

Converting Liquid Measurement (2 hour class lesson)

CASAS Competencies:

- CASAS Scale Levels: 181 – 200
- 1.1.7-5 Identify product containers and interpret weight and volume

Outcomes:

- Learners will be able to change units in the customary system. Specifically, the learner will convert units of liquid capacity including: fluid ounces, cups, pints, quarts, and gallons.
- Learners will be able to convert from larger to smaller units and vice versa.

Teacher Preparation and Materials:

- Containers and liquid measurement cups/glasses in cup, pint, quart, and gallon size
- One gallon of apple juice
- 8 oz. paper cups for learners (16 8 oz cups are used in the lesson's Warm Up).
- One gallon of water
- Precut "The Gallon Man" parts – use different colored paper for each part
- One tape dispenser for one or two pairs
- Copies of Worksheet 1, 2, and 3

Why?

Introduction/Warm-up:

Discuss the importance of liquid measurement: for preparing food from a recipe, for determining how much food to purchase for a party, etc. Demonstrate how to convert from larger to smaller liquid measurement units and vice versa using a gallon of juice and at least 16 8 oz. cups, and extra cups if there are more learners.

What?

Using the containers that are cup, pint, quart, and gallon size, ask students if they can identify the unit size of each container. Ask students what size containers they have bought or usually buy at the store and what kind of liquid is in the containers they buy.

Do!

As the different containers are taken out and placed in front of the learners and the learners try to identify them, write the units mentioned on the board. Once all of them are said, turn to the board and have learners repeat each word several times.

Controlled Practice:

Using the different unit containers, make a conversion chart. Have learners pour water into cups/pint/quart/gallon containers. Pour two cups into a one pint container, two pints into a one quart

Math Lesson – Step by Step Instructions – Level A: Converting Liquid Measurement container, four quarts into a gallon container and so on. You can do the reverse by dividing the water in a quart container into two pints, and so on.

As the learners are measuring water from/into different containers, write on the board the conversion chart.

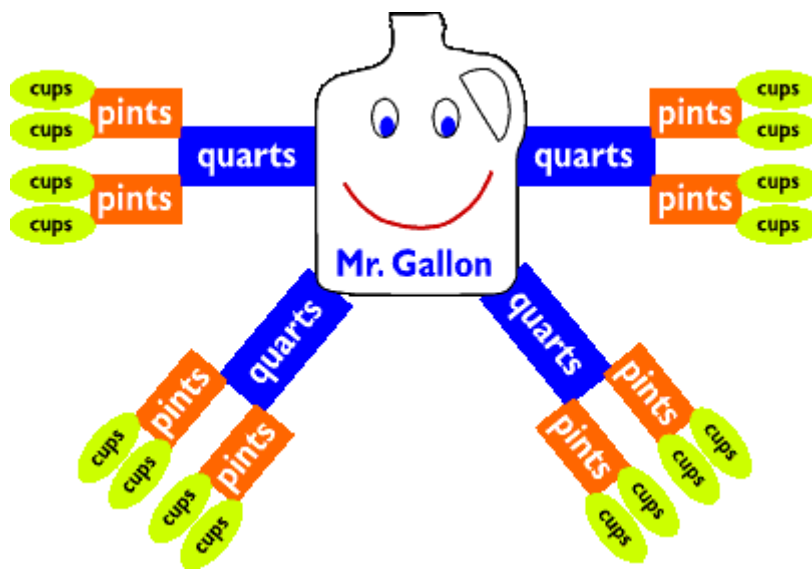
- 2 cups = 1 pint
- 2 pints = 1 quart
- 4 quarts = 1 gallon
- (1 cup = 8 fluid ounces)

Explain when to multiply and when to divide when converting the different measurement units.

- Smaller unit to larger unit → divide
- Larger unit to smaller unit → multiply

Pair/Group Practice:

In pairs, have learners create “The Gallon Man”. Give each pair a set of precut Gallon Man parts. Teacher should model taping the body parts on Mr. Gallon one the board. Once the Gallon Man is complete, review the conversion chart.



Individual Practice:

Handout Worksheet 1. Students work alone on the first 7 questions. Students can find a partner for questions 8 and 9, if they'd like. Students who finish before you are ready give the assessment, Worksheet 2, can work on Worksheet 3, a word find exercise.

So what?

Assessment:

Use Worksheet 2 to assess student understanding of liquid measurement.

Discussion:

Ask learners what they might be able to do with the information learned. Why do you need to know the different liquid measurement units?

- CASAS Math test
- Used in cooking or baking
- Proper amount of medicine
- Estimating how much beverage to get for a certain number of guests

Name _____

Date _____

Liquid Measurement Conversion

Fill in the blanks.

