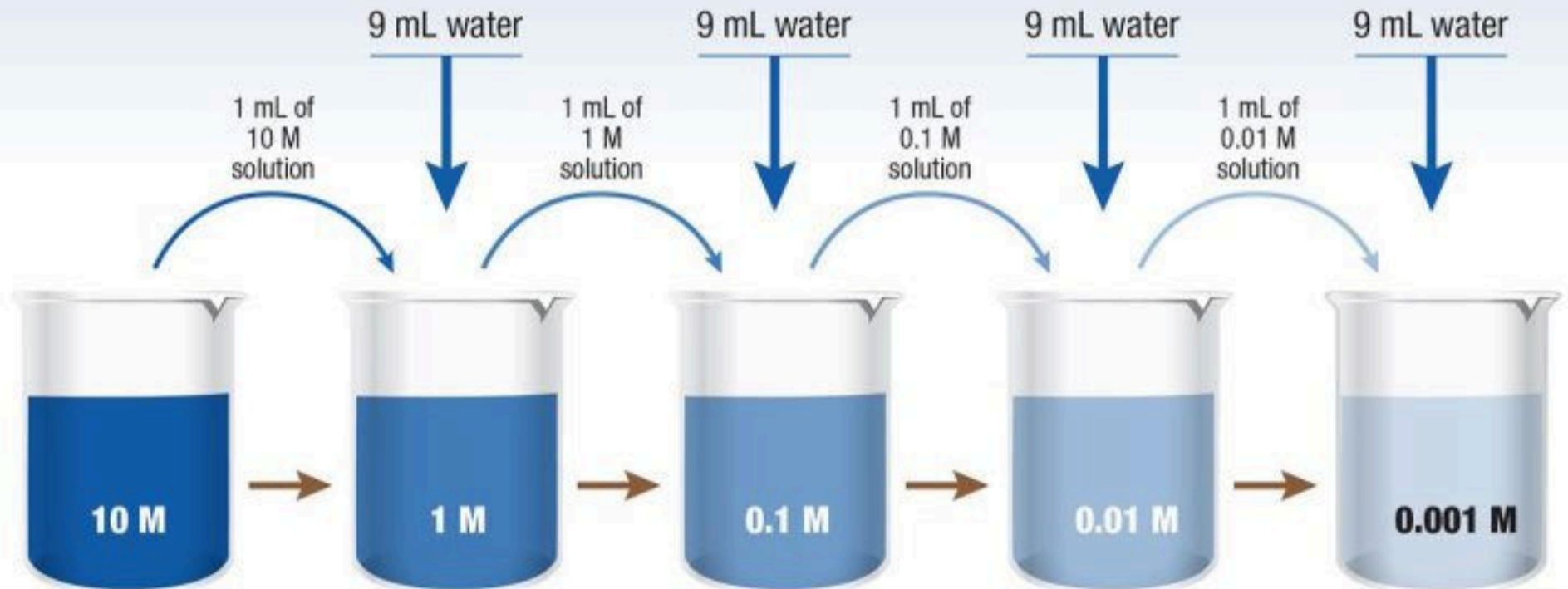


# Lab Basics: How to Perform Serial Dilutions

## Serial Dilution of Chemicals

A serial dilution is a simple technique for reducing the concentration of a solution in a systematic way.

In a dose-dependent study (e.g., an LC<sub>50</sub> experiment), you can use the technique to produce experimental concentrations of dilution factors. Start by taking 1 mL of the stock concentration of your chemical, transferring it into 9 mL of water, and mixing. Use this dilution factor throughout the series to produce experimental concentrations as shown in the illustration below.



## Serial Dilution of Living Materials

The technique also works with living organisms such as bacteria. It allows you to reduce the number of bacterial cells on a plate to make counting colonies more manageable. Simply use the dilution factor in conjunction with the bacterial count on the plate to determine the number of bacteria in the original sample.

