

The following experiment is out of order:

1. Number the steps in the correct order
2. Identify each step of the scientific method.

Order	Step	
		Susie thinks that if she reduces the amount of fertilizer she puts on the flowers then they will produce more flowers because she was giving them too much nitrogen.
		Susie is trying to figure out why her flowers aren't growing as fast as her neighbor's flowers. She wonders if she is putting too much fertilizer on them.
		Susie summarized that her hypothesis was supported by the data. Adding too much fertilizer can prevent flowers from growing. She is now wondering what would happen if she tried the experiment again with a different brand of fertilizer made especially for flowers.
		Susie decides that she will need three groups of flowers, each with the same number of plant – one with no fertilizer, one with just a little fertilizer, and one group with the same amount of fertilizer she is used to putting on the plants. She will water the plants with 4 liters of water everyday and make sure they receive the same amount of sunshine and kept at the same temperature.
		Susie does some research and discovers that flowers should not be given too much nitrogen in their fertilizer or it can prevent flowers from forming.
		Every day for four weeks Susie counts the number of flowers on the plants. The group with no fertilizer had an average number of 35 flowers. The group with a little fertilizer had an average of 86 flowers. The group with the normal amount of fertilizer had 58 flowers. Susie noticed that although fertilizer helped the plants produce more flowers, too much fertilizer could prevent flowers from growing. The flowers that grew best were those with just a little fertilizer.

Create a data table below showing Susie's average data. Remember that all data tables need a title, proper headings, and any units if necessary:

Donnie performs an experiment to test the effect of salt water on the chemical makeup of a chicken egg. He places the egg in salt water and each day picks up the egg to examine how it has changed. In what order should he perform the following steps?

	Rinse the egg
	Wash his hands
	Put on safety goggles
	Dry the egg

Dom wants to know if yeast needs sugar to produce carbon dioxide gas. In what order should he perform the following steps?

	Observe the balloons on each bottle
	Put sugar in one of the bottles
	Put a balloon on top of each bottle
	Put the bottles in a warm place
	Put the yeast and water in each bottle

Alex did an activity to see if shiny surfaces or dark surfaces are better at absorbing heat. She began by filling two identical clear jars with water. In what order should she perform the following steps?

	Place the jars an equal distance from a heat lamp
	Record the temperature of the water in each jar after one hour under the heat lamp
	Record the starting temperature of the water in each jar
	Cover one jar with black paper for a dark surface and the other with tin foil for a shiny surface

Students want to know whether paper or cloth is a better insulator of heat. In what order should they perform the following steps?

	Pour an equal amount of boiling water into each metal can
	Measure the temperature of each can of water at the end of one hour
	Wrap one can with paper and another can with a cloth towel
	Place the cans one foot apart on a table in the middle of the room

Scientists followed a series of steps to determine if the temperature affects the rate of metamorphosis in frogs. In what order did they perform the following steps?

	Equal numbers of tadpoles will be placed in each of 3 containers under lamps with 20-, 40-, and 60-watt light bulbs
	Conclude which temperature produces the highest rate of metamorphosis
	Predict whether or not warmth will affect the rate of metamorphosis
	Record the number of days it takes for tadpoles to become frogs

Katelyn experimented to see which of two soap solutions would dissolve the most oil. In what order did she perform the following steps?

	Tell which soap solution works best
	Add oil one drop at a time to two different soap solutions
	Observe which soap solution separates the oil from the water first
	Put a teaspoon of soap solution 1 into a one-cup container of water, and put a teaspoon of soap solution 2 into another one-cup container

Ashley wants to know the volume of a toy soldier. She is using a graduated cylinder to measure the toy's volume. In what order should she complete the following steps?

	Fill the graduated cylinder with 50 mL of water
	Predict the volume of the toy soldier
	Slowly place the soldier into the water
	Subtract the difference between the two water levels

Mykena is conducting an experiment to determine which brand of tennis ball bounces the highest. What order should she perform the following steps?

	Choose three different brands of tennis balls
	Predict which ball will bounce the highest based on her experience using tennis balls
	Make a line plot, bar graph, or stem and leaf plot to show the results of the experiment
	Drop each tennis ball from the same height 10 times. Measure how high each ball bounces