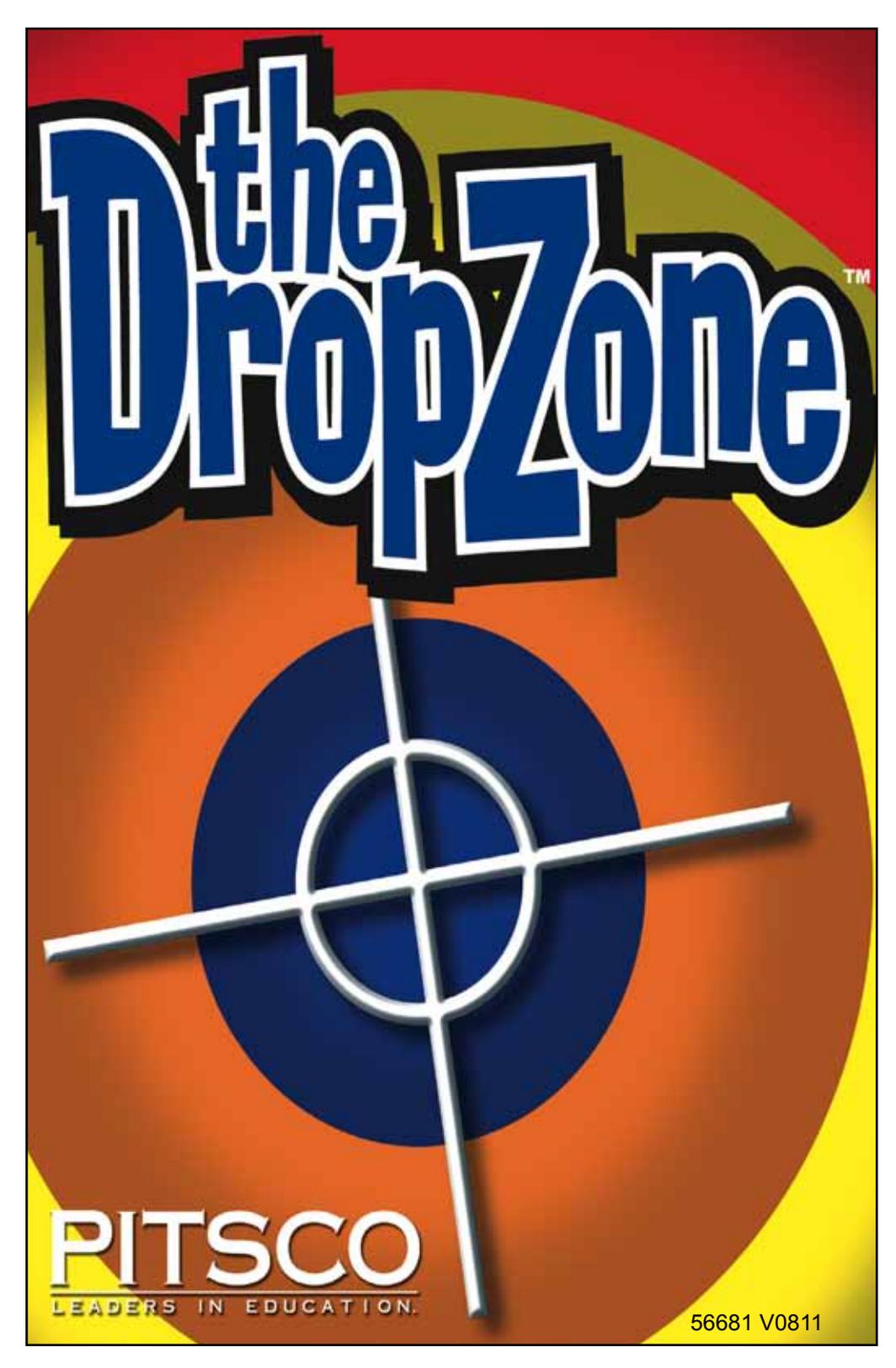


The Drop Zone™



PITSCO

LEADERS IN EDUCATION.

56681 V0811

Items Included

- Landing pad, 24" x 24"
- Timer box with cord
- Release clamp with 20 feet of wire



About the Drop Zone

The Drop Zone is a landing pad system that can be used to time dropped objects in any type of gravity or free-fall experiment, or to time the descent of parachutes. It is especially useful for testing structures built for the Science Olympiad® Egg Drop competition.

The Drop Zone consists of a 24" x 24" landing pad with a very dense laminate surface (13 mm laminated phenolic) and a vibration sensor mounted on the bottom. A release clamp, with 20 feet of wire attached, enables you to position an object up to 20 feet above the surface of the landing pad before dropping the object. The release clamp also has a switch mounted on the side. Both the landing pad and the release clamp are plugged into a timer box. When the clip is opened to release the object, the switch activates the timer, which begins recording. When the object hits the landing pad, the timer stops, and the timer window displays the total "drop time." Time is displayed to an accuracy of 0.001 of a second, and the timer will record up to 9,999 seconds.

Setting Up the Drop Zone

Set the landing pad on the floor in an area where you have sufficient room to position objects directly above the landing pad. One possibility is to place it against a blank wall, where a holder for the release clamp can be mounted at a specific height. Or, you may choose to suspend the clamp from the ceiling in the center of the room.

Plug both the landing pad and the release clamp into the timer box (Figure 2). Plug the AC adapter into an electrical outlet. When the system is ready to go, the timer should show a circular pattern of red LED lights.



Using the Drop Zone

1. Locate the object to be dropped and place it in the clamp, which should be suspended at the desired height directly above the landing pad.*
2. Make sure the timer is ready (it is ready when it shows the circular pattern of red LED lights). If necessary, press the red reset button on the timer.
3. Open the clip to release the object.
4. After the object lands, read and record the drop time from the timer.
5. Press the reset button and begin the next trial.

Note: The landing pad is most sensitive in the center, directly above its sensor, but the entire platform senses vibration. Even a relatively small object dropped at the edge of the pad will trigger the timing device.

Items Included

1. Protect the Landing Pad

The landing pad is very sturdy, but some common-sense precautions help prevent damage and prolong its life:

- Do not step on the landing pad.
- Do not drop objects that weigh more than five pounds onto the landing pad.
- Do not drop objects with sharp corners onto the landing pad.

2. Minimize the Mess

Some of the items you drop – for example, raw eggs – could be very messy. For egg-drop trials, we recommend covering the landing pad with a plastic garbage bag for easy cleanup. (Because the landing pad is very sensitive, the addition of the garbage bag will have minimal effect on the timing.) If things are likely to get really messy, you might also place the landing pad inside a child's wading pool.

If, despite these precautions, the landing pad does get covered with raw egg or anything else, be sure to clean it thoroughly with soap and water and dry it before putting it away.

