

Contents

Number 183 · September 2024

3 Focus on... Science and mathematics

4 How can enquiry-based science support pupil learning in mathematics?

Andrea Doherty and **John McCullagh** consider how a science enquiry approach can be used to develop mathematics and numeracy skills and help pupils realise the important role mathematics plays in solving real-life problems

9 Using mathematical knowledge to explore forces

Andy Markwick and **Jenny Hayward** explore how the application of mathematical skills in an inquiry-led approach deepens scientific understanding

12 Beyond the *Eatwell Guide*: valuing what we eat

Chris Bear and **Verity Jones** share how role play was used to support children in thinking about food critically

15 Ensuring children have the right knowledge and skills at the right time

Kelly Dockerty examines the implications of the curricular disconnect in the sequencing of maths and science knowledge and skills

18 What it means to be a subject lead in science

Rachel Linfield and **Caroline Hudson** arranged for their students to quiz a practising science subject lead about their role

21 Adventures in networking: biscuits, brews and best practice

Eleanor Bustard shares her experiences of organising local science lead networking opportunities

24 Embedding career-related learning in primary science

Carol Davenport and **Annie Padwick** report on their survey of career-related learning across primary schools in England and suggest how it could be improved

28 We're getting in the groove!

Amy Hodgson shares her enthusiasm for science and music, while supporting a serious sustainable development message

30 Reviews

Cover: Using maths to explore forces – page 9



Enquiry-based learning and maths
– page 4



Sequencing maths and science
skills – page 15



Science and music with a
sustainability message – page 28



ASSOCIATION FOR
SCIENCE EDUCATION

Primary Science

Editor **Robert Collins** (@PriSciJournal)

Editorial Board

Melissa Arrowsmith

Senior Lecturer, University of the West of England

Paul Chambers

Senior Lecturer, University of Strathclyde

Kalpa Ghelani

Senior Lecturer, University of the West of England

Michael Good (Reviews editor)

Y6 teacher, Stoneferry Primary School, Hull

Verity Jones (@VerityJones_Edu)

Associate Professor, University of the West of England

Melissa Loughran (@Melectra)

STEM Lead, St Edward's CE Academy, Leek

Andy Markwick

Senior Lecturer, University College London, IOE

John McCullagh

Senior Lecturer, Stranmillis University College, Belfast

Elaine Stockdale (@ClassMerlin2)

Science Lead, Tongwynlais Primary School, Cardiff

Paul Tyler (@Glazgow)

Kirkhill Primary School, Topical Science Updates

Executive Editor **Helen Johnson**

ASE editorial contact **Laura Townsend**

Design/page makeup **Karen Dyer**

Contacting the Association for Science Education:

Post: ASE, College Lane, Hatfield, Herts AL10 9AA

Tel: 01707 283000; Fax: 01707 266532

email: info@ase.org.uk

website: www.ase.org.uk

Advertising: www.ase.org.uk/advertising

© 2024, The Association for Science Education (ASE).

The ASE is pleased to allow schools to copy articles from this journal for their own internal school use.

Requests for reproduction for any other purpose should be made in writing to the ASE.

ISSN 0269-2465

Printed by The Manson Group,
St Albans

Future themes

Generally each issue of *Primary Science* focuses on a theme, but also includes other articles on a range of topics, so if you have something to write about that is not on a theme or responds to a theme already covered, don't be deterred. All contributions are very welcome. Shorter articles are particularly welcome.

Issue 184 (January 2025) Science in the early years

(deadline for submissions 4 October 2024)

Issue 185 (May 2025) AI and computing in science

(deadline for submissions 7 February 2025)

Issue 186 (September 2025) Education for sustainable development (deadline for submissions 6 June 2025)

Writing for Primary Science

Primary Science publishes articles on all aspects of primary science education, including early years, and we welcome articles that:

- support effective classroom practice in teaching, learning and assessing science;
- give practical classroom ideas;
- interpret (rather than simply present) research;
- address issues relating to primary science education;
- comment on controversial articles, issues and debates;
- challenge teachers' thinking about important changes.

Short contributions are very welcome, including notices, letters and short responses to other articles. It may help you if you read one or two articles in *Primary Science* before beginning your own.

The Editor is very happy to advise and support new authors. Contact: editor.primaryscience@gmail.com

Detailed guidelines for writing for the journal are available on the ASE website:

www.ase.org.uk/write-for-us

Contributions and comments:

Please send as an email attachment to:

lauratownsend@ase.org.uk

Primary Science is the primary journal of the ASE and is published three times a year.

Safety: Reasonable care has been taken to ensure that articles in this journal do not suggest practices that might be dangerous, and safety warnings are given where appropriate. However, the ASE has not tested the activities suggested and can therefore give no guarantee of safety. For further advice on health and safety matters in primary science education see *Be safe! Health and safety in school science and technology for teachers of 3- to 12-year-olds* (4th edition, ASE, 2011).

The ideas and opinions expressed in this journal are not necessarily those of the Association for Science Education.