Abstract Submitted
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Kinetic Energy Lost in Inelastic Scattering WILLIAM MADIGAN, No Company Provided — Introductory physics texts typically explain the loss of kinetic energy in perfectly inelastic collisions as being due to the production of sound, heat and deformation. While this is certainly true, it is an incomplete description of the process. It would seem of greater pedagogical benefit to explain that the energy deficit is due to the work done in bringing the colliding objects to rest in their center-of-mass frame. By the time they encounter conservation of linear momentum, students have already come to terms with the Work-Energy Principle, so they are equipped to address this topic in detail. In this presentation, the work required to bring two masses to rest in their center-of-mass frame will be shown to be the correction term required to make the inelastic scattering total kinetic energy expression an equality.

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