



4th
Basic

5th
Advanced

Helping With Math

USA
GRADES

LCM: Least Common Multiple

*Suitable for students
aged 8-10*



This pack is suitable for learners aged 8-10 years old or 4th to 5th grades (USA). The content covers fact files and relevant basic and advanced activities involving least common multiple.



Earth Day is an event every 22nd of April. It is a celebration where people appreciate the achievements of the environmental movement activities and raise awareness to protect the planet and its natural resources. The first Earth Day was celebrated in 1970.

TRIVIA:

The first proclamation of Earth Day was made in San Francisco, the city of Saint Francis, patron of saint ecology.



Least Common Multiple or LCM is the lowest possible number that can be divisible by both numbers. We can find the LCM of two numbers using listing, ladder method, and factor tree.



LEAST COMMON MULTIPLE

It is the result of multiplying numbers by another whole number.

For example, to get the multiples of 2, multiply 2 by 1, 2, 3, 4, 5 to get 2,4, 6,8,10.

LCM

It is possible that a number can be a multiple of two or more numbers. It is called **common multiple**.

Least Common Multiple (LCM) is the smallest number that is a multiple of both numbers.

EXAMPLE: What are the first eight multiples of 3 and 4?

Listing Method



Multiples of 3	3	6	9	12	15	18	21	24
Multiples of 4	4	8	12	16	20	24	28	32

Since 12 and 24 are found in the multiples of 3 and 4, then they are considered common multiples. However, 12 is called the **Least Common Multiple**.



Ladder Method

1. Write the two numbers on one line.
2. Draw the L shape.
3. Divide out common prime numbers starting with the smallest.
4. The LCM makes an L.

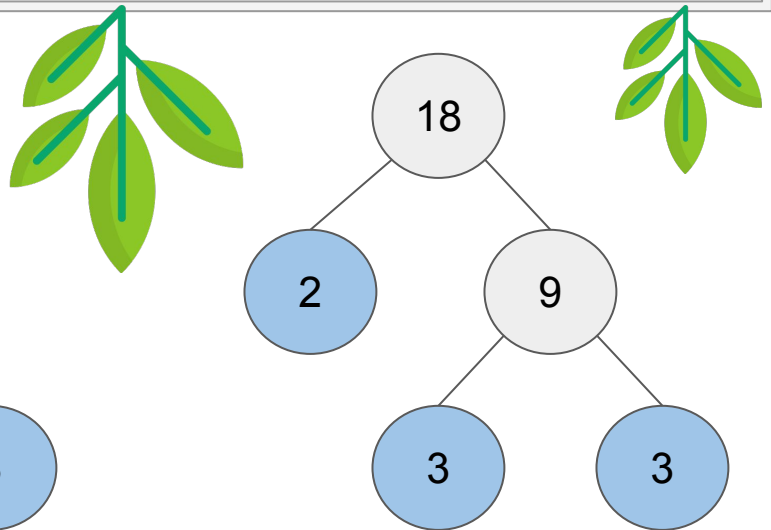
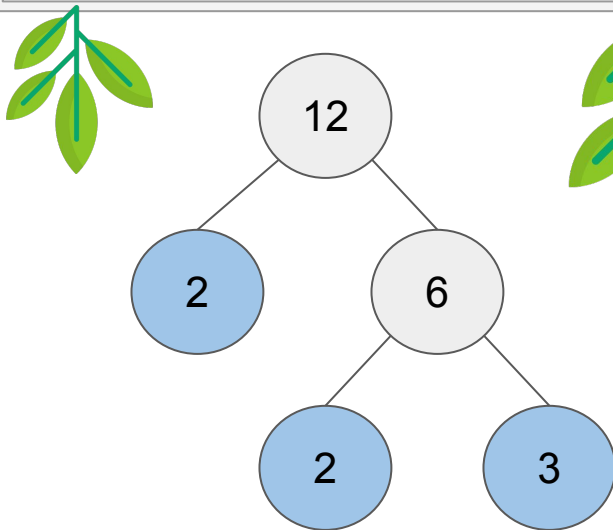
2	12	18
3	6	9
	2	3

$$\text{LCM} = 2 \times 3 \times 2 \times 3 = 36$$



Factor Tree or Prime Factorization

1. Factor the given numbers until you reach prime factors..
2. Find the common factors of the numbers.
3. Multiply the common factors to the remaining prime factors.

