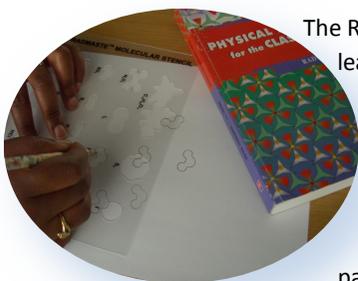
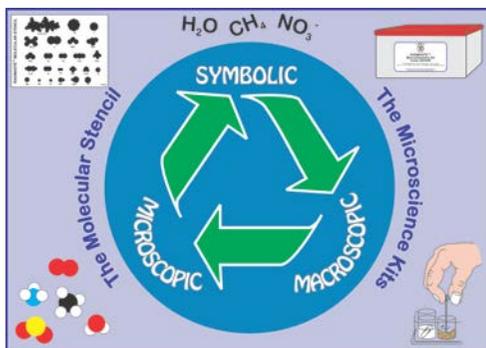


DEMYSTIFYING SCIENCE CONCEPTS WITH THE RADMASTE™ MOLECULAR STENCIL

The learning of science can be visualised at three levels, namely, macroscopic, microscopic and symbolic. Science concepts are usually taught at either the macroscopic or symbolic level, with little or no emphasis on the microscopic level. When these concepts are not related to the environment with which learners interact on an everyday basis, they often regard science as something that is abstract and not important in their lives.



The RADMASTE™ Molecular Stencil is an interactive teaching and learning tool, designed to assist learners in understanding the Particle Model within the contexts of their surroundings.

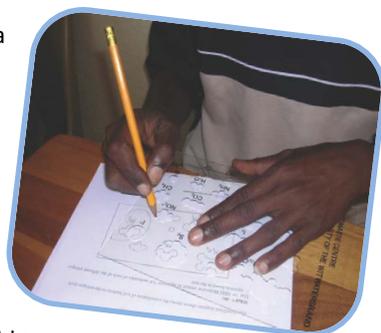
Through use of the RADMASTE™ Molecular Stencil:

- ♣ Learners can discover an amazing microscopic world which will show them that all substances consist of particles or molecules. It is the interaction between these different particles that is the heart of science.

- ♣ Teachers can help learners to bridge the gap between the macroscopic phenomena they see around them, and the interaction of substances at the particulate level. This link can be useful in demystifying science concepts.
- ♣ Teachers can determine the learners' understanding of a specific topic, before it is taught in the classroom.

There are two molecular stencils, each manufactured from a safe, durable plastic:

- ✓ **The RADMASTE™ Molecular Stencil: Physical Sciences** - code MT0200 - provides for the drawing of several molecules at the FET level.
- ✓ **The RADMASTE™ Molecular Stencil: Natural Sciences** - code MT0201 - has fewer molecules that are relevant to learners at the GET level.



RADMASTE has authored a booklet of worksheets (MT0300) to accompany the use of the stencil in the classroom. Some of the activities include:

- ♣ Atoms, Molecules, Ions
- ♣ From Molecular Formula to Structural formula
- ♣ The Three-Dimensional Shape of Atoms and Molecules
- ♣ States of Matter
- ♣ Separating Mixtures
- ♣ Physical and Chemical Changes

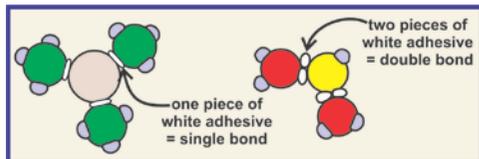
3D MOLECULAR VISUALISATION USING THE RADMASTE™ MOLECULAR MODELLING KIT

The teaching and learning of science now gives greater emphasis to atomic and molecular understanding. But atomic and molecular concepts are abstract and so many learners experience difficulties which teachers struggle to overcome, especially since expensive kits for building molecular structures are a limited resource.



RADMASTE has recognized this problem and has designed a low-cost **Learner's Molecular Modelling Kit** (code MT0400) to assist learners at both GET and FET levels with the 3D visualization of particles, by enabling them to build molecular and crystalline structures.

The modelling components are easy for learners to use because they are derived from familiar materials, namely a selection of spheres/beads of 8 different colours and in 3 different sizes representing small, medium and large atoms of common elements, plus adhesive putty in 2 colours to use for shared and unshared pairs of electrons.

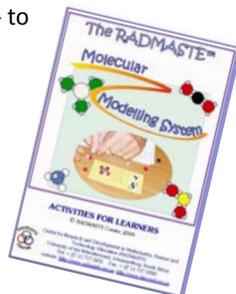


The joining of atoms using adhesive putty, gives a realistic picture of the molecule. Double and triple bonds can be represented by using 2 pieces or 3 pieces of adhesive putty respectively.

RADMASTE has prepared a **Molecular Modelling Booklet** – code MT0501 - to help teachers implement the modelling kits in the classroom.

Titles in the activity series include:

- ♣ Atoms, Molecules and Chemical Bonds
- ♣ Energy Changes in Chemical Reactions
- ♣ From Lewis Diagram to Molecular Model
- ♣ Stoichiometric Proportions & Limiting Reactants



Other products in the molecular visualization range of resources include the **RADMASTE™ Molecular Teaching Kit** (code MT0500) with an adequate supply of spheres for ten groups of learners. The kit also contains ten RADMASTE™ Molecular Stencils.

ENQUIRIES, ORDERS AND SALES

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