Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_

Ms. Napolitano Activity #:\_\_2.2\_\_\_\_

**Activity 2.2 (UVA)**

**Topic: Least Common Multiples**

CCSS: 6.NS.4

**EQ**: How do you find and use the least common multiple of two whole numbers?

**I can** find and use the least common multiple of two whole numbers.

**Activator:**

1. What does LOL stand for?
2. What does hmu stand for?
3. Well in math we have acronyms as well! What do you think LCM stands for?
4. What does GCF stand for?
5. Create a definition for factors. What are the factors of 8?
6. Create a definition for multiples. What are the multiples of 8?
7. What are the differences between GCF and LCM?

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_

Ms. Napolitano Activity #:\_\_2.2\_\_\_\_

**Activity 2.2**

**Topic: Least Common Multiples**

CCSS: 6.NS.4

**EQ**: How do you find and use the least common multiple of two whole numbers?

**I can** find and use the least common multiple of two whole numbers.

**Classwork**

Task: Tameka has two pieces of cloth. One piece is 60 inches wide and the other piece is 90 inches wide. She wants to cut both pieces into strips of equal width that are as wide as possible. How wide should she cut the strips?

|  |  |  |  |
| --- | --- | --- | --- |
| **K**  **What you KNOW** | **W**  **What you WANT to know** | | **L**  **What I LEARNED** |
|  |  | |  |
| **Is this a GCF or LCM problem? Why?** | | **Show your work!** | |

1. What keywords helped me solve the problem?

2. Does my answer make sense? Why?

**Think-Pair-Share**

|  |  |  |  |
| --- | --- | --- | --- |
| **K**  **What you KNOW** | **W**  **What you WANT to know** | | **L**  **What I LEARNED** |
|  |  | |  |
| **Is this a GCF or LCM problem? Why?** | | **Show your work!** | |

Task: Jonathan exercises every 14 days and Lucinda every 5 days. Jonathan and Lucinda both exercised today. How many days will it be until they exercise together again?

1. What keywords helped me solve the problem?

2. Does my answer make sense? Why?

**MoDel**

Jackson wants to buy the same number of stamps and envelopes. Stamps are sold in packs of 6. Envelopes are sold in packs of 4. What is the least number of stamps and envelopes Jackson will have to buy?

|  |  |  |  |
| --- | --- | --- | --- |
| **K**  **What you KNOW** | **W**  **What you WANT to know** | | **L**  **What I LEARNED** |
|  |  | |  |
| **Is this a GCF or LCM problem? Why?** | | **Show your work!** | |

**Complete the Table below:**

1. What keywords helped me solve the problem?

2. Does my answer make sense? Why?

Who’s the LEAST?

**Least: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Common: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Multiple: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Least Common Multiple:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **What’s the LCM of 5 and 12?**

**List the Multiplies:**

5: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**LCM:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Emily and Genesis are stacking boxes of tissues in the supply closet. Emily’s boxes are 9 inches tall and Genesis’s boxes are 12 inches tall. At what height will both stacks be the same? How many boxes will be in each stack?
2. Let’s list the multiples of each number to help understand the problem.

**Multiples of 9**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Multiples of 12**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What do the ***common multiples*** of 9 and 12 mean in this situation?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the ***least common multiple*** of 9 and 12? ***Explain your reasoning***.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What does the ***least common multiple*** of 9 and 12 mean in this situation?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_ inches is when both stacks are the same. \_\_\_\_\_\_\_\_\_\_ boxes are 9 inches tall and \_\_\_\_\_\_ boxes are 12 inches tall.

**Reflect:**

1. Explain how to find the least common multiple of two numbers.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the difference between LCM and GCF?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Group Work**

1. 

**Show your work below:**

1. List the multiples of 3:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. List the multiple of 4:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the Least Common Multiple? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. After every ninth visit to a restaurant you receive a free beverage. After every twelfth visit you receive a free appetizer. If you visit the restaurant 100 times, on which visits will you receive a free beverage and a free appetizer? At which visit will you first receive a free beverage and a free appetizer?

***Show your work below***. **And write your final answer below and on page 38 of your book**.

1. **List the multiples of the free beverage: (Do not go past 100)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **List the multiples of the free appetizer: (Do not go past 100!)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **List the days that you will receive a free beverage and a free soda.**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **At which visit will you first receive a free beverage and a free appetizer? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
2. Televisions are delivered to Anchor TV every 5 days. DVD players are delivered every 7 days. Both televisions and DVD players are delivered on Monday of this week. In how many days will both televisions and DVD players be delivered on the same day?

