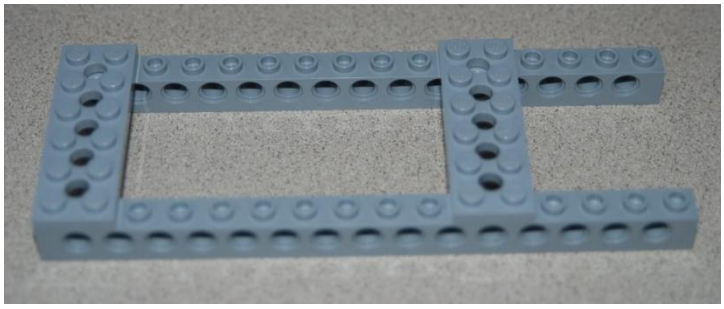
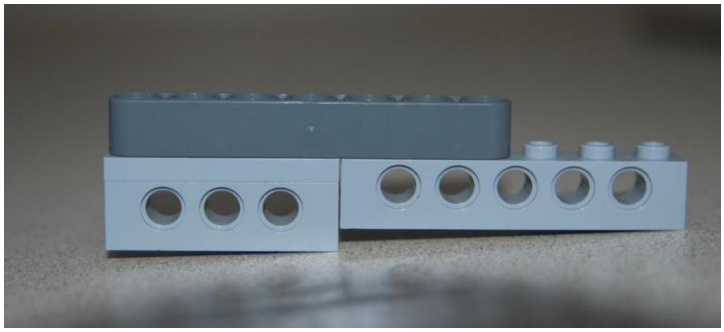
The Car with a Lot of Potential Activity – Vehicle Building Instructions

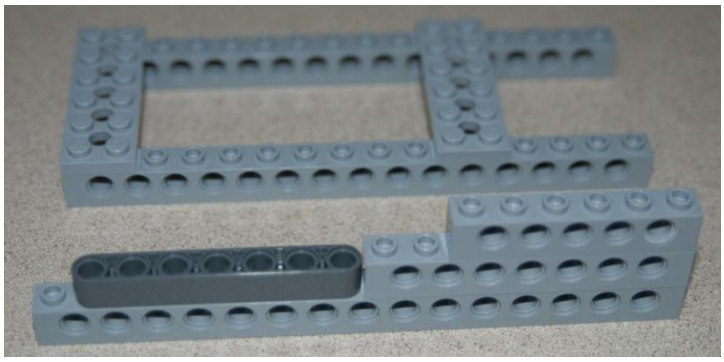
The following step-by-step instructions guide you through the process of building LEGO® vehicles so that, using them, students learn about potential energy.



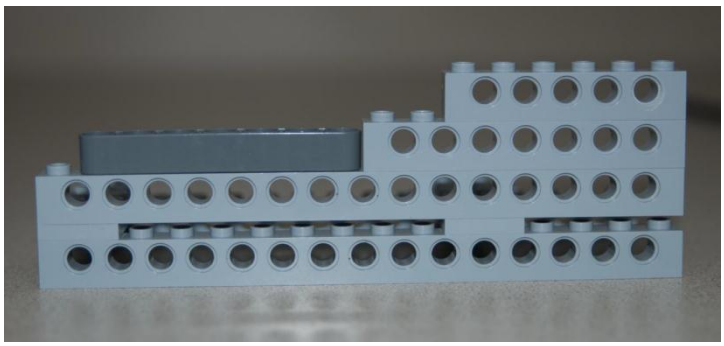
1. Build the base of the car, as shown at left.



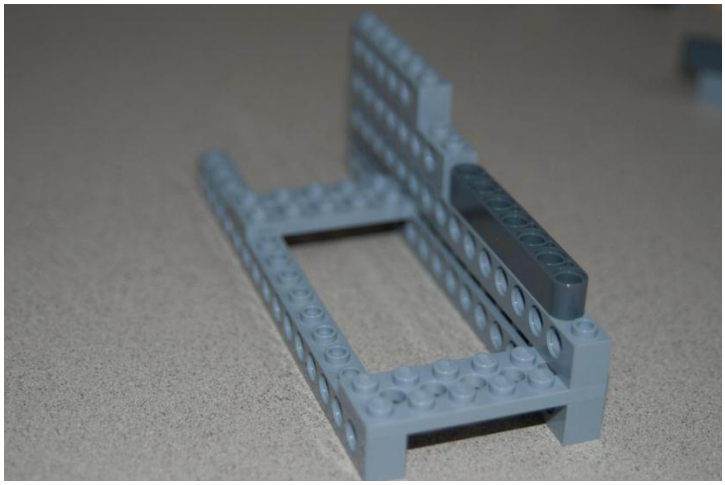
2. Build one side of the car.