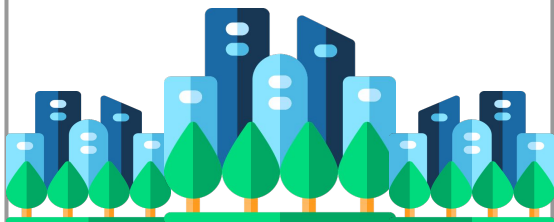


Prime Factors

$$12 = 2 \times 2 \times 3$$

$$18 = 2 \times 3 \times 3$$

The common factors are 2 and 3. Therefore, $2 \times 3 = 6$, then, multiply 6 to the remaining prime factors 2 and 3. So, $6 \times 2 \times 3 = 12$
12 is the LCM.



PRACTICE EXERCISES

Find the LCM of 9 and 15.

1. Listing Method

2. Ladder Method

2. Prime Factorization



TABLE OF ACTIVITIES

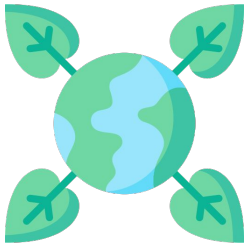
Ages 8-9 (Basic) <u>4th Grade</u>	
1	Spread The Earth's Day Message
2	Reduce, Reuse, Recycle
3	Waste Warrior
4	Tree Planting
5	Cleaning The Beach
Ages 9-10 (Advanced) 5th Grade	
6	Free Reusable Bags
7	Go Green Organization
8	Turn The Lights Off
9	Planet Earth Hero
10	Eco-Friendly



SPREAD THE EARTH'S DAY MESSAGE

G4
Basic

As a responsible citizen, you have to spread Earth Day's importance and authentic message. To do that, tell first if the statements are true. Write TRUE if the statement is true. Otherwise, correct the statement.



1. The LCM is different from GCF.

2. Multiples are the results of multiplying numbers by another whole number.



3. LCM is the greatest multiple that two or more numbers have in common.

4. 12, 24 and 30 are the first three common multiples of 2, 3, and 4.



5. The LCM of 8 and 10 is 40.



REDUCE, REUSE, RECYCLE

G4
Basic

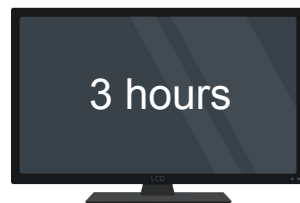
Save the planet earth by reducing, reusing, and recycling. Below are some ways on how to do the 3Rs. Look at the numbers and list the first five multiples of it.

1



will save energy

to power a TV for



3 hours

First Five Multiples of 3

2

First Five Multiples of 85



saves energy by



85 percent

3



can prevent

600 plastic bags



First Five Multiples of 600



WASTE WARRIOR

G4
Basic

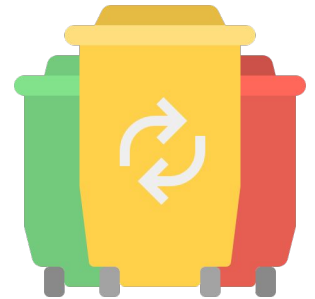
Being an active participant of an organization, you have been joining their waste warrior activity. This year, the minimum number of waste that you should collect is the least common multiple of the given numbers by listing the multiples. Let's see how many!

1. **6 and 8**

Multiples of 6 - _____

Multiples of 8 - _____

LCM of 6 and 8 - _____



2. **4 and 22**

Multiples of 4 - _____

Multiples of 22 - _____

LCM of 4 and 22 - _____

3. **16 and 24**

Multiples of 16 - _____

Multiples of 24 - _____

LCM of 16 and 24 - _____



4. **14 and 16**

Multiples of 14 - _____

Multiples of 16 - _____

LCM of 14 and 16 - _____



TREE PLANTING

G4
Basic

As part of Andrew's school earth day drive, each grade level has to plant seeds. They will be able to know the number of required seeds to plant if they can get the LCM of the numbers assigned to them.

