Module 12   Attributes and Tools
Lesson 5   Measurement: Weight and Mass

Set 1

1 Raj needs to estimate the weight of a large package. He has a balance scale and a crate of books. Each book weighs three kilograms. Can Raj use these objects to estimate the weight of the package? If he can, explain how.

2 Maz built a shelf that can hold 18 kilograms. She has 38 paperback books that weigh 389 grams each. Can Maz's shelf hold all the books? Explain how to solve this problem using estimation.

Set 1

1. **Raj can use the books to estimate the weight of the package. If he places the package in one tray of the balance scale, he can add books to the other tray until the trays balance or until they are nearly balanced. Then he can multiply the number of books by three kilograms. The product will be the approximate weight of the package.**

2. **Round both the weight of each book and the number of books up. That way, the estimated weight will be greater than the actual weight. 389 grams rounds up to 400 grams, and 38 books rounds up to 40 books. The product of the rounded factors is 16,000 grams. That is equivalent to 16 kilograms. The shelf can hold 18 kilograms. Since the estimate is greater than the actual weight, it is certain that the shelf can hold all the books.**