

1) Review

A Factor is a number that is easily divided into another

What are the factors of 12?

1, 2, 3, 4, 6, 12

A Multiple is a number is that number times another

What are the multiples of 12?

12, 24, 36, 48, 60...

2) Greatest Common Factor

Greatest Common Factor

→ factors multiply into a number
→ both have it
→ largest

Greatest Common Factor of two numbers is the largest factor two numbers have in common

What is the greatest common factor of 15 and 24?

15 → 1, 3, 5, 15

24 → 1, 2, 3, 4, 6, 8, 12, 24

GCF(15, 24) = 3

3) Lowest Common Multiple

Lowest Common Multiple

→ like times table
→ both have it
→ lowest one

Lowest Common Multiple of two numbers is the lowest multiple the two numbers have in common

	x2	x3
12	24	36
18	36	

LCM(12, 18) = 36
or
Lowest common multiple
of 12 and 18 is
36

	x2	x3	x4	x5
20	40	60	80	100
25	50	75	100	

LCM(20, 25) = 100

4) Group Investigation into algorithms

Break off into groups to come up with an algorithm that solves GF and LCM

Use the following questions to practice your algorithms

$$\begin{array}{l} \text{GCF}(56, 98) \\ \text{GCF}(72, 120) \end{array}$$

$$\begin{array}{l} \text{LCM}(15, 18) \\ \text{LCM}(24, 36) \end{array}$$

5) Mr. Braun's Solutions

Lowest Common Multiple Algorithm

$$\begin{array}{r|rr} & \times 2 & \times 3 \\ 12 & 24 & 36 \\ 18 & 36 & \end{array}$$

$\text{LCM}(12, 18) = 36$
or
Lowest common multiple
of 12 and 18 is
36

$$\begin{array}{r|rrrr} & \times 2 & \times 3 & \times 4 & \times 5 \\ 20 & 40 & 60 & 80 & 100 \\ 25 & 50 & 75 & 100 & \end{array}$$

$\text{LCM}(20, 25) = 100$

Greatest Common Factor Algorithm

$$\begin{array}{r|rrrrrr} 12 & 1 & 2 & 3 & 4 & 6 & 12 \\ 18 & 1 & 2 & 3 & 6 & 9 & 18 \end{array}$$

$\text{GCF}(12, 18) = 6$