



Teaching Secondary Science: Constructing Meaning and Developing Understanding

By Keith Ross, Liz Lakin, Janet McKechnie, Jim Baker



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The fourth edition of *Teaching Secondary Science* has been fully updated and includes a wide range of new material. This invaluable resource offers a new collection of sample lesson plans and includes two new chapters covering effective e-learning and advice on supporting learners with English as a second language. It continues as a comprehensive guide for all aspects of science teaching, with a focus on understanding pupils' alternative frameworks of belief, the importance of developing or challenging them and the need to enable pupils to take ownership of scientific ideas. This new edition supports all aspects of teaching science in a stimulating environment, enabling pupils to understand their place in the world and look after it.

Key features include:

- Illustrative and engaging lesson plans for use in the classroom
- Help for pupils to construct new scientific meanings
- M-level support materials
- Advice on teaching 'difficult ideas' in biology, chemistry, physics and earth sciences
- Education for sustainable development and understanding climate change
- Managing the science classroom and health and safety in the laboratory
- Support for talk for learning, and advice on numeracy in science
- New chapters on e-learning and supporting learners with English as a second language.

Presenting an environmentally sustainable, global approach to science teaching, this book emphasises the need to build on or challenge children's existing ideas so they better understand the world in which they live. Essential reading for all students and practising science teachers, this invaluable book will support those undertaking secondary science PGCE, school-based routes into teaching and those studying at Masters level.

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Editorial Review

Review

"Aiming at both trainees and practising science teachers, this book sets out a firm philosophy for underpinning science teaching with a need for the pupils of today to understand the responsibilities they have for looking after the environment in the 21st century ... As a school mentor to a trainee teacher, I can see a really well-structured, wideranging and informed support programme." - **Janet Mitchell**, *St. Paul's School, London*

About the Author

Keith Ross is a former secondary science teacher and Education Teaching Fellow at the University of Gloucestershire, UK. He is currently co-creating four-minute animated science videos with the Fuse School that are free to teachers and students worldwide. www.youtube.com/fuseschool.

Liz Lakin is a former secondary science teacher and tutor at the universities of Gloucestershire and Cumbria, UK. She is currently Senior Lecturer in Education and Life Sciences at the University of Dundee, UK.

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