

Math + Technology = Arts Integration

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NCTM Standards and Expectations

- Number and Operations
- Algebra
- Data Analysis and Probability
- Geometry
- Measurement
- Process

Common Core State Standards (CCSS) Domains Grades 3-5

- OA = Operations and Algebraic Thinking
- NBT = Number and Operations in Base Ten
- NF = Number and Operations - Fractions
- G = Geometry
- MD = Measurement and Data

Visual and Performing Arts Content Standards Grades 3-5

- Dance
- Music
- Theatre
- Visual Arts

National Educational Technology Standards (NETS) for Teachers

- Digital Age Work
- Digital Citizenship
- Professional Growth
- Student Learning
- Digital Age Learning

Geometry

The Greedy Triangle

Marilyn Burns

- Objective: To engage children in learning about different polygons using a Chinese jump rope
- Materials: Chinese jump rope, students
- Integration: Art (Theatre)

Geometry

Let's Fly a Kite

Stuart J. Murphy

- Objective: To engage students in identifying symmetrical shapes
- Materials: paint, letters (A-Z), construction paper, scissors and art supplies
- Integration: Art (Visual)

Operations and Algebraic Thinking

Beep Beep, Vroom Vroom

Stuart J. Murphy

- Objective: to engage students in recognizing and extending patterns.
- Materials: red, blue and yellow construction paper, pencils, scissors
- Integration: Art (Theatre, Visual)
- *Remediation Activity

Geometry

Grandfather Tang's Story

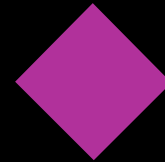
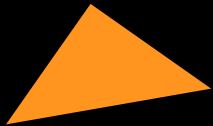
Ann Tompert

- Objective: to engage students in the organization of tangrams to produce a work of art
- Materials: PowerPoint (www.create.ms.org), tangram pattern, scissors, glue, construction paper, art supplies
- Integration: Art (Visual) Technology (Model Digital Age Work and Learning)

GRANDFATHER

TANG'S

STORY



Number Operation – Fractions; Geometry; Measurement and Data

Sam Johnson and the Blue Ribbon Quilt

Lisa Ernst

- Objective: to engage students in recognizing patterns, fractions, angles, perimeter and area.
- Materials: construction paper, glue, rulers, scissors
- Integration: Art (Visual)

Measurement and Data; Number and Operation Base Ten Glyphs

- Objective: to engage the students in measuring capacity.
- Materials: construction paper, glyph gallonbot template, markers
- Integration: Art (Visual)

GallonBot

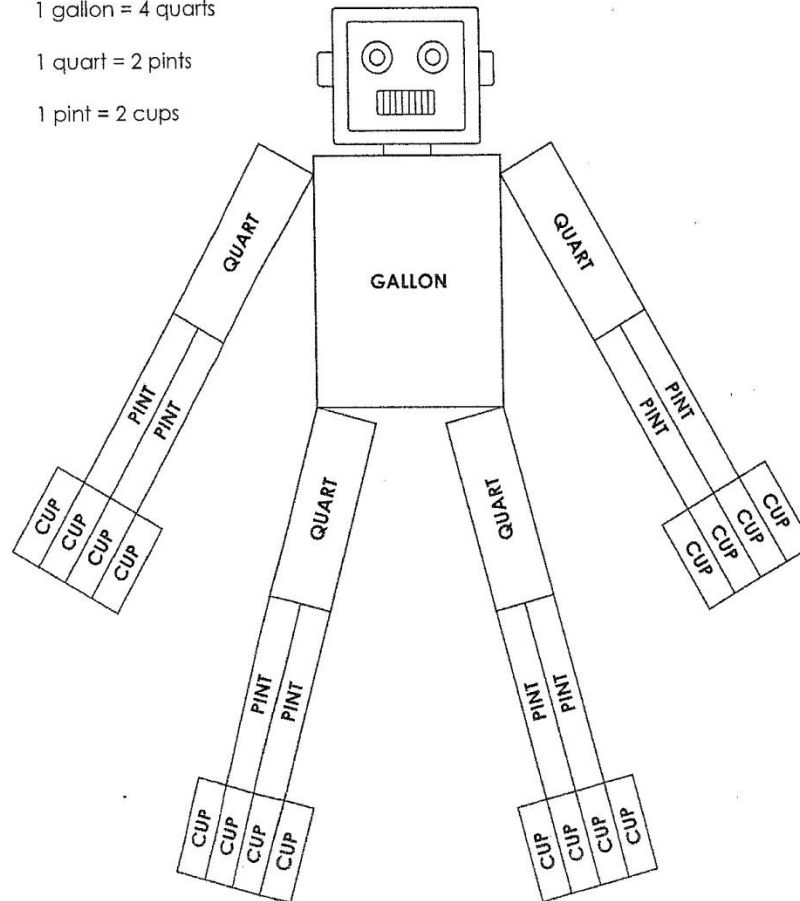
Use the pieces on the following pages to assemble GallonBot.