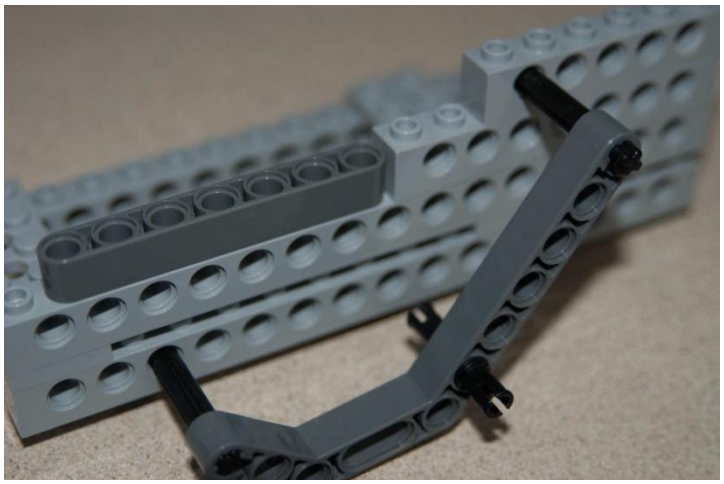
3. Build the second side of the car.



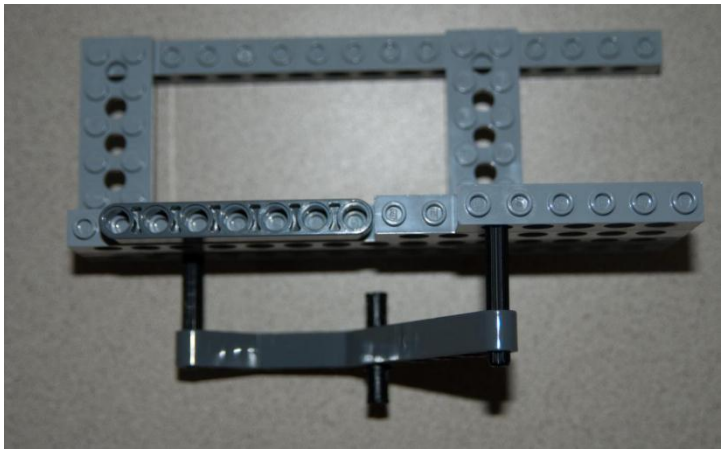
4. Attach that side to the base from Step 1.



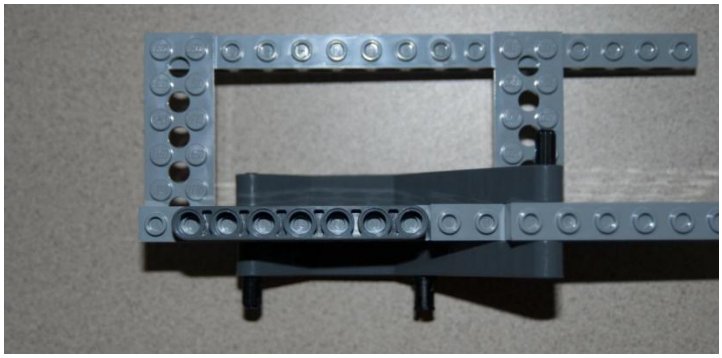
5. The base should now look like the image at left.



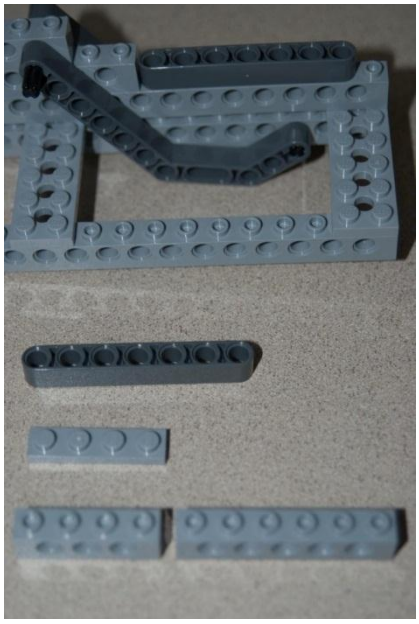
6. Attaching a support, as shown.

