

Number Families

Purpose

Given three numbers from an addition sentence, students will understand and use the inverse relationship between addition and subtraction to write the two addition and two subtraction sentences related to those numbers.

Materials

For the teacher: overhead projector, small objects

Activity

A. Pre-Activity Discussion

1. Write on the overhead three numbers in a “family” (e.g., 5, 7, 12).
2. Describe the group of numbers as a “Number Family” because the numbers are related to each other in addition and subtraction problems.
3. Ask the students if they can think of an addition sentence using the three given numbers (e.g., $5 + 7 = 12$).
4. Write the numbers on the overhead and, with small objects, model the addition of the two sets.
5. Ask students if they can think of another addition sentence using the same three numbers. (If not, show them $7 + 5 = 12$.)
6. Again, model with objects or disks the addition of the two sets.
7. Point out that regardless of the position of the addends, the sum is the same.
8. Ask the students if they can think of a subtraction sentence using the same three numbers (e.g., $12 - 5 = 7$).
9. Use objects to model this problem on the overhead.
10. Ask if students can think of another subtraction sentence. (If not, show them $12 - 7 = 5$.)

B. Student Activity

1. Give at least two more groups of numbers for students to work on individually. Gradually increase the size of the numbers to include only double-digit numbers.

(continued)



INCORPORATING TECHNOLOGY

Give students calculators to develop “families” of facts for three-digit numbers.



EXTENDING THE ACTIVITY

Have students look through newspapers or magazines to find two numbers for a number family. Students will decide what number could be the third member of the number family. Is there more than one number that could be the third member of the number family? (If the student finds 23 and 12, he/she could use 11 or 35 as the third member of the number family.)

Standards Links
2.3.2, 2.6.5







Activity (continued)

2. Have students write down as many addition and subtraction problems as they can create from each group of three numbers.
3. Have students write their own set of three numbers from which to create addition and subtraction number sentences.

Questions for Review

Basic Concepts and Processes

After students have finished the activity, ask the students the following questions:

-  Did you find two addition and subtraction sentences for each number family?
 -  How did you decide the order to place the numbers in the addition and subtraction sentences?
 -  Will every number family have two addition and two subtraction sentences?
 -  Can you think of a number family that would NOT have two addition and two subtraction sentences [e.g., 8, 8, 16]?
 -  Were you able to create a number family on your own?
 -  How did you decide what numbers to use for that number family?
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