Physics Laboratory Report
Friction

Name _____   Date_____

Lab Partner _____

Tabulate your data below, or attach an equivalent *clearly labeled* spread sheet. Be careful to record only a reasonable number of significant figures.

Definitions
Type: Model number of sole, marked on the slider
Flooring: hardboard (brown material), vinyl, or carpet
Load: Mass of slider plus any added masses, for computing normal force
F_s: Peak force of static friction, if present
F_k: Force while sliding
v: Speed or speed range for F_k measurements
μ_s: Coefficient of static friction
μ_k: Coefficient of kinetic friction

Questions
Choose sole-floor pairs and operating conditions to answer the following from your data. Your response should be on a separate sheet of paper.

(a) Can one usefully define a coefficient of friction for a given sole-flooring combination?

(b) Is there always a static coefficient of friction, different than the kinetic friction? Is there a velocity dependence of the kinetic friction?

(c) Are some soles or surfaces consistently more or less slippery than others? You may consult (with credit) with other lab groups to expand the number of sole-flooring combinations measured.

(d) Does wetting the flooring or getting the sole dusty make any difference in the coefficient?

Data

Most data can be summarized in the table below. You may also attach one or two sample plots to illustrate details.

Type	Flooring	Load	F_s	F_k	v	μ_s	μ_k