Name

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Figure Skating Dumbbells Worksheet

1. Describe what happens when the rotating "figure skater" draws in his or her arms.

2. What forces, if any, act on the "figure skater" once he or she is rotating? Does the "figure skater" apply a force on any-thing?

3. Explain the observations (Questions 1 and 2) in terms of the conservation of angular momentum.

4. How would the following scenarios affect the rate of rotation? Same person holding 10-lb dumbbells in each hand.

Different person of same mass, but with much longer arms.

A tall person versus a short person of the same mass.

A person whose mass is twice that of the original skater.

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