It is essential for students to think clearly about fundamental biological concepts (AAAS, 1993; NSTA, 1991-1992 cited in McCraight-Wertz, 1999). One of the benefits of writing is that it promotes and enhances thinking (Moore, 1992). If students can write clearly, they are thinking clearly. Writing helps to connect new knowledge with prior knowledge (Maxwell, 1996) and promotes the construction of knowledge (Connolly, 1989). Writing-to-learn activities enhance vocabulary development (Harmelink, 1989), promote ownership (National Research Council, 1995), and invite participation by a broader range of students, particularly females and minority students (Chinn & Iding, 1997). Nontraditional forms of writing encourage student interest in instruction (Giacobbe, cited in Rief, 1992) and increase achievement (Hildebranrd, 1998), while relieving anxiety toward writing (Daisey, in press).

One writing-to-learn activity that is proving successful in high school classes is writing “how-to” books. A how-to book describes a process and explains how to do a variety of tasks, such as starting an insect collection, classifying trees, dissecting a cat, using a compound microscope, or separating DNA using gel electrophoresis (Daisey, 2000 b, c). How-to books make learning relevant, promote retention, and are student-driven learning. They allow students to become experts, offer pride in accomplishment, as well as encourage students to share their knowledge with classmates and family members. The purpose of this paper is to describe a how-to book assignment in ecology and horticulture high school classes, offer instructional tips, provide student comments about the assignment, and offer a list of student-made how-to book titles.

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