1.) 4th Grade

9

15

LCM: ____

2.) 5th Grade

12

20

LCM: ____

3.) 6th Grade

4

14

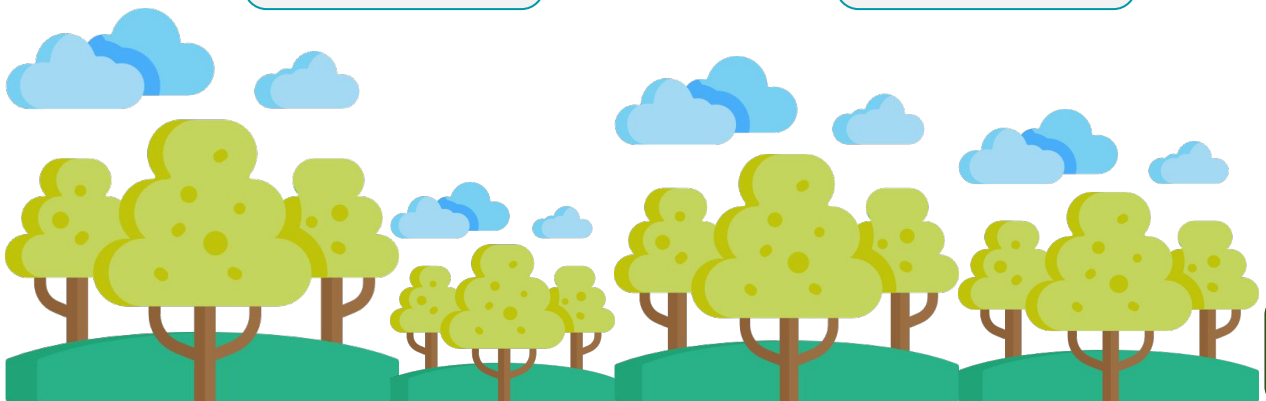
LCM: ____

4.) 7th Grade

10

15

LCM: ____



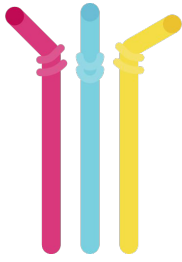
CLEANING THE BEACH

G4
Basic

Celebrate Earth Day by cleaning the beach. Andrew and his friends participated in the "Clean the Beach" drive of their community. The list below is the number of pieces they got. Find its LCD using the LADDER METHOD.



24



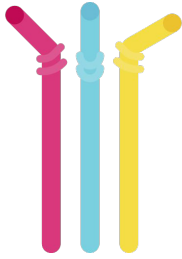
32

1.) Andrew's Solution

LCM: _____



45



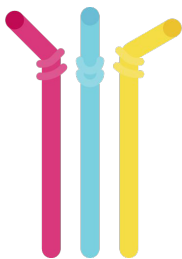
27

2.) Peter's Solution

LCM: _____



30



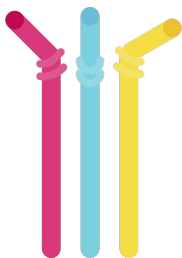
42

3.) Michael's Solution

LCM: _____



34



26

4.) Philip's Solution

LCM: _____



FREE REUSABLE BAGS

G5
Advanced

You will be able to protect the planet earth by filling in the blanks and getting the LCM of the numbers. Each correct answer corresponds to four free reusable bags.

16

○

○ 8

○ 2

2 ○

18

○

3 ○

○ 2

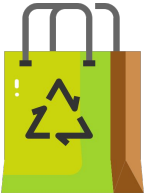

20

○

5 ○

2 ○

LCM - _____

24

○

3 ○

○ 4

○ 2

36





○

○ 12

○ 3

2 ○

LCM - _____



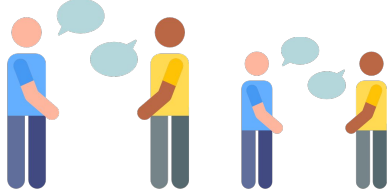








GO GREEN ORGANIZATION

G5
Advanced

The Go Green organization sets a big event where a lot of people are participating. Each group should pick another group. Each has its corresponding number of members, where every pair of a group should have the given LCM.

Group 1	Group 2	LCM
6 members 	___ members	30
___ members	15 members 	120
9 members 	___ members	18
___ members	12 members 	12



- A. 4 B. 8 C. 6 D. 5

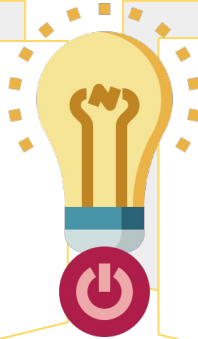


TURN THE LIGHTS OFF

G5
Advanced

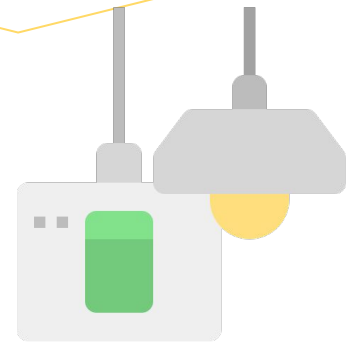
As part of Earth Day activities, Andrew's family decided to conserve electrical energy by using only what they needed. See how many kilowatt-hours they save every month by finding out the LCM of the numbers.

1.) 14, 21, 7



2.) 14, 28, 21

3.) 9, 27, 2



4.) 24, 14, 28



5.) 3, 10, 14



PLANET EARTH HERO

G5
Advanced

Be empowered, engaged, and be a planet hero by answering the earth's day questions below.

