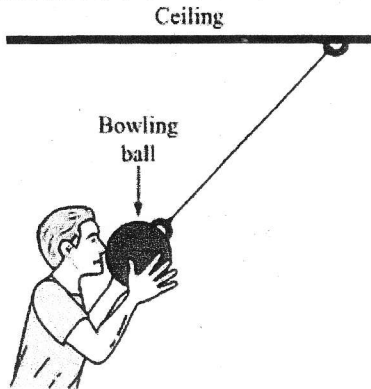


OPEN RESPONSE #4: ENERGY & MOMENTUM

A pendulum is made with a bowling ball as the bob and a wire attached to the ceiling, as shown in the illustration below. The person in the illustration pulls the bowling ball back until it touches his nose, then releases the bowling ball. Assume that he does not move.



- Describe the changes in the potential energy and the kinetic energy of the bowling ball as it swings back and forth.
- Explain whether the bowling ball will hit the person's nose. Include a discussion of energy changes in your explanation.
- Explain what will happen if the person gives the bowling ball a small push as it is released. Include a discussion of energy changes in your explanation.