

DERBIES

A BOBCAT

It's fun to be a Bobcat,
And wear the Blue and Gold,
The colors of distinction,
When you turn eight years old.

To earn and be a Bobcat,
Is fun for boys to do,
Because it helps them prepare
For other honors too.

A Bobcat is courageous,
Just like the Wolf and Bear,
But when you get to Webelos
You'll have a lot to share.

The trail that starts with Cubbing,
Begins when eight years old,
When boys become a Bobcat
While wearing Blue and Gold.

It is a rank of honor
That sets each boy apart
For truly great achievements
Right from the very start.

So as you earn your Bobcat,
And also make the grade,
Remember you're beginning
Your own victory parade.

James E. Lee Jr.

Derbies

A LITTLE DERBY HISTORY

Derbies of one kind or another have always been a part of Cub Scouting. As early as 1939, the BSA Supply Division listed kits for model planes, boats, and airplanes. The derbies have been viewed as a way to get parents and sons to cooperate on a project.

An early Cub Leader's Round Table contained instructions for holding a Kite Derby. Competitions included the 100 yard dash, novelty kites, altitude race, artistic kites, kite battle, and the messenger race. The BSA Supply Service offered a pamphlet entitled Kites to teach kite making.

In April of 1937, Scouters were given the directions for making the Cubmobile. The original intention for the Cubmobiles was that they be any contrivance on wheels. According to the How Book of Cubbing, "It may be drawn, pushed, or propelled by Cubs, or may be drawn by a trained animal-in fact, anything goes!" Most ended up patterned after the Soapbox Derby racers.

The first reference to the Pinewood Derby in a Scout publication was in the October, 1954 issue of Boy's Life. The June, 1955 Program Helps listed "Wheels, Wings, and Things" as a theme. The Cub Scout Program Quarterly gave instructions for running the Pack Meeting Derby. The Supply Division's catalogs had kits available for \$2.75 for a package of eight. Over 15 million kits were sold during the next 20 years.

Regatta kits arrived in 1958 with kits for eight boats selling for \$2.95. The rubber band driven Space Derby kits followed the start of the space race in 1961. Another derby was made available during the seventies; the Rocket Derby. The kits were later dropped from the Supply Division catalog.

DEN AND PACK DERBY ACTIVITIES

Activities are the spark, that is something extra, that make a den and pack really special and the envy of all others. The extra effort involved is well worth the investment as the group's enthusiasm grows. Recruiting becomes easier when a Cub Scout tells his friends all the neat things his Cub Scout pack is doing. Parents will want to be involved when the activities are planned that are fun and exciting.

A successful derby program depends on all den and pack leaders and families working together. The single most important word for a smoothly run program is PLANNING. Careful planning of pack and den activities will generate enthusiasm for unit leaders, parents and boys' an important factor for all the people "who make the pack go".

Cub Scouting has a nonsense word that expresses the idea very neatly. This should be your watchword as you plan year-round fun for your pack or den. The word is KISMIF. It stands for

"KEEP IT SIMPLE, MAKE IT FUN"

A Cub Scout pack can easily plan a variety of special activities. There are some general guidelines which should be followed to help ensure the success of your activity.

- **LEADERSHIP:** There should be adequate adult leadership to ensure safety and supervision. IN major activities, such as the Blue and Gold Banquet or Derby, the pack committee usually appoints a chairman, and a committee is recruited to carry out various responsibilities. This is a good time to involve adult family members.
- **FACILITY:** What type of facility is needed? Can it be held at the regular pack meeting place? Is it an outdoor activity? Are reservations necessary? Will there be a charge for the facility?
- **PHYSICAL ARRANGEMENTS:** What type of seating arrangements is needed? If it is outdoors, what is available, and what do we need to provide?
- **SCHEDULE:** A written schedule or program will be helpful. When will it be held? What time does it begin? Who does what when? What time does it all end?
- **ALTERNATIVES:** Plan for backup leadership to fill in for emergencies. If it is an outdoor activity, have a backup plan in case of rain.
- **PUBLIC RELATIONS:** Be sure all pack families are informed about the activity. Is this an event that could be publicized in local newspapers or other media?
- **JUDGING AND AWARDS:** Any special pack activity which takes the place of the regular pack meeting should include advancement awards, so recognition can be made promptly. If it is a competitive activity, will each boy receive something for participating? Or will only the winners be recognized? How and when? What type of awards will be used? Who will do the judging? How?
- **HEALTH AND SAFETY:** Include in the plan all necessary measures to ensure the health and safety of the boys and others attending.
- **MATERIAL AND EQUIPMENT:** What materials and equipment is needed? Who will bring them?
- **FINANCES:** Estimate cost of activity, if any. Does the pack budget cover this expense? If not, how will the costs be covered?
- **REGISTRATION OR CHECK-IN PROCEDURE:** Most competitive events require some type of check-in procedure. Who will be responsible?

