



# Pinewood Derby Rules

## **EVENT CATEGORIES:**

Best in Show: This competition is based on visual design. All race entrants can compete and vote. The top three best designs will be recognized.

Qualifying: Each rank (Tigers, Wolves, Bears, Webelos) will race off to determine the fastest cars. The top three fastest cars will be recognized and will advance to the finals.

Open: Parents, Siblings, and Scouts can all enter cars to compete in the Open Category. The top three fastest cars will be recognized. Participants in this category do not compete in the finals.

Finals: The top 3 fastest cars for each rank will race off to determine the fastest Pinewood Derby cars in the Pack! The top six finishers will be recognized.

## **I. GENERAL RULES:**

1. Qualification: All registered Pack 19 Tiger, Wolf, Bear and Webelos Scouts may design, build, and enter cars that are eligible to participate in the "Cub Scout Race" event. Parents, siblings or guardians of Cub Scouts registered in Pack 19 may design, build, and enter cars that are eligible to participate in the "Open Category".

2. Essential Materials: All cars entered shall be constructed from the "Official Grand Prix Pinewood Derby Kit" (referred to below as the kit) as distributed at the December Pack meeting. Additional kits may be purchased from Pack 19, or the Boy Scout Service Center. (Kits may be purchased elsewhere if they are of the exact type manufactured by the BSA as specified above.

3. Competitor Categories: All Tiger Cubs, Wolf Cubs, Bear Cubs, and Webelos Scouts that are registered within Pack 19, and Parents, siblings or guardians with registered sons may enter this Pinewood Derby. Cub Scouts will compete with others in the same Cub Scout Rank/Cub Scout Den. The top three winners in each Den will move on to the finals.

4. Attendance: All cars must be pre-registered by the Scout, Parent, Leader, or Guardian.

5. "New Work": Construction of ALL entries MUST have begun AFTER last year's Pack 19 Pinewood Derby Races.

6. Single Entry per Person: Only one car may be registered by any scout for the qualifying and final categories in the Pinewood Derby. Scouts may enter one additional car in the 'Open' Category if they wish.

7. Inspection and Registration: Each car must pass a technical inspection before it may compete. Technical inspection and registration of cars occurs during the registration process prior to the official start of the derby. Be prepared for a waiting line for inspection.

8. Failure to Pass Inspection: The Inspection Committee shall disqualify cars that do not meet the rules as described herein. If a car does not pass inspection, the owner will be informed of the reason his car did not pass. At that point, the scout can either choose to modify the car to comply with the published rules or race in the Open category.

9. Impound: No car may be altered in any way after it has been registered. After a car passes registration, it will be stored by the Pinewood Derby Race Committee in the Impound.

10. Car Design Rules Interpretation: Interpretation of the rules described are at the sole discretion of the Inspection Committee Judges present during the Registration and Inspection process.

11. Race-Day Rules Interpretation: On Race-Day, the Cub Scout must make all questions of rules interpretations and procedures to the Pinewood Derby Chairman or Race Officials promptly. Decisions of Race Officials on questions of rules interpretations and procedure may be appealed to the Pinewood Derby Chairman. All decisions of the Pinewood Derby Chairman are final. Decisions of Race Officials on questions of fact (i.e. the result of a specific race) may not be appealed beyond the Trackmaster and/or Finish Line Judges. Note: Unsportsmanlike conduct by any participant or spectator will be grounds for expulsion from the competition and/or the race area.

## II. CUB SCOUT RACE CAR DESIGN STANDARDS

1. Material: Race cars shall be constructed for this event from the parts contained in the Official Grand Prix Pinewood Derby Kit (referred to below as the kit) as sold by the Scout Service Center.

2. Weight: Race cars may weigh no more than **five (5) ounces or 141.75 grams (total weight)** as determined on the official scales during the pre-race check-in.

