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Toys and Games in Mechanics Education

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Toys and games have considerable educational potential. In mechanics certain toys and games that particularly lend themselves to analysis have been afforded comprehensive scholarly treatment. A number of toys and games that illustrate basic mechanical principles are presented Experiences in using toys and games for project work with undergraduates is recounted, and some ideas on how to expand the use of toys and games in an educational setting are presented. Examples of mechanical toys and games with relatively simple mechanical principles underlying them include the “Sand Wand”, the “Ooze Tube”, and the “Shoot the Moon” game/toy. More complicated dynamics is displayed in toys such as “Newton’s cradle”, “Slinky”, the “Euler disk”, “Tippe Top”, and the rattleback (celt or wobblestone). Apart from analytical mechanics projects the world of mechanical toys opens up a number of “softer” questions that can be used to attract students into the field of mechanics.

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