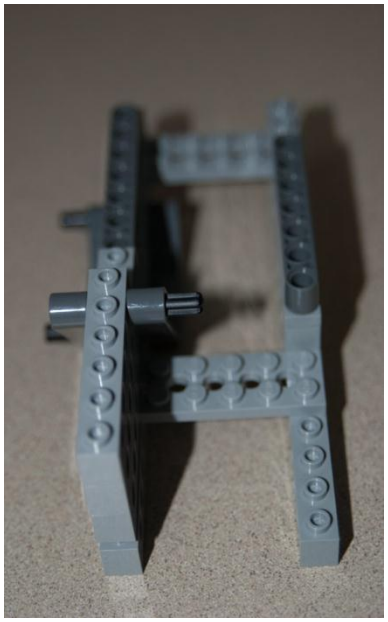


7. Shown is the base from the top, with support attached.

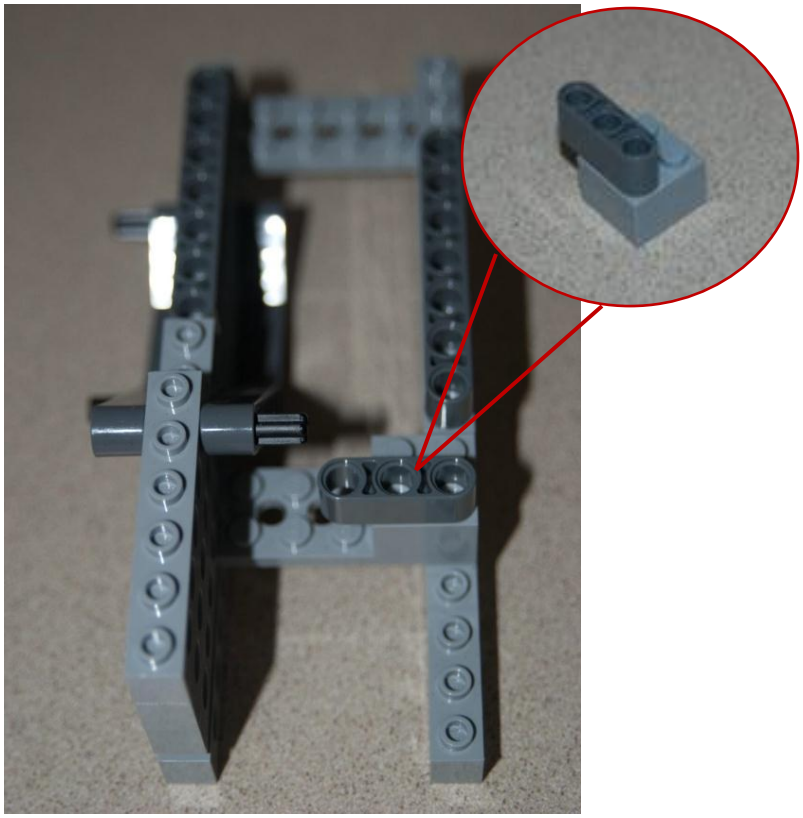


8. Attach another supporting beam on the inside (see image at left).

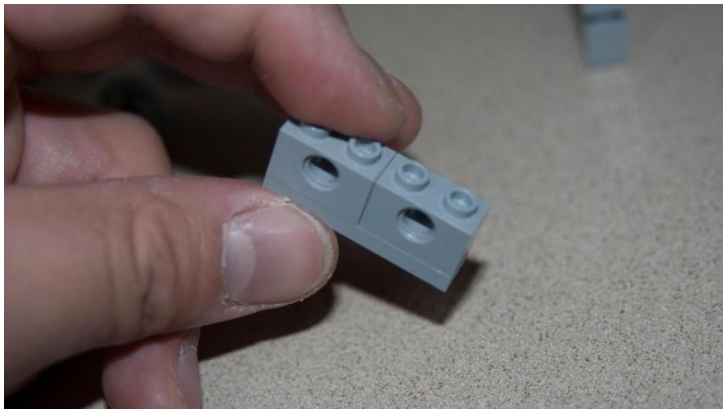




9. Construct the supports for the second side, as shown.

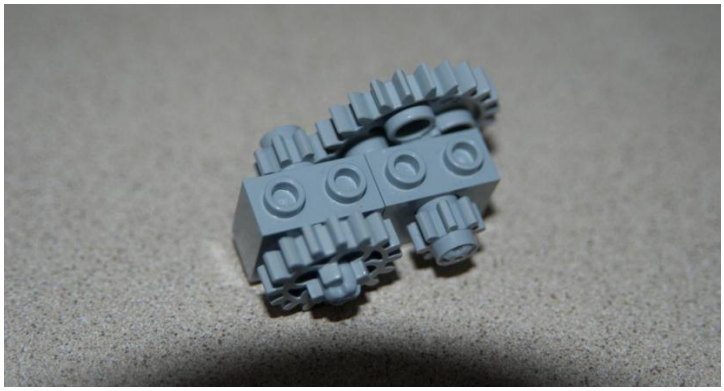


10. Create the piece shown (inset) and attach it to the base of the car, as shown.

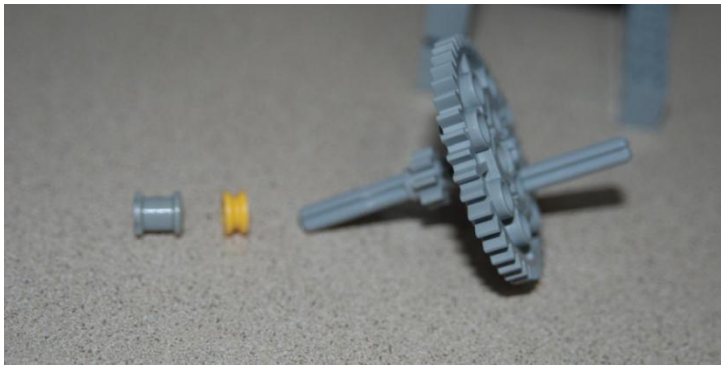


11. Create the gear box by starting with the pieces shown at left.

