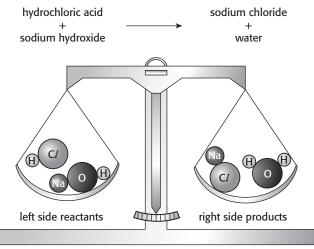
Worksheet 4.2

Balancing chemical equations

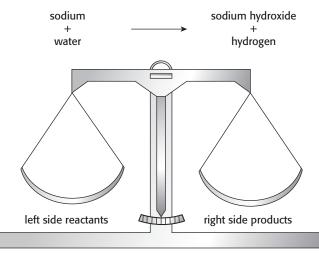
1 a Look at the diagram below.



a balanced equation

Write this out as a balanced chemical equation.

b i Complete the following diagram in a similar way to the one above for the reaction when sodium reacts with water. Draw in the necessary atoms on the balance pans and balance the chemical equation.



a balanced equation

 \dots Na + \dots H₂O \rightarrow \dots NaOH + \dots H₂

ii Write this reaction as a word equation.

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2	2 For each pair of reactions below, write out the first equation as a word equation; then write a balanced e for the second reaction.		
	a	i	$2Na + Br_2 \rightarrow 2NaBr$
		ii	sodium reacts with chlorine (Cl ₂) to produce sodium chloride
	b	i	$2Ca + O_2 \rightarrow 2CaO$
		ii	magnesium (Mg) burns in oxygen to give magnesium oxide
	c	i	$4K + O_2 \rightarrow 2K_2O$
		ii	sodium (Na) burns in oxygen to give sodium oxide
3 The following equations are unbalanced.		llowing equations are unbalanced.	
		i	Balance each chemical equation, and then
		ii	write out the word equation for each reaction.
	a	Ca	$O + HCl \rightarrow CaCl_2 + H_2O$
		i	
		ii	
	b	К+	$-H_2O \rightarrow KOH + H_2$
		i	
		ii	
	c	Ca	$CO_3 + HCl \rightarrow CaCl_2 + H_2O + CO_2$
	C	i	
			······
	d	Μg	$g + HCl \rightarrow MgCl_2 + H_2$
		i	
		ii	