

Math Activities

The Heads In, Hearts In family enrichment program encourages families to use their minds (putting their “heads in”) as a tool to expand their knowledge around a variety of topic areas. By creating a shared educational experience, the family unit will work, grow and learn together, putting their “hearts in” to the process.

This unit contains the following:

- ▶ 3D Shapes
- ▶ Eggs-cellent Counting
- ▶ Guess Which Shape
- ▶ Gumball Equations
- ▶ Hungry Hedgehogs
- ▶ Marshmallow Structures
- ▶ Measure a Room
- ▶ Measurement Equivalents
- ▶ Measuring Liquids
- ▶ Photo-Graph
- ▶ Pie Die
- ▶ Skippy Clippy
- ▶ Spinner Math
- ▶ Stories Math
- ▶ Time: Before and After
- ▶ Twisting Place Values



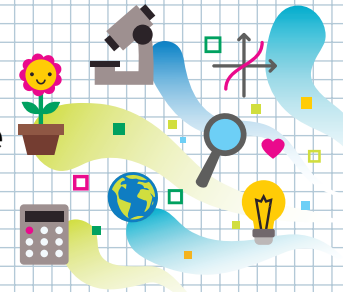
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HEADS IN, HEARTS IN

Measuring Liquids: Exploring Volume

Instructions for Set-Up



Supplies

- “Guide for Families” handout
- Clear plastic standup display (optional)
- “Liquid Measurement Task Cards” handout
- 3–5 liquid measuring tools
- Three to five 16-ounce plastic bottles
- Liquid food coloring
- Water
- Permanent marker
- Scissors
- Display table

Activity Preparation

- ▶ Purchase or locate items on supply list.
- ▶ Print one copy of the “Guide for Families” handout. Laminate or place in a clear plastic standup display to allow participants to see it more readily.
- ▶ Fill each of the three to five 16-ounce bottles with water of differing amounts (for example, $\frac{1}{2}$ cup, 1 tablespoon and so on).
- ▶ Using the liquid food coloring, color water in each bottle a different color.
- ▶ Using a permanent marker, write the correct amount of liquid on the bottom of the plastic bottle (for example, $\frac{1}{2}$ cup, 1 tablespoon and so on).
- ▶ Print “Liquid Measurement Task Cards” handout on durable paper and cut out the cards, or print, cut and laminate the cards.
- ▶ Set up the display table and arrange needed supplies.

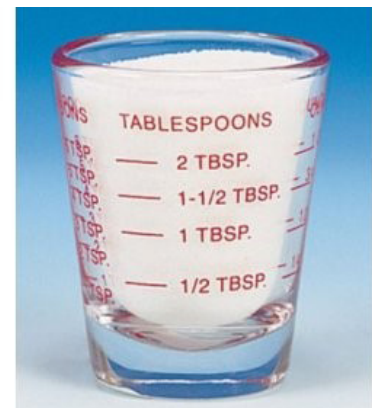
Liquid measuring cup

This can be used for measuring $\frac{1}{2}$ cups to 2 cup measurements.

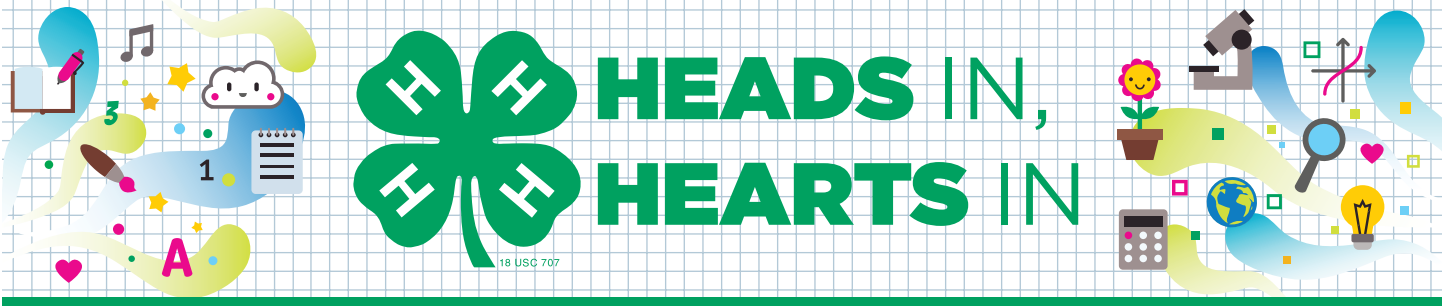


Liquid measuring utensil

This can be used to measure teaspoons, tablespoon and ounces.



This activity is adapted from “Measuring Liquids” in *Heads In, Hearts In* (4H1749S) by Michigan State University Extension, 4-H Youth Development, 2017.



Measuring Liquids: Exploring Volume

Guide for Families

Learning Objectives

What you need to know:

Volume is a measure of space or how much space an object takes up. If an object is empty, like a cup, **volume** is the amount of water or liquid it will hold. When measuring volume with liquids you can measure in different units like teaspoons, tablespoons, ounces, cups, quarts, gallons, liters and milliliters. When measuring liquid substances, it is important to use measuring tools that have been created specifically for liquids. For instance, a liquid measuring cup is clear, and you can see through it so you can easily measure the volume of the liquid.

What you will do and learn:

You will practice using liquid measuring cups to find the volume of the water inside each bottle.

Instructions

1. Choose a measurement task card and read the directions.
2. Complete the tasks of each card.
3. Repeat the activity several times by choosing different task cards.

Measuring Liquids: Exploring Volume

Liquid Measurement Task Card Handout

Find the bottle with yellow liquid.

Which measuring tool will you use?
Measure that liquid and see how much there is.

Look on the bottom of the plastic bottle. Were you correct?

Find the bottle with red liquid.

Which measuring tool will you use?
Measure that liquid and see how much there is.

Look on the bottom of the plastic bottle. Were you correct?

Find the bottle with green liquid.

Which measuring tool will you use?
Measure that liquid and see how much there is.

Look on the bottom of the plastic bottle. Were you correct?

Find the bottle with orange liquid.

Which measuring tool will you use?
Measure that liquid and see how much there is.

Look on the bottom of the plastic bottle. Were you correct?

Find the bottle with blue liquid.

Which measuring tool will you use?
Measure that liquid and see how much there is.

Look on the bottom of the plastic bottle. Were you correct?

Find the bottle with purple liquid.

Which measuring tool will you use?
Measure that liquid and see how much there is.

Look on the bottom of the plastic bottle. Were you correct?

The "Liquid Measurement Task Cards Handout" originally appeared in the "Measuring Liquids" activity in *Heads In, Hearts In* (4H1749S) by Michigan State University Extension, 4-H Youth Development, 2017.