Customary Liquid Measures —Teacher Lesson Guide

Part 1: Show Them How

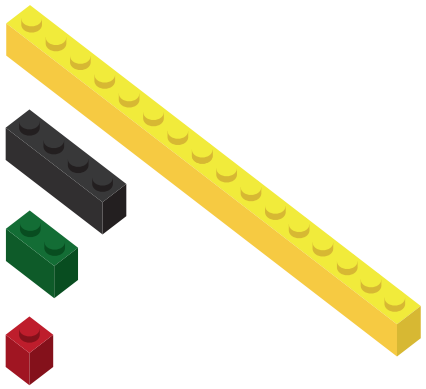
Show students the following bricks, explaining that each brick represents a unit of customary liquid measure in this lesson:

1x16 brick = 1 gallon

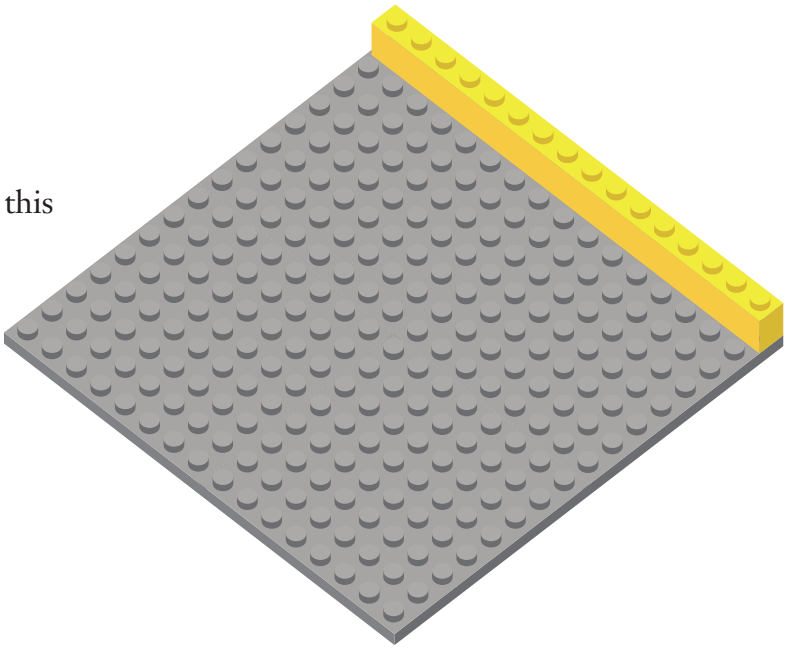
1x4 brick = 1 quart

1x2 brick = 1 pint

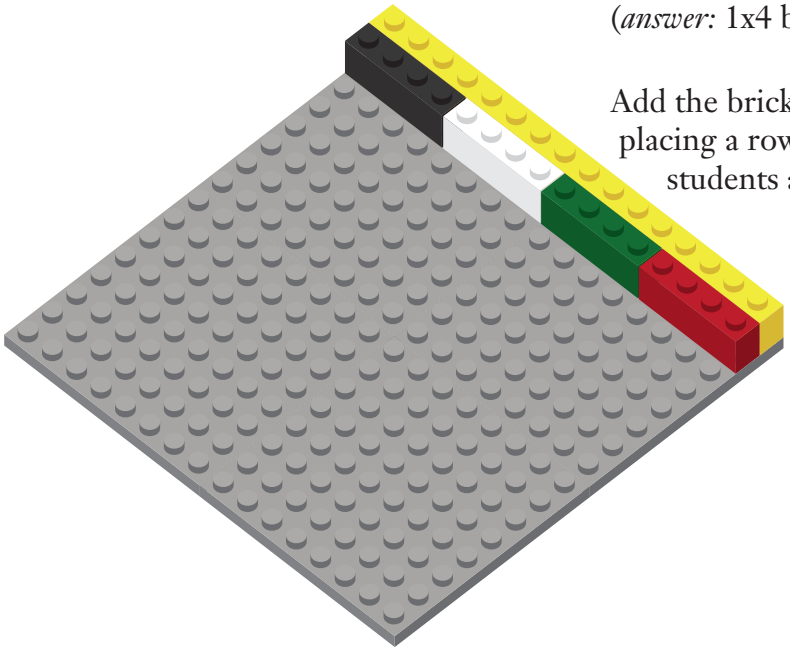
1x1 brick = 1 cup



1. Show students a 1x16 brick. Explain that this brick represents 1 gallon. Place the 1x16 brick horizontally at the top of a baseplate. Have students create the same model along with you.