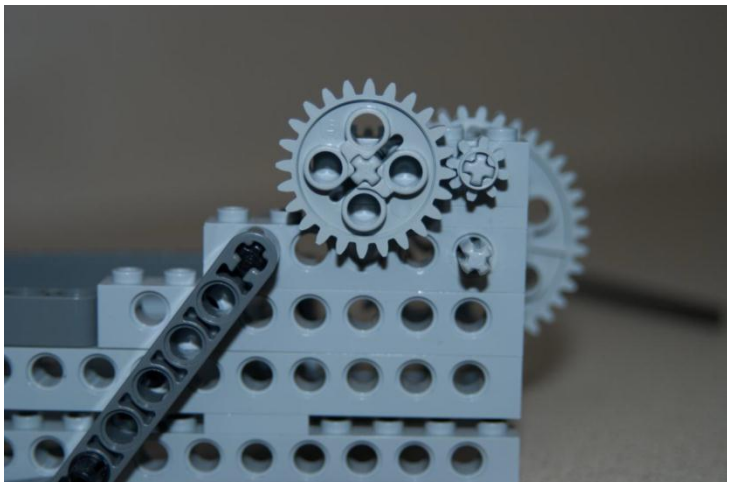
12. Add gears to the first side and then the other side.



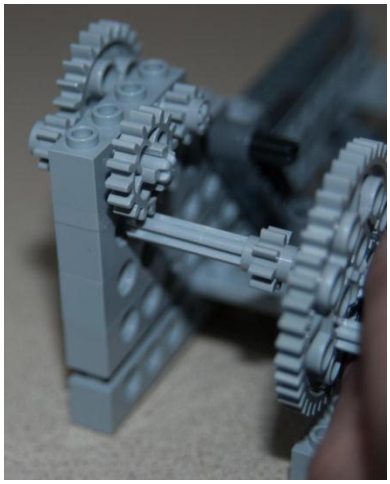
13. From the top, the gear box should appear as shown at left.

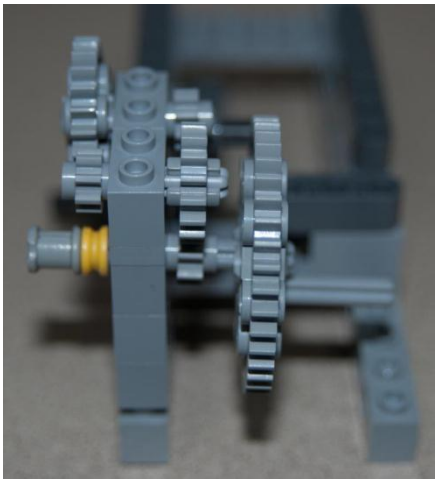


14. Construct an additional gear on an axle, using the pieces shown at let.

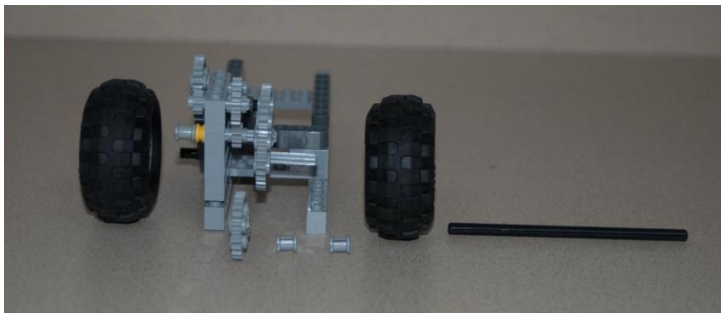


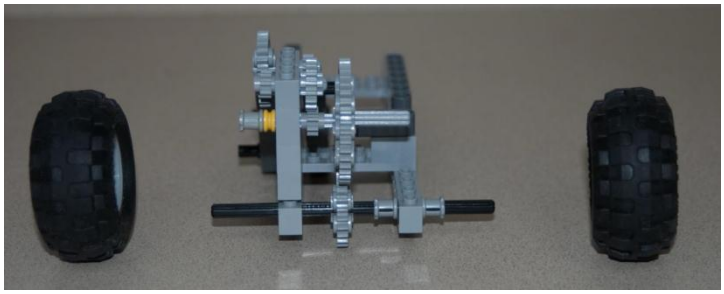
15. Attach the additional gear to the gear box. Attach the fully assembled gear box to the car.



