

Name \_\_\_\_\_

Date \_\_\_\_\_

## Ferrofluid Investigation

Complete the steps below with a partner. As you move through the steps, document your observations in the worksheet Ferrofluid Observations.

- ❶ Use the graduated cylinder to measure 15 milliliters (mL) of filings or toner. Pour the toner into the beaker. Record the amount on the data collection sheet.
- ❷ Use the graduated cylinder to measure and add 15 mL of oil into the beaker. Record the amount on the data collection sheet.
- ❸ Have your partner use a stirrer to mix thoroughly.
- ❹ Check the mixture by placing a magnet on the outside of the beaker to see how the mixture performs. Your mixture is working well if you see fairly defined spikes form when you hold the magnet to the outside of the beaker. If that does not happen, adjust the mixture by adding more filings/toner or oil. Continue adjusting your mixture until you are satisfied with the results. Make sure to measure and record materials added and to mix thoroughly between additions. Record your observations.
- ❺ Pour the mixture into a 2-liter bottle preform or a petri dish. If using a petri dish, put the dish into a sealable sandwich bag to protect from accidental spillage. Have paper towels on hand in case of leaks. Hold the magnet directly on the side of the preform and gather the ferrofluids to the magnet. Slowly pull the magnet away from the preform. Repeat the process 3 or 4 times. Measure the distance in centimeters and document your observations in Part 2 of Ferrofluid Observations.

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