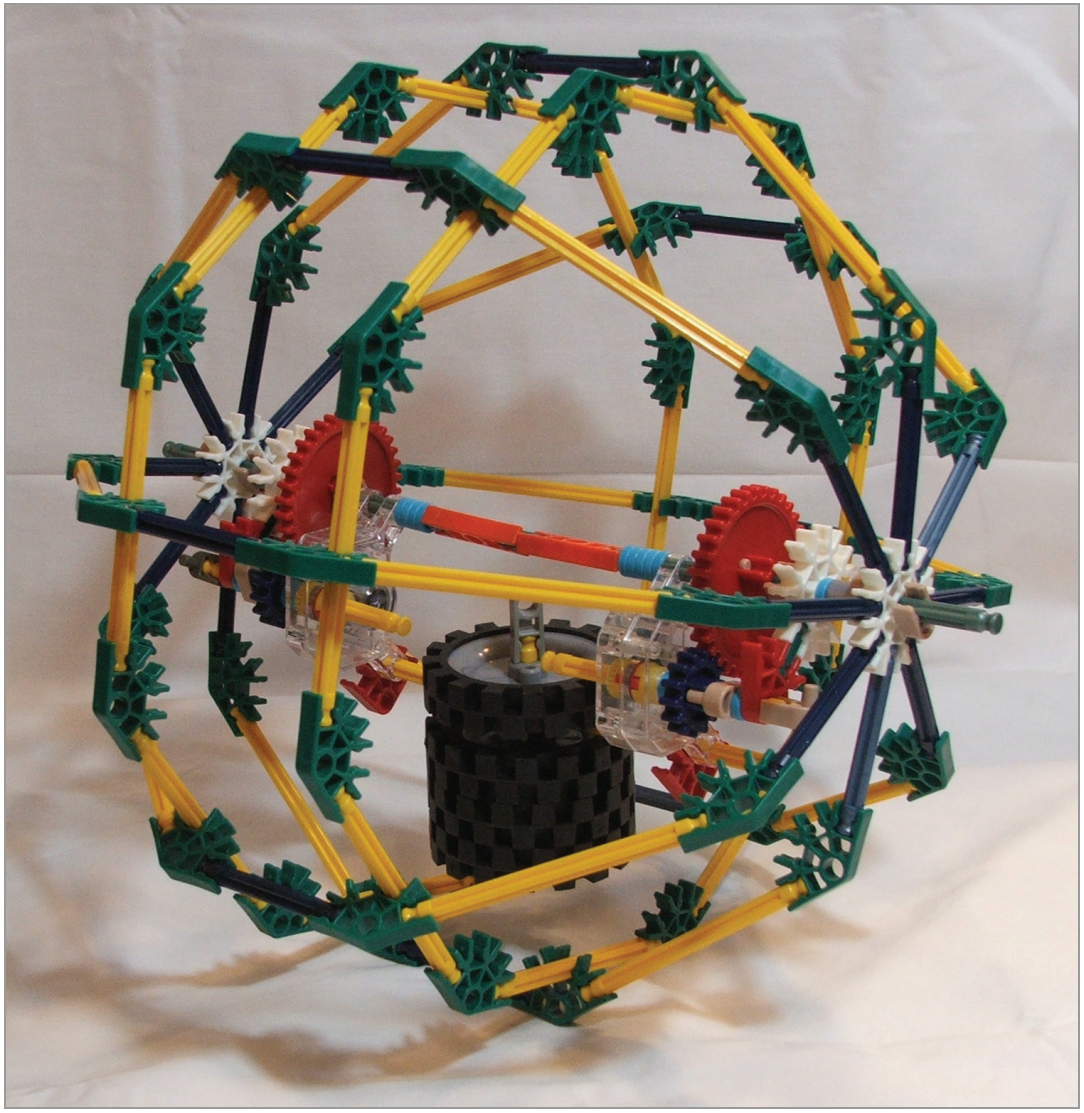