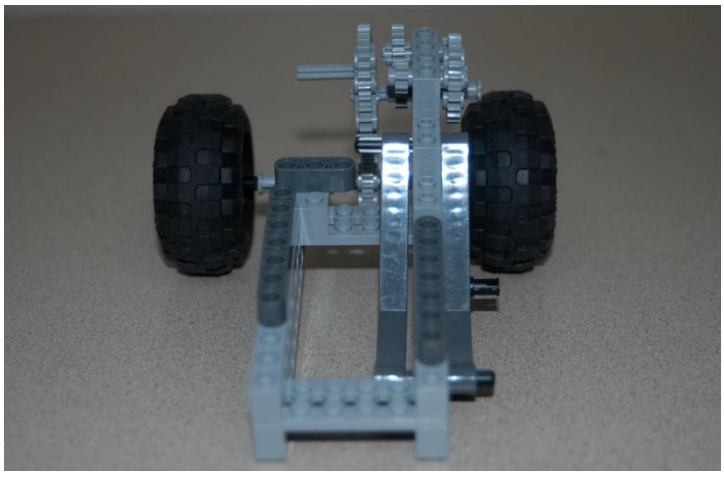


16. Refer to the two images at left for proper constructing and attaching of the gear box to the car.

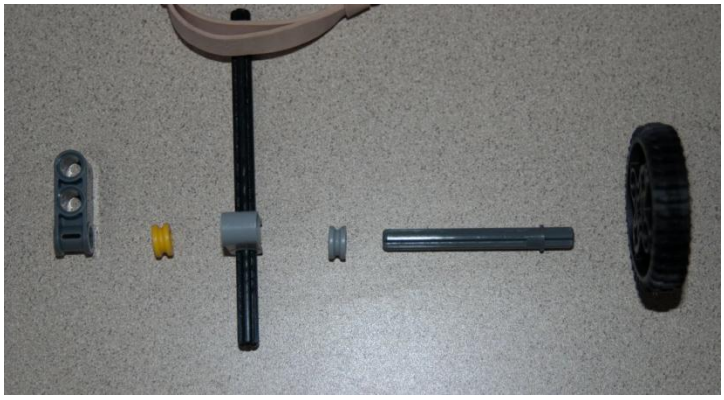




17. Add wheels to the gear box using the pieces shown at left.

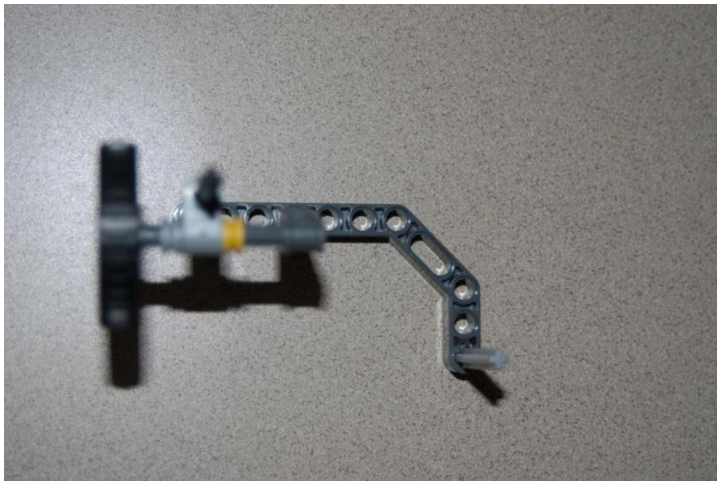


18. The car base should look like the image at left.

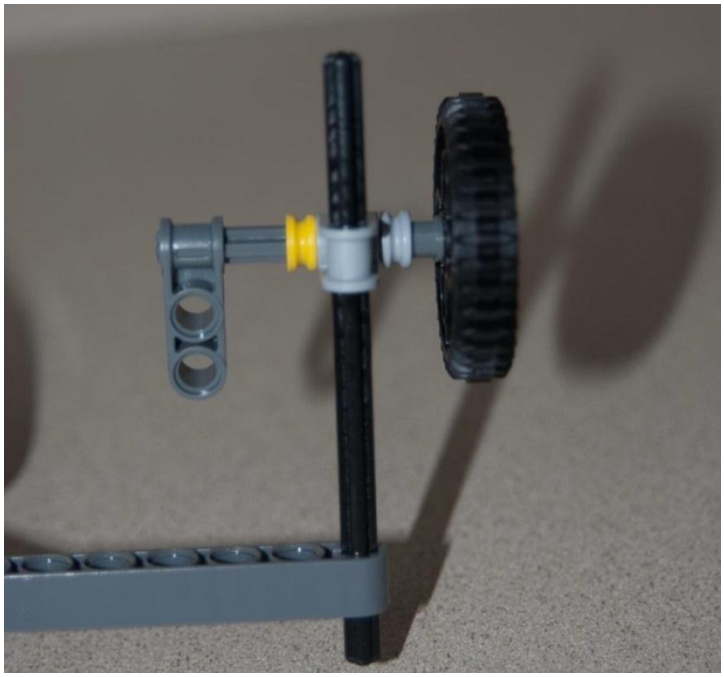


19. Using the pieces shown at left, construct the engine.

