

High School Teachers Showcase

## Essential Math Skills for Aspiring Pharmacists and Pharmaceutical Scientists

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1

## Introduction

Brief overview of the roles of pharmacists and pharmaceutical scientists

Importance of math skills in these professions

2

## Basic Arithmetic

- Addition, subtraction, multiplication, and division
- Importance in calculating dosages and quantities
- Examples: Calculating doses, measuring liquids



3

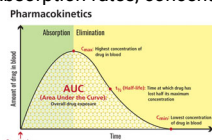
## Algebra

- Solving equations and inequalities
- Importance in understanding drug formulations and interactions
- Examples: Dose calculations, adjusting medication based on patient needs, compounding
- $C_1V_1 = C_2V_2$

4

## Calculus

- Understanding rates of change and areas under curves
- Importance in pharmacokinetics and pharmacodynamics
- Examples: Drug absorption rates, concentration-time curves



5

## Statistics

- Descriptive and inferential statistics
- Importance in clinical trials and research
- Examples: Analyzing data, determining efficacy and safety of drugs, pharmacoepidemiology/pharmacovigilance

6

## Unit Conversions

- Converting between different units of measurement
- Importance in ensuring accurate dosages
- Examples: Converting milligrams to grams, milliliters to liters, parts to metric units



7

## Graphing and Data Interpretation

- Plotting and interpreting graphs
- Importance in visualizing data trends and outcomes
- Examples: Dose-response curves, patient data charts



8

## Problem-Solving Skills

- Applying mathematical concepts to real-world scenarios
- Importance in troubleshooting and optimizing treatments
- Examples: Adjusting dosages, solving compounding problems



9

## Technology and Software

- Using mathematical software and tools
- Importance in modern pharmacy and pharmaceutical research
- Examples: Pharmacy management software, statistical analysis tools, modelling



10

## Take home message

- Encouraging students to develop strong math foundations



11

## Thank you

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12