2026 PACK 51 PINEWOOD DERBY

Race Date: Saturday, January 31st, 2026 @ 10:00AM
Registration: Friday, January 30th, 2026 @ 6-8pm
Admission: 1 NEW Hot Wheel type car to donate to the Garth House
Location: 1st METHODIST CHURCH OF PORT NECHES (1826 Nall St.)
CLASS A UNIFORM

Overview – "What is a Pinewood Derby?"

The Pinewood Derby is one of the most popular and successful family activities in Cub Scouting since 1953. Pinewood Derby Cars are small wooden models that Cub Scouts make with help from their families and race in competition. The cars are powered by gravity and run down a track. Every scout can design and build their own "grand prix" model car to enter in the race.

Ground Rules for Participation – "Who can race?"

Pack 51 always tries to keep our activities family oriented, so not only can the scouts have fun, but non-scouts can too. Here are our participation guidelines:

- One Scouting America Pinewood Derby Kit is **FREE** for the Cub Scout.
- Open Class (non-scout) participants may enter their own Car (limited to one) adhering to the official rules but they are responsible for the purchase of the kit for $7.00 (CASH ONLY) and can be purchased from your Den Leader.
- The Car must have be built during the current program year. Cars that have competed in a previous Pinewood Derby are not permitted.

Official Pinewood Derby Rules

Car Specifications:

- Maximum Weight: 5 ounces (142 grams)
- Maximum Size: 2 ¾" wide x 7" long x 5" high
- Minimum clearance under car (Ground Clearance): 3/8"
- Minimum width between wheels: 1 ¾"
- Tires must not protrude past the front or back of the cars.
- Construction Materials: **Only the BSA car kit/wheels provided by the Pack or bought at the Scout Shop may be used, with the scout doing most of the work.** Shape & paint as desired subject to rules and specifications. You may add hardware, decals, etc. As you like provided it meets size, weight, & wheel restrictions. **The Car must be built in the current program year. Past cars from previous years cannot be used in this year's race, and remember a scout is TRUSTWORTHY!!!**

Car Rules:

1. Scouts should do as much of the work as possible.
2. Wheel bearings, washers, & bushings are prohibited.
3. Cars may not ride on any springs.
4. Cars must be free-wheeling (no motors or starting devices).
5. No loose materials are allowed on the car.
6. Axles may be lubricated with powdered graphite, powdered Teflon or dry silicon only; no lubricating oils or sprays are allowed.
7. Four (4) wheels must be used.
8. You must use official BSA wheels and axles. Spare wheels & axles are available to purchase at any scout shop. Wheels may be sanded, but excessive beveling, tapering, & wafering are prohibited.
9. The leading point of the car MUST be on the bottom of the car not the top.

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Competition:

INSPECTION:

- Each car must pass an inspection by the registration inspectors before it may compete. All dimensions at registration will be verified by GO/NO GO fixtures regarding car size & clearance. Weight will be checked. The inspectors may disqualify those cars which do not meet the specifications. Once a car has been inspected and checked-in, it may no longer be handled by anyone but the race officials.

MODIFICATIONS:

- A minimum number of tools will be available at the repair station during registration if the car fails. NO weights will be provided so make sure you bring extras along in case. It is advised to be a little underweight before registration as you can add weights on site.
- No alterations will be permitted after the official inspection. Race Officials may do emergency repairs to a car if it has a problem during a race (i.e. weights fall off, wheels fall off, etc.) after permissions from the car's owner.

RACE:

How does the races work!?

- **Scouts are racing the clock and not directly against each other** (even though 4 cars race at a time). This is important to know because it can appear a scout wins every "Race" but does not place. It can appear that way based on the group they race with, but ultimately it's based on average of best time.
- Each Scout's car will race a total of 4 times (once down each lane of the track). Those times are totaled and averaged by the Pinewood Derby software. The software will determine the place of the fastest cars by Den and by Overall Pack.

