LESSON MAKER PRO

Factor Quest

Find factors, make multiples, and solve number puzzles.

GRADE 4 · 4.OA.B

CCSS.Math.Content.4.OA.B "Gain familiarity with factors and multiples."

NAME _____ DATE _____

FACTORS AND MULTIPLES

A factor divides a number evenly, with no remainder. A multiple is the result when you multiply a number by a whole number, so multiples of a number keep going.

WORKED EXAMPLE

List all factor pairs of 24.

1. Start with 1 x 24 = 24.
2. Try 2 x 12 = 24.
3. Continue: 3 x 8 = 24 and 4 x 6 = 24.
4. Stop when the factor pairs begin to repeat.

Answer: (1, 24), (2, 12), (3, 8), (4, 6)

PRACTICE 6 problems

1 List all the factors of 18.

ANSWER _____

2 Write all factor pairs of 35.

ANSWER _____

3 Write the first five positive multiples of 7.

ANSWER _____

4 Is 6 a factor of 42? Write yes or no.

ANSWER _____

5 Complete the equation: 9 x x = 63.

ANSWER _____

6 List the common factors of 16 and 40.

ANSWER _____

APPLY IT Show your work

1 The art club has 48 sticker sheets. They want to put the same number of sheets in each prize bag, with no sheets left. What numbers of sheets could go in each bag?

WORK SPACE

ANSWER _____

2 A video game gives a coin bonus every 8 levels and a new character every 9 levels. Both happen at level 0. At what level will both happen again?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A secret number is greater than 40 and less than 70. It is a multiple of 6 and has 9 as a factor. What is the number? Explain how you know.

WORK SPACE AND ANSWER

ANSWER KEY

Factor Quest

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	List all the factors of 18.	**1, 2, 3, 6, 9, 18**
2	Write all factor pairs of 35.	**(1, 35), (5, 7)**
3	Write the first five positive multiples of 7.	**7, 14, 21, 28, 35**
4	Is 6 a factor of 42? Write yes or no.	**Yes**
5	Complete the equation: 9 x x = 63.	**x=7**
6	List the common factors of 16 and 40.	**1, 2, 4, 8**

PART 2 · APPLY IT

1. **1, 2, 3, 4, 6, 8, 12, 16, 24, or 48 sheets** List the factors of 48. Each factor can be the number of sheets in one bag with none left over.
2. **Level 72** Find the first common multiple of 8 and 9. The first one is 72.

CHALLENGE

54. It is 6 x 9, so it is a multiple of 6 and 9 is a factor.

Accept factor pairs in either order and factors listed in any order. For the challenge, accept a correct explanation that shows 54 is divisible by both 6 and 9.