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Game 4
CAN YOU MAKE…..?

Materials

- Pencil and paper
- Index cards
- Timer
- Overhead, whiteboard, or Smartboard (optional)

Learning Standards for Mathematics

- Fluency using the four operations
- Generate and analyze patterns
- Perform operations with multi-digit whole numbers
- Interpret numerical expressions

– Overview –

Students use number sense, operational skills, and strategies to compute a target number from five randomly chosen numbers. Operational fluency and precision is an asset in this activity.

– The Game –

Distribute six index cards to each student. Each student randomly picks five numbers from 1 to 25 (or from any appropriate interval for the class level) and writes down each number on a separate card. The sixth card is for keeping score. Choose any number from 1 to 50 (or from any interval that is appropriate for your class level) and write it on the board. To involve the students in choosing the number, pick any student, ask the number of the day of her/his birthday, and use that number.

Students have an allotted time (about 1 to 1.5 minutes) to use at least two numbers from their cards and any operation (addition, subtraction, multiplication, and division) to help compute the number on the board. A student must use at least two numbers from her/his cards to compute the number. The same number may not be used twice in any one computation.

As soon as a student has an answer, they raise their hand. When the allotted time is up, students with raised hands will be called on to explain their answers. A correct answer gains one point.

Students should have an index card on which to keep track of their score. This is a good time to use tallying. As students accumulate their scores, explain that keeping score in groups of 5 is so much easier when computing the final score. Look at the difference for a score of 12: |||||||||||| or 𝍸 𝍸 ||.

Example:

The numbers on my cards are 5, 10, 11, 13, 7

The number on the board is 25.

Possible answer: 13 + 7 + 10 - 5 = 25

The amazing outcomes – Every number on the board will have at least one solution within the class!

Questions for Further Discovery

1. Based on the interval chosen for the cards, for example 1 to 25, what is the highest target number you could compute?

   25 x 24 x 23 x 22 = 303,600.

2. If the number cards only have odd numbers, what computations must you do to get an even result?

   Some suggestions might be:
   Add an even amount of your odd numbers
   Subtract two odd numbers.

3. If the number cards only have even numbers, is it possible to get an odd result?

   Yes, if you use division.
   Even + Even = Even
   Even - Even = Even
   Even x Even = Even
   Even ÷ Even = odd or even depending on the numbers.
   12 ÷ 6 = 2 12 ÷ 4 = 3
   See "Teachable Moments" (page 133) for further study of odd and even numbers.