1. Paper cups are sold 5 to a package, and paper plates are sold 10. If you want to have the same number of each item for a party, what is the least number of packages you need to buy?
A. 50 B. 30 C. 20 D. 10
2. If Andrew cleans every third day and turns off lights every fifth day, what is the first day he will clean and turn off lights again?
A. 5 B. 15 C. 45 D. 30
3. Peter wants to promote his new business. He gave out a free eco bag to every 4th customer and a free preserved toothbrush to every 7th customer. Which customer will be the first to get both an eco bag and a preserved toothbrush?
A. 8 B. 14 C. 28 D. 56
4. Chloe cleans the lake every 6 days and collects recyclable materials every 8 days. She did both today. How many days from now until she cleans the lake and collects recyclable materials?
A. 2 B. 12 C. 24 D. 48

Answers:

1.)

2.)

3.)

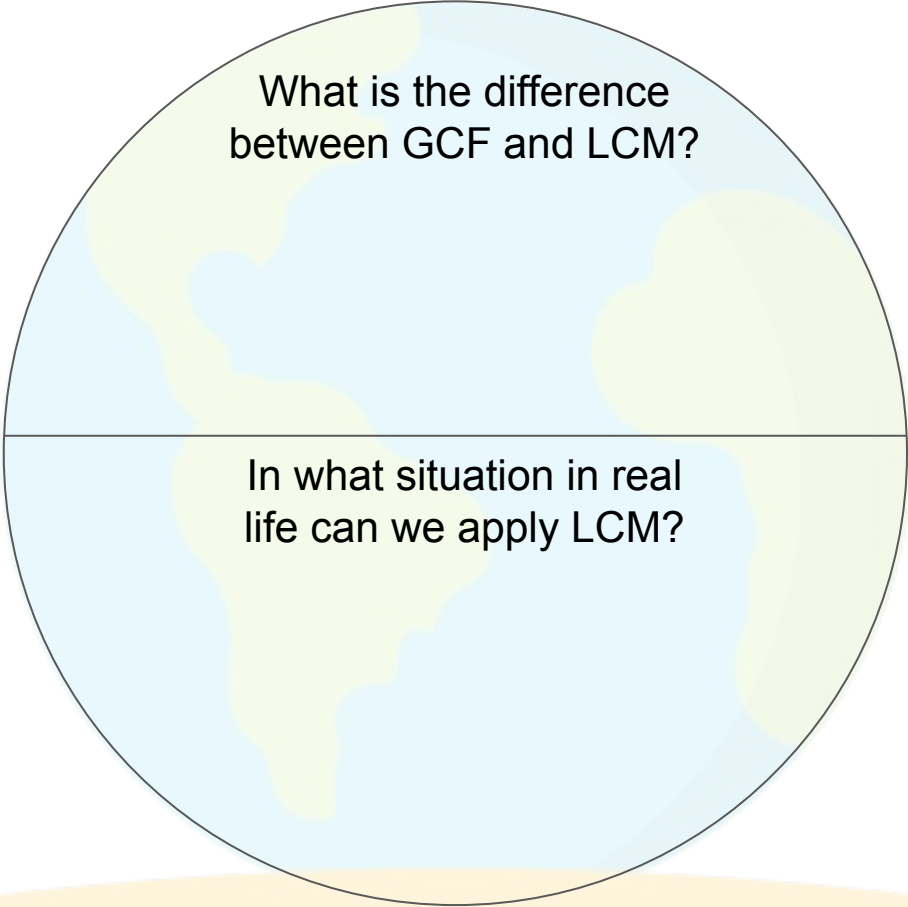
4.)



ECO-FRIENDLY

G5
Advanced

Eco-friendly means not harmful to the environment. This means that all activities should be suitable for the environment, just like our friends. Show that you also care for your friends as you care for our environment by helping them answer the questions.



What is the difference
between GCF and LCM?

In what situation in real
life can we apply LCM?

EARTH DAY



ANSWER GUIDE

Activity 1

- 1.) True 3.) least 5.) least
2.) True 4.) 12, 24, and 36

Activity 2

- 1.) 3, 6, 9, 12, 15 2.) 85, 170, 255, 340, 425
3.) 600, 1200, 1800, 2400, 3000

Activity 3

- 1.) 6 and 8
Multiples of 6: 6, 12, 18, 24, 30, 36, 42, 48
Multiples of 8: 8, 16, 24, 32, 40, 48
LCM of 6 and 8: 48
- 2.) 4 and 22
Multiples of 4: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44
Multiples of 22: 22, 44
LCM of 4 and 22: 44
- 3.) 16 and 24
Multiples of 16: 16, 32, 48
Multiples of 24: 24, 48
LCM of 16 and 24: 48
- 4.) 14 and 16
Multiples of 14: 14, 28, 42, 56, 70, 84, 98, 112
Multiples of 16: 16, 32, 48, 64, 80, 96, 112
LCM of 14 and 16: 112

Activity 4

- 1.) 45 2.) 60 3.) 28 4.) 30



ANSWER GUIDE

Activity 5

1.)

