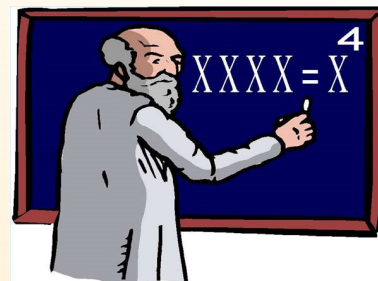
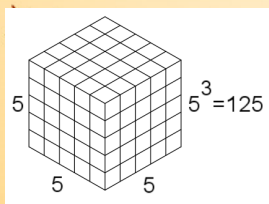


Unit 2

October 7, 2015

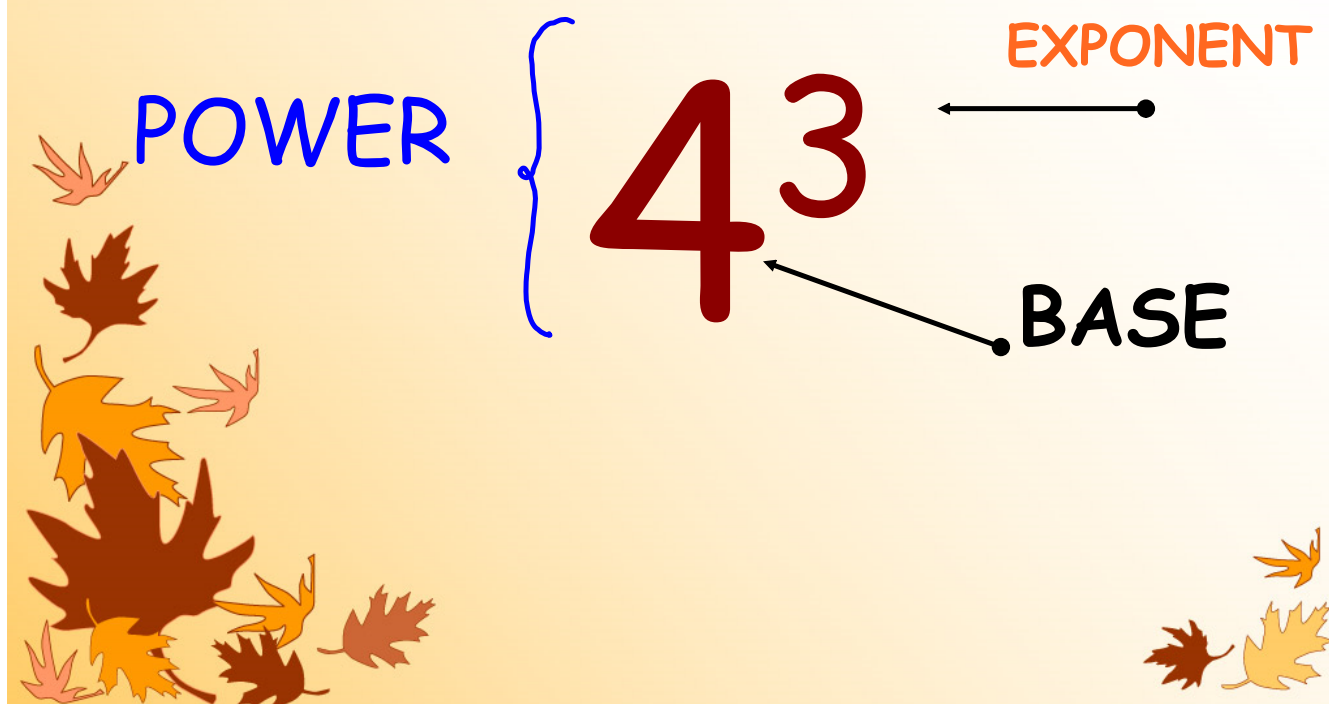
$$\begin{aligned}2 \times 2 &= 2^2 = 4 \\2 \times 2 \times 2 &= 2^3 = 8 \\2 \times 2 \times 2 \times 2 &= 2^4 = 16 \\2 \times 2 \times 2 \times 2 \times 2 &= 2^5 = 32 \\2 \times 2 \times 2 \times 2 \times 2 \times 2 &= 2^6 = 64 \\2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 &= 2^7 = 128\end{aligned}$$

