

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Guidelines for Mumford’s Bell Challenge

✓ I Have Done This	What Your Device Must Have
	1. A ramp at the beginning of the setup
	2. A bell at the end of the setup
	3. At least <b>one</b> step between the ramp and the bell that shows an energy transfer or an energy transformation (or both!) <i>(NOTE: You can have no more than <b>two</b> steps between the ramp and the bell.)</i>

✓ I Have Done This	Other Requirements
	1. You must be able to start your device with a rolled-up newspaper. No other human-energy input!
	2. You must demonstrate your device for your teacher’s approval and be prepared to answer any questions he or she might ask.
	3. You must make sure that everyone on your team is prepared to answer any questions your teacher asks about your device.
	4. In your science notebook, you must draw an energy-flow diagram for your device showing energy transfers (moves) and energy transformations (changes) from the top of the ramp to the bell. Your diagram must include arrows and labels.
	5. Your diagram must include a caption (2 or 3 sentences) that describes the energy transfers and transformations in your device. You must complete this task by yourself.
	6. Fold this paper in half and place it in your notebook between the pages that include your energy-flow diagram.