

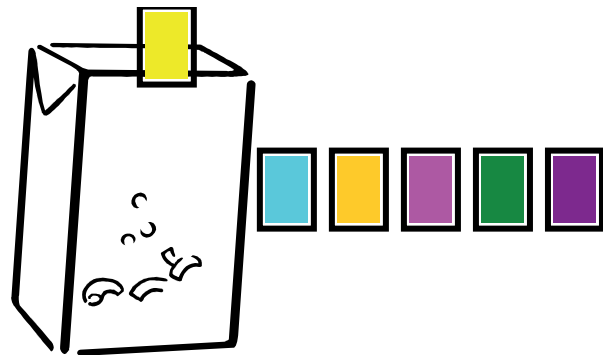
Name: \_\_\_\_\_

### cereal box swap cards

#### Group Investigation Task

Materials needed:

- Empty cereal box
- Blank playing cards
- TI-15 Explorer™ calculator
- Grid paper
- Calculator guide to using memory keys



Your group has been asked to design a set of swap cards for a new brand of cereal.

Your brand of cereal has \_\_\_\_\_ cards in the set.

Conduct an experiment 20 times to find out how many boxes of cereal you would need to purchase to end up with one of each swap card.

1. Place all the cards in the set in a cereal box and remove one card each time and record the card selected in a table (as shown below).

Return the card selected to the box before another card is taken out.

Continue until all cards have been selected once.

Card number	Frequency	Total
Total		

Card number	Frequency	Total
Total		

# Student Worksheet 2

## TI-15 Explorer™: What is the Chance?

W2

- Repeat experiment 20 times.
- Represent the total number of boxes for each experiment in a frequency table as shown:

Number of boxes	Frequency	Total

- Use the information you recorded on the frequency table and the **memory function keys** on the TI-15 Explorer™ calculator to calculate the mean (average) number of boxes needed to end up with one of each swap card.
- Record** the steps to calculate the mean number of cereal boxes  $\boxed{\blacktriangleright M} \boxed{MR/MC}$

The **average number of boxes** you would need to purchase for your set of swap cards is: \_\_\_\_\_

### Share ideas:

What would you need to do to get a more realistic estimate of the number of boxes that need to be purchased to get one of each of the cards?

\_\_\_\_\_

### Prepare a group report for the class:

- Show your set of swap cards.
- Show how you conducted the experiment and recorded the results.
- Report on your findings.

How did your results compare with the groups who had a different number of swap cards?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Design and make** your own cereal box for the set of swap cards. Feature the cards on the front of the box.