



2024 Lewis and Clark District Pinewood Derby

OPEN TO ALL CUB SCOUTS IN THE LEWIS AND CLARK DISTRICT

Sunday, February 4

Riverside High School Gymnasium

705 Jesse Street, Wathena, KS

Registration from 12 p.m. to 1 p.m.

Racing starts at 1 p.m.

Concessions will be available

Each Den will have a race competition

Lions

Tigers

Wolves

Bears

Webelos

Arrow of Light/Webelos 2

Top 3 cars from each den will race for the Overall Championship

No pre-registration required and no charge for Cub Scouts to race.

Open Class: \$5 per car, follows same rules as Cub Scouts

Outlaw Class: \$5/car, max 10 oz. per car, no propulsion (i.e. CO2 or electric motors), cars cannot exceed 2 ¾ inches in height

Event contact: Scott Spare at smspare@gmail.com

RULES FOR BUILDING YOUR PINEWOOD DERBY CAR

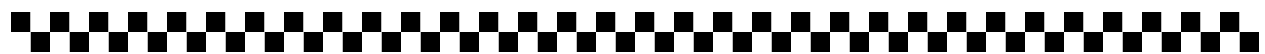
RULES ARE FROM <https://www.scoutshop.org/pwd-rules>

BSA's Pinewood Derby Car Building Rules

According to the BSA's Cub Scout Leader How-To-Book, the general rules are as follows:

All cars must pass the following inspection to qualify for the race:

1. Width shall not exceed 2-3/4 inches.
2. Length shall not exceed 7 inches.
3. Weight shall not exceed 5 ounces.
4. Axles, wheels, and body shall be from the materials provided in the kit. Additional wheels can be purchased separately.
5. Wheel bearings, washers, and bushings are prohibited.
6. No lubricating oil may be used. Axles may be lubricated with powdered graphite or silicone.
7. The car shall not ride on any kind of spring.
8. The car must be free-wheeling, with no starting devices.
9. No loose materials of any kind are allowed in the car.



SAFETY

Make safety your top priority. David Meade, author of Pinewood Derby® Speed Secrets, offers useful guidelines for maintaining safety:

1. Gather your safety essentials: dust mask, goggles, and latex gloves.
2. Wear eye protection at all times.
3. Monitor Cub Scouts' use of tools.
4. Wear a dust mask when appropriate.

5. Work in a well-lighted and well-ventilated area.
6. Consider wearing gloves when using sharp tools.
7. Do not wear loose-fitting clothing.
8. Do not melt lead; handle lead with care.
9. Follow all safety rules and precautions listed on the tools and products you use.
10. Keep your work area clean and organized.

10 STEPS TO GET YOU MOVING

Step 1 - Design your car's body

Choose your favorite design and outline it onto your paper template or graph paper. Be sure to maintain a width of 1-3/4 inches where the metal axle will be inserted. Outline the bare block of wood onto the paper. Keep the design simple enough to avoid overly detailed cutting.

Step 2 - Shape your car's body

- a) Keep in mind the tools you have available, such as saws, drills and sanders, when formulating your design. Consider safety as well. Usually, the adult makes the major cuts with the power tools and then lets the youth file and sand.
- b) Check that both axle grooves are at a perfect 90-degree angle to the car body. A car with untrue axles tends to steer to one side or the other and rub against the sides of the track, which slows it down.
- c) Cut away the large sections of waste wood first before etching out the final design. This makes it easier to form the shape and details of your design. Have a definite plan and remember, you can't add wood back that you've taken off!
- d) Do not forget to leave a place for weight if you need it. Weight may be placed anywhere as long as it is not taped on and does not exceed the official specifications.

Step 3 - Inspect the wheels

- a) Only official wheels are acceptable.

b) Wheels can be sanded to remove surface imperfections, but the treads must be left flat.

c) Inspecting the wheels is important. Make sure all wheels roll freely and smoothly around the axle. Get a drill bit that fits just inside the wheel where the axle fits. This cleans out any roughness or burrs that cause wheels to not spin freely.

Step 4 - Insert axles

a) Check each axle for any burrs on the underside of the head.

b) So the wheels will run as freely as possible, place each axle in a hand-drill chuck to hold it steady, then smooth the burrs with a fine emery cloth or file.

c) To fine-tune your axles, polish them using a PWD High Speed Polishing Kit. These items can be purchased at ScoutStuff.org.

Step 5 – Paint

After shaping and sanding your car to your satisfaction, prime it, then sand it with fine sandpaper, and add additional coats of paint or a "skin." Don't glue any details on yet!

Step 6 - Install wheels and axles

Now you can put the axles and wheels on the car, but don't glue on the axles. Weigh your car, being sure to place the car and any accessories on the scale (driver, steering wheel, roll bar, etc.)

Step 7 - Add weights

a) The car may not weigh more than five ounces. For best speed results, get your car as close to that weight as possible.

b) If you do not have a scale, the U.S. Postal Service, or a supermarket, might weigh your car for you. Your pack leaders may have official scales available for you to use, and some Scout shops offer free weigh-ins (not considered an "official" weight for the race.)

c) Any added weight may not be taped on. The car can be hollowed out and weight inserted to build it up to the maximum weight, but it must be securely attached or built into the car body, so it won't fall off onto the track.

Step 8 - Test your car

a) Once the weight is securely mounted slip the wheels back on. Place the car on a long, flat surface and give it a gentle push. The

car should travel in a straight line for a reasonable distance (five to ten feet.)

b) A Practice track may be available through your pack.

Step 9 - Lubricate your car (and be sure to check your pack's lube rules!)

a) Lube and mount the wheels permanently. Dry, fine powdered lube works best. Dust a little powdered lube in the hole where the axle is inserted, some on the axle where the wheel rides, and a little at the axle head.

b) Slide the axles and wheels onto the car and glue into place. Use an epoxy or non-resin glue, making sure to not get any on the surface of the axle where the wheel rides.

Step 10: Accessorize your car

Be sure any accessories are securely mounted on the car. Add stripes and decals – let your imagination fly!