

Liquid Unit Detectives

Use size clues and a purpose to choose units.

GRADE 4 • 4.MG.1.a.iii

4.MG.1.a.iii "Determine an appropriate unit of measure to use when measuring: liquid volume in both U.S. Customary (cup, pint, quart, gallon) and metric units (milliliter, liter)."

NAME _____

DATE _____

Choose from cup, pint, quart, gallon, milliliter or liter. Follow the system named. Write the unit and a reason; another unit can be valid if you explain why it is useful.

Choose a convenient unit

Different units can describe the same volume. For these tasks, choose a unit close to the amount: about one unit is convenient. Use milliliters for tiny amounts and liters for large metric amounts. Explain your size clue.

Try it together

A bucket holds about two gallons of water. Use the benchmark table to explain which customary unit is convenient.

Volume benchmarks

Unit	Equivalent volume
1 pint	2 cups
1 quart	4 cups
1 gallon	16 cups
1 liter	1,000 milliliters

A gallon measure fills a large part of the bucket. Using cups would require many small measures. Gallons: the bucket holds about 2 gallons.

1. One serving

A glass holds slightly less than one measuring cup of juice. Choose a convenient customary unit and explain.

2. Small pitcher

These two pours fill a pitcher. Choose a customary unit close to its volume. Explain using the fill record and reference.

Pitcher fill record

Pour	Volume
First	1 cup
Second	1 cup

3. Recipe jug

These two pours fill a soup jug. Choose a customary unit close to its volume. Explain using the fill record and reference.

Soup jug record

Pour	Volume
First	2 cups
Second	2 cups

4. Drink cooler

A cooler holds about sixteen measuring cups of water. Choose a customary unit close to this amount. Explain.

5. Tiny science sample

A class measures a tiny water sample that fills a small dropper. Should its volume be reported in milliliters or liters? Explain.

6. Large metric container

A class pours several full one-liter bottles into an empty watering can to fill it. Should its capacity be reported in liters or milliliters? Explain.

7. Ask for a useful clue

A card says only "small carton of liquid." Sam insists the only correct unit is pint. Is there enough information? Explain one thing you would ask or measure.

Teacher notes

Require size/benchmark reasoning, not a rule that every carton has one standard capacity. The intended customary answers are cup, pint, quart and gallon because each is close to the stated amount. Accept another appropriate unit with a sound purpose and scale explanation. Metric examples contrast tiny samples with multiple liter measures. Actual volume measurement is not required by this unit-choice substandard.

Task 1

Cup: the amount is close to one cup. A larger unit would describe only a small fraction of that unit.

Task 2

Pint: 2 cups make 1 pint, close to the pitcher volume.

Task 3

Quart: 4 cups make 1 quart.

Task 4

Gallon: 16 cups make 1 gallon.

Task 5

Milliliters fit a tiny dropper sample; a liter is a much larger unit.

Match the small sample to a small metric unit.

Task 6

Liters are convenient because several one-liter bottles fill the can; milliliters would give a large count of tiny units.

A liter benchmark makes the large volume easier to describe.

Task 7

No. Cartons come in different sizes. Ask its approximate volume or compare it with a known cup/pint/quart measure; also ask which system or precision is wanted.