

Educational Innovations^{INC}[®]

SS-300/323/335

Rattlebacks (Celt Stones)

These half ellipsoid objects are modeled after objects made millennia ago. Archeologists discovered them with stone axes and adzes and dubbed them "celt stones." Soon it was discovered that the stones would spin freely in one direction, but if forced in the opposite direction they begin to oscillate, slow, and then reverse direction.

Place your Rattleback, curved side down, on a firm surface, like a tabletop, and spin it counter-clockwise. It should spin freely. Now try to spin it clockwise. Notice that it begins to wobble and slow then reverses direction.

The Rattleback is shaped much like a canoe, but its keel is not parallel with the rest of the boat. This causes the center of gravity to shift right or left depending on which end of the "keel" is in contact with the surface it sits on. Try simply setting your Rattleback on a table. Without trying to spin it, press down and release one end. As it rocks, it will begin to spin.

Try your Rattleback on different surfaces. Try attaching small weights or coins to each end. Can your students make a Rattleback from clay or other materials?



5 Francis J. Clarke Circle
Bethel, CT 06801
www.teachersource.com

Phone (888) 912-7474
Fax (203) 229-0740
info@teachersource.com

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