Maths Explorers!

Whole Numbers, Factors & Multiples

1 2 3 4 5

1. Whole Numbers

Whole numbers are numbers we use to count whole objects. They include 0, 1, 2, 3, 4, 5, and continue forever. Whole numbers do not have fractions or decimal parts.

0 1 2 3 4 5 6 7 8 9 10 …

Remember

• Zero means none. • Whole numbers can be used to count books, pencils, people or fruits. • They can be arranged from smallest to largest.

Quick Check

Circle the whole numbers: 7 2.5 0 ½ 18 100

Write three whole numbers greater than 20: _____

2. What are Factors?

A factor is a number that divides another number evenly, leaving no remainder. Factors can be found by making equal groups or multiplication pairs.

Example: Factors of 12

1 × 12 = 12 2 × 6 = 12 3 × 4 = 12

Factors: 1, 2, 3, 4, 6 and 12

Try a factor-pair strategy

If you can arrange 15 counters into equal rows, the possible pairs are 1 row of 15, 3 rows of 5, 5 rows of 3, and 15 rows of 1. So the factors of 15 are 1, 3, 5 and 15.

Practice: Find all the factors

Factors of 8: _____

Factors of 10: _____

Factors of 16: _____

Factors of 18: _____

3. What are Multiples?

Multiples are the answers you get when you multiply a number by 1, 2, 3, 4, and so on. Multiples make a skip-counting pattern.

Example: Multiples of 4

4, 8, 12, 16, 20, 24, 28, 32 …

Each number is 4 more than the one before.

Factors vs. Multiples

Factors fit into a number exactly. Multiples are found by counting in equal jumps from a number. Example: 3 is a factor of 12; 12, 15 and 18 are multiples of 3.

Practice: Write the first six positive multiples

Multiples of 2: _____

Multiples of 5: _____

Multiples of 7: _____

Multiples of 9: _____

4. Common Factors

Common factors are factors that belong to two or more numbers. List the factors of each number, then find the ones that appear in both lists.

Example: Common factors of 8 and 12

Factors of 8: 1, 2, 4, 8

Factors of 12: 1, 2, 3, 4, 6, 12

Common factors: 1, 2, 4

5. Highest Common Factor (HCF)

The HCF is the biggest factor shared by two or more numbers. In the example above, the common factors are 1, 2 and 4, so the HCF is 4.

Practice

Common factors of 6 and 9: _____

HCF of 6 and 9: _____

Common factors of 10 and 15: _____

HCF of 10 and 15: _____

HCF of 12 and 18: _____

6. What is the LCM?

The Lowest Common Multiple (LCM) is the smallest positive number that is a multiple of two or more numbers. To find it, list multiples until you spot the first number shared by all lists.

Example: LCM of 3 and 4

Multiples of 3: 3, 6, 9, 12, 15, …

Multiples of 4: 4, 8, 12, 16, …

First shared multiple is 12 → LCM = 12

12 is the first landing point in both skip-counting patterns.

Practice: Find the LCM

LCM of 2 and 5: _____

LCM of 3 and 6: _____

LCM of 4 and 6: _____

LCM of 5 and 10: _____

LCM of 2, 3 and 4: _____

MIXED PRACTICE & REVIEW

Show what you know! | Ages 6–9

A. Whole Numbers

1) Write the next four whole numbers after 38: _____

2) Put these in order from smallest to largest: 14, 6, 21, 9

_____

B. Factors and Multiples

3) List the factors of 20: _____

4) Write the first five multiples of 6: _____

5) Is 5 a factor of 35? Yes / No. Explain: _____

C. HCF and LCM

6) Find the HCF of 8 and 12: _____

7) Find the LCM of 4 and 6: _____

8) Find the HCF of 9 and 15: _____

9) Find the LCM of 3 and 5: _____

D. Word Problems

10) Mia has 12 stickers and wants to share them equally among groups. What group sizes can she use without leftovers? Write the factor pairs.

_____

11) A bell rings every 4 minutes and another every 6 minutes. If they ring together now, after how many minutes will they ring together again? (LCM)

_____