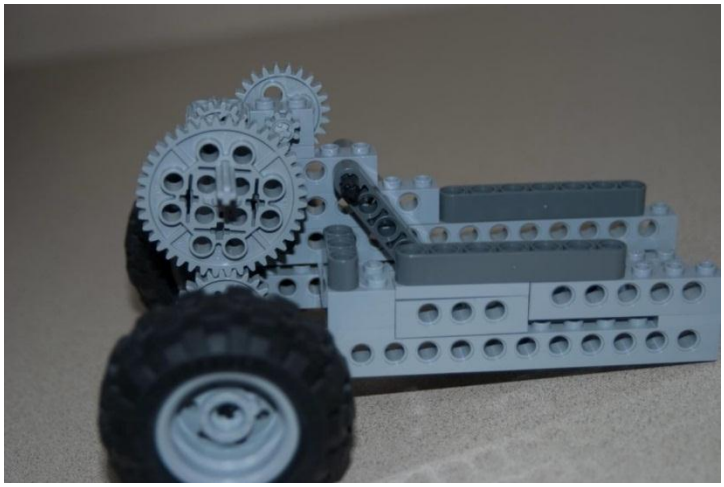
20. Use a beam piece to add an axle piece to your vehicle.



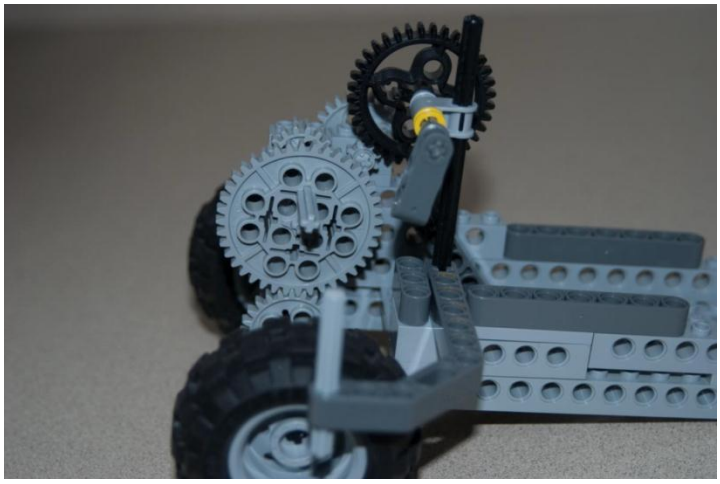
21. Add the engine parts (from Step 19) to the axel.



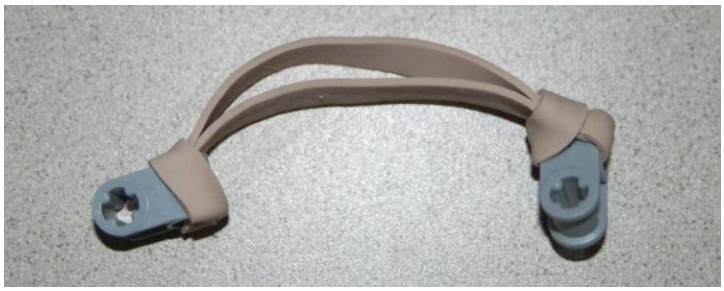
22. Shown at left is a view of the car from the side.



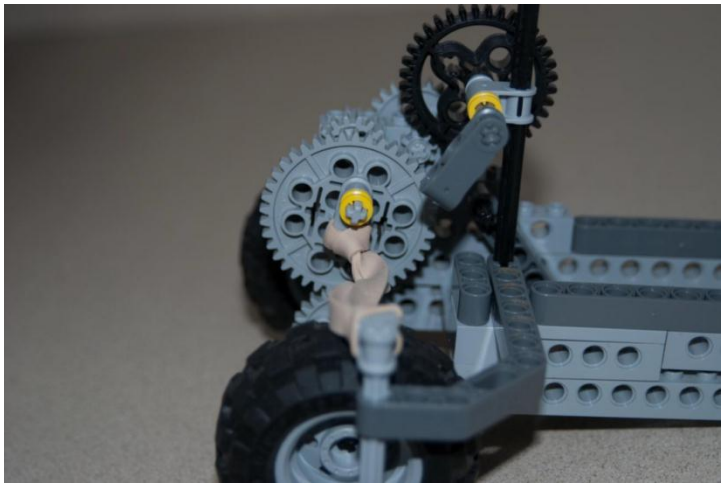
23. Arrange the car on a desk as shown in the image at left.



