Engineering Design Process Student Activity Sheet 3.3e

Student Name: _____

MSTEM Accel Car 3D Modeling

Overview

Create a 3D model of you MSTEM Accel Car chassis. You will use TinkerCad.com for completing your circuits, and share the link to your model with your instructor.

Design Constraints

- Must be no wider than 2.25”
- Must not be longer than 7”
- Cannot be paper-thin (¼” thickness recommended)
- Must allow for addition of pulleys on axle
- Must allow for attachment of 1.5V-3V motor using 3mm screw
- Must allow for attachment of AA battery box using 3mm screw
- Profile must allow for attachment of 16oz water bottle
- Will eventually be 3D printed
- Will eventually need a replaceable “topper” that can be easily attached that will hold the micro electronics electronics Topper secured using 3mm screws

Activity

1. MSTEM Accel Car Chassis Model Link.

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2. What was your reasoning behind the shape of your MSTEM Accel Car Chassis?

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3. What was the reasoning behind your axle pulley access dimensions?

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4. What was the reasoning behind attachment points built into your design?

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5. What design features do you have that are similar to other design teams?

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6. What design features do you have that are different from other design teams?

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