Put Me in Order

Pillar: Active Living
Division: III
Grade Level: 8
Core Curriculum Connections: Mathematics

I. Rationale:

This game could be incorporated at the end of the Number unit in Grade 8 math as a review and assessment of student learning. Students work together to solve equations involving fractions, square roots, and integers. In small groups, students are challenged to be the first group to work out these equations and then compare, order, and represent their answers correctly by arranging themselves in the proper order. This game could be modified and used at other grade levels to reinforce a multitude of other operations and mathematical concepts.

II. Activity Objectives:

Students will be able to:

- apply a variety of movement skills in combination and sequence in physical activities and formal games.

III. Curriculum Outcomes: Grade 8 Math

Unit: Number **General Outcome:** Develop number sense.
Specific Outcomes:
1. Demonstrate an understanding of perfect squares and square roots, concretely, pictorially and symbolically (limited to whole numbers). [C, CN, R, V]
2. Determine the approximate square root of numbers that are not perfect squares (limited to whole numbers). [C, CN, ME, R, T]
6. Demonstrate an understanding of multiplying and dividing positive fractions and mixed numbers, concretely, pictorially and symbolically. [C, CN, ME, PS]
7. Demonstrate an understanding of multiplication and division of integers, concretely, pictorially and symbolically. [C, CN, PS, R, V]

IV. Materials:

- **Fraction cards** - with equations involving multiplication and division of positive fractions and mixed numbers
- **Integer cards** - with problems involving multiplication and division
- **Square root cards** - including square roots, perfect squares and whole numbers that are not perfect squares (e.g., √16)
- 2 basketballs (will vary depending on what activity or sport you choose)

V. Procedure:

a. Preparation:

- Divide your class into 2 groups.
- Give each person in each group a card with a number or equation on it. Start with cards with integers that involve multiplication and division.
- Explain the activity to students, asking them to work together to solve the equations and then arrange themselves into the correct order when you blow the whistle. The activity must stop when you blow the whistle a second time.

b. Activity:

- Use your whistle to start the activity.
- Time how long it takes your students to arrange themselves in order. The first group to get themselves in the correct order wins 2 points.
- If it takes the first group 20 seconds to arrange itself in order, the entire class must perform a particular activity 20 times; for example, 20 chest passes or bounce passes or 20 free-throw shots.
- Keep the equipment close to you and ask one member of each group to get and return the equipment.
- Demonstrate the activity then ask your entire class to start the activity once you say, "GO!"
- Each group member must do the activity for the specified amount of time. Ask them to participate in the order they arranged themselves into.
- The first group to complete the task wins 2 points.
- All equipment must be returned to you once both groups have completed the task.
- Collect the cards. Rotate the types of cards so the groups don't get the same type.
- Use a different category of cards and repeat the activity. For example, give each student a card with a fraction or fraction equation on it.

VI. Extensions and Variations:

1. ***Mix Up the Cards:***
   Mix up the cards so that each group has a classmate who has a fraction card, integer card, and square root card. Then ask your students to put themselves in order.

2. ***First Group Decides the Activity:***
   Ask the first group to complete the ordering task to decide what the activity will be. Be sure to advise them in which sport the activity must come from. For example, tell your students that the skill has to be soccer-related or baseball-related, etc.

3. ***Use Non-Sports-Related Activities:***
   If you don't want to use equipment, use non-sports-related activities like push ups, sit ups, or bicep curls (without weights).

VII. Assessment Ideas:

- All three set of cards could be mixed up back in the classroom and dealt out to each student. Individually, have each student work out the equations on paper and order their answers accordingly. Rotate the cards a few times, so that each students has ample opportunity to express their learning.

- Alternatively, each student could make up their own set of cards, including operations with fractions, square roots, and integers. Partners could trade sets of cards and work out the problems individually and then hand them in for evaluation.