

## ***VisChem: Animations that Portray Common Chemical Structures and Reactions at the Sub-Micro Level***

### **Web site**

<http://vischem.cadre.com.au/>

<http://www.vea.com.au/> (Search for Reactions in Water)

### **Description**

The VisChem videos and CD make an explicit point of linking the three 'thinking levels' - the molecular, laboratory, and symbolic. The most novel resources are the molecular level 3D animations which portray

1. selected substances in the solid, liquid, and gaseous states;
2. what happens during phase changes (eg. melting); and
3. what happens in redox, proton exchange, dissolution and precipitation reactions.

The animations are designed to correct misconceptions identified from educational research.

**Type of activity or material** Sub-micro-level animations

**Content** Water (solid, liquid and gaseous states), melting, freezing, boiling; sodium chloride (solid, dissolving in water, aqueous solution); AgCl precipitation, Cu/Ag<sup>+</sup> reaction, proton exchange(acetic acid and ammonia), FeSCN<sup>2+</sup> complexation

**Skills developed** Development of useful mental models of the molecular level through visualisation

**Intended academic level** Secondary and tertiary

**Maximum number of students supported** Unlimited

**Duration (student hours, classroom hours)** n/a

**Factors which ensure activity is effective** Animations should be set in a context with adequate preparation with simpler building-block animations

**Materials available, in what form and from where** Tasker RF et al (1997) VisChem – Visualising the Molecular World. No 1 Substances and Reactions in Water. Resource CD and three videos. VEA Multimedia [vea.com.au](http://vea.com.au) ISBN 1-86341-520-3; Jones L, Atkins P (1999) Chemistry: molecules, matter, and change. CD Supplement WH Freeman ISBN 0-7167-3261-0

**Further comments** None

**Contact Details**

Roy Tasker  
University of Western Sydney  
[r.tasker@uws.edu.au](mailto:r.tasker@uws.edu.au)

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