- **TRANSPORTATION:** Will transportation be needed? Will each family provide its own? if not, what arrangements need to be made?
- **COUNTDOWN:** Does everyone involved know what is expected?

CUBMOBILE DERBY

Planning for a Cubmobile Derby should begin several months before the race date. Each boy participating should have an information sheet listing the rules, awards, procedure, building specifications, date, time, place, and registration fee (if any).

It is recommended that each pack have their own Cubmobile, but don't let that keep you from attending your District Cubmobile Race.

CUB SCOUT CUBMOBILE OFFICIAL BUILDING SPECIFICATIONS

1. Wheels should be approximately 10 inches in diameter, 1- $\frac{3}{4}$ inches wide, with ball or roller bearings and semi-pneumatic or solid rubber tires.
2. Car frame is to be made from 2 x 4 construction lumber.
3. $\frac{1}{4}$ inch round head bolts should be used to hold the frame together. Screws are second-best choice. Nails will not hold up to a day of racing.
4. All cars are to have a seat and braced backrest, placed so that all team members can rest feet comfortably on front cross bar.
5. If threaded axles are used, the nuts are to be secured with cotter pins or safety wire.
6. Seat belts are optional (each District sets their own rules). If one is used it should be securely fastened to the main backbone of the car.
7. Each boy, while participating in the race is to wear a protective head covering such as a football helmet, racing helmet, or construction hard hat. For health reasons the borrowing of helmets is discouraged. Each boy should have his own.
8. Overall length of the car is to be 5 feet or less; overall width, 3 feet or less; distance between axles, no more than 4 feet.
9. Cars must be equipped with a hand brake with its rubbing surface face with a rubber material such as a strip of old tire. This when dragged on the ground, will stop the car.

PRIZES

Every boy participating should receive some type of recognition. Ribbons and trophies are available. Prizes are awarded according to official time, not on the basis of who finishes first. Make the event fun for all. The more classification for winners the better. Every boy should leave with a smile, because he "did his best."

THE TRACK

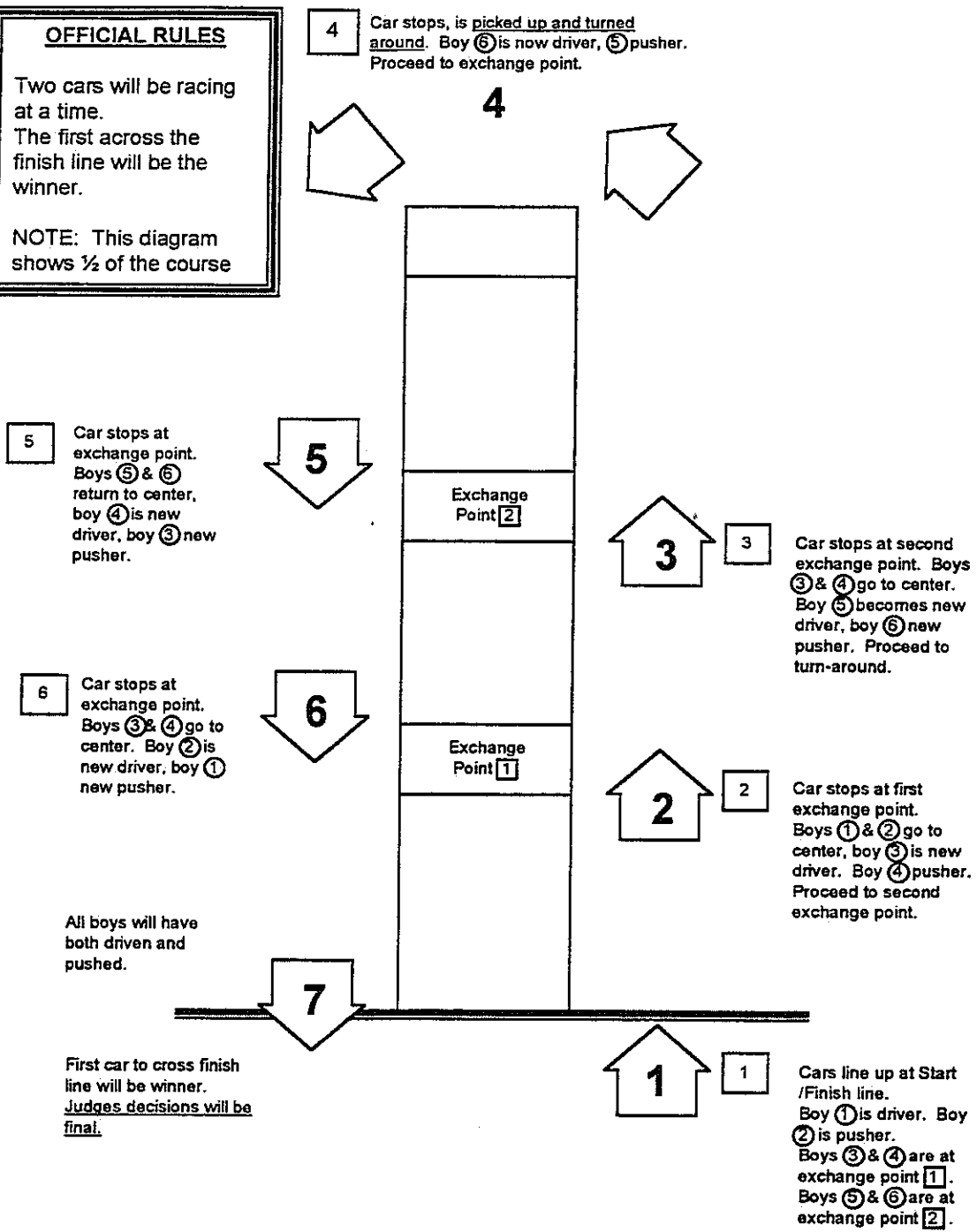
One of the best locations is a fairly flat parking lot that is normally not used on the day of your scheduled event. Schools, churches, or parking areas of an abandoned shopping center make an excellent track. Be sure to get permission before scheduling your event. The lanes should be roped off, and marked with chalk, so boys will know where they are to drive.

