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.
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  
2. 1 g = 4 qt  
3. 1 qt = 2 pt  
4. 1 qt = 4 c  
5. 1 g = 8 pt  
6. 1 g = 16 c  
7. 2 g = 8 qt  
8. 4 c = 2 pt  
9. 4 pt = 2 qt  
10. 8 qt = 2 g  
11. 6 c = 3 pt  
12. 8 pt = 4 qt  
13. 12 qt = 3 g  
14. 3 pt = 6 c  
15. 2 qt = 4 pt  
16. 3 qt = 12 c  
17. 6 pt = 3 qt  
18. 8 c = 4 pt  
19. 16 pt = 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.
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

2. 1 g = _____________qt

3. 1 qt = _____________pt

4. 1 qt = _____________c

5. 1 g = _____________pt

6. 1 g = _____________c

7. 2 g = _____________qt

8. 4 c = _____________pt

9. 4 pt = _____________qt

10. 8 qt = _____________g

11. 6 c = _____________pt

12. 8 pt = _____________qt

13. 12 qt = _____________g

14. 3 pt = _____________c

15. 2 qt = _____________pt

16. 3 qt = _____________c

17. 6 pt = _____________qt

18. 8 c = _____________pt

19. 16 pt = _____________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.

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

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 __________________________________________________________
_________________________________________________________________
_________________________________________________________________

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.___________________________________
_________________________________________________________________