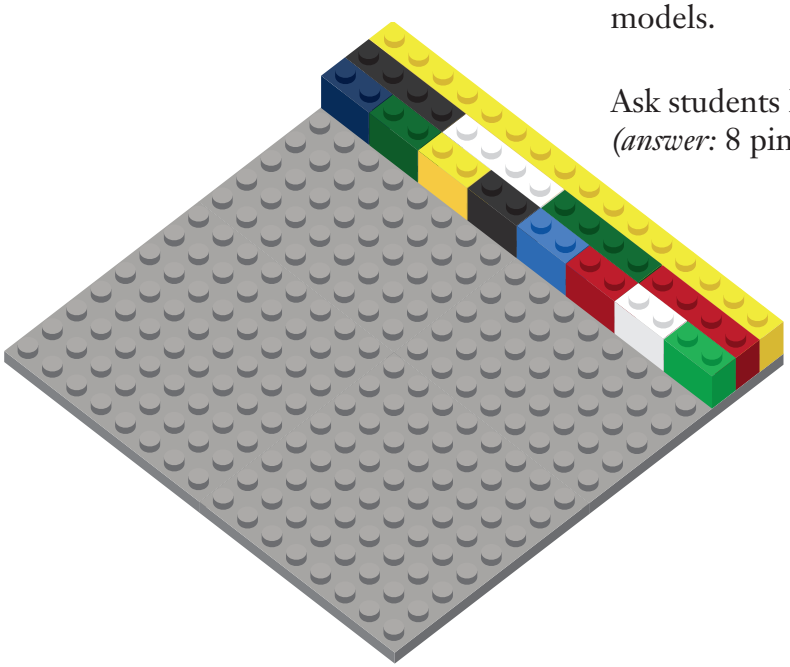


2. Explain to students that there are 4 quarts in 1 gallon. Ask students to find a brick to represent 1 quart (*answer:* 1x4 brick).



Add the bricks that represent 4 quarts to the model by placing a row of 1x4 bricks below the 1x16 brick. Have students add the same to their models.

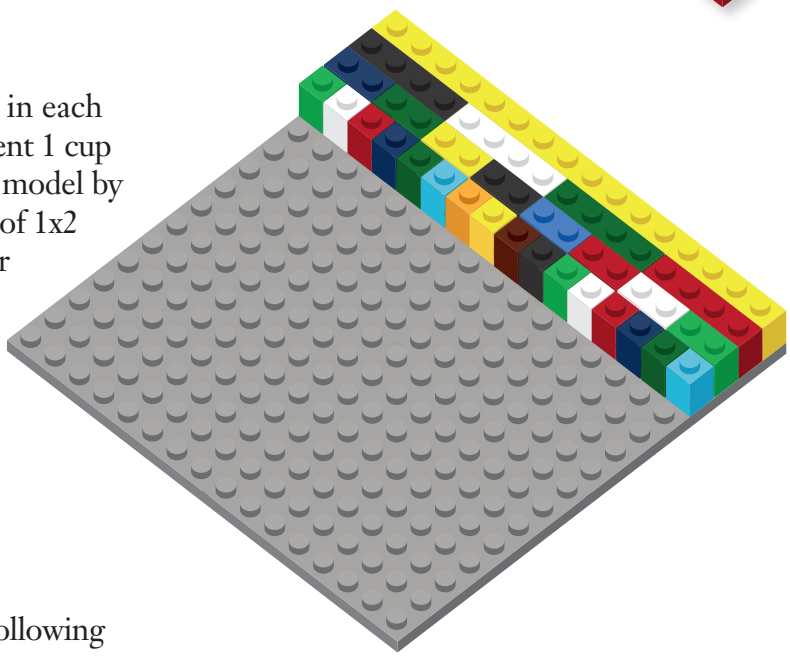
3. Explain to students that there are 2 pints in each quart. Ask students to find a brick to represent 1 pint (*answer:* 1x2 brick). Add the bricks that represent 2 pints for each quart by placing a row of 1x2 bricks below the row of 1x4 bricks. Have students add the same to their models.



Ask students how many pints are in a gallon (*answer:* 8 pints).

