





Name: _____

Block: _____

Balancing Charges Activity

The purpose of this activity is to practice balancing charges and writing chemical formulas. We will use Lego bricks to represent charged ions. The length of each brick represents the charge of the ion:

Brick	Length	Color	Charge
	1	green	± 1
	2	red	± 2
	3	white	± 3
	4	yellow	± 4

Directions

For each pair of ions in the table on the back of this worksheet:

- Get out a small pile of Lego bricks that represent the charge on the positive ion (cation). Get out a similar pile for the negative ion (anion).
- Place a brick representing the positive ion on top of a brick representing the negative ion. (Line up one side evenly.)
- Add positive ions to the top and negative ions to the bottom until the top and bottom come out even.
- The number of bricks in the top row of your “molecule” is equal to the number of positive ions in the formula. The number of bricks in the bottom row of your “molecule” is equal to the number of negative ions in the formula. When you write the chemical formula, these numbers will be the subscripts.

	Cation	# Bricks Used	Anion	# Bricks Used	Formula of Compound
1.	Na ⁺		O ²⁻		
2.	Ca ²⁺		Cl ⁻		
3.	Mg ²⁺		NO ₃ ⁻		
4.	Al ³⁺		Cl ⁻		
5.	NH ₄ ⁺		SO ₄ ²⁻		
6.	Cu ²⁺		N ³⁻		
7.	Zr ⁴⁺		O ²⁻		
8.	W ⁴⁺		PO ₄ ³⁻		
9.	Ba ²⁺		OH ⁻		
10.	Au ³⁺		S ²⁻		
11.	Al ³⁺		SiO ₄ ⁴⁻		
12.	Fe ²⁺		O ²⁻		
13.	Fe ³⁺		O ²⁻		
14.	Fe ²⁺		O ²⁻	4	Fe ₃ O ₄
	Fe ³⁺				