

# lesson ten - student resource sheet

**Lesson Objective:** Understand the concept that addition and subtraction are related. Identify fact families with sums from 0 to 18.

## Vocabulary Box

**number sentence** — Numbers and symbols that can be read together as a math problem. Examples:  $10 - 6$ ,  $10 + 2$ .

**equation** — A math problem with an equal sign that shows that both sides of the problem have the same value. Examples:  $8 - 8 = 0$ ,  $5 - 3 = 2$ .

**fact family** — A group of three numbers that are related by a pair of operations, such as addition and subtraction. Examples:  $9 + 5 = 14$ ,  $5 + 9 = 14$ ,  $14 - 5 = 9$ ,  $14 - 9 = 5$ .



## Independent Practice

Directions: Complete the following practice problems on your own. Your teacher will review the answers. Make sure you show all your work.

I. Fill in the missing number in each fact family.

1.  $5 + 11 = \underline{\hspace{2cm}}$

$11 + 5 = \underline{\hspace{2cm}}$

$\underline{\hspace{2cm}} - 11 = 5$

$\underline{\hspace{2cm}} - 5 = 11$

$$2. \quad 9 + \underline{\hspace{2cm}} = 16$$

$$\underline{\hspace{2cm}} + 9 = 16$$

$$16 - \underline{\hspace{2cm}} = 9$$

$$16 - 9 = \underline{\hspace{2cm}}$$

II. Write the fact family for the group of numbers.

3, 10, 13

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

5, 5, 10

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

# lesson ten - student resource sheet



---

Directions: Find the fact family for the group of numbers.

9, 8, 17

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

## **Problem Solving**



Write all of the fact families that have the numbers 2 and 5 in them.  
Remember 2 and 5 can be the sums, differences, addends, or minuends.

1. Make a list of addition and subtraction problems that have a 2 and a 5 in them.  
Hint: There are more than four.

2. Arrange the above equations into fact families.

3. Count how many fact families there are all together.

# lesson ten - student resource sheet



---

Directions: Find the fact family for the numbers 11, 7, and 4.

11, 7, 4

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$




# Lesson eleven - student resource sheet

**Lesson Objective:** Identify and extend patterns.

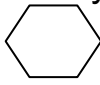
## Vocabulary Box

**pattern** — Anything that is repeated. Example: a, b, a, b, a, b.

**trapezoid** — A flat shape with four sides; the lines of two sides will never cross each other.

Example: 

**hexagon** — any flat shape with six sides.

Example: 



## Guided Practice

Directions: Work with your partner to complete the following patterns.

I. Use colored pencils to make color patterns.

1. Make an “a,a,b” color pattern.

--	--	--	--	--	--

2. Make an “a,b,c” color pattern.

--	--	--	--	--	--	--	--	--

## II. Complete the patterns

1. ▲, ○, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.

2. ♥, ♦, ■, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.

## III. Make your own pattern with shapes, pictures, or numbers.

Create your own “a,b,b” pattern.



## Summary/Closure

---

### A. Vocabulary Words

Directions: For each vocabulary word listed, draw a picture that shows the meaning of the word.

1. trapezoid

2. pattern

3. hexagon



# Lesson eleven - student resource sheet

## **B. Summarize What We Learned Today**

Directions: Write a sample pattern. Then explain what kind of pattern you created. You will use this explanation as a personal reminder.




# lesson twelve - student resource sheet

**Lesson Objective:** Identify and extend patterns.

## Vocabulary Box

**pattern** — Anything that is repeated. Examples: a, b, a, b, a, b.

**trapezoid** — A flat shape with four sides; the lines of two sides will never cross each other.

Example: 

**hexagon** — A flat shape with six sides.

Example: 



## Independent Practice

Directions: Complete the following patterns on your own. Your teacher will review the answers. Make sure you show all your work.

I. Color the squares to make “a,a,b” patterns.

1. 

--	--	--	--	--	--

2. 

--	--	--	--	--	--

II. Color the squares to make “a,b,c,c” patterns.

1. 

--	--	--	--	--	--	--	--

2. 

--	--	--	--	--	--	--	--

**BONUS?**

---

Directions: Complete each pattern and write the letters that show what kind of pattern it is.

1. , , , , , , , , \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

\_\_\_\_\_

2. **①**, **②**, **②**, **③**, **①**, **②**, **②**, **③** \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

\_\_\_\_\_

Maria is planting a garden. Each row has eight seeds. She plants one carrot seed, two tomato seeds, and one bean seed, over and over until the row is filled.

1. Draw a picture of the first row of seeds. Think about the pattern Maria uses to plant the seeds. Think about how many seeds fit in one row.
2. Maria plants four rows of seeds. How many carrot plants are there in all? Use the picture of the first row, that you drew above, to help you find your answer.



1. Color the squares to make a “a,b,c,c” pattern.

--	--	--	--	--	--	--	--

2. Make an “a,b,c” pattern with pictures.

3. Make an “a,a,b” pattern with shapes.