UNITED SCIENTIFIC SUPPLIES, INC.

OPERATING INSTRUCTIONS AND ACTIVITY GUIDE

FREE FALL APPARATUS

FFA001

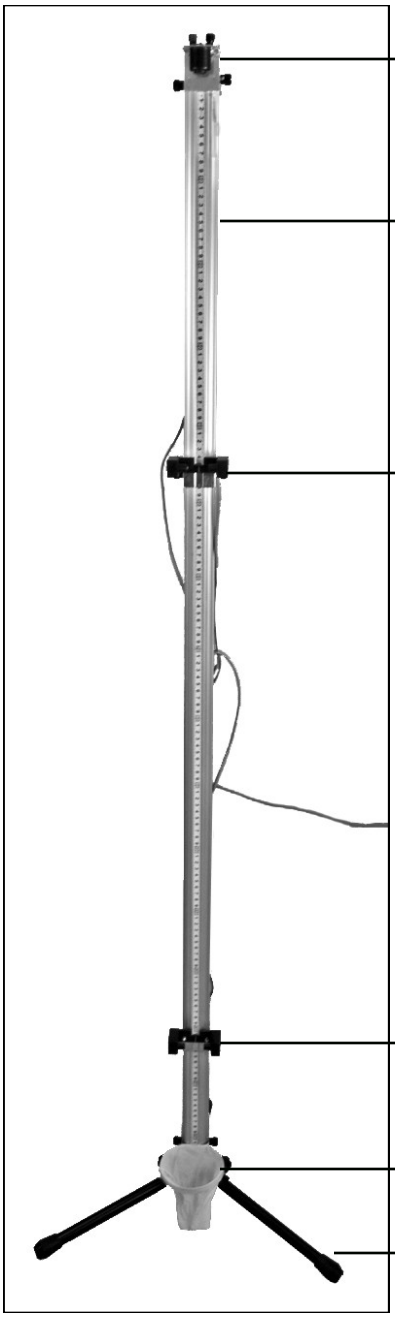

Figure 1

DESCRIPTION

The FFA001 Free Fall Apparatus allows the acceleration due to gravity to be measured by timing the fall of a steel ball from rest using a photogate.

The apparatus requires the DTPHG1 Digital Timer with Photogates to operate the photogates and perform the timing functions.

The Free Fall Apparatus consists of a vertical column with a centimeter scale (1, *Figure 1*) supported by tripod feet (2) that allow the column to be adjusted exactly vertically. At the top of the column, an electromagnet (3) controlled by the Digital Timer is fixed. Two photogates (4, 5) attached to a cable harness can be positioned anywhere along the column height. A cloth bag (6) at the bottom of the column catches the falling ball after it has passed through the photogates.

A steel ball and a plumb line are also provided (not shown.)

SPECIFICATIONS

Maximum fall distance:	150cm
Input voltage of electromagnet:	6V DC.
Diameter of steel ball:	18mm
Dimensions:	190x17x15cm
Weight:	5kg