

SRJC 5-Row Learning Assessment Project Form

Department: College Skills/Tutorial Program or Course: CSKLS 100: Math for Medical Administration

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Motivation for Assessment: Instructors have noticed gaps in students' understanding and application of conversion between measurement systems. They would like to use this Learning Assessment Project to determine more precisely the gaps and the problems that students encounter with these concepts, and then use this information to improve the teaching of these concepts. This process will also help the department determine if this class should be offered as Credit by Exam.

1	Student Learning Outcome Statements		Outcome #1 from the Course Outline of Record: Upon completion of this course, students will be able to compute conversions within and between three systems of measurement and of calculating dosage/amounts to administer using correct notation and labeling.
2	Assessment Method & Criteria for Success	Date: Spring and Fall 2009	<p>Part 1, Spring 2009: A variety of assessment tools will be used throughout the semester across 3 sections. These will include a pretest, interim quizzes, midterm exams, student surveys, Classroom Assessments, and the final exam (as post-test). Results on specific items related to the SLO will be recorded, analyzed, and correlated. Because Part 1 will be mainly diagnostic—gathering baseline data—specific criteria will not yet be set as to exactly what level of success constitutes achieving the outcome (except for the usual criteria needed for passing the course).</p> <p>Part 2, Fall 2009: After analysis of the results from Part 1, instructors will implement appropriate changes to teaching, materials, and/or assessments and will determine criteria for success relating to this SLO. Students will again be assessed and data analyzed. Results will inform instructors whether changes to course have been effective and the degree to which further changes are needed.</p>
3	Assessment Results	Date Spring 2009	<p>Result #1: Prior to receiving coursework in CSKLS 100, most students are not familiar with the metric system or conversion computation between the household, apothecary and metric systems. However, most entering students already have some familiarity with household measurement in the home.</p> <p>Result #2: By the ninth week, students were still struggling with the metric system and conversions between the three systems.</p> <p>Result #3: By the fourteenth week, students were succeeding not only in household-apothecary-metric conversion problems but also the application of conversions to dosage calculation.</p> <p>Result #4 : Offering a Credit-by-Exam would be an appropriate option for students wishing to bypass the course.</p>

4	Changes/ Improvements Implemented	Date Fall 2009	<p>It was decided to add three assignments to the CSKLS 100 curriculum in the first 8 weeks of the semester: two quizzes and a hands-on lab activity. The two quizzes involving the metric system and converting between the three systems of measurement will be done in the classroom. The hands-on lab activity involving the conversion of liquid volumes between the household and metric systems will be done in the lab. An Item Analysis will be conducted of Exam #1 to see if Fall 2009 students have mastered the metric system and measurement conversions better than the Spring 2009 students by the ninth week.</p> <p>It was also decided to develop a Credit-by-Exam for students who wish to test out of CSKLS 100. We will develop the exam using the data that we gathered from selected LAP assessment tools. This Credit-by-Exam will hopefully be completed and in place during the Fall 2009 semester.</p>
5	Results of Follow- Up Assessment (Not required, but recommended)	Date Fall 2009	<p>Final results will help the department determine if the course should be offered as Credit by Exam and if the assessment tools used would be useful in developing that exam.</p>

CSKLS 100 Learning Assessment Project Assessment Instruments and Conclusions

(All raw data is available upon request from Julie Muzzatti)

Overall Conclusion: It would benefit students to become proficient with the metric system and converting units between the systems earlier in the semester than our results show they currently do. As the semester progresses, the course content becomes increasingly difficult with dosage calculation by weight and BSA occurring towards the end of the semester. To enable students to master the metric system and conversion computation within the three systems before this point would allow them to concentrate on the more difficult material without struggling with conversions as well.

Result #1:

Assessment instruments used:

- We administered a “CSKLS 100 Student Survey” the first week of class and asked questions about students’ familiarity with the metric system, the household (traditional English system) and converting between the two.
- We administered a pre test titled ‘Orientation of Basic Math Skills’ and gathered data from selected questions involving the three measurement systems and converting within and between them.

Result: (see 5-Row LAP form)

“Prior to receiving coursework in CSKLS 100, most students are not familiar with the metric system or conversion computation between the household, apothecary and metric systems. However, most entering students already have some familiarity with household measurement in the home environment.”

