

Pinewood Derby For Kids

Overview, Tips and Designs For Kids



By

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The pinewood derby is the pinnacle of most scouts' year – however – the derby should be about the kids building the car with some adult supervision. Thus, every year it appears I hear adults talking of their car did this and their car did that. To me – nothing can be further from the truth – the car should be about the kids and not the adults. Thus, I digress – this book is about designs a child can build so that the car is child built and not adult built.

Rules:

Most packs follow these rules:

Check your local pack rules as state to state they differ:

- 1) Each scout must use the latest standard derby kit. Only scout wheels, nails and block of wood are acceptable.
- 2) Previous years cars cannot be used.
- 3) Wheel bearings, springs, washers and bushings cannot be utilized.
- 4) Wheels cannot be altered unless to move excess plastic. Wheel covers cannot be used. Beveling, tampering, thin sanding, wafering, lathe turning, etc is not allowed.
- 5) Distance between front and rear axles must be 4 3/8 inches. Axles cannot be staggered. Wheels cannot be inset within the original block.
- 6) Body width cannot exceed 2 3/4 inches. Length cannot exceed 7 inches. Height cannot exceed 3 inches. 3/8 of an inch ground clearance all around the car is desired.
- 7) Loose materials are not permitted in or on the car. Weights or other objects cannot be taped to the car. Permanently fastened weights are permitted. Any weights attached underneath the car – must be recessed to have a 3/8 ground clearance.
- 8) A parent or guardian must be with the scout during inspection and weigh-in.
- 9) Powered lubricants are permitted and must be applied before the car is inspected. Liquid lubricants, grease or silicone is not permitted. Lubricants cannot be added between races.
- 10) Cars weight cannot exceed 5 ounces.
- 11) Cars cannot be adjusted during or between races. Repairs are allowed typically for loose wheels or weights at the race official's discretion. Repairs are to be completed by the scout and parent in pit areas. Repair time is limited to 5 minutes.

- 12) Only the scout car owner will be allowed to handle the car during the race.
Handling involves placing the car on the track and retrieving it – after its race so it may be returned to the pit area.
- 13) A scout's car will be called no more than three times – to come to the starting line. If the race is delayed, the late care will be given an automatic last place finish for that race.
- 14) Cars must be registered at their given time. Cars not registered on time will not be able to race.
- 15) All decisions by the officials are final.

Inspection Checklist:

Item	Pass	Fail
Weight not > 5.00 oz		
Body Length not > 7.00 in.		
Total Width not > 2.75 in.		
Ground Clearance minimum 3/8 in.		
Total height maximum 4.0 in.		
Only scouts kit wheels and axles		
Wheel Condition (light sanding only)		
Lubricants (dry lubricant only)		
Loose Items		
Added Items Meet Requirements		

The essential principal is that the child build the car – therefore as few power tools as possible should be utilized.

The designs presented here – can be built with a simple hacksaw, screwdriver and drill. Also a piece of sandpaper is helpful as is a pencil.

Simple Steps:

- 1) The first step in the design of the car is to choose what design is most wanted. Simply choose the design and then carefully cut it out as this will act as the template design. (See **Design Templates** in back of book).
- 2) Lay the block of wood down on a surface that allows one to cut safely.

TIP: In theory it doesn't matter which side is the front or back – however, generally the side with the wheels further away is the front of the car.

- 3) Place the template down on one side of the piece of wood.
- 4) Mark the areas you will be cutting with a pencil
- 5) Lift off the template – then cut as desired – sanding lightly

- 6) Paint car as desired. Typically any kind of paint is decent I've found. One year my son used poster paint for the true kid effect:



Another year – we used acrylic paint which worked well. A watercolor is the only paint I would stray away from since it will not stay on the car well.

- 7) After the paint dries I would prep the wheels – the best way and easiest way to get the wheels on is to take a 1/18 drill bit and slightly drill each wheel well about $\frac{1}{2}$ inch. This makes attaching the wheels easier as well as makes sure they are on evenly.

- 8) I would next attach any weights to the car. I would recommend a weight in the back of the car and the middle. Depending on the design utilized – I would use a large screw or magnet on the back and fasten it as desired (If the magnet has a hole in the middle of it – use a screw to fasten it in) be creative and have fun with what weights get attached. Many get carried away with the 5.0 ounces rule – but my son won races with a 4.2 ounce car so design and wheels are important. One year we attached a plastic guy to the car by using a hot glue gun – for a special effect.



