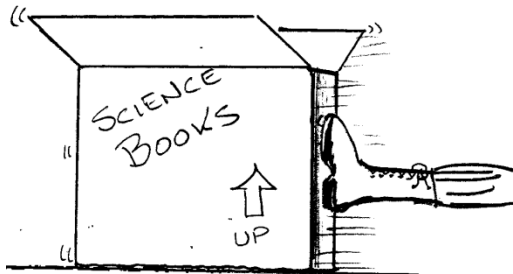
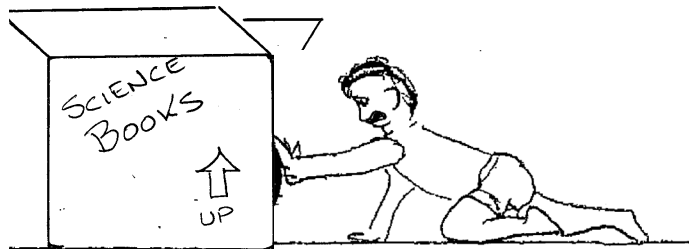
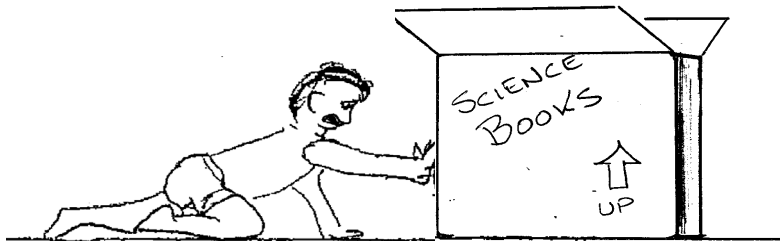


# Pushing a Box against Static Friction

**Scenario:** A child tries and tries to push a box of science books, but the box doesn't budge. Then his father comes along and gives the box a good shove with his boot to get it moving.

1. In **black** ink, draw all of the forces acting on the box in each instance.
2. In **red** ink, draw the change of motion of the box in each instance.



Courtesy of Hector Mireles

**Questions**

1. What forces are acting on the box in each instance?

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2. Does the box experience a change in motion in either instance?

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3. Who puts more force on the box: the baby or the father?

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4. What is the net force in each instance?

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