

Relative molecular (formula) mass

Use formula cards to reinforce student ideas

Make a set of 'formula cards'

Each card in the pack will have the symbol and A_r value for one chemical element.

Make elements with one 'combining power' square-shaped, then double and triple the length for elements with combining powers of 2 and 3.

Students can make the formulae of simple compounds, e.g. water, by aligning two H cards with one O card.

1	1
H	H
16	
O	

Ensure there are sufficient cards in a set for students to be able to construct the reagents for some simple chemical reactions. Use the cards every time students meet a new chemical reaction.

This will help students to see that the *relative molecular (or formula) mass* values, M_r, of elements and compounds are the sums of the A_r values of the component elements.

Encourage students to write chemical equations accurately, based on the formulae they make with the cards. They will then also begin see that the large numbers in front of formulae represent the number of moles present.

Keep reinforcing the ideas that new substances are made and that mass is conserved.

The cards can be invaluable when working with students of all abilities.

Adapted from **Beyond Appearances: Students' misconceptions about basic chemical ideas**

[2nd Edition (2004); Vanessa Kind, School of Education, Durham University]