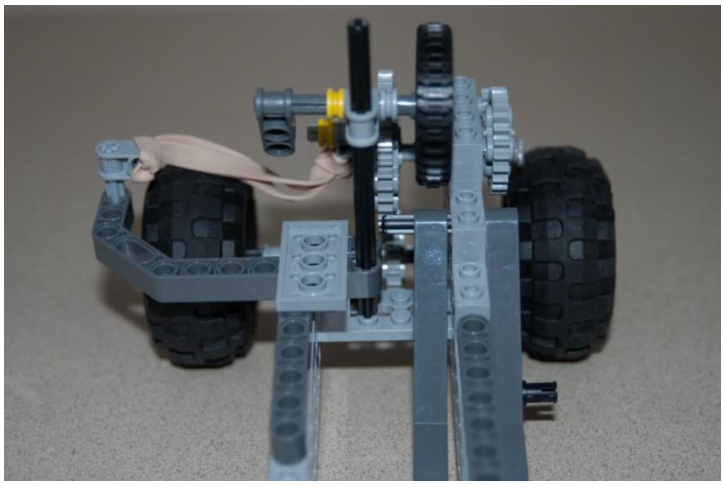
24. Add on the parts for the engine (from Step 22).



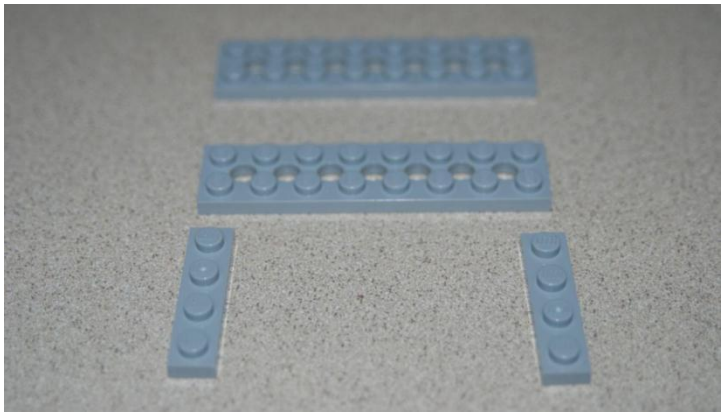
25. Using the following pieces, add a rubber band, as shown at left.

