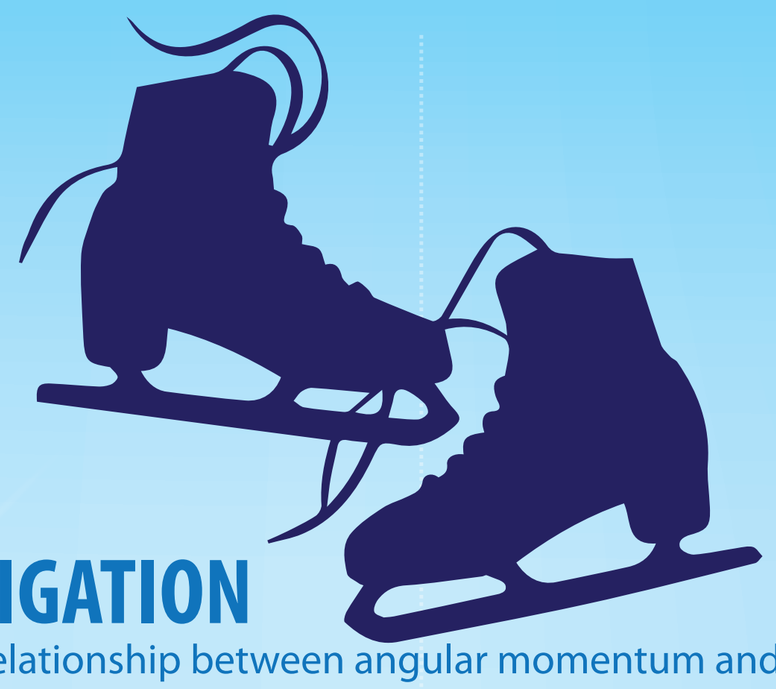
ICE SKATING

LEVEL II-Angular Momentum



INTRODUCTION

There are a lot of concepts that surround the sport of ice skating. Practically all of the concepts in the sport of ice skating involve physics. In this project, we are going to discuss some principals behind ice skating that essential to the understanding of physics. The most principal concept is how friction works on the ice. Another concepts are angular momentum when spinning and Newton's Third Law of Motion when jumping. Also, there is the concept of Inertia is present in ice skating for the explanation of skates' blades against the ice.

HOW IT WORKS?

In order to effectively show the demonstrations of angular momentum, we will have an experienced ice skater demonstrate spinning on a an axis on one foot, she will explain the basics of spinning andthe location of the center of weight which is on the hips. She will be showing the effect of her arms being spread out in relation to haw many radians per second she spins.

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INVESTIGATION

What is the relationship between angular momentum and a skaters' revolutions per minute when they spin?

- The greater the angular momentum, the faster the ice skater will spin.

How are the edges of the blades related to the types of jumps and spins that can be created in relation to their frictional force?

- The blades often have toe picks on the front of them to increase frictional force along the skater to make jumps and spins possible. The normal edges of blades don't have enough friction to apply a great enough force to make spins or jumps, so there is a toe pick in place to create greater friction.

FIGURE SKATING IN THE OLYMPICS

Figure skating made it first appearance in the Olympics in 1908, which was the fourth modern Olympics ever held. Europeans dominated the sport, earning nearly all medals awarded in the years following its establishment. European still dominant in the figure skating world today, but not nearly as much so as they used to. Ice skating became a permanent sport in the Olympics in 1924. In 1928 Sonja Henie debuted as an eleven year old. She won her first gold in the Woman's Singles event, thereafter she won two more consecutive gold medals and currently still holds the world record for most consecutive medals in the Woman's Singles event. The 1950's were full of many of the greatest male skaters the sport had witnessed. Among these men were Dick Button and the Jenkins brothers.

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