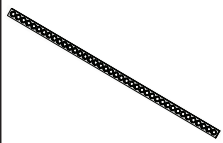
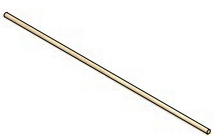
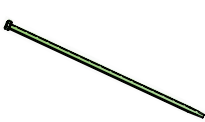
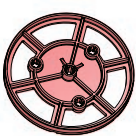


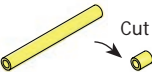
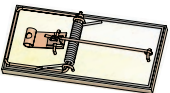


## THE ACTIVITY

Build, race and re-engineer a rubber band powered vehicle while applying the science concepts of energy, simple machines and friction.

## WHAT WILL YOU NEED?

Materials to build one mousetrap vehicle:

 Connector Strips Quantity: 4	 24" Dowels Quantity: 2	 Cable Ties Quantity: 3	 Wheel Hub Quantity: 4	 Perpendicular Block Quantity: 6	 #6 Wood Screw, 5/8in Quantity: 4
		 50mm (2in) Slide Stop Cut 6mm (1/4in) Sections Quantity: 1	 Mousetrap Quantity: 1		

Required materials, not included:




Suggested materials, not included:



Other approved materials:



Tools to Build a Mousetrap Vehicle:

 Cutter				
---	--	--	--	--

Build it, test it, change it. TeacherGeek™ components allow you to design and engineer your most imaginative mechanisms. Combine them with other materials and products. More resources are available at [teachergeek.com](http://teachergeek.com).

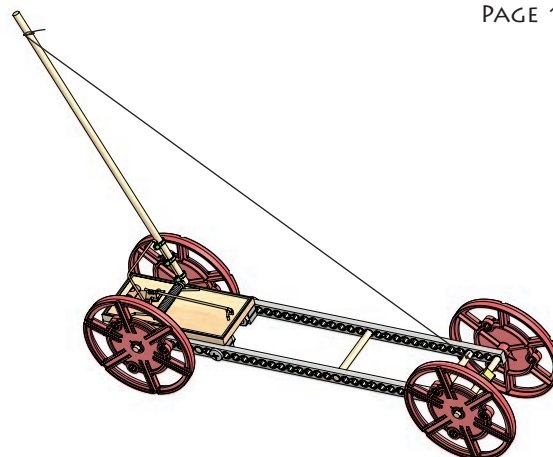
## DOWELS

Dowels vary in diameter. Some may be too large or small to use.

The ends of dowels may taper and need to be cut off to fit tightly into holes.

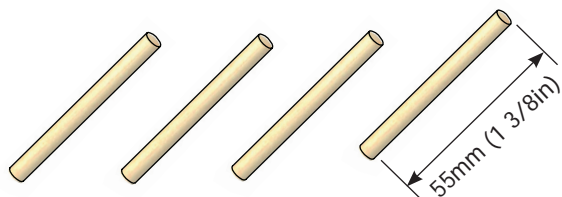
## CUTTING

Dowels and Connector Strips can be cut with a multi-cutter (best method), saw, side cutters or pruning shears. Wear safety glasses when cutting.



### STEP #1

Cut four 55mm (~1 3/8in) dowels.

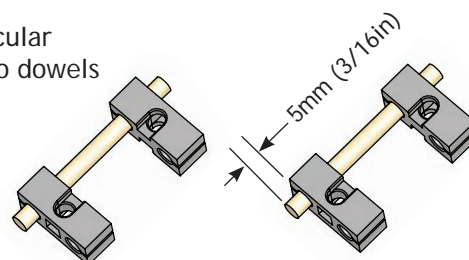


### STEP #2

Slide perpendicular blocks onto two dowels from Step #1.



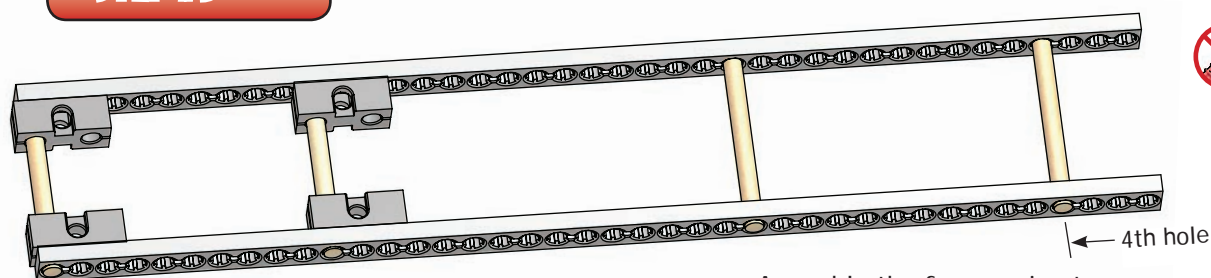
Do not ream.