**Part A**: Show your work.

**Part B**: State your solution below.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Pencils come in packages of 10. Erasers come in packages of 12. Phillip wants to purchase the smallest number of pencils and erasers so that he will have exactly 1 eraser per pencil. How many packages of pencils and erasers should Phillip buy?

**Solution:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Boxes that are 12 inches tall are being stacked next to boxes that are 18 inches tall. What is the shortest height at which the two stacks will be the same height?

**Solution:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. At a display booth at the circus, every visitor gets a gift bag. Some of the bags have items in them as shown in this table.

**Items in the Gift Bags**

|  |  |
| --- | --- |
| **Items** | **Bags** |
| Cotton Candy | Every 3nd visitor |
| Popcorn | Every 5th visitor |
| Stuffed Animal | Every 10th visitor |

How often will a bag contain all three items?

**Solution:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Francois, Josue, and Franklin are running laps at recess. Francois takes 2 minutes to run a lap, Josue takes 3 minutes to run a lap, and Franklin takes 4 minutes to run a lap. How many minutes before they are all at the starting point again? How many laps will each boy have run?

**Solution:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Melanie and Anthony are setting up for a party. They bought plates in packages of 9 and forks in packages of 8. How many packages do they need to buy to get equal numbers of plates and forks?

**Solution:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Find the LCM of 3, 6, and 9

**The LCM is \_\_\_\_\_\_\_\_\_\_\_\_.**

**Independent Practice:**

Find the LCM of the following numbers:

**1)** 4 and 8 **2)** 3 and 12 **3)** 12 and 15

**4)**  9 and 10 **5)** 2 and 5 **6)** 5 and 11

**7**) Hot dogs come in packages of 8. Hot dog buns come in packages of 12. If Omar wants to have the same number of hot dogs as hot dog buns, what’s the least number of packages of each item that he needs to buy? How many hot dogs and how many hot dog buns would he have?

**The least number of packages of each item that he needs to buy is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The number of hot dogs is \_\_\_\_\_\_\_\_\_\_\_\_ and the number of hot dogs buns is \_\_\_\_\_\_\_\_\_\_\_.**

**8)** Ms. Hinojosa bought muffins and drinks for a meeting. The muffins were sold in packages of 12, and drinks were sold in packages of 18. What’s the smallest number of packages of each item that Ms. Hinojosa could buy and still have the same number of muffins and drinks? How many muffins and how many drinks would she have?

**The smallest number of packages of each item that Ms. Hinojosa could buy is \_\_\_\_\_\_\_\_\_\_\_\_\_. She would have \_\_\_\_\_\_\_\_\_\_\_ muffins and \_\_\_\_\_\_\_\_\_\_\_\_\_ drinks.**

**9)** At a display booth at an amusement park, every visitor gets a gift bag. Some of the bags have items in them as shown in this table.

**Items in the Gift Bags**

|  |  |
| --- | --- |
| **Items** | **Bags** |
| Hat | Every 2nd visitor |
| T-shirt | Every 7th visitor |
| Backpack | Every 10th visitor |

What is the first bag that will contain all three items?

Solution:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_

Ms. Napolitano Activity #:\_\_\_\_\_\_

**Activity 2.2**

**Topic: Least Common Multiples**

CCSS: 6.NS.4

**EQ**: How do you find and use the least common multiple of two whole numbers?

**I can** find and use the least common multiple of two whole numbers.

**exit Ticket:**

1. Find the LCM for 7 and 9.
2. Find the LCM for 12 and 15.
3. Maria is packing equal quantities of pretzels and crackers for snacks. Maria bags the pretzels in groups of 4 and the crackers in groups of 10. What is the smallest number of crackers that she can pack?

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_ Ms. Napolitano Activity #:\_\_2.2\_\_\_\_

**Activity 2.2**

**Topic: Least Common Multiples**

CCSS: 6.NS.4

**EQ**: How do you find and use the least common multiple of two whole numbers?

**I can** find and use the least common multiple of two whole numbers.

**Homework**

1. What is the least common multiple of 10 and 12?

**Solution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. At a local bakery, Nick decorated 8 cakes at a time. Kevin decorated 9 at a time. If they ended up decorating the same number of cakes by the end of the day, what is the smallest number of cakes that each must have decorated?

**Show your work:**

**Solution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. What is the least common multiple of 6, 8, and 12?

**Solution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. What is the LCM of two numbers if one number is a multiple of the other? Give an example.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Find the least common multiple of each of the given numbers.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Question** | **Numbers** | **List the multiplies for each number.** | **LCM** |
| **A** | 16, 24 |  |  |
| **B** | 20, 25 |  |  |
| **C** | 8, 11, 36 |  |  |
| **E** | 6, 8 |  |  |
| **G** | 10, 12, 14 |  |  |
| **H** | 16, 20, 30 |  |  |