

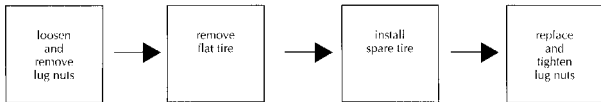
# Graphic Organizing: Flow Chart

Terms like *photosynthesis* and *reproduction* refer to biological processes that involve a number of steps. Sometimes there are so many steps in a process that it's difficult to remember all of them, let alone the order in which they occur. You can minimize your confusion, however, by using a flow chart to diagram such terms. The same flow chart will also help you understand how each step in the process builds on the preceding one and lays the groundwork for the next.

Lab procedures are easier to implement if you summarize them in a flow chart before you begin. The instructions in your textbook and in your lab manual include a wealth of detail designed to help you prepare for the lab. However, these same details can distract you when you are in the middle of an experiment and you want to know what to do next. If you have diagrammed the experiment with a flow chart, you can ignore the details and focus instead on the procedure itself.

A flow chart consists of a series of boxes strung out in a line across the page. When necessary, the line of boxes continues on the next line. An arrow points from the first box to the second, another points from the second to the third, and so on, all the way across the chart. Each box contains a word or a phrase that summarizes one step in a sequence of steps. The arrows indicate the order of events. Details that explain and elaborate are not included in the chart. A title identifies the process or procedure diagrammed in the chart. These characteristics are all illustrated in the following example.

## CHANGING A FLAT TIRE



## How to Construct a Flow Chart

1. List the steps in the process or procedure you want to diagram. Do not include details that explain or elaborate.
2. Number the steps.
3. Construct a series of boxes equal in length to the number of steps in the process or procedure.
4. In the first box, summarize the first step in the process or procedure with a word or a phrase.
5. Insert a right arrow following the box.
6. Repeat Steps 4 and 5 until all the boxes are full. Omit the arrow following the last box in the series.
7. Add a title that identifies the process or procedure.

## Practice Constructing a Flow Chart

1. The items in the following list describe the process of taking a bath. Number them in sequential order.

rinse off                       fill tub  
 empty tub                       dry off  
 dress                               undress  
 wash with soap

2. The items in the following list describe the process of making a peanut butter and jelly sandwich. Eliminate details that explain or clarify, then number the remaining items in sequential order.

spread peanut butter on one slice     put away ingredients  
 screw jar lids on tightly               avoid using chunky peanut butter  
 combine slices                           lay out two slices of bread  
 gather ingredients                       spread jelly on the other slice

3. The items in the following list describe the process of planting a vegetable garden. Eliminate details that explain or clarify, then number the remaining items in sequential order. Construct a line of boxes for a flow chart, insert the steps and arrows, and create a title.

plant seeds                               pull weeds  
 check supply of fertilizer               mend fence  
 plan layout                               loosen soil  
 decide what to plant                   water garden

PLANTING A VEGETABLE GARDEN