RAFT IDEAS

Topics: Arithmetic, Dexterity Games, Laws of Motion

Materials List
- ✓ Carpet square or equivalent, ~45 cm x 45 cm (18" x 18")
- ✓ Bottle caps, 6
- ✓ Permanent marker

This activity can be used to teach:
- Forces & Motion (Next Generation Science Standards: Grade 3, Physical Science, 2-1, 2-2)
- Addition and Subtraction (Common Core Math Standards: Operations and Algebraic Thinking, Grade 1, 6; Grade 2, 2; Number & Operations in Base Ten, Grade 1, 4 & 5, Grade 2, 5-8, Grade 3, 2)

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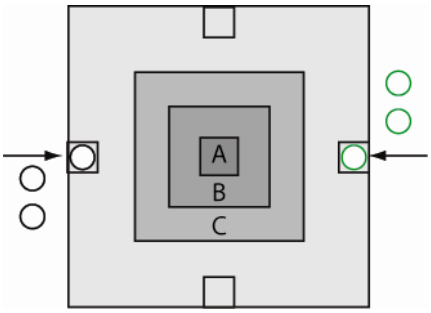
Carpet Square Math

Science, Math, and Manual Dexterity all in One Activity!



Take turns flicking a bottle cap from a launching square toward the center and then add the numbers for the region landed on to obtain a score. Bumping is permitted!

Assembly

1. Use a permanent marker to draw 3 regions on the carpet square. One recommendation would be to use 3 centered squares of different sizes, see sample above. Instead of using a carpet square the regions and boundaries could be marked on a table or sidewalk with tape or chalk.
2. Draw a launching square, slightly larger than a bottle cap, at the midpoint of each of the 4 sides of the carpet square.
3. Label the 3 regions with the letters "A", "B" and "C". Before playing assign values for A, B and C that are suitable for the players. (Note: For younger students write the values directly on the carpet.) Possible values to use include:

	A	B	C
Grade 1	10	5	1
Grade 2	100	10	1
Grade 3+	1000	100	10

4. Use a permanent marker to label the inside of 2 sets of 3 bottle caps with a unique mark for each set (e.g., shapes, letters, numbers).

Playing the Game (for 2 players)

1. Each player chooses a set of labeled bottle caps.
2. Each player uses a gentle finger flick to shoot a bottle cap from a launching square toward the center. The player with the highest score starts first.
3. Taking turns, each player attempts to flick a bottle cap just hard enough so that the bottle cap stops in the highest scoring region.
4. Each player is allowed to bump the other player's bottle cap out of a desirable region, or to bump their own bottle cap into a higher point region.
5. After all game pieces are played each player notes in which regions his/her game pieces have landed and adds up the points accordingly. More than half a bottle cap has to be in a higher scoring region for that region to be used for scoring.
6. The player with the highest number of points wins the round.

Math Behind the Activity

Addition and place value skills are reinforced by playing this game. A fun element is introduced in the flicking of the bottle caps which will also improve finger dexterity.

Taking it Further

Multiply the 3 regions' point values together to obtain a final score.

Web Resources (Visit www.raft.net/raft-idea?isid=602 for more resources!)
- Teacher designed math courses from the New Jersey Center for Teaching & Learning – https://njctl.org/courses/math

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