Teacher Answer Key

Case Study

1. Flour settles and packs down as it sits in a canister, and pushing the cup into it compresses the flour further, forcing more of it into the same space. Volume stayed the same at one cup, but the amount of actual flour in that space rose by roughly a quarter.

2. Weight measures how much matter is present and does not change with how tightly the flour is packed, so 121 grams is 121 grams no matter who scoops. Both groups would have added the identical amount of flour and the only remaining variable would have been removed.

Multiple Choice

1. A

2. B

3. A

Matching

1-D, 2-E, 3-B, 4-C, 5-A

Fill-in-the-Blank

1) 25, 2) meniscus, 3) brown sugar

Short Answer (Sample Responses)

Q1: Cooking can be steered while it happens, so a cook tastes a soup and corrects the salt or simmers it thicker. Baking locks its proportions the moment the pan goes in the oven, and since flour, fat, sugar, and leavening each do a structural job, an error becomes permanent.

Q2: Volume measures the space an ingredient occupies, and flour compresses, so the same cup can hold roughly 120 to 150 grams depending on how it was handled. Weight measures the matter actually present, so a stated number of grams is identical in every kitchen regardless of packing.

Q3: A fluid ounce measures volume and is read in a liquid measuring cup, while an ounce measures weight and requires a scale. They are close only for water, so treating eight fluid ounces of honey as eight ounces of weight would be off by roughly a third.