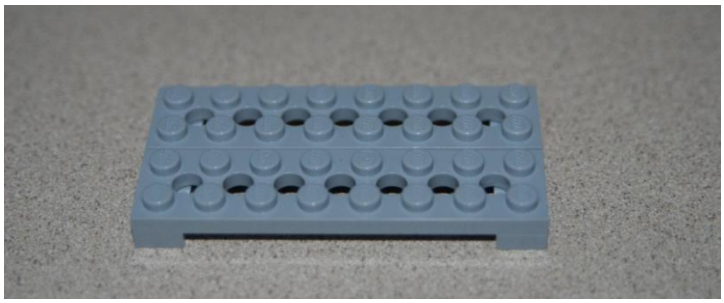


26. Add the rubber band component to the engine, as shown at left.

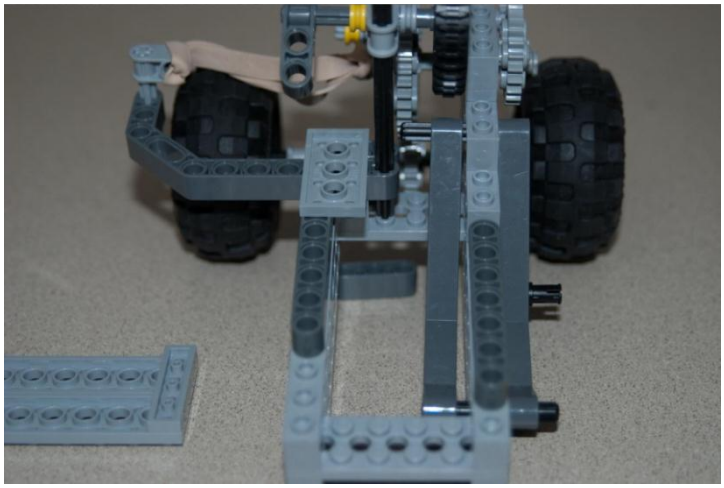


27. Shown is the assembled rubber band/axle view from the front of the car.

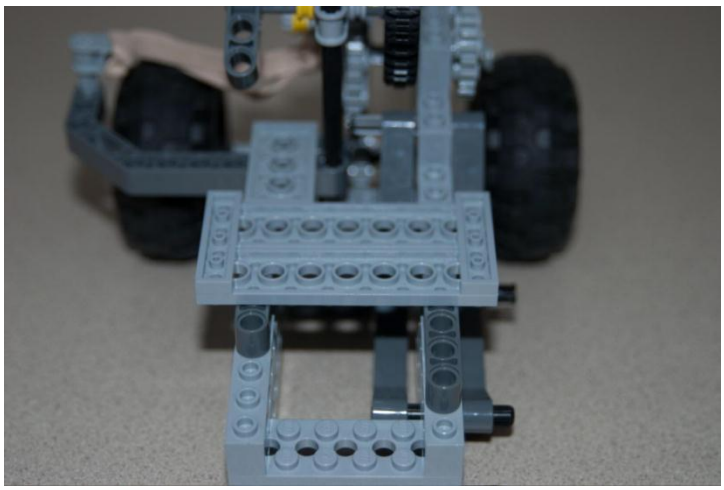




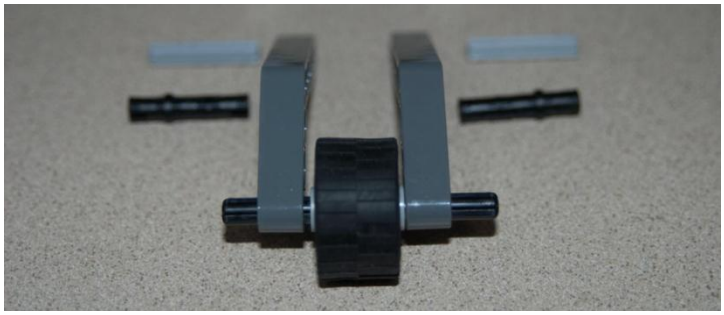
28. Using the following pieces, assemble them as shown at left, bottom.

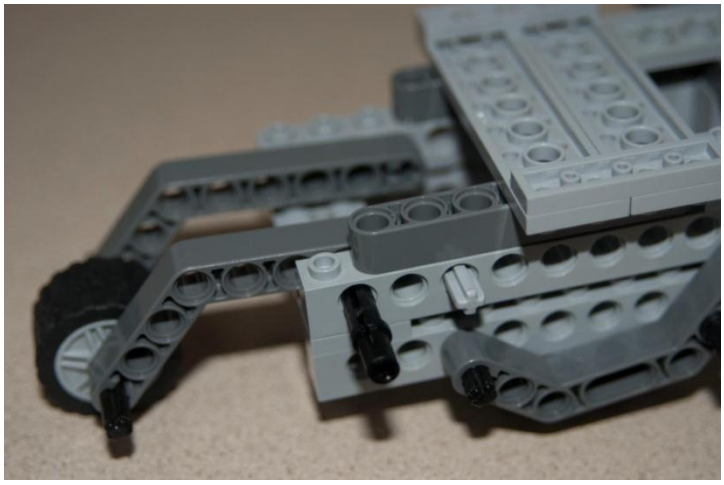


29. Arrange the car on a desk as shown in the image at left.



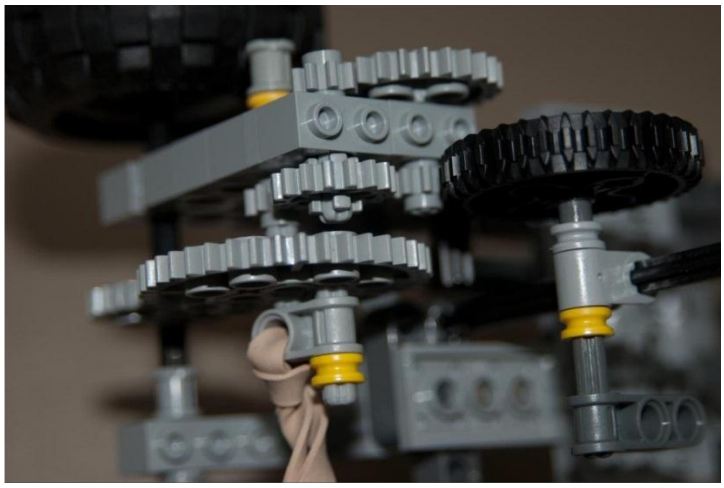
30. Add the parts to the car as shown at left.



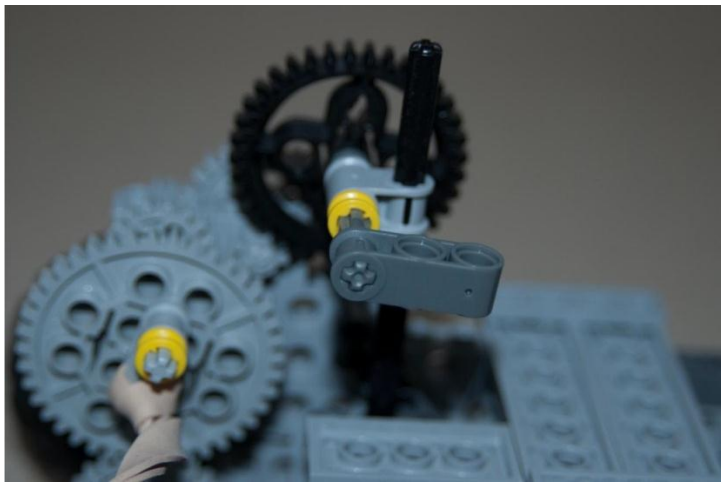


31. Using the parts shown at left (top), assemble the front wheel. Find the following parts and assemble it on the car, as shown at left (bottom).

    Note: This is the caster wheel; it is used for the car's stability.



32. Check the gear train is properly connected before testing/operating the vehicle.



33. Turn the handle to add elastic potential energy into the car.