



### Activity—Using Patterns

**Editions used:** Single Digits; Double Digits; Variables; Fractions; Decimals; Integers; Algebra; Exponents

One of the most important skills developed in the 24® game is the ability to detect patterns. When introducing these decks, encourage students to think of the patterns that make 24. If you are using Fractions or Decimals cards, ask students to use a fraction or decimal in their pattern.

- $12 \square + \square 12 \square$        $48 \square \div \square 2$
- $6 \square \div \square 1/4 \square$        $-3 \square + \square 27$
- $30 \square - \square 6 \square$        $8 \square \times \square 3$
- $9 \square \times \square 8/3 \square$        $-12 \square \times \square -2$

As a classroom activity, have each student in the class give one pattern that makes 24. You may want to post common patterns on the wall to help students. To practice pattern-sensing skills, choose a number, 1 through 24, and write it on the board. Have students find all the ways to make 24 with the number chosen.

**Example:** Chosen number is 6.

- $6 \square \times \square 4 = 24$
- $18 \square \div \square 6 = 24$
- $30 \square - \square 6 = 24$

For additional challenge, repeat this activity having students combine three numbers to make 24. This activity can be done using order of operations

**Example:** Chosen number is 5.

- $3 \times 5 = 15 + 9 = 24$     or     $(3 \times 5) + 9$
- $5 + 1 = 6 \times 4 = 24$     or     $(5 + 1) \times 4$
- $7 - 5 = 2 \times 12 = 24$     or     $(7 - 5) \times 12$