

## Key areas and debates

- Value of practical work – how to make it effective
- Different ways of modelling to explain concepts
- The importance of the particle theory and addressing misconceptions combined or triple science?
- How to teach calculations effectively
- The importance of literacy in chemistry teaching

## Who should I follow on twitter?

### From the Royal Society of Chemistry:

EiC @RSC\_EiC

Chemistry world @chemistry World

Chemical Science@chemicalscience

### Teachers:

Primary Science Geek @priscigeeks

Dr Kristy Turner @doc\_kristy

MaChemGuy @ MaChemGuy

Catherine Smith @Cjs42Smith

Ruth walker @Rosalindphys

Sue Cowley @Sue\_Cowley

P Banks @chemstuff

HLO @MrLordChem

### Academic / researchers:

John Holman @holman\_john

Dr@jesswade (physicist but great on outreach and inclusion)

Polly L Arnold @ProfArno

ASE @the ASE

C&EN @cenmag

CLEAPPS @CLEAPSS



## On The Blogosphere

Compound chemistry produces beautiful info graphics on different aspects in chemistry, both on the curriculum and linked to topical ideas:

<https://www.compoundchem.com/>

For a wide variety of recent educational research the blog from BERA has lots of areas of interest:

<https://www.bera.ac.uk/blog>

For short animated videos for any part of the chemistry GCSE course, look at “Fuse school” on youtube. I use them for starters and plenaries.

<https://www.fuseschool.org>

Of course, much of the reading I have suggested is linked to: <https://www.rsc.org/>



## What should I read?

My favourite book, that would be my choice for a desert island, is “The Periodic Table” by Primo Levi. It weaves the features of different elements with wonderful stories – and I think the art of story telling is at the heart of much great teaching.

When I did my PGCE in 1997-1998, the main text we used was “Making sense of secondary science” research into children’s ideas” by R. Driver et al (1994). It remains useful for thinking about how to address students’ misconceptions within the classroom.

Education in Chemistry, the magazine from the Royal Society of Chemistry means you don’t have to sieve through research and topical ideas yourself. It picks out interesting reads and is a good combination of current research & what teachers are caring about at the moment. A typical example is the series “7 simple rules for science teaching” which is supporting the principles in the EEF report “Improving secondary science” guidance (Mentioned in the Physics on a page).

To understand chemistry, students must grasp the particle theory; the report “Beyond Appearances: Students’ misconceptions about basic chemical ideas” by Vanessa Kind (2004, 2<sup>nd</sup> edition 2011) was invaluable to helping me teach this effectively, particularly at KS3.

<http://www.rsc.org/learn-chemistry/resource/res00002202/beyond-appearances?cmpid=CMP00007478>

Getting to grips with the recent political history of education by reading “The Education Debate” by S.J. Ball (2017) policy press has allowed me to understand the political ideology behind the evolution of what is taught in secondary science.