Whole Numbers and Decimals

Lesson 10 Least Common Multiples

Standards 6.NS.B.4b

Learning target I can find the least common multiple of two numbers no greater than 12.

Materials Place-value chart, graph paper for long division, pencils.

Lesson Flow 50 Minutes

0–5 Activate prior knowledge. Read the learning target. Ask students what they already know about least common multiples. Use a quick model or estimate to make their starting ideas visible.

5–17 Teach and model. List positive multiples of both numbers. The smallest shared multiple is the LCM. Repeating events that begin together next occur together after this many time units. Work through the two examples on the attached instruction page. Have students name the first step before showing it.

17–22 Guided practice. Revisit worked Example 2 with its solution covered. Students propose the next step and explain why it is valid; uncover and compare with the worked solution.

22–45 Independent classwork. Assign the attached 10 questions in order. Check items 1–3 for entry-level understanding, 4–6 for connected procedures, 7–8 for representation and explanation, and 9–10 for application or justification. Ask students to use the instruction-page notes area or extra grids for longer work.

45–50 Check understanding. Use classwork question 10 as an exit discussion: Two lights flash together now, then every 4 and 10 seconds. When do they next flash together? Explain. Compare the result with the answer key and ask a student to defend the method.

Support and Extension

Support Model item 1 together with the listed tools, then have students attempt item 2 independently. Watch decimal place alignment, quotient zero digits, and the difference between GCF and LCM.

Extension Ask students to solve a final item another way, draw a second representation, or create a related problem with a checked answer.

Next step Record which students can explain the target independently. Begin the next teaching session with a brief correction for any recurring error.

Name _____ Date _____

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Learn and Discuss

List positive multiples of both numbers. The smallest shared multiple is the LCM. Repeating events that begin together next occur together after this many time units.

Example 1 Find the LCM of 6 and 2 by listing multiples.
Solution 6. The first positive multiple shared by 6 and 2 is 6.
Example 2 Two lights flash together now, then every 9 and 12 seconds. When do they next flash together? Explain.
Solution 36 seconds. The first positive multiple shared by 9 and 12 is 36.

Classwork Show Your Work

Complete the 10 problems on the following page. Refer to the examples, draw models, and check your results.

My Notes or Second Method

Lesson 10 Least Common Multiples

Name _____ Show calculations, models, and units.

1. Find the LCM of 4 and 3 by listing multiples.

2. Find the LCM of 4 and 6 by listing multiples.

3. Find the LCM of 5 and 4 by listing multiples.

4. Find the LCM of 9 and 11 by listing multiples.

5. Find the LCM of 6 and 3 by listing multiples.

6. Find the LCM of 10 and 8 by listing multiples.

7. Two lights flash together now, then every 2 and 3 seconds. When do they next flash together? Explain.

8. Two lights flash together now, then every 11 and 12 seconds. When do they next flash together? Explain.

9. Two lights flash together now, then every 3 and 5 seconds. When do they next flash together? Explain.

10. Two lights flash together now, then every 4 and 10 seconds. When do they next flash together? Explain.

Least Common Multiples

Whole Numbers and Decimals

1. 12
Reasoning The first positive multiple shared by 4 and 3 is 12.

2. 12
Reasoning The first positive multiple shared by 4 and 6 is 12.

3. 20
Reasoning The first positive multiple shared by 5 and 4 is 20.

4. 99
Reasoning The first positive multiple shared by 9 and 11 is 99.

5. 6
Reasoning The first positive multiple shared by 6 and 3 is 6.

6. 40
Reasoning The first positive multiple shared by 10 and 8 is 40.

7. 6 seconds
Reasoning The first positive multiple shared by 2 and 3 is 6.

8. 132 seconds
Reasoning The first positive multiple shared by 11 and 12 is 132.

9. 15 seconds
Reasoning The first positive multiple shared by 3 and 5 is 15.

10. 20 seconds
Reasoning The first positive multiple shared by 4 and 10 is 20.