GallonBot demonstrates:

1 gallon = 4 quarts

1 quart = 2 pints

1 pint = 2 cups

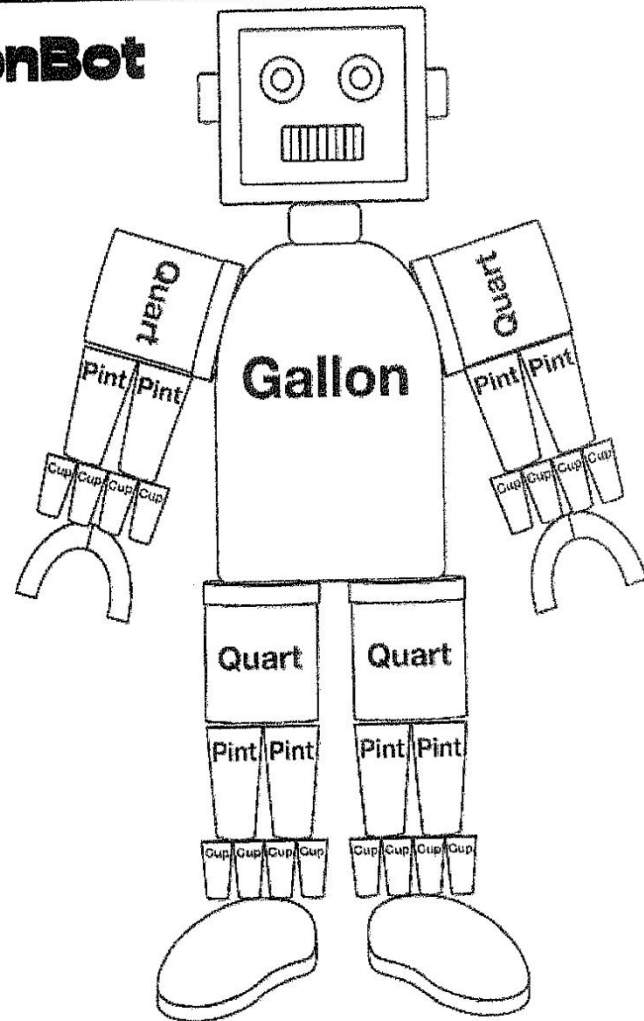


Name: _____

Measuring Capacity with GallonBot

Use the GallonBot illustration to help you answer the questions.