3. Wheels and Axles: Wheels and axles **MUST** be the ones furnished in the car kit. Solid axles are not permitted. Replacement wheels and axles must be purchased from an official BSA kit. Axles may be polished and lubricated (dry lubricant only). Wheels may be sanded to provide a true round circle, but must retail the original width and flat rolling surface. No purposely rounded wheels allowed. No "H" or "A" wheels. No attachments for adhesives will be allowed on the surfaces of a wheel. Wheels will be placed on a flat surface to verify that the entire width of at least 3 wheels make simultaneous contact with the flat surface. Regardless of what they could be made out of, spacer bearings, washers, bushings or springs are prohibited, whether fixed or movable.

No car will be allowed to enter with a closed hub or totally enclosed axle (nail on wheel). Axles will need to be secured in pre-cut slots with clear glue (if glue is used) or if the axles are inserted in holes in the side of the car, then removed by the Cub Scout and parent (guardian) to verify that axles are not solid. Holes may be drilled in the bottom of the car so the points of axles (nails) can be seen. Axle (nail) points must be in view before a Cub Scout can enter the race.

4. Size: Race cars may be no longer than 7 inches, nor wider than 2-3/4 (2.75) inches, as determined by the official gages during the Registration and Inspection. Underside clearance of at least 3/8 (0.375) inches and inside wheel-to-wheel clearance of at least 1-3/4 (1.75) inches is recommended, so that the car will run on the race track. Adequate clearance is the responsibility of the racecar builder.

5. Weights and Attachment: Weight may be added to the car and will be considered part of the car for purposes of all measurements. "Weight" is considered to be any material on the car that is not provided in the kit. All weight must be securely fastened to the car, e.g. by permanent glue, nails or screws, but not by "sticky substances", e.g. tape, or tack spray. Weights shall be passive, i.e. non-moveable, non-magnetic, non-electric, non-sticky, etc.

6. Wheel Treatment: Wheel treatment (hub and tread smoothing and polishing) may not result in substantial removal of mass nor in reducing the wheel width from the original kit wheels. Some of the original "tread marks" on the wheel face must remain intact, i.e. apparent to the inspector. Wheels may not be machined to a beveled condition and the portion of the wheel surface that contacts the track must remain parallel to the axle.

7. Unacceptable Construction: The following may NOT be used in conjunction with the wheels or axles: hubcaps, washers, inserts, sleeves, bearings.

8. Gravity Powered: The race car may not be constructed or treated in such a way that the track's starting mechanism imparts momentum to the car. (For instance, this provision disqualifies cars with sticky substances on the front of the car and protrusions, which may catch on the starting pin.)

9. Lubricants: Only dry lubricants such as graphite or powdered Teflon "white lube" will be allowed for lubricating the wheels. Lubricants may not foul the track. There will be a lubrication table set up at the race. In the interest of fairness, all lubrication must be done either at weigh-in or on Race Day. Cars will be lubricated one time only.

### III. CONDUCT OF THE RACES

Competition will consist of heat races within each Den, and a series of final heats at the Pack level. Track officials are responsible for the proper conduct of the races.

1. Inspection Gages: The race-day "Pit Stop" area will have the official scale and length box. That check-in equipment will be the official equipment for the race. (The same 5 oz. Master Weight used for scale calibration in pre-race check-in will also be available on race day. Please stress this fact to all Cub Scouts. They should be prepared to adjust their cars if necessary.)

2. Car Handling Responsibility: Scouts shall be responsible to present their own cars at the "Pit Stop" area for lubrication, and at the starting line for staging. Cars will be staged on the tracks by the "Starter Team." If, in the opinion of the Trackmaster, a scout's physical limitations prevent him from fully complying with this requirement, the scout may nominate an assistant of approximately the same age who serves subject to approval of the track chairman. In any case, the scout shall participate up to his limitations.

3. Lane Assignment: To equalize differences among track lanes, each heat will consist of a number of races equal to the number of cars running in that heat.

a.) In each heat, each car will race in each track lane used for that heat. For example, a Den heat with five cars would consist of five races with each car rotating through lanes 1, 2, and 3. The heat for a den with eight boys would have eight races, with five cars "sitting out" each race on a three-lane track.

b.) From each heat, the top two cars will advance to race at the next level based on number of points earned. In each heat, three points are awarded for first place, two for second, and one for third. The overall winner for each Den, Pack semi-finals, and Pack final races will be the car with the highest number of points after the final race.

