

Slowest Car Project

DUE: **Before Class on 5/6/22** (5 Class Periods)

For decades, Boy Scouts around the country have tried to engineer faster and faster pinewood derby cars. There are thousands of websites dedicated to sharing tips and tricks to make the fastest car within the rules. Your task is to make the SLOWEST car to compete in our version of the pinewood derby.

Your final project report must include the following:

- 1) **Examples of each completed step of the Engineering Design Process**
Special attention must be made to complete each step of the Engineering Design Process, in order, before moving on to the next step.
 - **Ask** - **Clearly define your problem, constraints**, and any **considerations**.
Look beyond the obvious and define the problem as an engineer would.
 - **Research** - Provide **all sources** you referenced.
 - **Imagine** - Provide a number of possible solutions, not just the one you and your partner agree to prototype.
 - **Plan** - Fully explain why you chose this solution.
 - **Create** - Start with a **technical drawing** and then try to reproduce your design. It does not need to be a perfect match of your drawing to receive full credit, but you must have a completed sketch before you start to build..
 - **Test** - Provide evidence of a test of your prototype.
 - **Improve** - Be sure to give yourself enough time to improve your design. I suspect that many original designs will have trouble completing the race. I would like to see you try to improve your design up to 'race day'.

- 2) **Complete technical drawings of your prototype** (See CREATE step above). Drawings must include:
 - Isometric Sketch
 - Orthographic Views of the FRONT, RIGHT SIDE, LEFT SIDE, and TOP of prototype
 - **Clearly labeled dimensions** - many of you lost points on your last project for not including ALL dimensions in your sketches.

- 3) **Pictures, pictures, pictures**.....record all steps of the Engineering Design Process.

Once again, you may submit your report as a shared Google Doc, Google Slides presentation, or video. If you don't like those choices and have another idea, run it by me for approval before you begin. Whichever option you choose, your report must include all of the elements listed above and will be scored on the enclosed rubric.

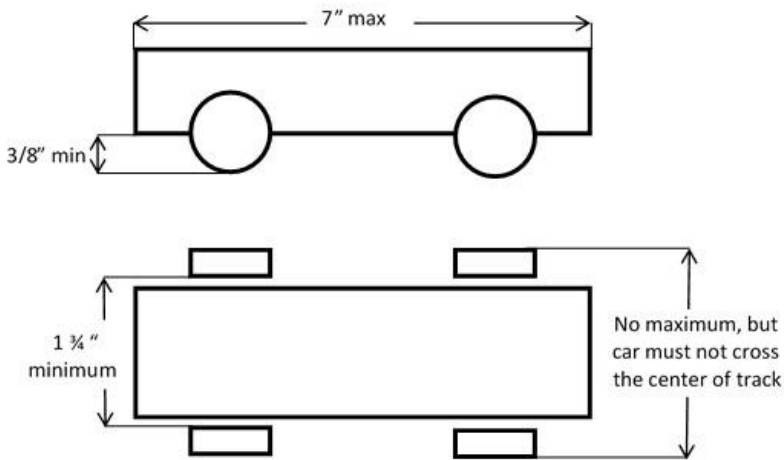
Project Specifications:

Materials:

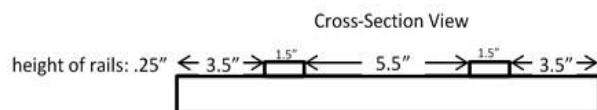
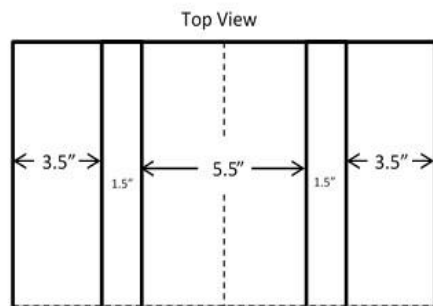
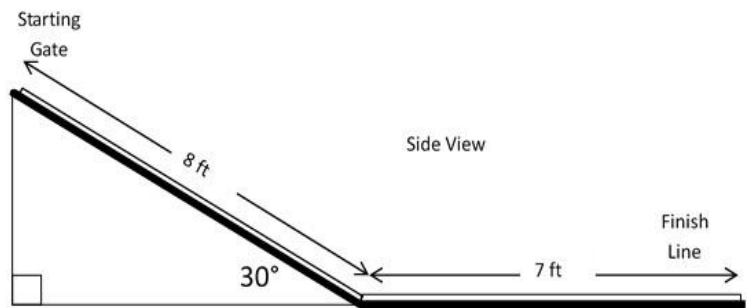
- 3 wheels
- 2 bamboo skewers
- 3 Jumbo popsicle sticks
- 2 straws
- 2 small cups
- At least 1 golf ball (max two golf balls)
- unlimited use of tape, glue, and cardboard

****May not use any additional prefabricated parts**

Car Specifications:



Track Specifications:



Name: _____

	0	2	4
<p>Project due by Friday 5/6/22 start or class</p> <p>Did you submit your report on time?</p>	No, more than 24 hours late.	No, less than 24 hours late	Yes, project submitted on-time.
The report contains all of the required elements?	No, missing multiple required elements.	No, missing one element.	Yes, 100% complete.
Evidence of completing each step in the Engineering Design Process....	lacks <u>significant</u> detail and/or is missing for a step.	is not clearly presented and/or <u>not indicative of three weeks of effort.</u>	is absolutely clear, completed, and <u>exceeds expectations.</u>
Technical drawings...	are missing.	are partially complete and/or inaccurate.	are 100% complete, accurate, <u>and neat.</u>
Overall presentation of report...	incomplete, inaccurate, and unfitting for the level of commitment for this course.	is not representative of the amount of time given to complete this build (i.e.disjointed, inaccurate, and difficult to follow)	is neat, accurate, well organized, and <u>exceeds expectations</u>
<p><u>RACE DAY Bonus Points</u></p> <p>.</p>	Car did not complete the race / was not the slowest car.	Car was the slowest in the class.	

The top five lines on the rubric will be assigned a score from 0 - 4, with possible 1s & 3s for effort and quality which fall in between the listed indicators.

FINAL SCORE: _____

20