

Medical Math Curriculum



Table of Contents

Table of Contents	3
Author	5
Curriculum Structure	6
Lesson Structure.....	6
Lesson One – Math Review: Fractions, Decimals, Ratios, and Percentages	7
FOCUS: Math Review: Fractions, Decimals, Ratios, and Percentages Pre-Quiz.....	8
LEARN: Math Review: Fractions, Decimals, Ratios, and Percentages Slide Presentation.....	11
REVIEW: Math Review: Fractions, Decimals, Ratios, and Percentages	15
Lesson Two – Math Review: Measurement Systems	25
FOCUS: Math Review: Measurement Systems Pre-Quiz	26
LEARN: Math Review: Measurement Systems Slide Presentation	31
REVIEW: Math Review: Measurement Systems	34
Lesson Three – Math Review: Conversions	40
FOCUS: Math Review: Conversions Pre-Quiz	41
LEARN: Math Review: Conversions Slide Presentation.....	44
REVIEW: Math Review: Conversions	46
Math Review Summative Quiz	52
Math Review Summative Quiz - Answer Key.....	57
Appendix A – Conversion Abbreviations	62
Appendix B – Conversions	63
Sources.....	64
Lesson Four – Health Science Math: Methods and Oral Medications.....	65
FOCUS: Health Science Math: Methods and Oral Medications Pre-Quiz	66
LEARN: Health Science Math: Methods and Oral Medications Slide Presentation	69
REVIEW: Health Science Math: Methods and Oral Medications.....	72
Lesson Five – Health Science Math: Pediatric Dosages.....	78
FOCUS: Health Science Math: Pediatric Dosages Pre-Quiz.....	79
LEARN: Health Science Math: Pediatric Dosages Slide Presentation	82
REVIEW: Health Science Math: Pediatric Dosage	85
Lesson Six – Health Science Math: Injection Calculations	88
FOCUS: Health Science Math: Injection Calculations Pre-Quiz	89
LEARN: Health Science Math: Injection Calculations Slide Presentation.....	92
REVIEW: Health Science Math: Injection Calculations	95
	3

Medical Math

Lesson Seven – Health Science Math: Infusion Calculations.....	99
FOCUS: Health Science Math: Infusion Calculations Pre-Quiz	100
LEARN: Health Science Math: Infusion Calculations Slide Presentation	103
REVIEW: Health Science Math: Infusion Calculations	106
Health Science Math: Methods, Oral Medications, and Pediatric Dosages Summative Quiz.....	109
Health Science Math: Methods, Oral Medications, and Pediatric Dosages Summative Quiz - Answer Key	115
Health Science Math Injection and Infusion Calculations Summative Quiz.....	121
Health Science Math Injection and Infusion Calculations Summative Quiz - Answer Key.....	127
Sources	133

Lesson Two – Math Review: Measurement Systems

FOCUS: Math Review: Measurement Systems Pre-Quiz

10 minutes

Purpose:

To assess participants' current knowledge of measurement systems.

Materials:

- *Medical Math Student Workbook – Math Review: Measurement Systems Workbook*
- *Math Review: Measurement Systems Pre-Quiz – Answer Key*

Facilitation Steps:

1. Instruct participants to complete the *Math Review: Measurement Systems Pre-Quiz*, located in the student workbook, prior to or at the start of the class.
2. Have the *Math Review: Measurement Systems – Answer Key* available for instructor reference.
3. Have participants pair up and compare answers.

Metric, Apothecary, Household, and Time Pre-Quiz – Answer Key

Read each question and calculate the correct answer.

- 1) Convert 267 micrograms to milligrams.

$$\frac{1 \text{ mg}}{1000 \text{ mcg}} = \frac{x \text{ mg}}{267 \text{ mcg}}$$

OR Move decimal to left 3 spaces.

$$1 \times 267 = 267$$

$$1000 \times X = 1000X$$

$$\frac{1000x}{1000} = \frac{267}{1000} = \mathbf{0.267 \text{ mg} = A}$$

- 2) Convert 58.9 grams to kilograms.

$$\frac{1000 \text{ g}}{1 \text{ kg}} = \frac{58.9 \text{ g}}{x \text{ kg}}$$

OR Move decimal to left 3 spaces.

$$1 \times 58.9 = 58.9$$

$$1000 \times X = 1000X$$

$$\frac{1000x}{1000} = \frac{58.9}{1000} = \mathbf{0.0589 \text{ kg} = C}$$

- 3) Convert 4.3 centimeters to millimeters.

$$\frac{1 \text{ cm}}{10 \text{ mm}} = \frac{4.3 \text{ cm}}{x \text{ mm}}$$

OR Move decimal to the right 1 space.

$$10 \times 4.3 = 43$$

$$1 \times X = 1X$$

$$\frac{1x}{1} = \frac{43}{1} = \mathbf{43 \text{ mm} = B}$$

Medical Math

- 4) Convert 120 milligrams to grains.

$$\frac{1 \text{ gr}}{60 \text{ mg}} = \frac{x \text{ gr}}{120 \text{ mg}}$$

$$1 \times 120 = 120$$

$$60 \times X = 60X$$

$$\frac{60x}{60} = \frac{120}{60} = \mathbf{2 \text{ gr or gr ii} = C}$$

- 5) How many teaspoons are in 3 tablespoons?

$$\frac{3 \text{ t}}{1 \text{ T}} = \frac{x \text{ t}}{3 \text{ T}}$$

$$3 \times 3 = 9$$

$$1 \times X = 1X$$

$$\frac{1x}{1} = \frac{9}{1} = \mathbf{9 \text{ teaspoons} = B}$$

- 6) Convert 2 quarts to gallons.

$$\frac{4 \text{ qts}}{1 \text{ gal}} = \frac{2 \text{ qts}}{x \text{ gal}}$$

$$2 \times 1 = 2$$

$$4 \times X = 4X$$

$$\frac{4x}{4} = \frac{2}{4} = \mathbf{0.5 \text{ gallons} = B}$$

Medical Math

7) Convert 8 pounds to ounces.

$$\frac{1 \text{ lb}}{16 \text{ oz}} = \frac{8 \text{ lbs}}{x \text{ oz}}$$

$$8 \times 16 = 128$$

$$1 \times X = 1X$$

$$\frac{1x}{1} = \frac{128}{1} = \mathbf{128 \text{ ounces} = A}$$

8) How many feet is 72 inches?

$$\frac{1 \text{ ft}}{12 \text{ in}} = \frac{x \text{ ft}}{72 \text{ in}}$$

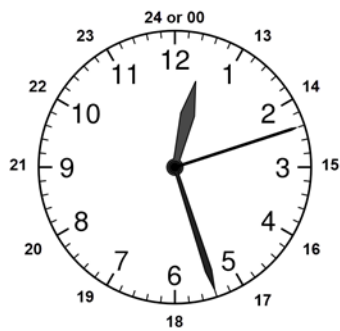
$$72 \times 1 = 72$$

$$12 \times X = 12X$$

$$\frac{12x}{12} = \frac{72}{12} = \mathbf{6 \text{ feet} = C}$$

9) Convert 1530 to traditional time.

$$1530 = \mathbf{3:30 \text{ p.m.} = D}$$



Medical Math

10) Convert 11:59 p.m. to military time.

11:59 p.m. = **2359 = B**

