

In

- 1 hairpin
- 1 purse with 5 coins
- 1 winter coat
- 1 purse with 10 coins



Out

- 2 hairpins
- 2 purses with 5 coins each
- 2 winter coats
- 2 purses with 10 coins

MATERIALS:

- Two of *Everything* by Lily Toy Hong
- Paper cups
- 1 to 20 sheet
- Function Charts sheet

Read the book, *Two of Everything* by Lily Toy Hong. Chart the story as above:

- ? What keeps happening to things that are put in the pot?
- ? Can we describe what is happening to the “in” number to make it the “out” number by writing a math sentence?

Explain the concept of a function. Explain how the things that are happening within the magic pot are examples of functions.

In this activity, students work in small groups with their own magic pots, or in this case, cups. Before dividing the class, draw a function chart like the one to the right on the board.

Ask a volunteer to draw a number from the **cup** labeled “1 to 10.” This number will be the first “In” number. For example, if the student draws a “6”, the teacher would write a “6” in the first spot in the “In” column. Ask a second student draw a new number from the cup. This will be the function. For example, if the students draws a 4, the function will equal “add 4.” Now write a “10” in the first spot in the “Out” column. Ask for a volunteer to explain why this answer is correct.

Continue by drawing another number from the cup. Write that number in the second spot in the “In” column. Ask for a volunteer to use the function (add 4) to determine what number should be written in the second spot of the “Out” column. Repeat this process at least two more times.

Next divide the class into small groups. Pass out a **cup** labeled “1 to 10” and a **Function Chart** sheet to each group. Have students take turns drawing numbers from their cups (as you did with the whole class) to determine the “In” numbers, the function, and the “Out” numbers. Have the students record the information in charts on the Function Chart sheet. When they have finished completing one chart, have them place all the numbers back in the cup and begin the activity again.

VARIATION 1: Have students practice doing multiplication functions. Have them choose the “In” and function numbers from the cup labeled “1 to 10”

VARIATION 2: Have students practice doing subtraction functions. Pass out a cup labeled “11 to 20” to each group. To do subtraction, students should choose the “In” numbers from this cup and the function number from the cup labeled “1 to 10.”



Function= _____

In	Out

1 to 20

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

Function Charts

Function = _____

In	Out

Function = _____

In	Out

Function = _____

In	Out

Function = _____

In	Out

Function = _____

In	Out

Function = _____

In	Out