

# NWEA Assessment Item Illustrating 4.OA.A.3

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**Domain:** Operations and Algebraic Thinking

**4.OA.A:** Use the four operations with whole numbers to solve problems.

**Calculator Availability:** No

Use the information to answer the question.

Ana collected 37 eggs. Her sister collected 3 times as many eggs as Ana. A carton holds 6 eggs.

What is the fewest number of cartons needed to hold all of the eggs? Enter the answer in the box.

 cartons

**Alignment: 4.OA.A.3:** Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

This item is a multistep problem in which students must understand that when they divide the total number of eggs (148) by 6, 144 of the eggs will completely fill 24 cartons, and four eggs will be left over. The leftover eggs are the remainder, and one additional carton is needed to hold the extra four eggs.

**Coherence:** In grade 3, students learned to divide whole numbers without remainders.<sup>3.OA.A.2</sup> The work that students do with remainders in grade 4 allows them to deepen their understanding of division before they learn to divide with decimals in grade 5<sup>5.NBT.B.7</sup> and learn the standard algorithm for division in grade 6.<sup>6.NS.B.2</sup>

**Rigor:** This item attends to conceptual understanding, procedural skill, and application. The item encompasses two important grade 4 concepts because it requires students to understand multiplicative comparison and how to interpret a remainder. Students must interpret the context in order to determine the concepts necessary to solve the problem, and they must complete multiple steps to solve the problem. Students use grade-level procedures to perform the calculations.

**Answer Key:**

Use the information to answer the question.

Ana collected 37 eggs. Her sister collected 3 times as many eggs as Ana. A carton holds 6 eggs.

What is the fewest number of cartons needed to hold all of the eggs? Enter the answer in the box.

 cartons

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