Magic Squares Work Sheet
by David Pleacher

Magic Squares have intrigued mathematicians for more than 2000 years.   The square is constructed so that the numbers in each tow, column, and each diagonal add up to the same total.

Complete figure 1 by putting numbers in the blank squares so that the sum for each row, column, and diagonal is 27.

Figure 1:

	9	17
15		

Now complete figure 2 by filling in the squares with the following numbers to form a magic square:
    A) Number of days in 2 full **School** weeks
    B) Number of days in 2 full weeks
    C) Number of feet in one yard
    D) Number of cups in one pint
    E) Number of feet in three yards
    F) Number of quarts in four gallons
    G) Number of minutes in 1/4 hour
    H) Number of pints in two quarts
    I) Number of hours in 1/3 day

Figure 2:

Now take the numbers 1, 2, 3, 4, 5, 6, 7, 8, and 9 and place them in the squares in figure 3 to form a magic square. The sum (called the MAGIC NUMBER) is 15. Hint: What do you think the number in the middle square should be? _____

Figure 3:
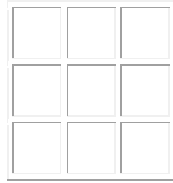
Is the 3x3 square in figure 4 a magic square? _____

Figure 4:

7	0	5
2	4	6
3	8	1

Perform the following operations on the square in figure 4, and place the new numbers in the squares on the following page. Then answer the questions.
    A) Add 9 to each member of the square
    B) Add -2 to each square
    C) Multiply each member by 3/4
    D) Multiply each member by 5

If the same number is added to each entry in a magic square,
    is the result another magic square? _____
    How is the sum of the numbers in each row, column, and diagonal
    related to the original sum of 12? _____

If each entry in a magic square is multiplied by the same number,
is the result another magic square? _____
How is the sum of the numbers in each row, column, and diagonal
related to the original sum of 12? _____