- a. How many quarts are in a gallon? _____
- b. How many pints are in a gallon? _____
- c. How many cups are in a gallon? _____
- d. Which is greater: a quart or a pint? _____
- e. How many cups are in a pint? _____
- f. Which is less: a cup or a pint? _____
- g. How many cups are in a quart? _____
- h. How many pints are in 2 quarts? _____
- i. How many cups are in 3 pints? _____
- j. Which is greater: 8 cups or 1 quart? _____
- k. Which is less: 4 quarts or one gallon? _____
- l. Color GallonBot as follows: gallons - red; quarts - green; pints - blue; cups - purple

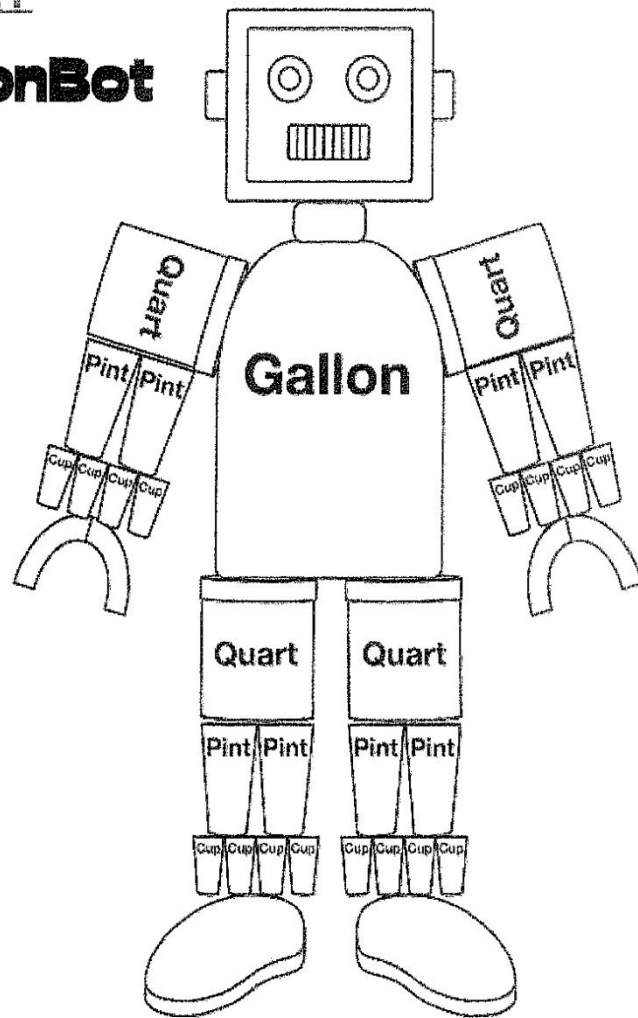


ANSWER KEY

Measuring Capacity with GallonBot

Use the GallonBot illustration to help you answer the questions.

- a. How many quarts are in a gallon? 4 quarts
- b. How many pints are in a gallon? 8 pints
- c. How many cups are in a gallon? 16 cups
- d. Which is greater: a quart or a pint? quart
- e. How many cups are in a pint? 2 cups
- f. Which is less: a cup or a pint? cup
- g. How many cups are in a quart? 4 cups
- h. How many pints are in 2 quarts? 4 pints
- i. How many cups are in 3 pints? 6 cups
- j. Which is greater: 8 cups or 1 quart? 8 cups
- k. Which is less: 4 quarts or one gallon? They are equal.
- l. Color GallonBot as follows: gallons - red; quarts - green; pints - blue; cups - purple