4. Explain to students that there are 2 cups in each pint. Ask students to find a brick to represent 1 cup (*answer:* 1x1 brick). Add cups to the gallon model by placing a row of 1x1 bricks below the row of 1x2 bricks. Have students add the same to their models.

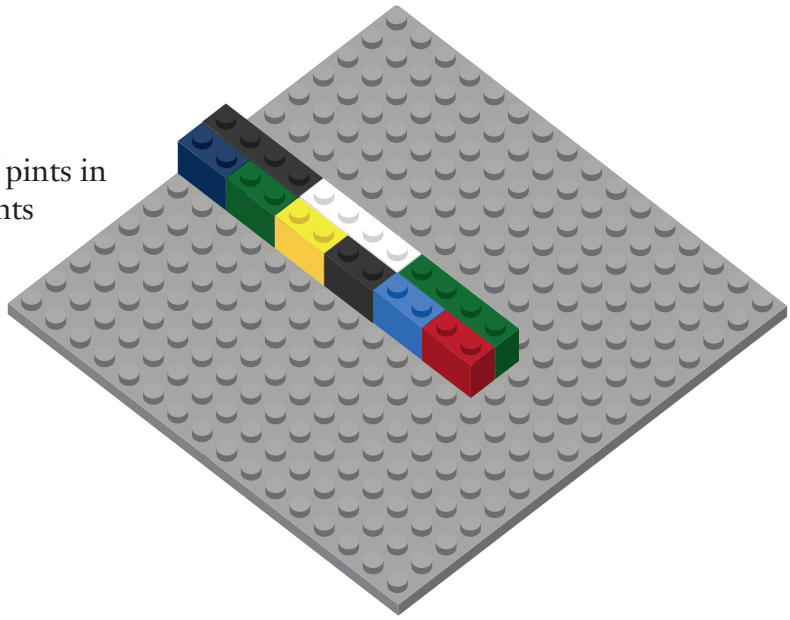
Ask students how many cups are in 1 gallon (*answer:* 16 cups).



5. Have students use this model to solve the following problems:

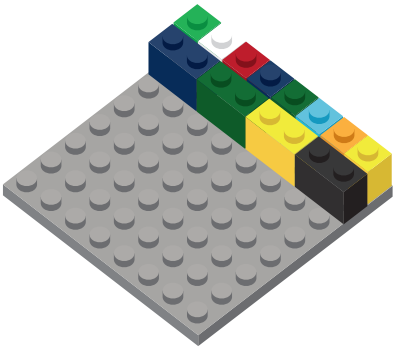
a. Count the bricks to determine how many quarts are in 2 gallons (*answer:* 8 quarts). *Note:* Students can use one-to-one correspondence, counting the four 1x4 bricks twice to arrive at the answer.

b. Build a model to show the number of pints in 3 quarts (*answer:* 6 pints). *Note:* Students should use three 1x4 bricks to show 3 quarts, then show 2 pints in each quart with two 1x2 bricks below each 1x4 brick.



c. Build a model to show the number of pints in 8 cups (*answer:* 4 pints).

Note: Students should model 8 cups with eight 1x1 bricks, then model pints by placing four 1x2 bricks below them (each 1x2 brick should line up with two 1x1 bricks).



Brick Math Lesson of the Month
October 2020
from Basic Measurement Using LEGO Bricks

