

Bicycle Wheel Demonstration: Practical uses of angular momentum

Warm up activity:

1. Challenge students to try and balance the wheel on one of the wooden handles. If no one has balanced the wheel after 2 or 3 minutes, tell the students that it can be balanced if you spin the wheel. Discuss the dynamics of a spinning top and how it relates to the bicycle wheel.
2. Sit on the bicycle and try to balance yourself on the bicycle. Ask the students for advice on how to balance yourself on the bicycle. (optional)

Demonstration:

1. Tie the rope to the handle of the wheel.
2. Hold the wheel by one handle with your hand while the other handle is supported by the rope and you hold the handle of the rope. The wheel should be upright.
3. Ask the students "What will happen if I let my end of the wheel go?"
4. Let the wheel go and ask "What will happen if the wheel is spinning when I let it go?"
5. Have someone else spin the wheel and you let the handle go once it is spinning.
6. What direction is the wheel rotating? Clockwise or counter clockwise
7. Ask "What will happen if the wheel spins in the opposite direction?"
8. Have someone spin the wheel in the opposite direction and see what happens.