Task-based Activity Cover Sheet

Task Title: Diluting a Cleaning Product Using a Ratio

Learner Name:
Date Started: **Date Completed:**
Successful Completion: Yes___   No___

Goal Path: Employment ✓ Apprenticeship ✓ Secondary School___ Post Secondary ___ Independence ✓
Task Description:
The learner will use ratio and proportion to calculate mixtures and final products.

Competency:	**Task Group(s):**
C: Understand and Use Numbers	C3:Use Measures

Level Indicators:
C3.2:   Use measures to make one-step calculations
Performance Descriptors: see chart on last page or click here.

Links to skill building activities: see the last page or click here.

Materials Required:
• Paper and pen
• Calculator
• Question sheet (attached)
• Answer sheet (attached)

ESKARGO:
• Uses common standard units (metres, inches) and non-standard units (e.g. paces, cupfuls, scoops)
• Interprets and represents measures using symbols and abbreviations (e.g., inches as ", centimetres as cm., pounds as lbs., kilograms as kilos or kg.)
• Rounds decimals
• Adds, subtracts, multiples and divides multi-digit whole numbers and decimals
• Understands and uses ratio and proportion
Attitudes:
Practitioner,
We encourage you to talk with the learner about attitudes required to complete this task set. The context of the task has to be considered when identifying attitudes. With your learner, please check one of the following:
□ Attitude is not important   □ Attitude is somewhat important   □ Attitude is very important

Task Title: Diluting a Cleaning Product Using a Ratio

Cleaners use products that need to be mixed using ratio and proportion. Look at the AllChem Glass Cleaner Concentrate label.

Learner Information and Tasks:

Task 1:   Calculate how much water is required to dilute 250 mL of AllChem Glass Cleaner concentrate?

Task 2:   Calculate how much AllChem Glass Cleaner concentrate is required if 1.45L of water is used?

Task 3:   Calculate how much undiluted AllChem Glass Cleaner is needed to fill a 500 mL spray bottle with mixed solution?

Task 4:   If 1000 mL of AllChem Glass Cleaner concentrate is used, calculate how much solution (water and cleaner) is made?

AllChem
L I M I T E D

GLASS CLEANER CONCENTRATE

NET CONTENT:
☐ 1 GALLON   ☐ 5 GALLON

READ DIRECTIONS BEFORE USE

DESCRIPTION
A uniquely formulated glass cleaning compound developed to penetrate and dissolve dirt and oily stains from glass and mirrors. A special blend of surfactants and wetting agents provide excellent cleaning without streaking. This is a heavy-duty institutional formula which offers quick cleaning for all types of applications.

DIRECTIONS
This product is a highly concentrated cleaner and should be diluted before use. Dilute 1 part AllChem Glass Cleaner Concentrate with 10 parts water for a ready to use product. Spray an even mist onto surface, wipe over entire area then buff dry. For best results, use a lint free towel or cloth to wipe surface clean and use a second cloth to polish. Discard towels or cloths when they become heavily soiled. Sponges may be used for large areas, followed by drying with a squeegee or paper towels.

CAUTION:
Product harmful if swallowed. Contact physician immediately. For eye or skin contact, flush area with clear water for 15 minutes and consult physician immediately.

STORAGE:
Store in a cool, dry area away from direct sunlight and heat to avoid deterioraton. Keep container sealed when not in use to prevent contamination. Do not reuse container for any other purpose.

DISPOSAL:
Disposal of this material, its mixtures and any spill residues must be in accordance with local regulations.

Active Ingredient:
Isopropyl Alcohol

KEEP OUT OF THE REACH OF CHILDREN

Manufactured in the U.S.A. for

AllChem
L I M I T E D

San Fernando, Trinidad, W.I.
Tel.: 1-868-652-6712
www.allchemtt.com

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Answer Key

Task 1:   How much water is required to dilute 250 mL of AllChem Glass Cleaner Concentrate?

$$\frac{Water}{AllChem} : \frac{10}{1} : \frac{x}{250} \qquad x = \frac{10 \times 250}{1} \qquad \textbf{x = 2500 mL of water is needed}$$

Task 2:   How much AllChem Glass Cleaner concentrate is required if 1.45L of water is used?

$$\frac{Water}{AllChem} : \frac{10}{1} : \frac{1.45}{x} \qquad x = \frac{1 \times 1.45}{10} \qquad \textbf{x=0.145 L of AllChem Glass Cleaner is}$$

required.

Task 3:   How much undiluted AllChem Glass Cleaner is needed to fill a 500 mL spray bottle with mixed solution?

$$\frac{|Water + AllChem}{AllChem} : \frac{11}{1} : \frac{500}{x} \qquad x = \frac{500 \times 1}{11} \qquad \textbf{x= } 45.\overline{45} \textbf{ mL of}$$
concentrate is required

Task 4:   If 1000mL of AllChem Glass Cleaner concentrate is used, how much solution (water and cleaner) is made?

$$\frac{Water + AllChem}{AllChem} : \frac{11}{1} : \frac{x}{1000} \qquad x = \frac{11 \times 1000}{1} \qquad \textbf{x=11000 mL of mixed solution is}$$
made

Task Title: Diluting a Cleaning Product Using a Ratio

	Performance Descriptors	Needs Work	Completes task with support from practitioner	Completes task independently
C3.2	• calculates using numbers expressed as whole numbers, fractions, decimals, percentages and integers			
	• understands and uses ratio and proportion			
	• interprets and applies rates (e.g. km/hr) and ratios (e.g. map scales)			

This task: was successfully completed___   needs to be tried again___

Learner Comments

_____   _____

Instructor (print)   **Learner Signature**

Skill Building Activities

Links to Online Resources:

http://www.mathtv.com/   - Ratios and Proportions

https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-ratios-prop-topic/cc-6th-ratio-word-problems/e/ratio_word_problems   - Practice questions on ratio

https://www.khanacademy.org/math/pre-algebra/rates-and-ratios/ratios_and_proportions
   -   9 videos on rates and ratio, given in sequence

http://www.bbc.co.uk/skillswise/factsheet/jo04clea-l1-f-using-ratios - How to work out correct ratios for cleaning products

http://www.housekeepingchannel.com/hcp_365-Dilution - Dilution ratios, what do they mean?

LearningHUB online courses available:

- **Math, Independent Study (Assigned by practitioner after assessment)**
    - Data Analysis Assignment

- **Live Classes (SABA)** – Fractions in Everyday Life, GED Math Word Problems

*To access LearningHUB courses, learners must register for the LearningHUB e-Channel program by completing the registration form on their website and completing the course selection (page 2 of the registration form): https://www.learninghub.ca/get_registered.aspx

*To Access LearningHUB Course Catalogue:
http://www.learninghub.ca/Files/PDF-files/HUBcoursecatalogue,%20December%2023,%202014%20revision.pdf