Physics 11

**Section 5.3: Friction**

Friction is created whenever two surfaces

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or

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It’s caused by microscopic irregularities \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The *magnitude* of the friction force can be calculated using

Note #1:

Note #2:

Note #3:

**Example:** The interface between Mr. Q’s 0.7 kg hole-punch and the table has µstatic=0.2 and µkinetic=0.15. What is the force of friction on the hole punch if Mr. Q pushes on it with 0.5 N, 1 N, 1.372 N, and 10 N?

**Example:** A 3.75 kg block is pushed along a tabletop with a force of 45 N. The coefficient of friction is 0.65.

1. Find the magnitude of the friction force.
2. Find the acceleration.