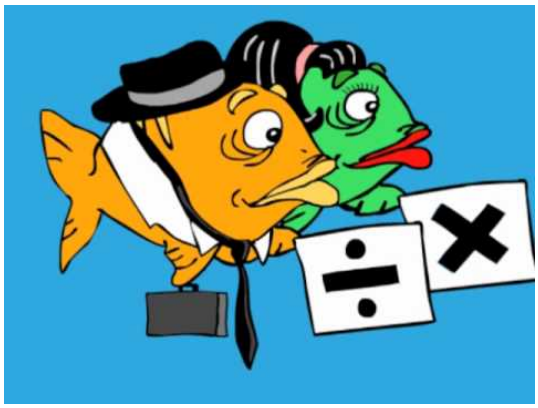
INVERSE AND OPPOSITE OPERATIONS



Unit Overview

In this unit, you will learn about inverse and opposite operations. Addition and subtraction are inverse operations. Multiplication and division are opposite operations. You will be able to apply properties of operations as strategies to multiply and divide.

Inverse Operations

Addition and Subtraction are Inverse Operations

How are **7 + 5 = 12** and **12 – 7 = 5** related math facts? They are the opposite of each other. We call these opposite math facts INVERSE OPERATIONS.

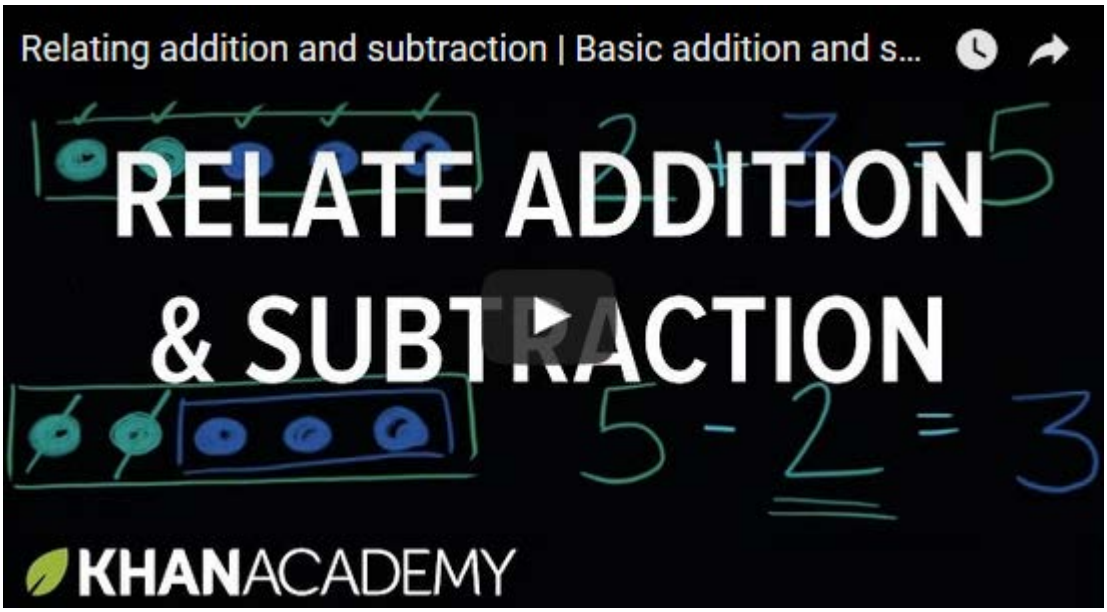
The complete fact family is:

7 + 5 = 12 **5 + 7 = 12** **12 – 7 = 5** **12 – 5 = 7**

These related facts are helpful in addition and subtraction. You can use subtraction to check addition and you can use addition to check subtraction.

Example: If **9 + 3 = 12**, then **12 – 3 = 9**

Click on the link to watch the video "Relating addition and subtraction".



KHANACADEMY Click here to practice relating addition and subtraction.

Inverse Means Opposite

Multiplication and Division are Opposite Operations

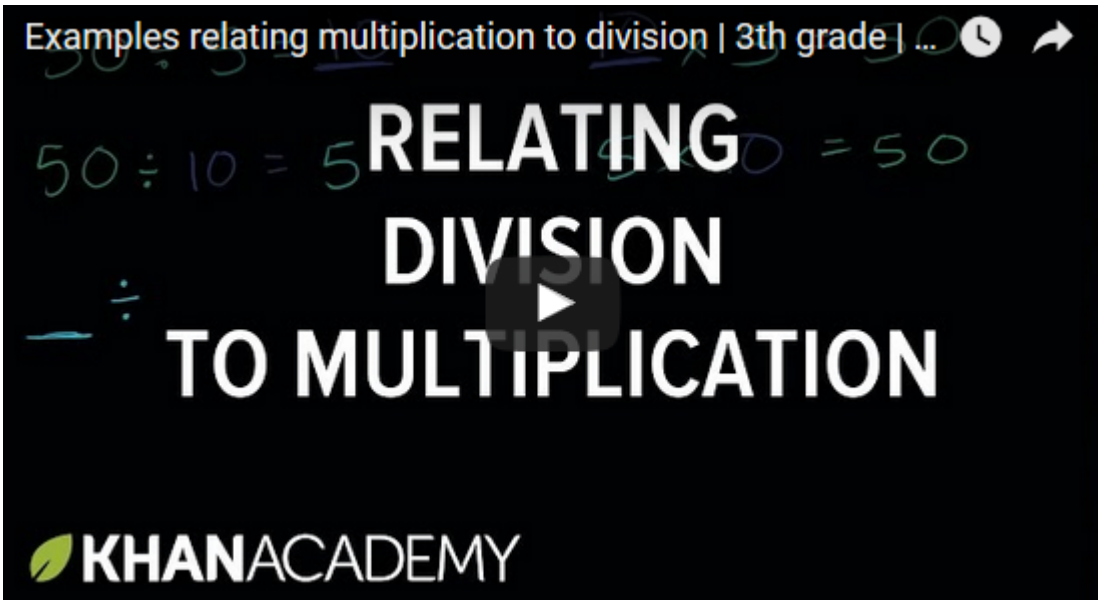
The inverse operation of multiplication is division. A fact family is an excellent way to show inverse operations. As you recall, fact families have four facts, two addition facts and two subtraction facts. In this unit, you will make the four facts with multiplication and division. There will be two multiplication facts and two division facts. The only time there are not four facts is when using doubles. There are only two facts with doubles.

Example with doubles: **9 × 9 = 81** **81 ÷ 9 = 9**

Example with non-doubles:

6 × 7 = 42 **7 × 6 = 42** **42 ÷ 7 = 6** **42 ÷ 6 = 7**

Click on the link to watch the video "Examples relating division and multiplication".



Click here to practice relating division and multiplication.