

Moment of Inertia Bars

Estimated Time for Activity: ~5 minutes

Optional Objectives:

The students will:

- Understand the concept of moment of inertia and be able to relate it to a linear analogy.

Materials:

- Red and blue moment bars

Optional Vocabulary:

- Moment of inertia
- Distribution of mass

Procedures:

- Tell the students that the two wands are the same mass.
- Have several come up and hold the wands from the center and begin to twist them.
 - They will notice that one is harder to twist.
- Ask them why they think it may be more difficult to twist.
- Tell them that the distribution of mass is different for the two bars.
- Have them relate this knowledge back to the equation for moment of inertia to explain why one is harder to twist.
- (BONUS) Make an analogy to mass and linear momentum.