

This study was not government funded, it was not required as inservice growth credit, and it was not part of any college credit. It just seemed somewhat hypocritical of me to stress to my students the value of the scientific approach to problem solving and objectivity when I subjectively evaluated my own teaching. I hope that other teachers might attempt to evaluate their own classes and performance as I have tried to do. Only in this manner can we show the responsibility necessary for directing our own accountability.

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A TECHNIQUE TO INTRODUCE DICHOTOMOUS KEYS

I have found that working with and constructing dichotomous keys usually presents some difficulty for beginning biology students. Thus, I have adopted the following techniques to introduce the concepts involved. I construct a "key" to an assortment of keys. Door keys, house keys, and car keys are "keyed out" by the use of this scheme. Following is a copy of my introductory key. The structural characteristics utilized in this key are presented in fig. 1 and the individual keys in fig. 2.

Dichotomous Key to Keys

- 1a. Key head with curved edges (A and B) .. go to 2
- 1b. Key head with straight edges (C, D, E) . go to 3
- 2a. Key head circular shaped (see fig. 2A) Key A
- 2b. Key head oval shaped (see fig. 2B) Key B
- 3a. Key head triangular shaped (see fig. 2C) . Key C
- 3b. Key head with more than 3 sides go to 4
- 4a. Key head pentagon shaped (see fig. 2D) . Key D
- 4b. Key head triangular shaped (see fig. 2E) . Key E

Although this key is specific only for my particular key chain, it is very adaptable and does illustrate the important concepts involved in using and construct-

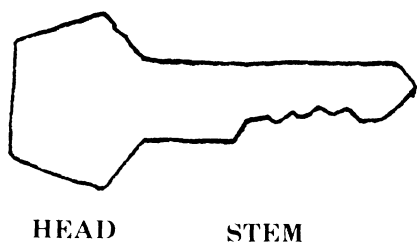


Fig. 1. Structural characteristics of keys.

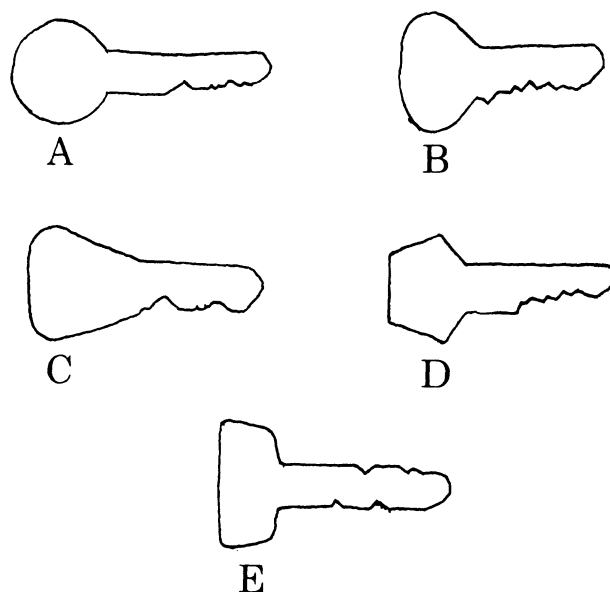


Fig. 2. Specific keys.

ing keys. First, it is based on structural characteristics as are most biological keys. Then, also, this key demonstrates the principle of elimination inherent in dichotomous keys.

After being exposed to this key, my students are asked to construct a key of their own for the purpose of keying out the contents of their purses (girls) or pockets (boys). Diagnostic characteristics to separate a comb from lipstick, or a coin from chewing gum, soon become apparent. The students test the effectiveness of their keys by trying them out on their classmates.

I teach from BSCS "Green Version" in my classes. This textbook presents keys in chapters 4 ("Animals") and 5 ("Plants"). Investigation 4.2, "Structural Characteristics in the Identification of Animals," presents keys to distinguish classes of various animal phyla. Investigation 5.1, "Diversity in Angiosperm Leaves," requires the writing of a key to distinguish a set (usually 10) of leaves. I have found that these investigations run more smoothly after the introduction described above.

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PREPARATION OF SMALL ANIMAL SKELETONS USING BEETLE CORROSION

As a biology instructor I have often wished for a convenient method of preparing skeletons of small mammals, rodents, reptiles, and amphibians in the classroom. The conventional boiling technique is difficult because of the destruction of bone, cartilage, and ligaments resulting in the disarticulation of the skeleton. Students become frustrated and lose interest in trying to glue the skeleton back together. I believe that a solution to this problem lies in the use of beetles to remove the flesh during skeletal preparation.

The leather beetle, *Dermestes vulpinus*, is a beetle