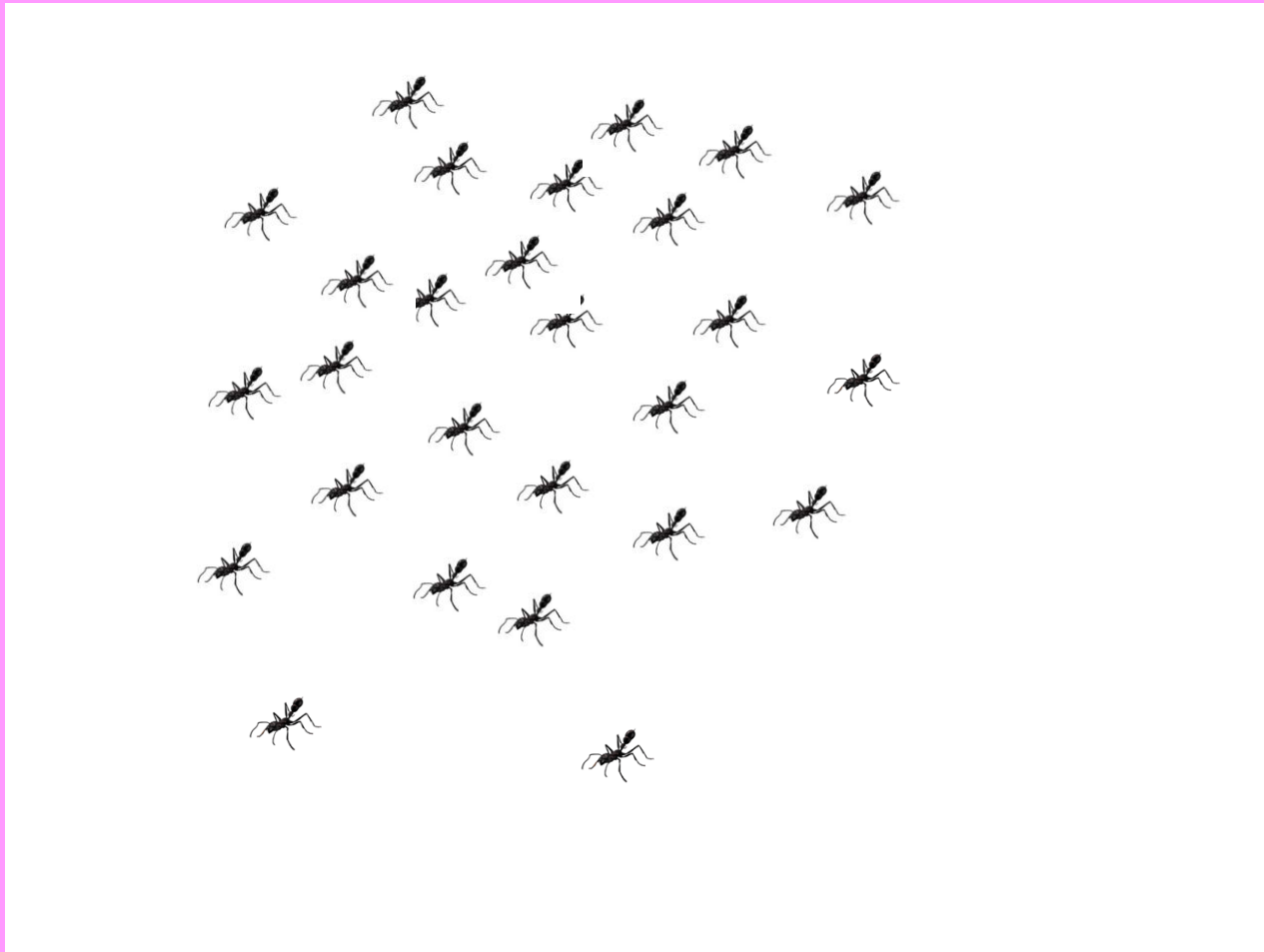
Numbers and Operations Base Ten

Remainder of One

Elinor J. Pinczes

- Objective: to engage students in kinesthetic division
- Materials: plastic ants/ant worksheet, PowerPoint with marching ants
- Integration: Arts (Theatre, Music) Technology (Model Digital Age Work and Learning)

Remainder of One



PARADE OF THE ANTS

- The ants go marching one by one, hoorah, hoorah.
The ants go marching one by one, hoorah, hoorah.
The ants go marching one by one, the little one stops
to have some fun, and they all go marching down,
to the ground, to get out of the rain. Boom, boom,
boom
- The ants go marching two by two...
 - The little one stops to tie his shoe,
- The ants go marching three by three...
 - The little one stops to climb a tree,

- The ants go marching four by four...
 - The little one stops to shut the door,
- The ants go marching five by five...
 - They all must stop to give high fives,