Math Categories Game

This is a Jeopardy-like game to review 7th grade concepts.

Materials needed:
Black-line masters of game board and category questions
File folders and scrap paper for each group
Questions copied onto transparency film and cut apart for the game
Transparency of the game board

Game preparation:
Prepare a file folder for each group (three or four persons per group) by writing a large letter on the front of the folder. This letter will identify the group during the game and for scoring. Each group will need several small sheets of scrap paper – sheets from a small note pad, or large sticky notes are ideal.

Copy the questions onto transparency film and cut them apart for the game. You have five sheets, one for each category: Algebra, Problem Solving, Geometry, Measurement, and Data. At the margin of each question is a label that identifies its category and value. A suggestion for organizing the questions is to seal an envelope and cut off one end. The questions can be kept in this envelope. Put them into the envelope in order by category and by value. Let the end with the value label extend from the opening in the envelope. This will make the questions easy to access during the game.

Other options are to use PowerPoint or a Smart Board when playing the game.

Playing the game: Display the game board on the overhead and hand each group their folder, then give instructions for the groups.

Group Instructions: When a question is displayed, all groups will work on the solution. When you have arrived at an answer, the group leader will place the answer inside the folder and raise the folder high. The folder must not be lowered until I [the leader] have checked the folder for the correct solution. All groups with the correct answer will earn the points. You will have approximately 90 seconds to work on each question.

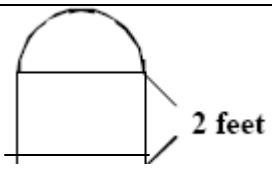
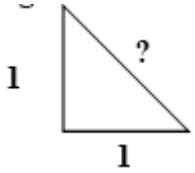
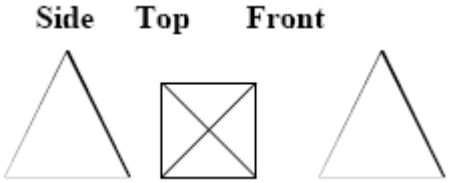
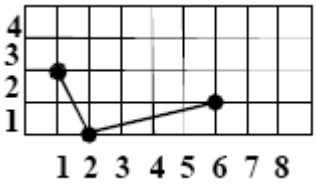
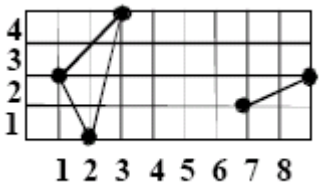
The teacher then calls on a group to be first. That group gets to select the category and level to begin the game. Locate the appropriate question and display it on the overhead. As the students work, be sure to check the time and monitor them. When an appropriate time has passed, call time and check the raised folders for correct solutions. The "appropriate" time should be determined by the question. Certainly, when nearly all the groups have raised their folders, time should be drawing to a close. Ninety seconds is a ball-park time limit, but some questions will go faster or may need a bit more time.

Write the group letters of each group with the correct answer inside the game board square showing the matching category and value. The game is played until the board is full, or until a predetermined amount of time has passed. The complete board will take more than an hour to fill, so you may wish to play for a fixed amount of time instead. At the end of the game, add up all the points on the board. The group with the highest number of points wins.

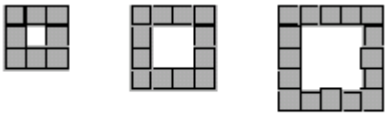
GAME BOARD

Categories				
Geometry	**Problem Solving**	**Measurement**	**Algebra**	**Probability Statistics**
100	100	100	100	100
200	200	200	200	200
300	300	300	300	300
400	400	400	400	400
500	500	500	500	500

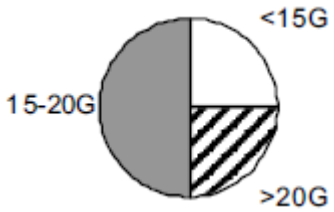
GEOMETRY QUESTIONS

Geometry 400	What is the perimeter of the window shown? 
Geometry 300	Find the missing side of this triangle: 
Geometry 100	What is this figure? 
Geometry 200	Find the coordinate that will be the fourth corner of the parallelogram. 
Geometry 500	What is the missing corner of the two congruent triangles? 

ALGEBRA QUESTIONS

Algebra 400	The following table shows how much it costs for John to make birdhouses. How much would it cost to make 10 birdhouses? number of birdhouses 1 2 3 4 ... 10 cost (in dollars) 5 8 11 14 ... ?
Algebra 300	 These diagrams are of sidewalks around lawns. How many tiles are needed for the next pattern?
Algebra 100	Work backwards to solve the following: $2(\square) + 13 = 47$
Algebra 200	Simplify the following: $15 - 2(3 + 1) - 5 + 1$
Algebra 500	Make up a problem to fit the following equation: $x + 2x + (x + 2) = 42$

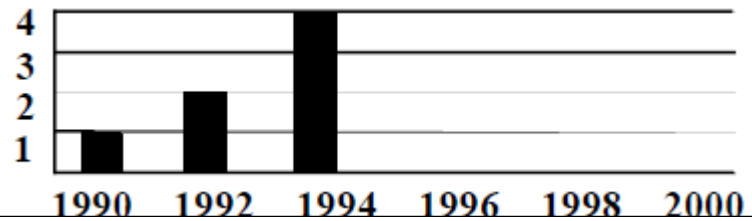
DATA QUESTIONS

Data 400	Give a reason why a student would rather have their median grade on the report card, instead of the mean grade.
Data 300	How many ways are there to select four students from a group of six students?
Data 100	The probability of rolling 12 on a pair of dice is 1/36. What does this mean?
Data 200	"Four out of five dentists recommend Howard's Toothpaste to their patients who chew gum." How can this statement be misleading?
Data 500	Could the following graphs refer to the same data? Grams of protein found in fast food. 0 | 6 1 | 2 5 6 6 7 2 | 1 4 

MEASUREMENT QUESTIONS

Measurement 400	Whitney wants to cover a gift box with wrapping paper. The box is 4 inches by 4 inches on the bottom and 5 inches tall. How many square inches of paper will she need to cover the sides and top?
Measurement 300	Michael has some blocks that are 1 inch on each side. He is using them to fill up a box that is 8 inches high. If 24 blocks fill up a layer on the bottom of the box, how many will fill the entire box?
Measurement 100	When cutting out pieces to make miniature doll furniture, how accurate or precise should your measurement be? What unit of measure would you use?
Measurement 200	Mark wants to make a set of five shelves for his room. Each shelf is to be 32 inches long. The shelving lumber is sold in 8-foot lengths. How many boards should he buy, and how much will be left over?
Measurement 500	Which holds more: a cylinder with a radius of 3 cm and a height of 4 cm, or a cone with a radius of 3 cm and a height of 6 cm?

PROBLEM SOLVING QUESTIONS

Problem Solving 400	The following graph shows the number of female race car drivers who participate each year. How many female drivers do you expect by the year 2000? 
Problem Solving 300	Mary is ordering supplies for the school store. What can she do to decide how much pencil, paper, pens, and graph paper she should order?
Problem Solving 100	Joe wants to buy a jacket that costs $60, but has been marked down to 30% off. If the sale price is subject to 6% tax, how much will Joe have to pay?
Problem Solving 200	Renee's garden is a rectangle, 15 feet wide and 8 feet long. Find two different rectangular shapes that increase the area of her garden by 20%.
Problem Solving 500	A robot can mop half of a floor in an hour. The next hour his batteries are wearing down, so he only does one-fourth of the floor; the next hour he does one-eighth and so on. How many hours will it take until he has done at least 90% of the floor?