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## What are some common sources of variance during sample preparation in an analytical application - FAQ

**Each step in a sample preparation procedure can introduce error to your analytical results.** Therefore, it is important to know what equipment or techniques contribute to the error and how significant each one is.

For example, weighing is extremely common in sample preparation and typically has a very low variance due to the **accuracy** of analytical scale balances. Indeed, gravimetric assays are among the most accurate procedures available.

However, some other factors should be adequately considered in contributing to the total analytical variance. Volumetric flasks have inherent tolerances that can be considered for optimal method **accuracy**. For example, you could make a solution of a given concentration using a 250 mL or a 25 mL volumetric flask, but the former has a lower tolerance.