### STEP #3



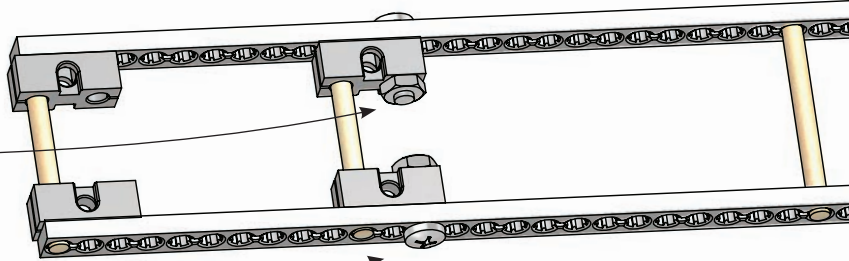
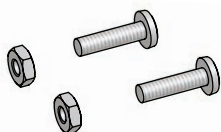
Do not ream.



Assemble the frame using two perpendicular blocks and parts from Step #1 and #2.

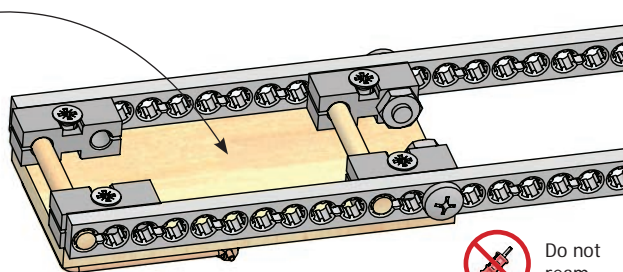
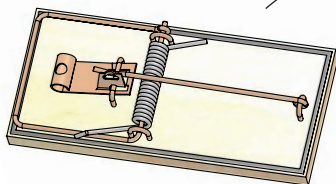
### OPTIONAL

Optional: If you have #10 machine screws and nuts, you can use them to fasten the inside perpendicular blocks.

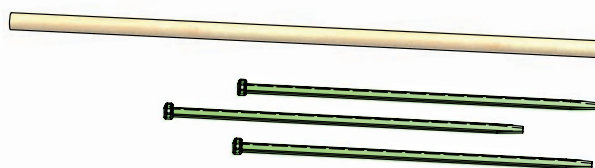


**STEP #4**

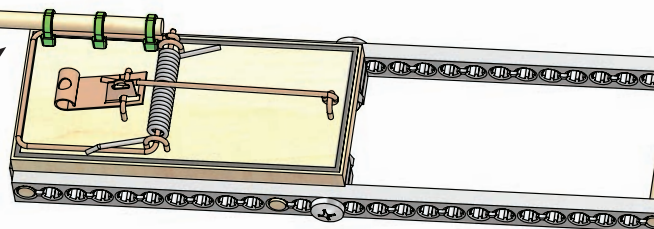
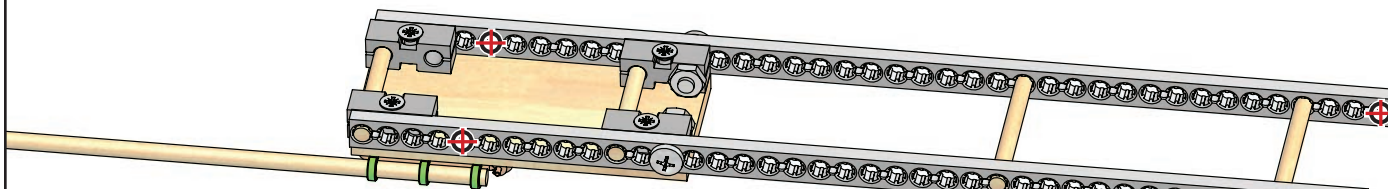
Use four #6 screws to attach the mousetrap to the perpendicular adaptors on the frame.



Do not ream.

**STEP #5**

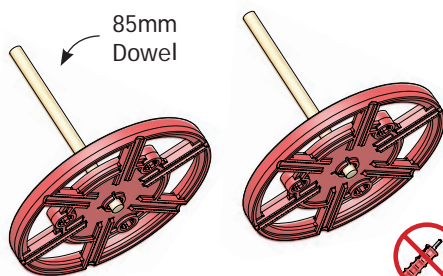
Use three cable ties to attach a dowel to the mousetrap lever arm. Make sure they are tight!

