EXPLORATIONS

Activity 1

What's Your Address?

Some lost 4's don't know where their homes are. In this activity, students will use the number 4 and the order of operations to help the 4's find their ten addresses.

Concept

- Number sense

Skill

- Order of operations

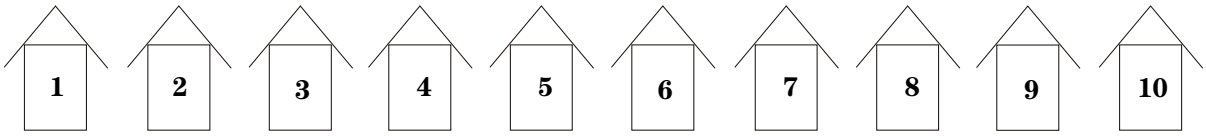
Materials

- Student Activity sheets (page 3)
- TI-73 calculators
- Several large card stock pieces with the number **4** written on them
- 10 small houses numbered 1 through 10
- Rubber stamp and stamp pad

Activity

Post some large 4's on the board with space between each one. (The number of 4's used does not matter.) Put the small houses in a row below the fours. The houses are numbered 1 to 10 and the number on each house represents its address.

4 4 4 4 4



To deliver the 4's to the correct address, instruct the students to use only 4's in equations using any of the operations: addition, subtraction, multiplication, and division. Challenge them to use four 4's if possible. For every address reached using only four 4's, students will earn a stamp. (You could use a rubber stamp.)

Tip: *This activity could be left up year round, with the numbers changing throughout the year.*

Examples:

$4 \div 4 \times 4 \div 4 = 1$

$4 \div 4 + 4 \div 4 = 2$

$4 - 4 \div 4 = 3$

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$4 + 4 - 4 = 4$

$4 \times 4 \div 4 + 4 \div 4 = 5$

$4 \div 4 + 4 \div 4 + 4 = 6$

$4 - 4 \div 4 + 4 = 7$

$4 + 4 - 4 + 4 = 8$

$4 \div 4 + 4 + 4 = 9$

$4 \times 4 - 4 - 4 \div 4 - 4 \div 4 = 10$

There are many different combinations of 4's and operations to make these "addresses." The students could use the calculator to experiment with different ways of finding these answers. They must remember order of operations. (The calculator does have order of operations built into it.)

Wrap-Up

Have students discuss which "addresses" were easier to find. Which were possible using only four 4's? Why is it important to have an order of operations?

Assessment

Repeat the activity but tell the students one of the operation keys is broken. See how this affects the "addresses" that can be found.

Extensions

- Students may use the square root, power of 4, factorial, fraction, and percent, along with the operation keys to find all the numbers from 0 to 100.
- You could also limit the students to using only four 4's to find all the numbers from 0 to 100. (Some are impossible this way.)
- Try using numbers other than 4.

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Name _____

Date _____

Activity 1

What's Your Address?

Using only fours, find as many expressions as you can that will produce the following answers.

1 =

2 =

3 =

4 =

5 =

6 =

7 =

8 =

9 =

10 =

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