

Medical Math

Curriculum Overview

Designed for:

- High school students
- Post-secondary courses in health care

Length:

The activities in this curriculum will last approximately seven hours.

Goal:

To help participants review basic math used in medicine as well as learn how to do math specifically related to health science.

Synopsis:

The purpose of this curriculum is to review fractions, decimals, ratios, percentages, measurement systems, and conversions as well as learn about oral medications, pediatric calculations, injection calculations, and infusion calculations. The curriculum can be taught in class by the instructor or students can learn at their own pace with online lessons. This curriculum comes with student workbooks for participants to practice the equations they learned in the lessons.

Curriculum Components:

- Curriculum – Complete lessons, including detailed steps of activities, time and materials needed, student handouts and instructor information to teach the lesson
- Student materials - Online lessons and workbooks
- Assessment tools
- Presentation slides

Learning Objectives:

Lesson 1: Fractions, Decimals, Ratios, and Percentages

- Add, subtract, multiply, and divide fractions
- Add, subtract, multiply, and divide decimals
- Round decimals
- Convert fractions, decimals, ratios, and percentages
- Calculate using Ratio-Proportion method

Lesson 2: Measurement Systems

- Calculate between measurements in the metric system
- Convert apothecary and household measurements
- Calculate time using standard and military time

Lesson 3: Conversions

- Convert between U.S. customary and metric length measurements
- Convert between household and metric volume measurements
- Convert between household and metric weight measurements
- Convert between U.S. customary and metric temperature measurements

Lesson 4: Methods and Oral Medications

- Explain three primary methods of calculations
- Use the CSC approach to calculations
- Describe the parts of a drug label
- Calculate oral medications dosage

Lesson 5: Pediatric Dosages

- Calculate dosages based on weight
- Calculate dosages based on body surface area
- Calculate safe dosage ranges

Lesson 6: Injection Calculations

- Calculate intradermal intramuscular, IV push, and subcutaneous dosages
- Calculate insulin dosages
- Calculate heparin dosages
- Calculate dosages requiring reconstitution

Lesson 7: Infusion Calculations

- Calculate between measurements in the metric system
- Convert apothecary and household measurements
- Calculate time using standard and military time