Customary Liquid Measures

Student Workbook Pages

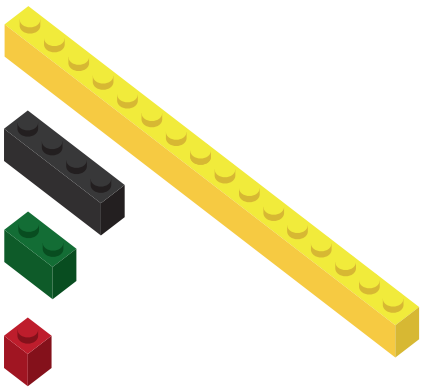
Part 1: Show Them How

1x16 brick = 1 gallon

1x4 brick = 1 quart

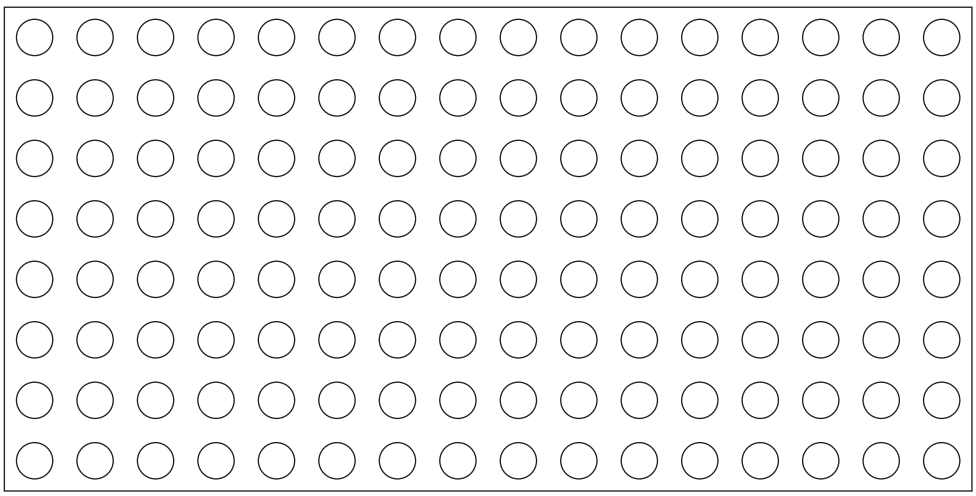
1x2 brick = 1 pint

1x1 brick = 1 cup



Each brick represents a unit of customary liquid measure.

1. Place a 1x16 brick horizontally at the top of a baseplate. Draw this model and label the unit of customary liquid measure that it represents.



2. There are 4 quarts in 1 gallon. Choose a brick to represent 1 quart. *Hint:* Think of 16 as the whole. What number is 1/4 of 16?

Add the bricks that represent 4 quarts to your model by placing _____ (number) _____ (size) bricks below the 1x16 brick. Draw your model on the baseplate on page 36 and label the quarts.

3. There are 2 pints in each quart. What size brick will represent 1 pint in your model?_____

Place a row of bricks representing 2 pints for each quart below the row of 1x4 bricks. Draw your model on the baseplate on page 36 and label the pints.

Use your model: How many pints are in 1 gallon? _____

4. There are 2 cups in each pint. Choose a brick to represent 1 cup. Add bricks to represent cups to your model by placing a row of _____ (size) bricks below the row of 1x2 bricks. Draw your model on the baseplate on page 36 and label the cups.

Use your model: How many cups are in 1 gallon? _____

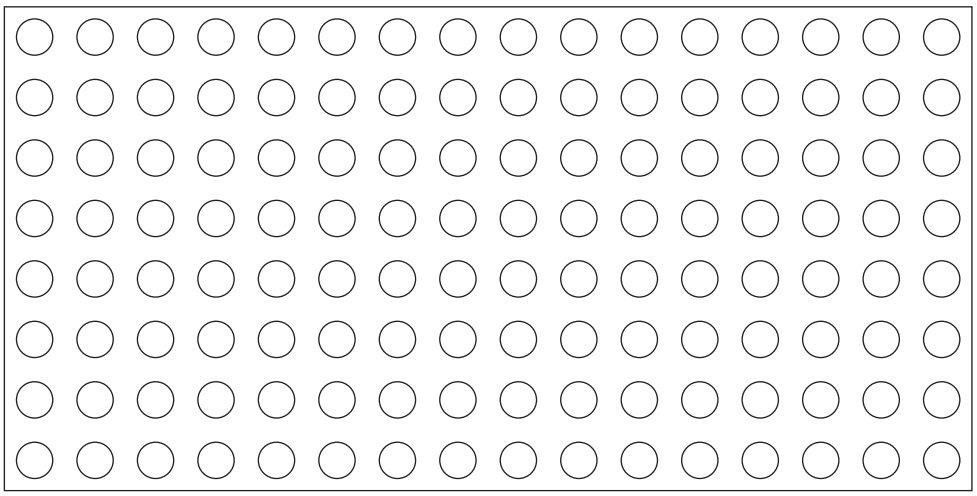
5. Use your model to solve the following problems:

a. How many quarts are in 2 gallons? _____ How do you know?

_____

_____

b. Build a model to show the number of pints in 3 quarts. How many pints are in 3 quarts? _____ Draw and label your model.



c. Build a model to show the number of pints in 8 cups. How many pints are in 8 cups? _____ Draw and label your model.