

## Exercise 5: Drawing and Description

*This exercise requires you to create simple drawings, to insert these drawings into a written report, and to describe these drawings. To that end, you are given a small design problem.*

### Background

Humane squirrel traps, such as that shown in Figure 1, are attractive to homeowners who dislike rodents but who don't want to kill small creatures. These traps feature wire mesh construction, sheet metal tops with carrying handles and animal release panels, and hinged trap doors. They are triggered when a squirrel touches bait linked to trigger/lock wires in the middle of the cage. When the squirrel is trapped, the homeowner uses the metal handle to carry the trap and squirrel to the release point. The homeowner releases the squirrel by lifting one of the top release panels.

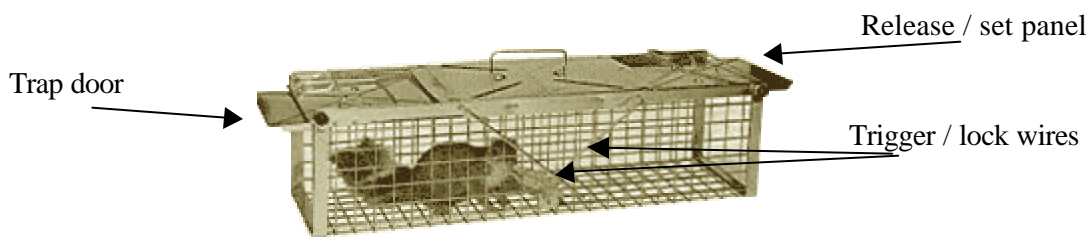


Figure 1. A typical humane squirrel trap, showing heavy wire construction, trapping and release panels and trigger/lock wires.

### Problem

Unfortunately, such traps present convenience and safety problems for the homeowner. The dimensions of the trap shown here are 16" x 6" x 6"; its size makes it difficult to store and difficult to place in some of the nooks squirrels frequent. Also, while this trap is safe for the squirrel, it is not clearly safe for the homeowner, who must get uncomfortably close to an agitated squirrel in order to open the release panel. Even transporting such traps is a concern for some homeowners, who find the trap difficult to carry with one hand in part because it is heavy and in part because an excited rodent can make the trap rock wildly. Most homeowners end up carrying the trap with two hands, and they would like to keep the squirrel several inches from any exposed flesh.

### Assignment

You are to design a humane squirrel trap that solves these problems. Your design must be safe for squirrels at the time of capture, during transport for release, and at the point of release. It must also present no danger to the animal if the animal remains trapped for several hours. The trap must be sturdy enough to resist the escape efforts of a determined rodent, light enough for the homeowner to lift and carry, and it must be small enough (or collapsible) for ease of storage. It should also allow the homeowner to stand a safe distance from the trap when the squirrel is released. A trap that could easily be placed in trees would, it is thought, trap large numbers of squirrels, making it particularly attractive to homeowners.

You are to write a report of no more than 3 pages. In this report you are to present drawings of your favored design, and your two rejected alternative designs. In that report you are to explain how you determined which design was best.