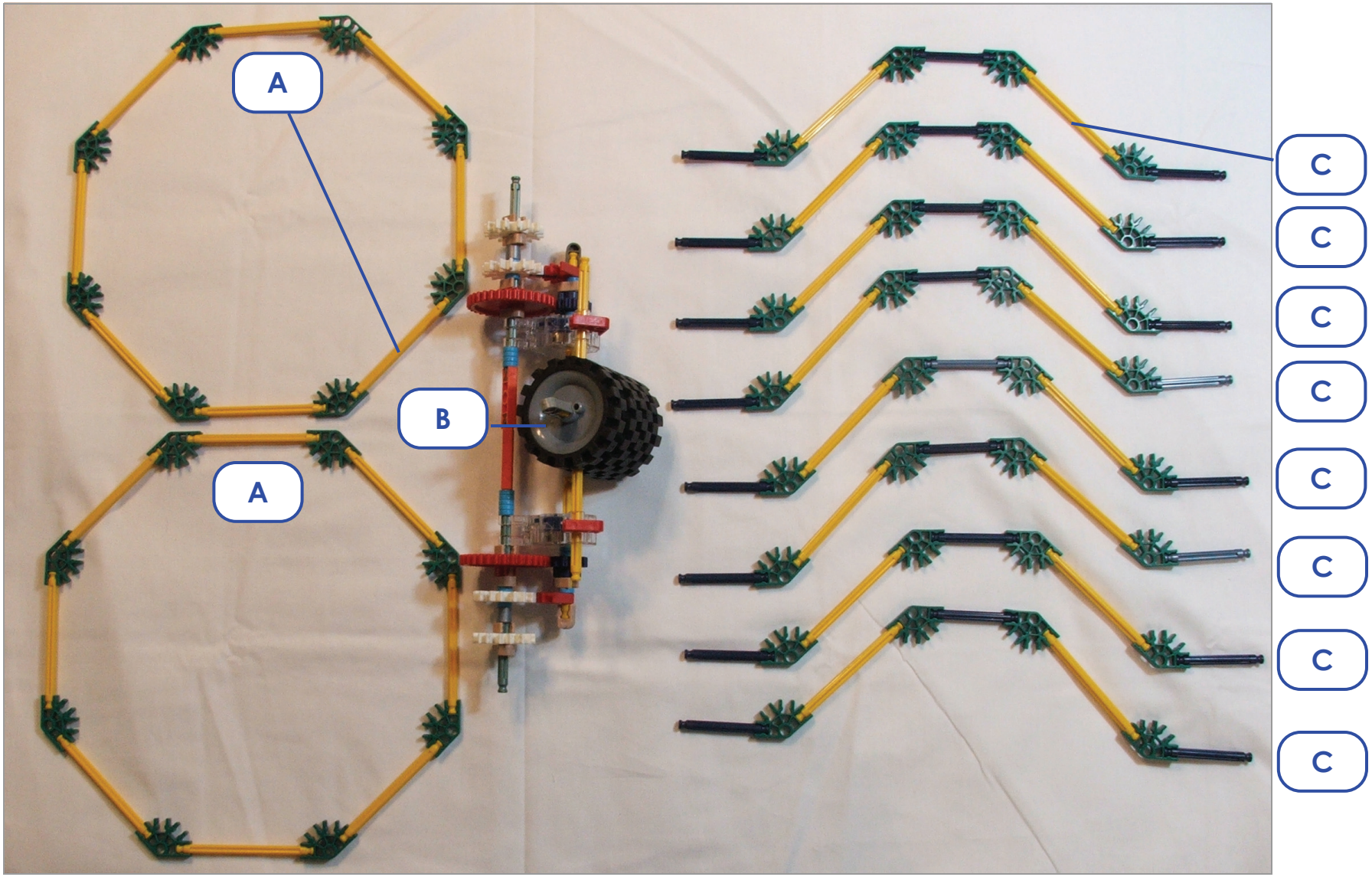


