NAME

Enrich

## **Exponential Patterns**

The table below lists consecutive powers of 3, 5, and 10. Once completed, the table can identify patterns found in the values of these powers.

Powers of 3	Powers of 5	Powers of 10
$3^4 =$	$5^4 =$	$10^4 =$
$3^3 =$	$5^3 =$	$10^3 =$
$3^2 =$	$5^2 =$	$10^2 =$
$3^1 =$	$5^1 =$	$10^1 =$

## Exercises

## For Exercises 1-5, use the table shown above.

**1.** Copy and complete the table.

- 2. Describe the pattern for the powers of 3. Find the value of 3<sup>o</sup>.
- **3.** Describe the pattern for the powers of 5. Find the value of  $5^{\circ}$ .
- **4.** Describe the pattern for the powers of 10. Find the value of 10<sup>o</sup>.
- 5. Extend the pattern for the powers of 10<sup>5</sup> and 10<sup>6</sup>. How can you easily write the value of any power of 10?