**STEP #6**

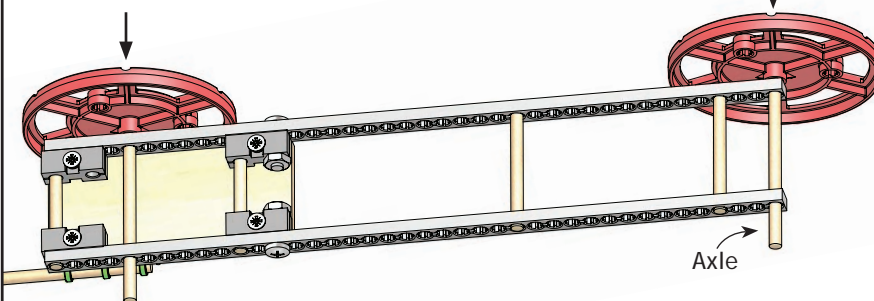
Ream the holes marked with an .

**STEP #7**

Cut two 85mm (~1 3/8in) dowels and place them into wheels.

**STEP #8**

Place the wheel assemblies from Step #7 into the reamed holes in the frame.



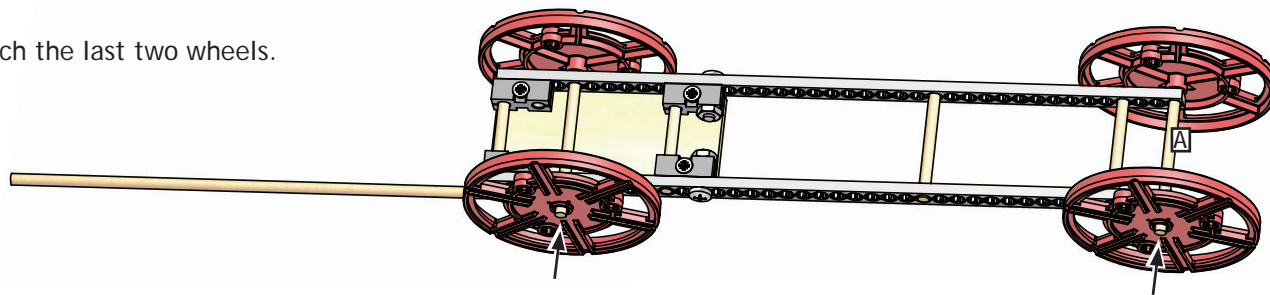
Axle

**TIP: REDUCE FRICTION**

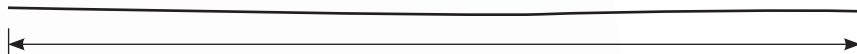
Friction is the force resisting the motion of surfaces sliding against each other.

**STEP #9**

Attach the last two wheels.

**STEP #10**

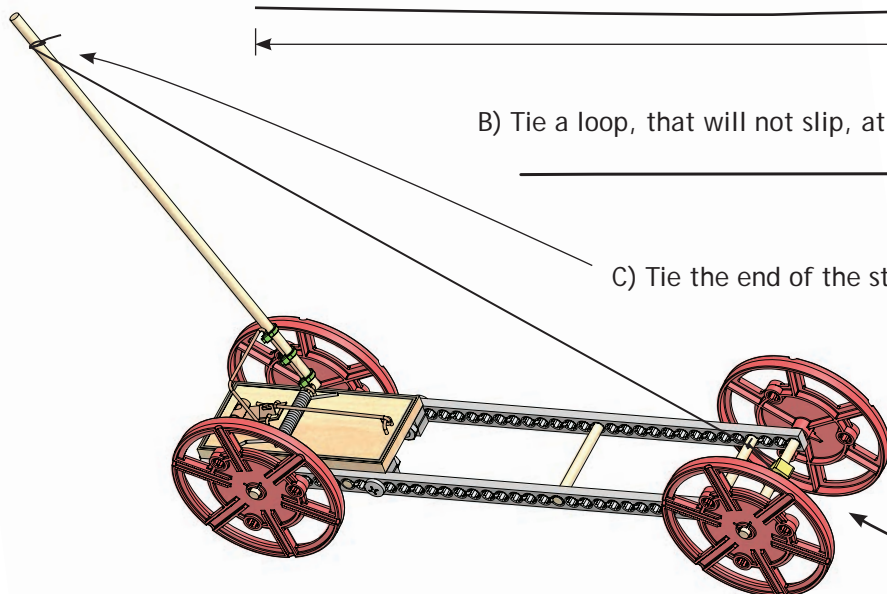
A) Cut a piece of string.



B) Tie a loop, that will not slip, at one end of the string.



C) Tie the end of the string without the loop to the dowel.



D) Tie a loop onto the the axle.



