

Serial Dilution Activity Worksheet

Questions

1. Record all observations and draw a figure of the steps involved in the serial dilution activity.
2. What are the concentrations of the “solutions” in each tube compared to the original yellow bead stock solution?
3. Compare and describe the relative intensity of the yellow “color” in the dilution series. If you had used a “real” yellow solution in water, do you think you would still be able to see the color in the 1/100,000 tube? Explain.
4. Why is it important to shake and swirl each tube before transferring the “solution” to the next tube in the sequence?
5. Water samples frequently must be diluted when analyzing bacterial contamination in order to conveniently count bacterial colonies. If a water sample was diluted twice by a factor of 10 to give a bacterial count of 25 colonies, what was the bacterial count in the original sample?
6. You are given a stock solution of 1.0 M potassium sulfate. How would you use a serial dilution to prepare a 0.001 M potassium sulfate solution using the stock solution? Describe and/or sketch the procedure below.