

3.1 Factors and Multiples of Whole Numbers

Lesson 1

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Connect DEFINITIONS:

Prime Numbers: can be divided evenly only by 1, or itself.

Examples: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47

Composite Numbers: can be divided evenly by numbers other than 1 and itself.

Examples: 4, 6, 8, 10, 12, 14, 15, 16, 18, 20, 21, 22, 24, 25, 26, 27, 28, 30, 32, 33, 34, 35, 36, 38, 39, 40, 42, 44, 45, 46, 48, 49

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Practice **YOU TRY!**

Determine if the following numbers are prime or composite.

23	45	57	81
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Connect DEFINITIONS:

Factors:

A number may be made by multiplying two or more numbers together.

The numbers multiplied together are called **FACTORS**

EXAMPLE:

Factor	$5 \times 6 = 30$	Product
Factor		

Factors of 30

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Practice **YOU TRY!**

List all the factors of the following numbers.

32 68

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Connect **DEFINITIONS:**

Prime Factors

When a factor of a number has exactly two divisors, 1 and itself, the factor is a **PRIME FACTOR**.

Example:

Factors of 12 Prime Factors of 12

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Practice **YOU TRY!**

List all the factors of the following number, then list the prime factors of the same number.

Factors of 18 Prime factors of 18

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Connect **DEFINITIONS:**

Prime Factorization

The **prime factorization** of a natural number is the number written as a product of its prime factors

Example: Factor tree of 24

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Practice **YOU TRY!**

Write the prime factorization for the following numbers.

32 45

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Practice **EXAMPLE 1:**

Determining the Prime Factors of a Whole Number

Method 1: Factor Tree

Write the prime factorization of 3300

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Practice **EXAMPLE 1:**

Determining the Prime Factors of a Whole Number

Method 2: Use repeated division by prime factors

Write the prime factorization of 3300

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Practice **YOU TRY!**

Write the prime factorization 123

Method 1 Method 2

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Practice	YOU TRY!
Write the prime factorization 2646	
Method 1	Method 2

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Practice	HOMEWORK!
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