Result #2:

Assessment instruments used:

- We gathered the scores from Homework # 4 (Metric-Apothecary-Household Conversions) , recorded during the 5th week of the semester.
- We conducted an item analysis on Exam #1, given during the ninth week, and looked at selected problems.

Result: (see 5-Row LAP form)

“ By the ninth week, students were still struggling with the metric system and conversions between the three systems.”

Result #3:

Assessment instruments used: (see 5-Row Lap form)

- We gathered the scores from Lab Quiz 25 (Measurement Conversions), taken between the ninth and fourteenth week.
- We conducted an item analysis of Exam #2, given during the fourteenth week, and looked at selected problems.
- We administered the same test (as post-test) we had given during the first week of class (pretest) and compared the results.
- We conducted an online survey of previous CSKLS 100 students who were now enrolled in health certificate programs.

Result: (see 5-Row LAP form)

“ By the fourteenth week, students were succeeding not only in household-apothecary-metric conversion problems but also in applying conversions to dosage calculation.”

Result #4:

All assessment instruments and data were considered.

Result: (see 5-Row Lap form)

“ It was decided to develop a Credit-by-Exam for students who wish to test out of CSKLS 100.”

CSKLS 100 Pre-and Post-Assessment

1. A bottle contains 30 ounces of medication. If the patient receives 0.3 ounces for each dose, how many doses does the bottle contain?

- (A) 100 doses (B) 20 doses (C) 10 doses (D) 0.1 doses

2. Add $2228 + 2981 + 889$

- (A) 6088 (B) 5988 (C) 6098 (D) none of these

3. $6.5 \div 100 =$

- (A) 0.65 (B) 0.065 (C) 0.0065 (D) 0.00065

4. A bottle of liquid medicine contains 100 milliliters (mL). The following amounts are given to patients from the bottle: 1.0 mL, 2.75mL, 3.1mL, and 1.75 mL. How much medication should be left in the bottle?

- (A) 91.6 mL (B) 91.4 mL (C) 90.4 mL (D) 90.6 mL

5. $800.12 \times 1000 =$

- (A) 8.0012 (B) 8001.2 (C) 80012.0 (D) 800120.0

6. 10 pints = _____ quarts

- (A) 30 (B) 15 (C) 5 (D) 20

7. Multiply 4(900)

- (A) 3600 (B) 4900 (C) 3200 (D) 2700

8. 0.85 rounded to the nearest tenth is

- (A) 0.8 (B) 0.9 (C) 1.0 (D) 0.86

9. 4.499 rounded to the nearest hundredth is

- (A) 4.0 (B) 4.49 (C) 4.50 (D) 5.0

10. 10 dekagrams = 1 _____

- (A) milligram (B) decigram (C) hectogram (D) centigram

Match the key term with its definition. (questions 11 – 16)

- A. Numerator
- B. Least common denominator
- C. Equivalent fractions
- D. Denominator
- E. Mixed number
- F. Prime number

11. The smallest number that is a common multiple of all the denominators in a group of fractions

12. A number other than one that can be evenly divided only by themselves

13. The top number on a fraction; represents parts of the whole

14. Two fractions, written differently with the same value

15. The bottom number of a fraction; represents the whole

16. Combines a whole number with a fraction

17. A patient has paid \$120 for 30 tablets. How much are they paying for each tablet?

- (A) \$.40 (B) \$.80 (C) \$4.00 (D) none of these

18. Solve for X: $\frac{3}{17} = \frac{X}{51}$

- (A) 34 (B) 12 (C) 9 (D) none of these

19. Find the reciprocal $4\frac{3}{4}$:

- (A) $4\frac{4}{3}$ (B) $\frac{19}{4}$ (C) $\frac{4}{19}$ (D) $\frac{16}{4}$

20. Write in decimal form $\frac{4}{5}$:

- (A) 0.8 (B) 1.2 (C) 80% (D) 0.2

21. A patient weighs 165 lbs. They diet and lose $1\frac{1}{3}$ pounds each month for the next six months. How much does the patient weigh at the end of the six month diet?