FINAL LAYOUT

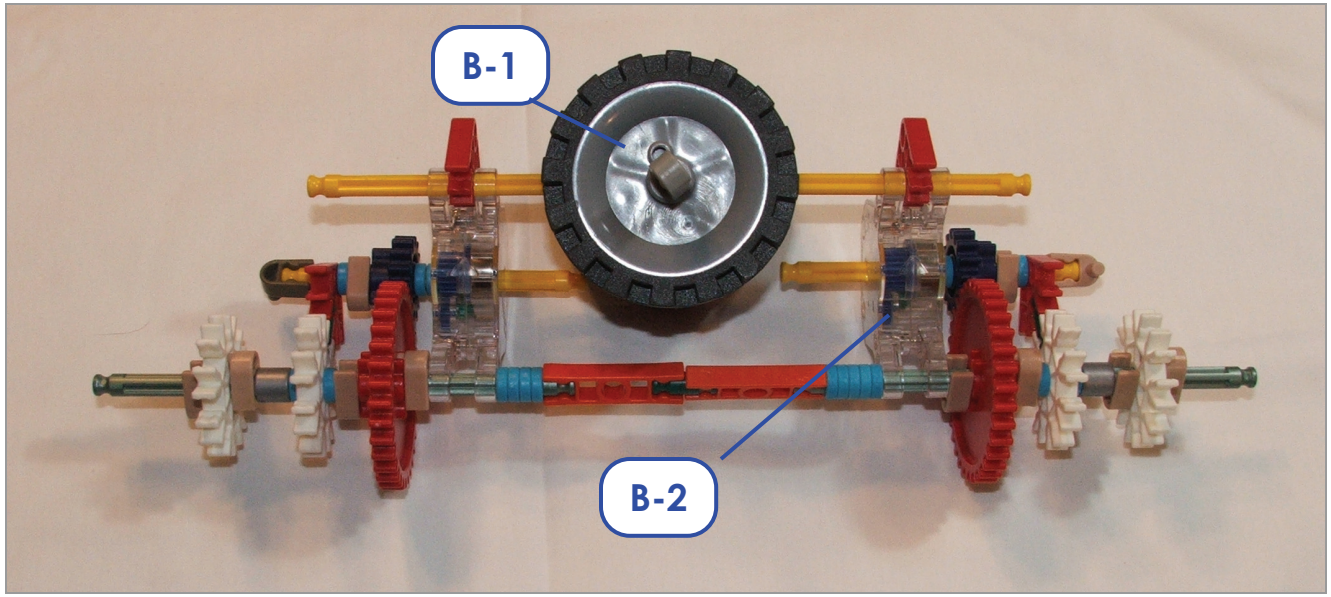
KNEX CONSTRUCTIONS

SPRING POWERED HAMSTER BALL

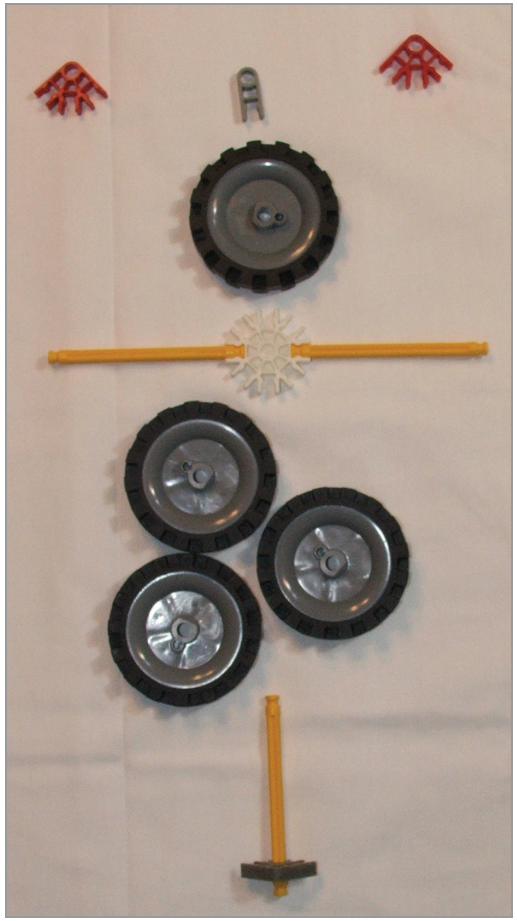
BUILD INSTRUCTIONS



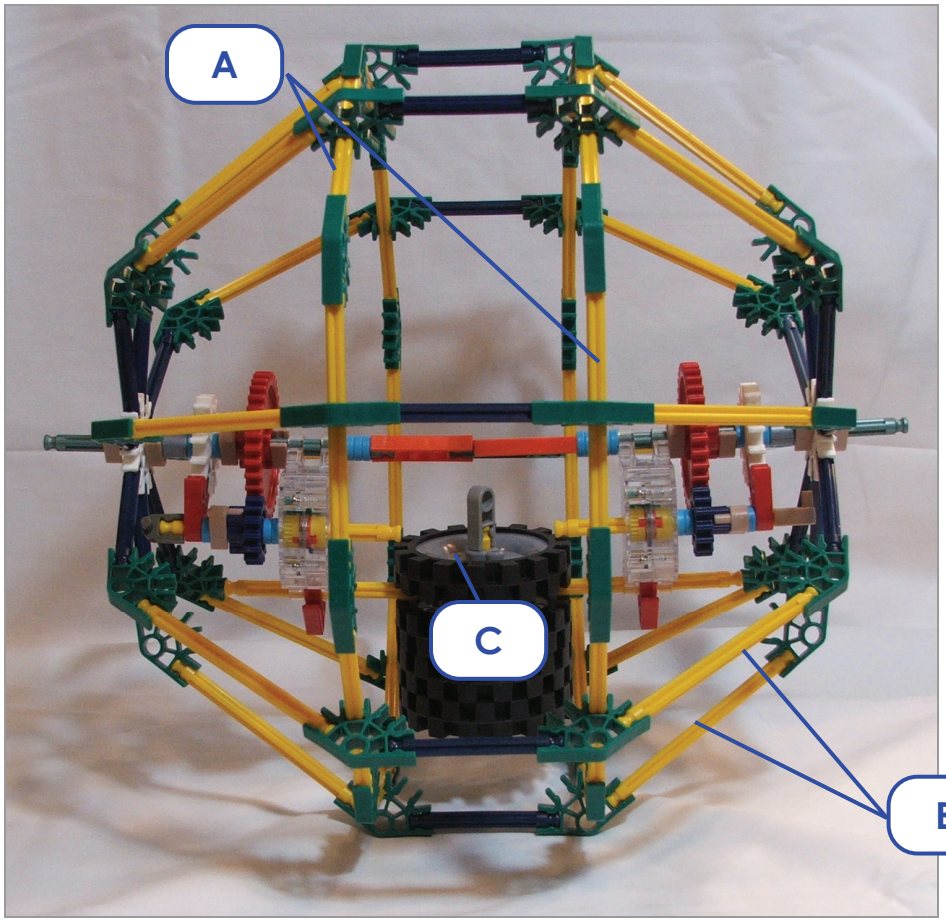
COMPONENT LAYOUT – PARTS "A", "B", AND "C"