Powers and Exponent Laws



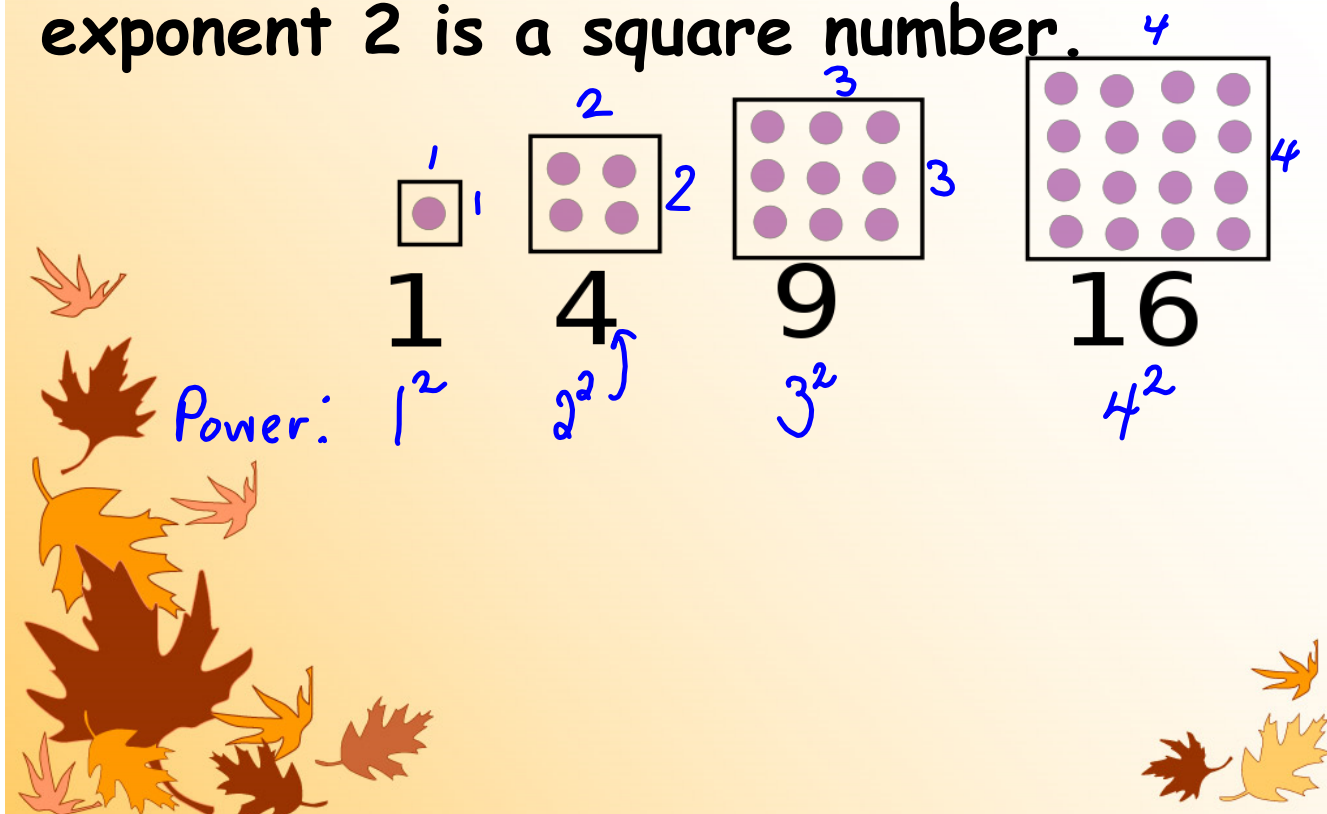
TERMS TO KNOW:

1. **power**- an expression of the form a^n , where **a** is the base and **n** is the exponent; it represents a product of equal factors; for example, $4 \times 4 \times 4 = 4^3$



Square Number

- A power with an integer base and exponent 2 is a square number.



We can write 4^2 in three ways:

- Standard form: **16**
- As repeated multiplication: **4×4**
- As a power: **4^2**

Cube Number

- A power with an integer base and exponent 3 is a cube number.

POWER

1 is the first cube number $1 \times 1 \times 1 =$

1^3

8 is the second cube number $2 \times 2 \times 2 =$

2^3

27 is the third cube number $3 \times 3 \times 3 =$

3^3

64 is the fourth cube number $4 \times 4 \times 4 =$

4^3

Write each of the following as **Standard form**

Repeated Multiplication

Power

Evaluate

A. $3 \times 3 \times 3 \times 3 \times 3 \times 3 = 3^6$

729

B. $7 = 7^1$

7

7

C. $4 \times 4 \times 4 = 4^3$

64



1. What are the two parts of a power?

Base $\rightarrow 5$ \leftarrow Exponent 3

2. Write 5^6 as a repeated multiplication and evaluate.

$$5 \times 5 \times 5 \times 5 \times 5 \times 5 = 15625$$

