

## Number challenge

### Syllabus focus area and content group

#### Represent numbers B and Additive relations B

- Whole numbers: Order numbers in thousands
  - Recognise and describe how rearranging digits changes the size of a number (Reasons about relations)
- Partition, rearrange and regroup numbers to at least 1000 to solve additive problems
  - Use an algorithm with understanding to record addition and subtraction calculations, where efficient, involving 3-digit numbers

### Suggested outcomes

- MA2-RN-02
- MA2-AR-02

### Resources

- Numbered bean bags or playing cards
- Hoops
- 4-sided dice

### Activity set-up

- Arrange hoops in a large circle (1 hoop per 2 students)
- Scatter bean bags or playing cards in the middle of the circle
- Place a dice at each hoop
- Group students in pairs

### Learning task

The aim of this game is to generate the highest total by making the smallest number, largest number, an odd and an even number.

Students:

- roll the dice and relay run one student at a time to collect the number of bean bags/cards from the middle as represented by the dice. For example, if a student rolls a 4 they collect 4 bean bags/cards.
- make and record the largest number, smallest number, an odd number and an even number using the numerals on the bean bags/ cards they collected.
- use an efficient strategy to find the total of the 4 numbers made.
- return bean bags/cards to the middle and play resumes by rolling the dice again.

The pair with the largest total is the winner and receives a point.

### Increase/decrease challenge

- Use a 6-sided dice
- Use a 12-sided dice

### Talking and thinking like mathematicians

What strategies did you use to make the largest possible total? How did you use your knowledge of place value to create the largest possible total? What did you reflect on and change in later rounds?