

# Exploring Diffusion Worksheet

## Data Table

Tube Number	Test Tube Size	Agar %	Dye	Diffusion Distance in mm
1	12 × 75 mm	0.2 %	Resazurin	
2	25 × 150 mm	0.2 %	Resazurin	
3	12 × 75 mm	2.0 %	Resazurin	
4	12 × 75 mm	0.2 %	Bromcresol green	

## Post-Lab Questions

- Compare the diffusion distance between test tubes 1 and 2. Did the resazurin diffuse further in test tube 1 or 2? Explain why this occurred.
- Compare the diffusion distance between test tubes 1 and 3. In which test tube did the resazurin diffuse further? Explain why this occurred.
- Compare the diffusion distance between test tubes 1 and 4. Which dye diffused further? Explain why this occurred.
- What other factors, not tested in this lab, might affect the diffusion distance.
- Gel electrophoresis is the process which separates DNA based on the distance different size DNA fragments migrate in an agarose gel medium in an electric field. Negatively charged DNA migrates through the gel towards the positively charged electrode. The following four fragments—760 base pairs (bp), 3000 bp, 178 bp and 1800 bp. Arrange the DNA fragments in the order they would appear in the electrophoresis gel beginning at the negative terminal (where the DNA is loaded) and moving to the positive terminal.



DNA sample added here