2	24	32
2	12	16
2	6	8
	3	4

LCM: 96

2.)

3	45	27
3	15	9
	5	3

LCM: 135

3.)

2	30	42
3	15	21
	5	7

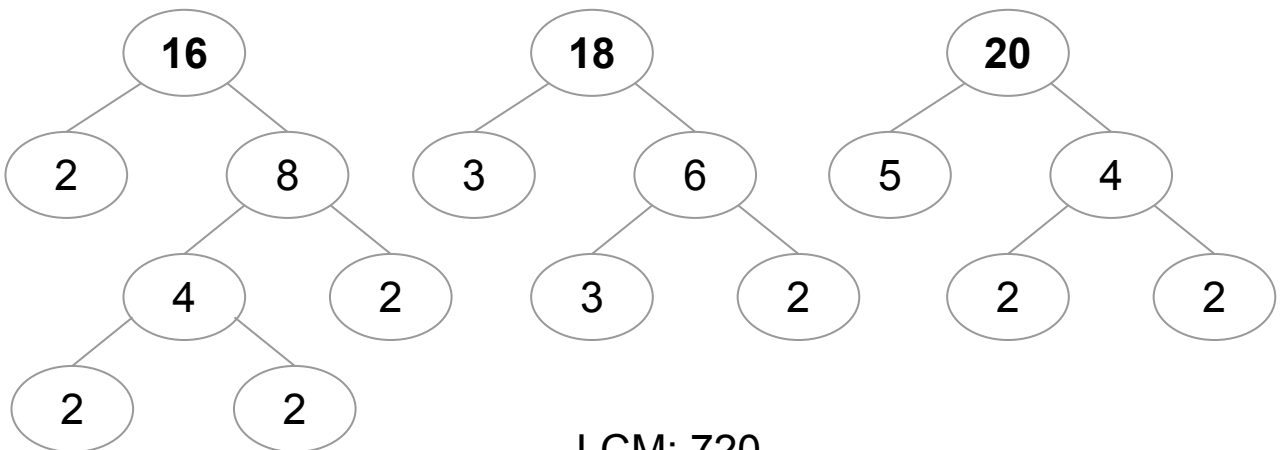
LCM: 210

4.)

2	34	26
	17	23

LCM: 442

Activity 6

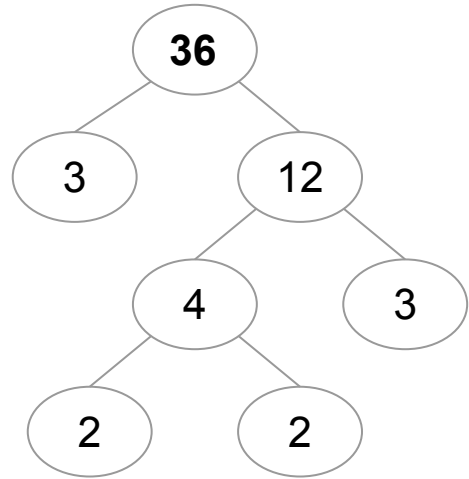
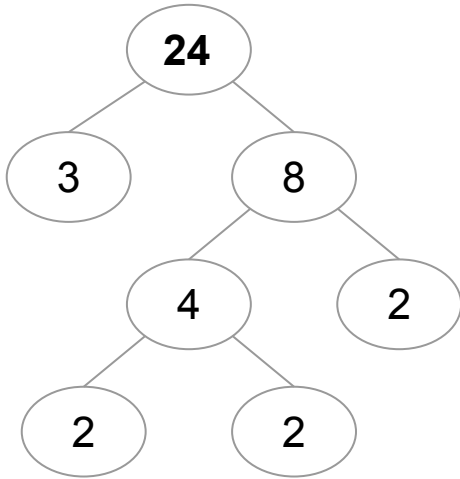


LCM: 720



ANSWER GUIDE

Activity 6 cont.



LCM: 72

Activity 7

1.) D

2.) B

3.) C

4.) A

Activity 8

1.) 42

2.) 84

3.) 54

4.) 168

5.) 210

Activity 9

1.) D

2.) B

3.) C

4.) C

Activity 10

Answers may vary.



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