

## CONVERTING CUPS, PINTS, QUARTS, AND GALLONS

### Objectives

- Introduce the concept of converting capacities
- Form Teams
- Teams practice capacity conversions

### Materials

- COOPERATIVE GROUP WORK RUBRIC — *transparency + as needed*
  - TEAM INVESTIGATIONS — *class set*
  - Containers (cup, pint, quart, gallon) — *one set per team*
  - \*Plastic tub with water (2.5 gallons) — *one per team*
- \*If your classroom does not have a sink, or if tubs of water are a potential management problem, consider using clean sand or jumbo packages of popped corn or puffed cereal. Each team needs slightly more than one gallon of some substance to measure.

### Setup

- Prior to class, set up measurement team work stations throughout the room.
  - a. Provide one tub with water for each station.
  - b. Provide one set of containers for each station.

### Procedure

1. Using one set of containers, introduce and identify each container along with its abbreviation.  
Cup = c  
Pint = pt  
Quart = qt  
Gallon = g
2. Give a brief overview of this **CAPACITY CONVERTERS** activity. Explain that:
  - a. Students will work on Measurement Teams with four members.
  - b. The Measurement Teams will use the four containers and the water to check for accuracy as they solve TEAM INVESTIGATIONS problems.



45–50 minutes

Teams of Four

3. Assign students to four-member measurement teams. Display the transparency of the **COOPERATIVE GROUP WORK RUBRIC** and make clear to the students their responsibilities throughout the unit.
4. Have the teams meet and decide on a team name.
5. Direct each Measurement Team to a station with a set of containers and a tub for water.
6. Direct each Measurement Team to work together to complete as many of the problems on the **TEAM INVESTIGATIONS** worksheet as they can.

**TEAM INVESTIGATIONS Answer Key**

- |                |                 |
|----------------|-----------------|
| 1. 1 pt = 2 c  | 11. 6 c = 3 pt  |
| 2. 1 g = 4 qt  | 12. 8 pt = 4 qt |
| 3. 1 qt = 2 pt | 13. 12 qt = 3 g |
| 4. 1 qt = 4 c  | 14. 3 pt = 6 c  |
| 5. 1 g = 8 pt  | 15. 2 qt = 4 pt |
| 6. 1 g = 16 c  | 16. 3 qt = 12 c |
| 7. 2 g = 8 qt  | 17. 6 pt = 3 qt |
| 8. 4 c = 2 pt  | 18. 8 c = 4 pt  |
| 9. 4 pt = 2 qt | 19. 16 pt = 2 g |
| 10. 8 qt = 2 g | 20. 32 c = 2 g  |
21. Answers will vary
22. Yes, she brought enough juice. 2 qt = 4 pt.
23. 4 c. 1 g = 4 qt. The jug is 3 qt full; that leaves 1 qt remaining. 1 qt = 4 c.



*Reinforce your expectations for responsible student behavior while using the measuring containers.*



*This kinesthetic learning will help students observe that they can convert units from one to another.*



## TEAM INVESTIGATIONS

### CONVERTING CUPS, PINTS, QUARTS, AND GALLONS

Team Name: \_\_\_\_\_

*Work with your Measurement Team. Investigate and solve the following problems.  
Use your set of containers to check for accuracy.*

- |                   |                    |
|-------------------|--------------------|
| 1. 1 pt = _____c  | 11. 6 c = _____pt  |
| 2. 1 g = _____qt  | 12. 8 pt = _____qt |
| 3. 1 qt = _____pt | 13. 12 qt = _____g |
| 4. 1 qt = _____c  | 14. 3 pt = _____c  |
| 5. 1 g = _____pt  | 15. 2 qt = _____pt |
| 6. 1 g = _____c   | 16. 3 qt = _____c  |
| 7. 2 g = _____qt  | 17. 6 pt = _____qt |
| 8. 4 c = _____pt  | 18. 8 c = _____pt  |
| 9. 4 pt = _____qt | 19. 16 pt = _____g |
| 10. 8 qt = _____g | 20. 32 c = _____g  |

21. How many ways can you describe the capacity of a 2-gallon jug? List as many as you can. Use many different units of measure.

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22. Mr. Schroeder told Becky to bring at least 2 quarts of juice for the party. Becky brought 5 pints of juice. Did she bring enough? \_\_\_\_\_

Explain \_\_\_\_\_

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23. Susan was using a measuring cup to fill a gallon jug with water. The jug is 3 quarts full. How many more cups does Susan have to pour? \_\_\_\_\_

Explain how you know your answer. \_\_\_\_\_

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