A special note to all parents and Scouts: While everyone will be trying to win, it's always a good idea to start out by remembering the Cub Scout Motto, "Do Your Best," and the basic ideas behind good sportsmanship. Win or Lose, encourage your Scouts to shake hands and congratulate their competitor at the end of their race.

Awards:

SCOUTS:

- All Scouts will receive a Pinewood Derby Patch.
- **By Rank** (Lions, Tigers, Wolves, Bears, Webelos, Arrow of Light), there will be 1st, 2nd, and 3rd Place, Best Looking Design, Best Engineered, Most Original, and Good Sportsmanship
- **By Pack** there will be Grand Champions 1st, 2nd, 3rd Place, Most Patriotic Car, & Best Scout Themed Car, Best Wedge, Most Colorful

OPEN CLASS: 1st, 2nd, 3rd Place

Sportsmanship

Racing in a Cub Scout Derby is fun, and an opportunity for your scout to learn craft skills, the rules of fair play, and good sportsmanship—things a Scout needs to be successful in life. Before the race, we encourage you to speak with your Scout about these points:

1. Learn Craft Skills. Everyone's skills are different. You may be better at some things but not as good at others. This doesn't make you good or bad, talented or not. The purpose of the Pinewood Derby is for you to learn new skills. Do your best; learn from your mistakes and success and don't forget to have fun!
2. Play Fair. You will never know if you are really good at building a Derby Car unless you follow the rules and play fair. This applies to all aspects of your life, including school, friends and sports. Be honest in what you do!
3. Sportsmanship. There are winners and losers in every competition. You accept this when you chose to compete. When you win and feel happy, do not brag or gloat. When you lose and feel unhappy, do not feel jealous or bitter. To be a good sportsman, you must be able to say, "I did my best," and be satisfied with the results. Learn to appreciate and feel happy for another scout when they run a good race or builds a neat car.

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Concessions

Our Webelos Den will be hosting concessions throughout the entire race day to raise funds for the Arrow of Light awards & ceremony next year. Please remember to bring some cash with you on race day and plan to eat with us so you don't have to miss any of the races. The menu will be announced before race day with pricing for everyone to make plans that suit them best.

12 Step Program Suggestion Guide to a Successful Derby Race:

Step 1: Know the Rules (Refer to the Official Pinewood Derby Rules at the beginning of this handout.)

Step 2: Design the Car's Body

- Choose your favorite design. Outline it onto a paper template. Remember to maintain the 1 ¾ in width where the metal axle is to be inserted. Then outline the bare block of wood onto paper. Transpose your design onto the block and prepare for cutting. If your calls for cutting away much of the wood, use a saw first, then a hobby or jackknife.

Step 3: Shape the Car's Body

- It is up to the Scout & his adult partner as to how detailed the car is built. Keep in mind the tools you have available to use: saws, drills, sanders, etc. Consider the safety of the youth as well. Usually, the adult makes the major cuts with the power tools and then lets the youth file and complete the sanding.
- Before cutting out the car, look at the axle grooves that came with you fit. Check the grooves to ensure that each is a perfect 90-degree angle to the car body. A car with untrue axles tends to steer to one side or the other causing it to rub up against the side of the lane strip, slowing it down. You can check the groove angles by using a square, a protractor, or a piece of paper. Both axle grooves much be at 90-degree angles. When placing the axles on the car, they should be at 90 degrees to the car and be placed the same depth into the car. If you want to experiment with raising or lowing any parts of the car just make sure you have the proper ⅜ in vertical minimum clearance above the lane strip.
- Pre-drill the axle grooves by getting a drill bit, No. 43, just under the size of the axle & drill out the grooves at the top. This will keep the wood from splintering when the axles are driven in, & will give a bitter bite on the axle.
- Don't forget to have a place for weights if you need it. Weight may be placed anywhere if it is not taped on and does not exceed the specifications. (Keep details such as driver, steering wheel, roll bar, etc., for last.)

