., Collier, C., McMahon, K., Earle, S. & Davies, D. Science 5-11: a guide for teachers . (Routledge, 2017).

25.

Davies, D. Teaching science creatively. vol. Learning to teach in the primary school series (Routledge, 2011).

26.

Devereux, Jane & Open University. Science for primary and early years: developing subject knowledge. vol. Developing subject knowledge (SAGE, 2007).

27.

Harlen, W. & Qualter, A. The teaching of science in primary schools (electronic resource). (Routledge, 2014).

28.

Harlen, W. & Qualter, A. The teaching of science in primary schools. (Routledge, 2014).

29.

Howe, A. Science 5-11: a guide for teachers. (David Fulton, 2017).

30.

Ainley, J. Is there any mathematics in measurement? in Teaching and learning school mathematics: a reader 69–76 (Hodder & Stoughton in association with The Open University, 1991).

31.

Cotton, T. Understanding and teaching primary mathematics. (Routledge, 2016).

32.

Cotton, T. Understanding and teaching primary mathematics. (Routledge, 2016).

33.

Hansen, A. Measurement. in Children's errors in mathematics (eds. Hansen, A., Drews, D., Dudgeon, J., Lawton, F. & Surtees, L.) 120–154 (Learning Matters, 2014).

34.

Gifford, S. Teaching mathematics 3-5: developing learning in the foundation stage. (Open University Press, 2005).

35.

Gifford, S. Teaching mathematics 3-5: developing learning in the foundation stage. (Open University Press, 2005).

36.

Haylock, D. Algebraic Reasoning. in Mathematics explained for primary teachers 289–308 (SAGE, 2014).

37.

Cotton, T. Understanding and teaching primary mathematics. (Routledge, 2016).

38.

Cotton, T. Understanding and teaching primary mathematics. (Routledge, 2016).

39.

Briggs, M. & Davis, S. Creative teaching mathematics in the early years and primary classroom. (Routledge, 2008).

40.

Ollerton, Mike. DIFFERENTIATION IN MATHEMATICS CLASSROOMS. Mathematics Teaching. 43–46 (2014).

41.

Cramer, K. et al. 5 Indicators of Decimal Understandings. Teaching Children Mathematics **22**, (2015).

42.

Haylock, D. Algebraic Reasoning. in Mathematics explained for primary teachers 289–308 (SAGE, 2014).

43.

Lewis, R., Gibbons, L., Kazemi, E. & Lind, T. Unwrapping Students' Ideas about Fractions. Teaching Children Mathematics **22**, (2015).

44.

Haylock, D. Algebraic Reasoning. in Mathematics explained for primary teachers 289–308 (SAGE, 2014).

45.

Lamon, S. J. Teaching fractions and ratios for understanding: essential content knowledge and instructional strategies for teachers. (Routledge, 2012).

46.

Lamon, S. J. Teaching fractions and ratios for understanding: essential content knowledge and instructional strategies for teachers. (Routledge, 2012).

47.

Haylock, D. Algebraic Reasoning. in Mathematics explained for primary teachers 289–308 (SAGE, 2014).

48.

Lamon, S. J. Teaching fractions and ratios for understanding: essential content knowledge and instructional strategies for teachers. (Routledge, 2012).

49.

Lamon, S. J. Teaching fractions and ratios for understanding: essential content knowledge and instructional strategies for teachers. (Routledge, 2012).

50.

Fosnot, C. T. & Dolk, M. L. A. M. Young mathematicians at work: constructing fractions, decimals, and percents. (Heinemann, 2002).

51.

Zhang, X., Clements, M. & Ellerton, N. Engaging Students with Multiple Models of Fractions. Teaching Children Mathematics **22**, (2015).

52.

Tzur, R. & Hunt, J. Iteration: Unit Fraction Knowledge and the French Fry Tasks. *Teaching Children Mathematics* **22**, (2015).

53.

Lamon, S. J. *Teaching fractions and ratios for understanding: essential content knowledge and instructional strategies for teachers*. (Routledge, 2012).

54.

Lamon, S. J. *Teaching fractions and ratios for understanding: essential content knowledge and instructional strategies for teachers*. (Routledge, 2012).

55.

Holt Wilson, P., Myers, M., Edgington, C. & Confrey, J. Fair Shares, Matey, or Walk the Plank. *Teaching Children Mathematics* **18**, (2012).

56.

Lamon, S. J. *Teaching fractions and ratios for understanding: essential content knowledge and instructional strategies for teachers*. (Routledge, 2012).

57.

Lamon, S. J. *Teaching fractions and ratios for understanding: essential content knowledge and instructional strategies for teachers*. (Routledge, 2012).

58.

Alfinio Flores, Jeffrey Samson and H. Bahadir Yanik. Quotient and Measurement Interpretations of Rational Numbers. *Teaching Children Mathematics* **13**, 34–39 (2006).

59.

Lamon, S. J. *Teaching fractions and ratios for understanding: essential content knowledge*

and instructional strategies for teachers. (Routledge, 2012).

60.

Lamon, S. J. Teaching fractions and ratios for understanding: essential content knowledge and instructional strategies for teachers. (Routledge, 2012).

61.

Using Representations of Fraction Multiplication. Teaching Children Mathematics **22**, (2016).

62.

Unpacking Referent Units in Fraction Operations. Teaching Children Mathematics **22**, (2015).

63.

Lamon, S. J. Teaching fractions and ratios for understanding: essential content knowledge and instructional strategies for teachers. (Routledge, 2012).

64.

Lamon, S. J. Teaching fractions and ratios for understanding: essential content knowledge and instructional strategies for teachers. (Routledge, 2012).

65.

Pattern-Block Frenzy. Teaching Children Mathematics **19**, (2012).

66.

Pattern-Block Frenzy. Teaching Children Mathematics **19**, (2012).

67.

Toy Stories: Modeling Rates. Teaching Children Mathematics **22**, (2015).

68.

How Can Students Learn Fraction (De)Composition? Teaching Children Mathematics **24**, (2017).

69.

Can Kindergartners Do Fractions? Teaching Children Mathematics **20**, (2014).

70.

Siegler, R. S. & Lortie-Forgues, H. Hard Lessons: Why Rational Number Arithmetic Is So Difficult for So Many People. Current Directions in Psychological Science **26**, 346–351 (2017).

71.

Alfinio Flores, Jeffrey Samson and H. Bahadir Yanik. Quotient and Measurement Interpretations of Rational Numbers. Teaching Children Mathematics **13**, 34–39 (2006).

72.

Lester, F. K. Second handbook of research on mathematics teaching and learning: Vol.2. (Information Age, 2007).

73.

Poon, R. & Lewis, P. Unpacking the Division Interpretation of a Fraction. Teaching Children Mathematics **22**, (2015).

74.

Fyfe, Emily R.. Department of Psychological and Brain Sciences, Indiana University, Bloomington, IN, US, efyfe@indiana.edu Matthews, Percival G.. Department of Educational

Psychology, University of Wisconsin-Madison, Madison, WI, USAmsel, Eric. Department of Psychology, Weber State University, Ogden, UT, USMcEldoon, Katherine L.. Tennessee Department of Education, Nashville, TN, USMcNeil, Nicole M.. Department of Psychology, University of Notre Dame, Notre Dame, IN, US. Assessing formal knowledge of math equivalence among algebra and pre-algebra students. *Journal of Educational Psychology*, **110**, 87–101 (2018).

75.

Fyfe, Emily R; Easy as ABCABC: Abstract Language Facilitates Performance on a Concrete Patterning Task. *Child Development* **86**, 927–936 (2015).