- (A) 156 lbs. (B) 159 lbs. (C) $156\frac{2}{3}$ lbs (D) none of these

22. Subtract. Simplify your answer. Express as a mixed number. $10\frac{2}{3} - 8\frac{1}{2}$

- (A) $2\frac{1}{6}$ (B) $1\frac{5}{6}$ (C) 12 (D) none of these

23. Divide. Be sure your answer is simplified. $\frac{2}{7} \div \frac{20}{9}$

- (A) $\frac{2}{9}$ (B) none of these (C) $\frac{9}{70}$ (D) $\frac{40}{63}$

24. Add. $0.31 + 376 + 2.8 + 0.213$

- (A) 3793.23 (B) 7.083 (C) 379.323 (D) 648

25. In Sonoma County 39.6% of the residents suffered from the flu last year. Write this percent as a fraction.

- (A) $\frac{99}{250}$ (B) $3\frac{24}{25}$ (C) $39\frac{3}{5}$ (D) $\frac{1}{25}$

26. Multiply: 0.02×2.5

- (A) 0.5 (B) 0.005 (C) 5 (D) 0.05

27. Divide: $2.64 \div 0.12$

- (A) 220 (B) 0.022 (C) 2.2 (D) 22

28. Write 55% as a decimal

- (A) 0.55 (B) 0.0055 (C) 0.055 (D) 5.5

29. 4200 mm = _____ km

- (A) 0.0042 (B) 420,000 (C) 4,200,000 (D) 4.2

30. 0.904 L = _____ mL

- (A) 9040 (B) 904 (C) none of these (D) 90.4

31. Ten (10) g of a drug are dissolved in 200 mL of solution. If you want 35 g in the same strength solution, how much solution do you need?

- (A) 700 mL (B) 600 mL (C) 750 mL (D) none of these

32. Find the missing value in $\frac{4}{11} = \frac{X}{66}$

- (A) 28 (B) 21 (C) 24 (D) 50

33. Write a ratio to describe a 45 mg of a drug dissolved in 500 mL of solution.

- (A) 45 mg = 500 mL (B) 1:5 (C) 45: 500 (D) none of these

34. The patient's chart indicates that he weighed 175 pounds at the end of September. He then gained 2 1/2 pounds in October and lost 3/4 pound in November. How much did he weigh at the end of November?

- (A) 176.20 lbs (B) 176.75 lbs (C) 178.25 lbs (D) 171.75 lbs

35. Subtract 2679 from 5004

- (A) 3675 (B) 3225 (C) -2325 (D) 2325

36. A radiology technician earns \$26 per hour. How much does she make if she works 34 hours in one week?

- (A) \$878 (B) \$884 (C) \$832 (D) none of these

37. True or False: $562.3 > 562.33$

- (A) True (B) False

38. Find the product: 17×286

- (A) 4864 (B) 4844 (C) 4764 (D) 4862

39. 1445 divided by 15

- (A) 96 remainder 5 (B) 97 (C) 95 remainder 5 (D) none of these

40. Convert 2.5 days to minutes

- (A) 60 hours (B) 360 minutes (C) 1800 minutes (D) 3600 minutes

QUIZ week 5
CONVERSIONS

NAME _____

Fill in the blanks:

$1 \text{ kg} = \underline{\hspace{2cm}} \text{ lb}$

$1 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$

$2 \text{ mg} = \underline{\hspace{2cm}} \text{ mcg}$

$1 \text{ oz} = \underline{\hspace{2cm}} \text{ mL}$

$3 \text{ tsp} = \underline{\hspace{2cm}} \text{ mL}$

$1 \text{ T} = \underline{\hspace{2cm}} \text{ oz}$

$\text{gr i} = \underline{\hspace{2cm}} \text{ mg}$

$5 \text{ gr} = \underline{\hspace{2cm}} \text{ mg} = \underline{\hspace{2cm}} \text{ g}$

$600 \text{ mg} = \underline{\hspace{2cm}} \text{ gr}$

QUIZ week 5
CONVERSIONS

NAME _____

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$$5 \text{ gr} = \underline{\hspace{2cm}} \text{ mg} = \underline{\hspace{2cm}} \text{ g}$$

$$600 \text{ mg} = \underline{\hspace{2cm}} \text{ gr}$$

