LESSON MAKER PRO

Numbers That Connect

Find common factors and multiples, then put them to use.

GRADE 6 · 6.N.2.6

6.N.2.6 "Determine the greatest common factors and least common multiples. Use common factors and multiples to calculate with fractions, find equivalent fractions..."

NAME _____ DATE _____

TWO WAYS TO CONNECT NUMBERS

The greatest common factor (GCF) is the largest number that divides two numbers evenly. The least common multiple (LCM) is the smallest positive number in both numbers' lists of multiples. Use a common factor to simplify a fraction or rewrite a sum, and use an LCM to find a common denominator.

WORKED EXAMPLE

Find the GCF and LCM of 15 and 25.

1. List the factors: 15 has 1, 3, 5, 15; 25 has 1, 5, 25. The greatest shared factor is 5.
2. List multiples of 15: 15, 30, 45, 60, 75.
3. List multiples of 25: 25, 50, 75. The first shared multiple is 75.

Answer: GCF = 5; LCM = 75

PRACTICE 6 problems

1 Find the GCF of 18 and 30.

ANSWER _____

2 Find the LCM of 6 and 14.

ANSWER _____

3 Find the GCF of 24 and 36.

ANSWER _____

4 Find the LCM of 9 and 20.

ANSWER _____

5 Use the GCF of the numerator and denominator to write 21/35 in simplest form.

ANSWER _____

6 Use the GCF to rewrite 42 + 56 with the distributive property. Then find the sum.

ANSWER _____

APPLY IT Show your work

1 A club has 32 glow sticks and 48 stickers for identical prize packs. It wants to use every item. What is the greatest number of packs it can make? How many glow sticks and stickers will be in each pack?

WORK SPACE

ANSWER _____

2 Two game lights flash together now. One flashes every 10 seconds, and the other flashes every 16 seconds. In how many seconds will they next flash together?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Find 5/18 + 7/24. Show the least common denominator and write the sum in simplest form.

WORK SPACE AND ANSWER

ANSWER KEY

Numbers That Connect

GRADE 6 · 6.N.2.6

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the GCF of 18 and 30.	**6**
2	Find the LCM of 6 and 14.	**42**
3	Find the GCF of 24 and 36.	**12**
4	Find the LCM of 9 and 20.	**180**
5	Use the GCF of the numerator and denominator to write 21/35 in simplest form.	**3/5**
6	Use the GCF to rewrite 42 + 56 with the distributive property. Then find the sum.	**14(3 + 4) = 98**

PART 2 · APPLY IT

1. **16 packs; 2 glow sticks and 3 stickers in each pack** The GCF of 32 and 48 is 16. Divide each item count by 16 to find the contents of one pack.
2. **80 seconds** The next time they flash together is the LCM of 10 and 16, which is 80.

CHALLENGE

The least common denominator is 72. 5/18 + 7/24 = 20/72 + 21/72 = 41/72.

For the distributive property problem, look for 14 as the factor outside the parentheses. In the challenge, 41/72 is already in simplest form.