

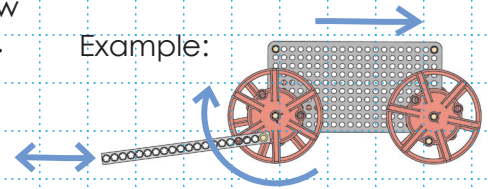
Toy Workshop Linkage Lab

Name: _____

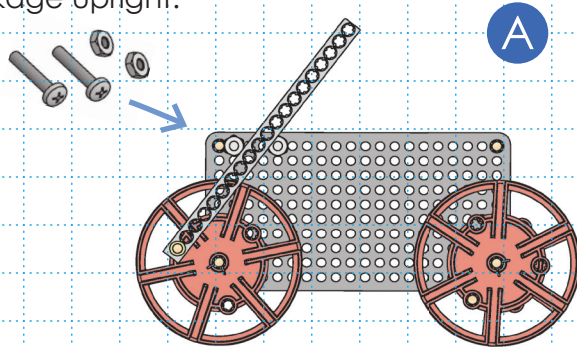
Design: _____ Design # _____

Create the linkages shown. Then give the wheels a roll and see how they move. Draw the motion of the linkages using lines and arrows. Complete the Toy Workshop Build Guide before starting this lab.

Example:



Use two screws & nuts to hold the linkage upright.

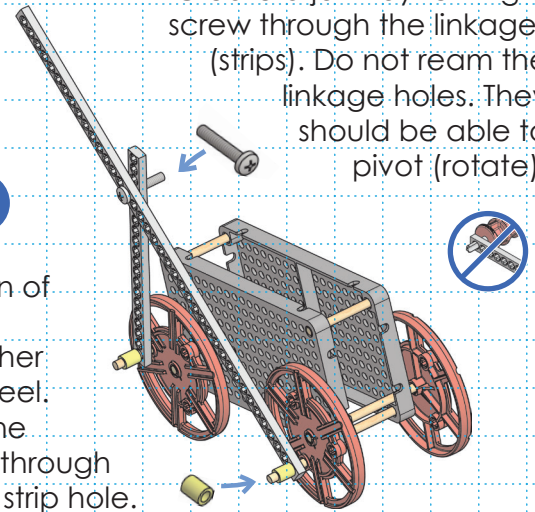


A

Create a joint by turning a screw through the linkages (strips). Do not ream the linkage holes. They should be able to pivot (rotate).

B

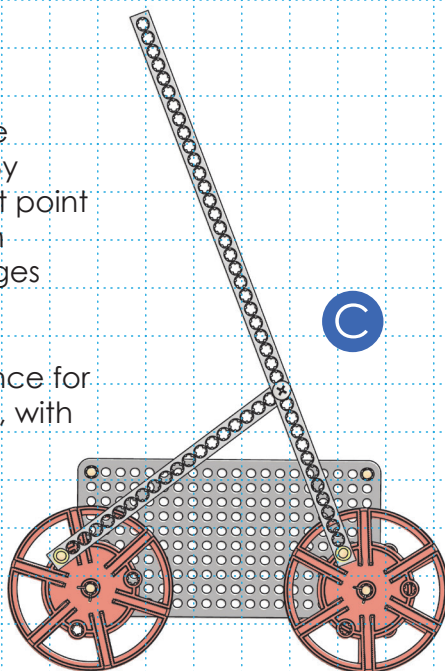
Use a section of slide stop to attach another strip to a wheel. Make sure the dowel goes through the reamed strip hole.



Teacher Signature: _____

Your linkages are actually levers. By moving the pivot point (screw), you can make your linkages trade force for distance (move further), or distance for force (move less, with more force).

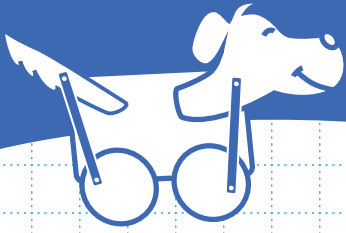
C



D

Show and explain how your linkages act like levers (because it is a lever).

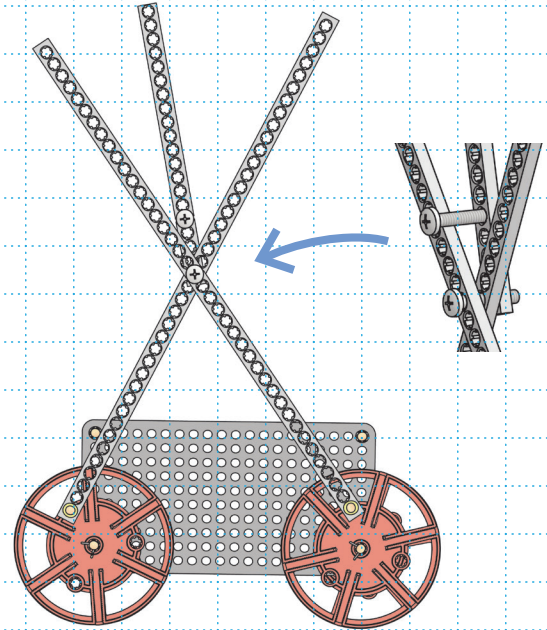
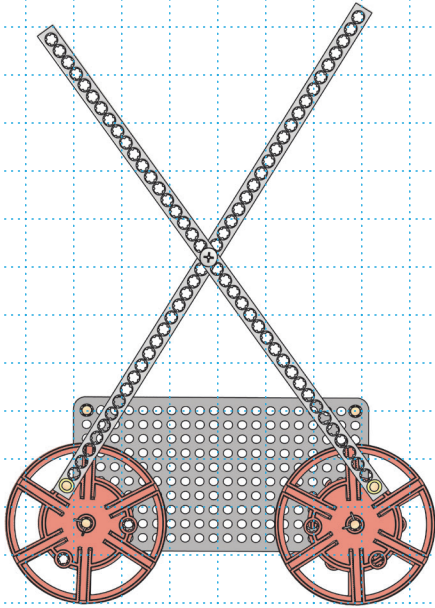
Teacher Signature: _____



Toy Workshop Linkage Lab

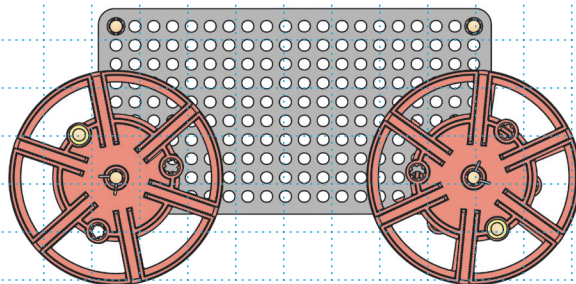


E Continue to create the linkages shown, make them move, and draw their motion.



Teacher Signature: _____

F Create a unique linkage mechanism (one that is different from any of the ones you have already created). Make it. Then draw the linkages and motions below. What type of toy could the mechanism make move (an animal, machine, or something else)?



Teacher Signature: _____

It's now time to use what you have learned, and create your own unique push toy. Return to the *Toy Workshop Build Guide*.