

Name: _____

Date: _____

Separation of Ions via Displacement

Objective: To separate a solution containing various metallic cations by precipitating them out, one at a time, using a select group of anions.

Materials:

a solution containing nitrates of the following cations: Ag^+ , Co^{+2} , Ba^{+2} , Zn^{+2} , and Sn^{+2}
aqueous sodium solutions containing any of the anions listed in the solubility table

Equipment:

test tubes	test tube racks	brush	centrifuge
droppers	rubber stoppers		

Procedure:

Design and describe a method for separating the cations listed above, one at a time. The only reactants that can be used are the sodium solutions containing anions from the solubility table.

Analysis:

Write the full, balanced reaction equation with states of matter for each step of the separation.