4. Car Leaves Lane: If, during a race heat, a car leaves its lane but proceeds down the track in a manner that does not interfere with its opponent, then the race will be called normally. If the car leaves its lane and interferes with another car, the race will be re-staged and re-run. If the same car again leaves its lane and interferes with another car, that car will be judged last place, and the race will be re-staged and re-run without that car.

5. Car Leaves Track: If, during a race heat, a car leaves the track without interfering with its opponent, it shall be considered to have ended its heat at that point.

6. Car Repair (Without Fault): If, during the race, a wheel falls off or the car becomes otherwise damaged, then the SCOUT may, to the best of his ability perform repairs with the assistance of his adult partner or Pit Crewmember.

7. Car Repair (With Fault): If a car is damaged due to track fault, or damage caused by another car or person, then the Trackmaster, at his sole discretion, may allow additional repair assistance to the Cub.

8. No Finishers: If, during a race heat, no car reaches the finish line on the track, the car that went the farthest in its lane shall be declared as the heat winner.

9. Call to Race: Competitors will be called by Den number prior to each heat. When his Den number is called, each SCOUT will retrieve his car from "the stage" and present himself, with his car, to the "Pit" area for lubrication. If the Cub does not respond, his name will be called a second and third time. If the Cub has not presented himself in time for his heat, he will be judged as placing last for that race heat. If no competitor is present, the track chairperson may, at his or her sole discretion, defer the race heat in a manner that does not interfere with progress of the racing.

10. Track Champion: The Champion from each Den shall be accompanied, with his car, from the track to the stage by his parent or other designee. The car will be impounded on the stage until the start of the Final Heats. Inspection, repair as necessary and addition of graphite, all performed solely by the Cub Scout, will be permitted prior to the start of the Final Heats.

11. Track Fault: If a car leaves its lane, at his sole discretion, the Trackmaster may inspect the track and, if a track fault is found which probably caused the initial violation, the Trackmaster may order the race heat to be rerun after the track is repaired.

12. The Race Area: Only race officials may enter the track area. This rule will be strictly enforced.

13. Rewards and Recognition: The most important values in Pinewood Derby competition are parent/son participation, good sportsmanship and learning how to follow rules. The Awards Committee is responsible for recognizing and encouraging these qualities in addition to traditional racing awards. Racers will be recognized as follows:

- a.) Every participating Scout will receive a Pinewood Derby ribbon for participating.
- b) Trophies will be awarded to the first, second and third-place finishers in each Den.
- c) Trophies will be awarded for the first thru sixth-place finishers overall in Pack 19.
- d) Trophies or medals will be awarded for special categories such as best in show.

#### **IV. SPECIAL NOTES TO ALL CONCERNED**

This project is a parent and son event, and is recommended as such by the National Boy Scouts of America. The Pinewood Derby Committee strongly suggests that each parent emphasize this idea with your son.

In all of the events, we require that the cars be built this year.

Sportsmanship:

Two things the Pinewood Derby requires each participant to learn are

1. the craft skills necessary to build a car, and
2. the rules that must be followed.

Even more important, though, is how we act and behave while participating in the Pinewood Derby or any other group activity. This is called sportsmanship.

The first thing to remember about sportsmanship is that everyone's skills are a little different. You may be good at something like singing or drawing, but not as good at something else like basketball or computers. Parents have different skill levels, too. This does not mean that you are a good person one time and not good another time. You can always be a good person, whether or not you have good car-building skills. Remember, you and your friends are individuals first and racers second. This idea is often called having respect for others.

The second thing to remember is to follow the rules. Without rules, there would be no Pinewood Derby. You will never know if you are really good at doing something unless you follow the rules. This is often called being honest.

The third thing to remember about good sportsmanship is that there are winners and losers in every competition. You accept this when you choose to compete. There may be times when you win and feel happy, and times when you lose and feel unhappy. Being a winner is easy, and losing is sometimes hard. If you win, you must not brag or gloat. If you lose, you must 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. You must also be able to appreciate and feel happy for someone else when they run a good race or build a neat car.