






Summary

Assessing the Quality of Resources Used for Extraction of Calcium Carbonate



	Target Age	
	Age 16 and above	
	Level of Difficulty	
	<input type="checkbox"/> Easy <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High	
	Keywords: Calcium carbonate, biological waste, eggshells, complexometric titration	
	Description: During the lab exercise, students compare the shells of chicken eggs of different origins, establishing the content of calcium carbonate to determine which of them is the best source of calcium carbonate. During the experiment, fresh eggshells are dissolved, and the resulting sample is complexometrically titrated with EDTA using ammonium buffer solution and Eriochrome Black T as an indicator.	
	Learning Goals: <ul style="list-style-type: none"> • To determine the content of calcium ions in eggshells using complexometric titration; • To calculate the calcium carbonate content of the sample based on the chemical reactions that have occurred; • To compare the content of calcium carbonate in eggshells of different origins. 	

Summary

Learning Outcomes



- Determine the concentration of calcium ions in the sample by performing complexometric titration;
- Calculate the calcium carbonate content in the analysed sample, using the chemical equation and stoichiometric ratios.

Cross-curricular Connections



- Chemistry
- Technology

Prerequisites



Knows how to use a burette, a Mohr pipette and how to titrate.
Knows how to calculate molar concentration, find the quantities of substances using the chemical equation, and then calculate their masses.

Time Requirements and other conditions (i.e. equipment)



1 h 40 min

Equipment: balances (readability of at least 2 decimal places), stand with burette clamp, conical flask (250 mL), beaker (100 mL), Mohr pipette (20 mL), volumetric flask (100 mL), spoon, rubber pipette filler, burette (readability of at least 1 decimal place), funnel, graduated cylinder (at least 20 mL)

Learning and Teaching Resources Included in the Toolkit



1. Lab Procedure/s - Modules
2. Student's Cards

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Ambassadors

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