1. One pint equals _____ fluid ounces. (= fl. oz.)
2. Two pints equal _____ quart.
3. One gallon equals _____ quarts.
4. Three gallons equal _____ quarts.
5. One quart equals _____ cups.
6. Two cups equal _____ fluid ounces.
7. One-half gallon equals _____ quarts.

Problem Solving (Work with a partner.)

8. Hawa has a half gallon of milk. She needs 5 cups to make her Cream of Mushroom soup. Does she have enough milk? You can draw pictures to help you.

9. The recipe for a batch of brownies calls for one cup of chocolate syrup. Bee has a one quart container of chocolate syrup. How many batches of brownies can Bee make with one quart of chocolate syrup? Draw a picture and show your work.

Name _____

Date _____

Directions: Using the water labels below, answer the next three questions.



1. How many ounces of water would go in a half gallon container?
 - A. 16 ounces
 - B. 32 ounces
 - C. 64 ounces
 - D. 128 ounces
2. A pint size bottle holds 16 ounces of water. How many pints of water equal one quart of water?
 - A. 1 pint
 - B. 2 pints
 - C. 3 pints
 - D. 4 pints
3. You have one quart of water. How many people can drink an 8 oz. glass of water?
 - A. 2 people
 - B. 3 people
 - C. 4 people
 - D. 5 people

Name _____

Date _____

Crossword Puzzle: Liquid Measurement

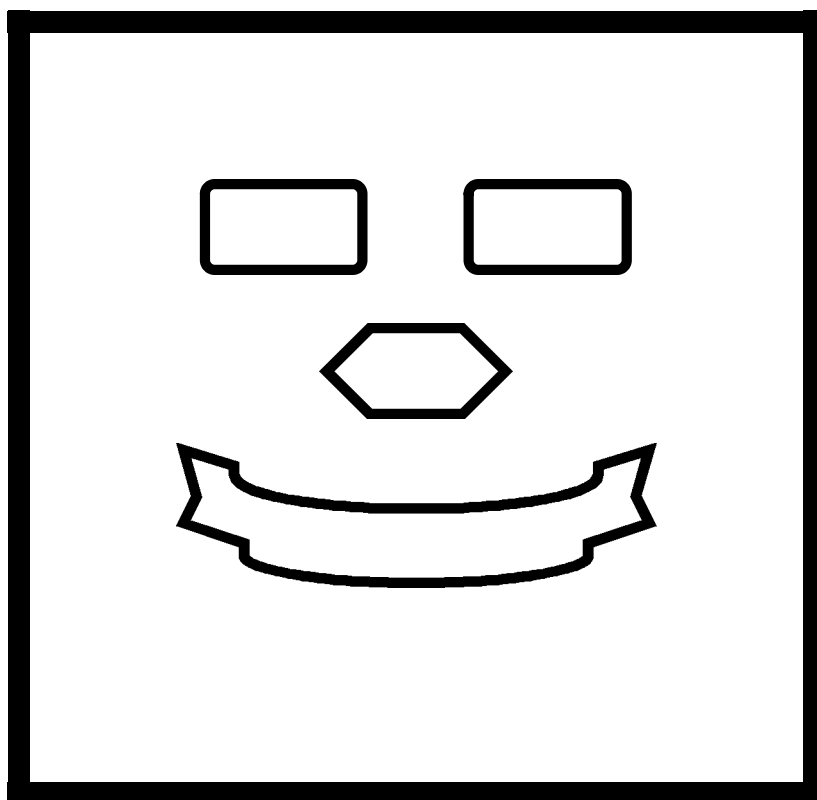
MEASUREMENT HDKM
ECEEQMQEDMILKAG
AIDPCOCUPUANTWE
SUIIHLEYAWIHVYZ
UJUCGFDGPRAJJMV
RPQEVKIHDLTTPFT
INIRXYZTFMPKEQR
NOLLAGFLAHVNNRM
GIVAOOINLCZRCOA
CZZOSTULNBXJKOC
UVDXEJDNOMQHQBH
PJHRETILCBVBSGS
JNMIEOMCJERCFCQ
GNAZMXEZTKSLRRI

Find the words and circle the entire word.

CUP
GALLON
HALF GALLON
HALF LITER
JUICE
LIQUID
LITER

MATH
~~MEASUREMENT~~
MEASURING CUP
MILK
OUNCES
QUART

Mr. Gallon's Parts



Mr. Gallon's Parts

Mr. Gallon

Mr. Gallon's Parts

Quart

Quart

Quart

Quart

Mr. Gallon's Parts

Pint

Pint

Pint

Pint

Pint

Pint

Pint

Pint

Mr. Gallon's Parts

Cups	Cups
Cups	Cups
Cups	Cups
Cups	Cups

Cups	Cups
Cups	Cups
Cups	Cups
Cups	Cups