- 9) Next, I would lightly sand the wheels to remove any excess plastic.
- 10) Place the screws that come with the kit into the first wheels you wish to attach.
Lightly tap it onto the car where the previous prep work for the wheels was done.
Repeat the process for each wheel!

TIP: Make sure each wheel spins

- 11) Place stickers and decorate as desired. Typically, we've had great fun with theme cars by going to the dollar store and finding stickers to match the theme.



- 12) Our pack the night before the derby has a setup/practice run on the track. Usually my son lightly spreads graphite on the wheels and axels. He usually runs the car no more then 2 or 3 times. Really he just likes to test to make sure the car will make it down the track!
- 13) The day of the race – before official weigh in – my son applies graphite/lube again to the cars wheels and axel.

TIP: Remember it's all about the kids and having fun

Who Am I

By trade – I'm a team lead for my firm's web and portal group. From 1981-1983 – I was involved in scouts in Poughkeepsie, NY. In 1981 the pinewood derby car I built won most boy made (I built it myself and it didn't even make it down the track). In 1983 I came in second place in my pack.



I take pride and do the same with my son that each car built is kid made and not parent made. This past year – my son built 90% of the car (I helped with the sawing and drilling) and he was thrilled to have won 2 races, 2 second places and made it to the final run off placing third (one place away on the standings from a pure third place finish). It was a great day and he was thrilled and walked with pride knowing he had built the car himself from design, paint, theme and decoration etc.

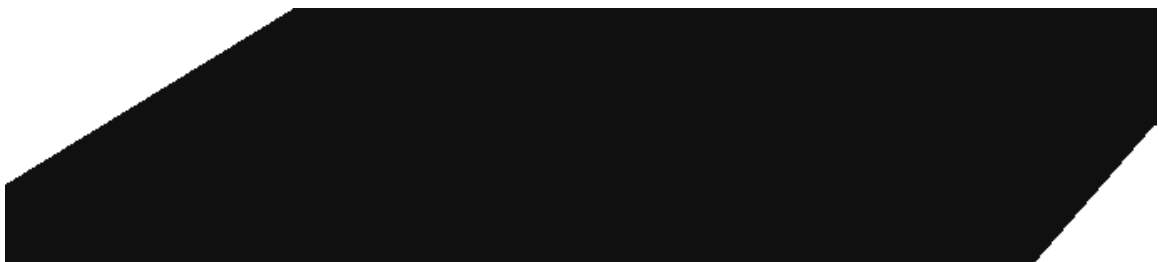


Kevin O'Neill was born in Poughkeepsie, NY. He has a MSCS in computer science and information systems and BA in journalism with a minor in music from Marist College located in Poughkeepsie, NY.

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Design Templates:

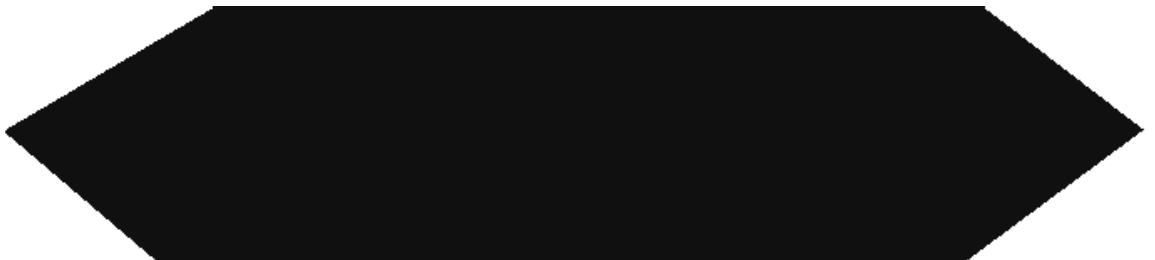
The following are design templates which can be cut out and then used as a pattern for where to cut on the piece of wood to form the desired pattern. It is recommend that the pattern be taped to one side of the car – then marked with a pencil lightly where each cut will be before cutting the wood for real with a saw.











The author shall not be liable for any detrimental circumstances which arise out of using the steps described in this book.