The main purpose of a key is to facilitate identification or to distinguish one type of organism or object from another. A key may or may not reflect ideas of evolutionary or phylogenetic relationship. Conventional keys to vascular plants usually have a strictly dichotomous, indented format in which the user is confined to a sequence outlined by the author. A dichotomous or branching key is one in which there are two choices, or leads, at each branching point. The two choices constitute a couplet, which is denoted usually by a number followed by a and b, such as 1a and 1b or 9a and 9b. There may be many couplets in a key, depending on the number of species or taxa included. Recently, there has been considerable research in developing computerized keys that have multiple entries derived from a detailed data base of the taxa. The interactive nature of computerized keys makes them highly desirable and allows users to identify a plant when some characters are missing on a specimen. As software programs improve, there likely will be increased use of computer-generated keys.

Before one can key vascular plants, it is necessary to gain an understanding of the basic morphological terms. Reproductive characters, those pertaining to the sporangia, cones, flowers, or fruits, are most commonly used in keys because they usually show little, if any, variation when individuals of the same species are subjected to varying environmental conditions. When characters are stable and are not environmentally variable, they are termed conservative. In contrast, vegetative characters may be stable or may be highly variable when individuals of the same species are grown in different environmental regimes. This explains why keys using only vegetative characters may not work as well as keys using reproductive (and vegetative) characters. It is recommended that both be included in a key.

A manual, or Flora, of vascular plants typically begins with a dichotomous key to families that are found in a prescribed geographic region. To identify an unknown plant, start at the beginning of the family key and read both leads of the first couplet. The lead that best describes the unknown plant is the one to follow. Go to the next couplet as directed and again make a choice that best fits the plant. Continue this process until you reach a 'name'. After the family is determined for the unknown, proceed to the key to genera of that family. Once a genus has been determined, key to the correct species in the genus. Confirm your identification by comparing the specimen with an illustration or previously identified specimen, or by checking the description. If the specimen does not match the known specimen or description, re-examine the specimen to make sure you interpreted the structures correctly and retrace the steps through the key.

If you need to construct a dichotomous key, there are several guidelines to follow. Make sure there are two leads or choices at each point. Keep each of the leads parallel in construction, that is, start each lead with the same noun and describe the same feature in each (e.g., leaves ovate vs. leaves elliptic contrasts leaf shapes; leaves ovate vs. leaves opposite should not be used as it contrasts leaf shape with leaf arrangement). Be sure to give alternate conditions or states of the same character when constructing a couplet. Avoid the use of 'not as above' or 'plant otherwise' or the names of taxa in the leads. Give exact measurements or ratios; the terms large and small have no meaning in the absence of quantitative values. If possible, use several easily seen and interpreted morphological characters in each lead.