Crossing over from one lane to another will happen, especially with inexperienced drivers. Boys should be instructed to stay within their own lanes. Judges should observe the entire race for any fouls. The following diagram is designed for a Pushmobile Race. The cars are built the same. The only difference is you do not use the starting ramp with the Pushmobile. The power comes from the Cub Scouts

OFFICIAL RULES

Two cars will be racing at a time.
The first across the finish line will be the winner.

NOTE: This diagram shows 1/2 of the course



SPACE DERBY RACE

Cub Scouts will find the Space Derby exciting. Many packs alternate between the different derbies to add variety to their pack program. Join in the fun as the countdown begins for the space race of the century.

RACE SUGGESTIONS

1. To stage the race, boys wind up their rubber band propelled rocket motors. Then they hook the rockets over the guidelines, centering the rockets between the vertical dowels and locking the propellers behind the horizontal dowels on the starting gate. Start the countdown and fire at "zero" by lifting the rear of the starting gate frame that releases the rockets.
2. Run the race in heats, up to four contestants at a time. Boys work hard on their rockets, so each boy gets to try at least twice instead of eliminating him from competition after the first race. For example, in a six-boy den, try heats of three boys each. The winner of each heat goes into the den finals. Then race the other four again with the winner competing with the other heat winners for the den championship and entry into pack finals.
3. Recruit dads as your flight operations team - two starters with green flags, two as judges with checkered flags, and two as gatekeepers to line up the boys. Use other adults as inspectors, scorekeepers, etc.
4. Experienced rocket racers warm up their spaceships by gradually winding the rubber band motors to full capacity. Try 50 turns first, then 100, 200, etc. Release the propeller between each winding. Try some backyard runs on a length of monofilament line before competition.

NOTE: A small hand drill is excellent for winding the rubber bands. It also helps speed up the event. Check the ratio of the drill by making one revolution of the crank handle and count the number of times the chuck turns. Most drills average a 1 to 4 ratio. It would thus take 40 turns of the crank to give you 160 winds on the rubber band motor. It is advisable to have one person hold the rocket and propeller while the other stretches the bands, about 1-15" beyond the rocket tail and turns the rubber bands, he gradually shortens the distance between him and the rocket. A handmade fitting of coat hanger wire makes winding easier. The wire for this winder accessory is not included in the kit, but can be easily made from scraps around the home.

5. Soak rubber bands in castor oil several days before the space derby. This prolongs the band's life and power and will help eliminate breaking during competition. Leaders should have extra rubber bands and props available for emergencies. Remember that it takes three rubber bands to fly each ship properly.