Step 4: Inspect the Wheels

- Only the official wheels are acceptable; cars with modified or old-style wheels will be disqualified. Modifying wheels could allow the car to interfere with cars on adjacent lanes. Wheels can be sanded to remove surface imperfections, but the treads must be left flat. Inspecting the wheels is important; make sure all wheels roll freely & smoothly around the axle. Get a drill bit that fits just inside the wheel where the axle fits, this cleans out the roughness & burrs that could cause the wheels not to spin freely on the axles.

Step 5: Insert Axles into the Body Block

- To insert into the body block, use the techniques mentioned in step 3. The axles themselves will need to be checked for a burr on the underside of the head. To let the wheels run as smoothly as possible, place the axle in a hand drill chuck to hold it steady then smooth the burrs with a fine emery cloth or file. To fine-tune your axles, polish them with jeweler's rouge or fine emery paper.

Step 6: Paint

- Sanding sealer is one of the many types of primers. Use whatever you prefer; most can be found at local auto parts stores or hardware stores. After molding & sanding your care to your satisfaction, prime it,

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sand it with fine sandpaper, & add additional coats of paint as desired. Make sure to paint the body parts prior to assembly to prevent paint from getting on wheels and axles.

Step 7: Install Wheels & Axles

- Now put the axles & wheels on the car, but don't glue the axles on just yet; you will want to do the test run before permanently adhering in case you need to make changes. Weigh your car, being sure to place the car & the accessories (i.e. driver, steering wheel, roll bar, etc.) on the scale.

Step 8: Add Weights

- The car may not weigh more than 5 ounces. Get your care as close to 5 ounces as possible, if you care is slightly over the allowable weight at the time of check in then you could remove excess at that time. If you do not have a scale the U.S.P.S. of a supermarket might be happy to weigh your care for you.
- Weight must not be taped on; the care may be hollowed out & weight inserted to build it up to the maximum weight. Make sure it is securely attached or built into the body of the care; the officials do not want any objects falling off the cares and onto the track. If your car is not up to or close to the official weight on the day of the race, you can add more if you have it with you and a clear place to put it without disqualifying the car.
- Weight is one of the biggest factors in building a winning car. There are many options on where to place the weights; here are a few of the theories.
    - **Theory 1: Place the weight low.** When placing the weight on the bottom of the car, fill in any holes or grooves as this keeps the bottom flat to avoid wind resistance build up.
    - **Theory 2: Keep weight toward the rear of the car.** Place the weight near the rear or behind the rear axle. The idea behind this is that when the car reaches the curve of the track, the weight pushes down & gives the car an extra boost. Just make sure the weight does not cause the front wheels to come up or the car to flip over.
    - **Theory 3: Put weight anywhere, just get as close to 5 ounces as possible.** The official scales may be a little different & it is easier to remove weight than add it.
- Add weight as needed; determine how you will weigh your car & where you want to mount the weight. Once you know how much weight is needed then mount the weight to the car in the fashion you choose. Make sure your wheels are removed while working on this step so they do not get damaged.

Step 9: Test the Car

- Now that the weight is securely mounted, put 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 (5 to 10ft). Check again for the ⅜ in clearance from the floor.

Step 10: Lubricate the Car

- Lube & mount the wheels permanently. Use an epoxy or non resin glue to mount the axle in place making sure not to get the glue near the joint of the wheel or any of the axle surface where the wheel rides' keep it down in the wood block. Use dry, powdered lube for the wheel/axle joint. Dust a little powder lube into the hole of the wheel where the axle is inserted & some on the axle where the wheel rides. It also helps to apply lube at the axle head. Let the car dry thoroughly after the step.
- Make sure to adequately lubricate your axles & wheels before turning the car in at registration; once the car is registered you will NOT be able to touch it again until after the races are complete.

Step 11: Accessorize the Car

- Now is the time to put on all accessories & details making sure they are property mounted to the car. Then give the car a clear coat if desired.

Step 12: Register & Race Your Car

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