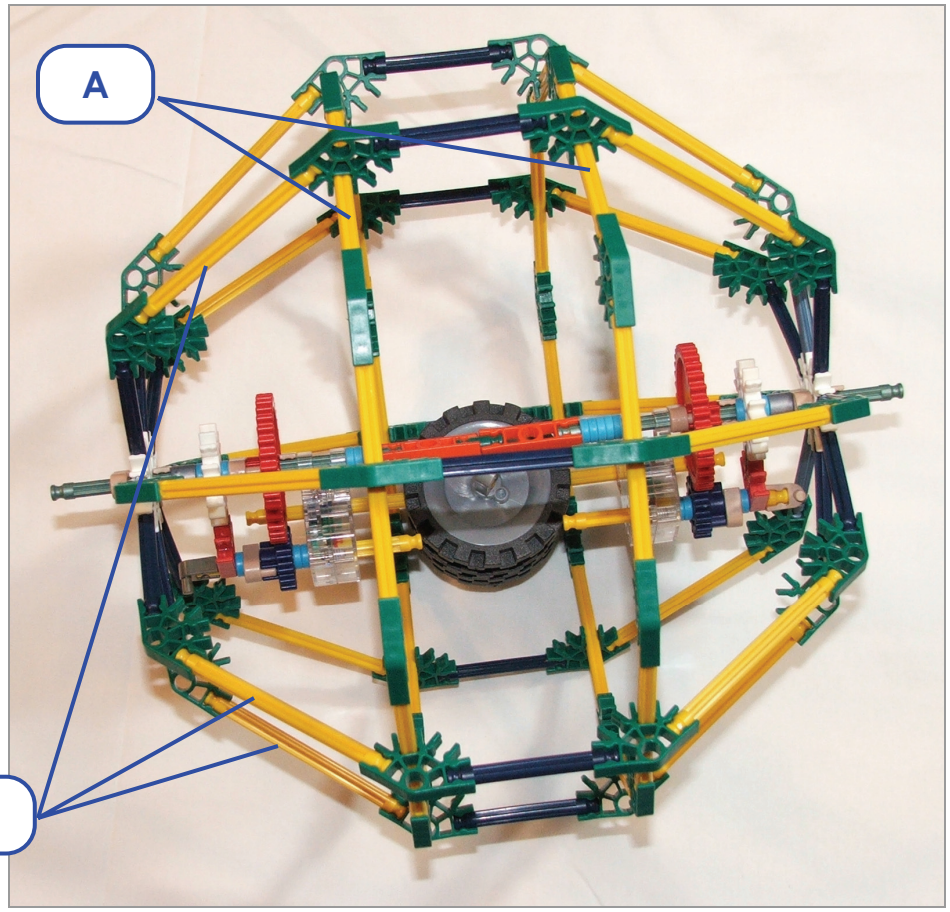
COMPONENT LAYOUT
PARTS "B-1" AND "B-2"



COMPONENT DETAIL
PART "B-1"



FRONT VIEW



TOP VIEW

FUNCTION:	Winding the spring motors in the center of the wheel allows it to move across a floor
NOTES:	1. The gears are to increase torque at the sacrifice of speed. Even with this it didn't have much torque and need a push to get moving at a slow speed. 2. The wheels in the middle are for weight. It keeps the spring motors upright. Otherwise they would rotate around the wheel axle. 3. The rings around the sphere are to keep the sphere from deforming. The rings are not a perfect fit - the plastic deforms a bit.
SUGGESTIONS:	1. Optimizing the weight to balance between a low total weight and sufficient transfer of torque. The weights need to stay as low as possible for inertia. 2. Optimize the gear ratio. 3. Make the rings and sphere with less grooves. The traction isn't as necessary as the loss in speed.