

COLOR DIFFUSION (TEACHER GUIDE)

Before beginning this lab experiment with your students, prepare each station using the materials and guidance below. It is recommended to have 3–4 students per station, however, your classroom may not have enough space for that many stations. Set up your stations as described below and adjust group sizes as needed. For example, a classroom with 4 stations and 20 students would need a total of 12 beakers, 3 for each group of 5 students.

Materials

- 3 beakers
- Liquid food coloring
- Stopwatch or timer
- 3 stir sticks
- Water
- Magnetic stirring hot plate
- Thermometer
- Lab safety goggles

Lab Setup

Beaker Prep (Day Before)

1. Label each of the 3 beakers as “Hot,” “Cold,” and “Room-Temperature.”
2. Prepare the beakers with 100 mL of water each.
3. Place 1 beaker in a refrigerator or use ice to lower the temperature.
4. Leave the other beakers at room temperature.

Station Prep (Day Of)

5. At each lab station, place food coloring, 1 stopwatch, 1 thermometer, 3 stir sticks, 1 of each of the labeled beakers (total of 3 beakers), and 1 magnetic stirring hot plate.
6. Place the beaker labeled “Hot” on the hot plate.
7. Turn on the hot plate and adjust the settings to the lowest temperature and stir speed.

Safety Prep

8. Provide students with safety goggles to wear during the experiment.
9. Review lab safety prior to the experiment.
10. Monitor students during the experiment.