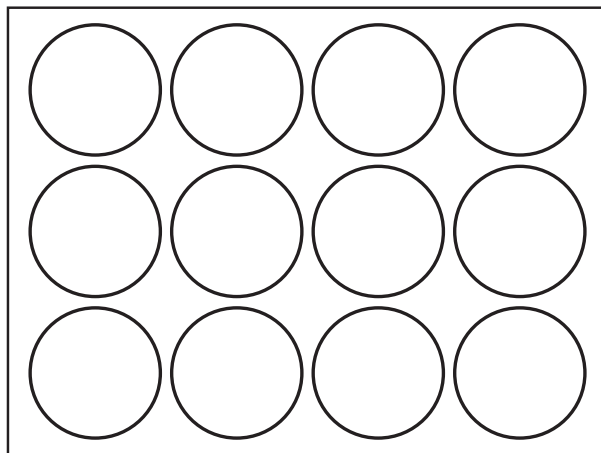
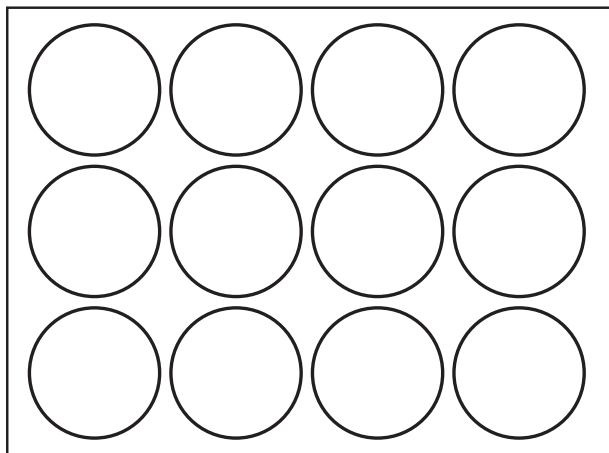


Color Change Challenge Worksheet

Observations



Post-Lab Questions

1. Write out the order in which the solutions were combined to produce the desired series of color changes—colorless to orange to dark blue and back to colorless. Was there more than one correct sequence?
2. The number of wells used is an indication of the number of steps that were needed to discover the correct sequence. How many steps did it take your group to discover the correct sequence? Do you think the solution could have been discovered in fewer steps? Why or why not?
3. Would another problem-solving strategy have been better than trial and error for this activity? Why or why not?
4. Adding solution A to solution B would produce the same result as adding solution B to solution A. Would reversing the entire order in which the four solutions were mixed (see Question #1) produce the desired series of color changes? Explain.
5. Briefly describe an everyday situation in which trial and error might be used to solve a problem.
6. Think of a situation in which trial and error would not be a good problem-solving strategy. Briefly describe the problem and suggest an alternative strategy for solving the problem.