RESOURCES FOR SPACE DERBY

The following are available at our Scout Distributor:

Catalog No. R17095 Individual Space Derby Kit

R17095 Space Derby 8-pack

R17096 Replacement propeller

R17097 Replacement rubber bands (24)

R17098 Space Derby Carrier

R17099 Space Derby Accessory Kit (carriers, snap swivel, and line)

R17086 Space Derby Casting Mold ("Space Derby Champion" plus two 2½"

mini rockets)

R17805 Space Derby Ribbons (10)

R00986 Blue Space Derby Medal

R00987 Red Space Derby Medal

R00988 White Space Derby Medal

R17567 1st Place Trophy (6¾" high)

R17568 2nd Place Trophy (6¼" high)

R17569 3rd Place Trophy (5¾" high)

R17299 Space Derby Decals

R33705 Space Derby Pocket Certificate

R33721 Cub Scout Grand Prix Pinewood Derby Guidebook (also contains Space Derby information)

RAINGUTTER REGATTA

If you have a number of model boat enthusiasts in your pack you will want to plan a Raingutter Regatta. Several classes of boats can be raced as long as they are not too big for your Raingutter course. See the Wolf Cub Scout Book for plans for simple boats that could be entered in the Regatta.

RACE COURSE

The course will be determined by the facilities available. A portable pool, regular swimming pool, pond, lake, or even a good size puddle after a rainstorm can be used for racing the boats. The commonly used course, where the race gets its name is the raingutter. The course is made of standard raingutters ten feet long, set in grooves in two saw horses. Allow sufficient space around the course for both participants and spectators. With gutters in place, put a small amount of water into each to make sure they are level. Make any needed adjustments, and when level, fill to about $\frac{1}{2}$ " from top.

RACING PROCEDURE

The boats are propelled by boys blowing into the sails. Start with the boat's stern touching the end of the raingutter. The starter stands at the opposite end with hands raised. When he drops his hand, the boys begin to blow. Once the race is started, the boys may not touch the boats with their hands. The first boat to reach the end of the gutter is the winner.

All races are run on an elimination system, by heats. Timing of boats has no bearing on determining heat or final winners. Winners of the first heats will compete against each other in second heat, and third, etc. until a final winner is determined.

On courses other than the raingutter course, boats must be held by the pilots at the starting line and released at a pre-determined signal. No pushing is allowed. The boat crossing the finish line first is the winner of the heat. If two or more boats run afoul, there is no contest. The race is rerun.

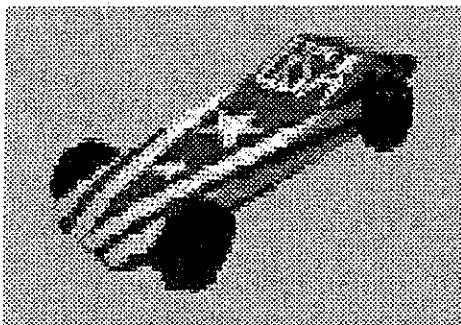
BUILDING INSTRUCTIONS

1. Sandpaper the balsa hull to the desired shape, adhering to the specifications listed above. First use a medium-grade sandpaper, then finish off with very fine sandpaper.
2. Give the model two coats of sanding sealer which can be obtained at a craft or hobby store.
3. The mast can be tapered by chucking either in a hand or electric drill. While you carefully turn the dowel, work a piece of sandpaper back and forth until the desired shape is achieved.
4. Give entire model two coats of colored lacquer in desired color and design.
5. Add official number at top of sail.

RESOURCES FOR RAINGUTTER REGATTA

The following are available at our Scout Distributor:

- Catalog No. R17090 Individual Regatta Kit
R17090 Regatta 8-pack
R17010 Regatta Casting Mold ("Regatta Champion" plaque plus two 2"
lapel pins)
R17802 Regatta Ribbons (10)
R17044 "The Pirate" Regatta Decals
R17045 "Sea Serpent" Regatta Decals
R17043 "Spirit of America" Regatta Decals
R00981 Blue Regatta Medal
R00982 Red Regatta Medal
R00983 White Regatta Medal
R17576 1st Place Trophy (8½" high)
R17577 2nd Place Trophy (8" high)
R17578 3rd Place Trophy (7½" high)
R33704 Regatta Pocket Certificate

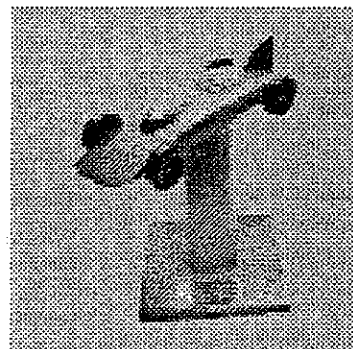


PINEWOOD DERBY

Pinewood Derby cars are simply small models of specified dimensions, created and carved by boys, under the guidance of parents and raced by the boys. They are gravity powered and run down a regulation track. The derby is run in heats, with cars starting from a standstill and running unaided down the ramp to the finish line. A wooden strip placed down the center of each lane guides the cars.

RACING COMMITTEE DECISIONS

1. Decide on location and date (if not already set)
2. Recruit Team Leaders
 - a. Inspection and registration team
 - b. Judging (prefer people from outside the pack)
 - c. Race operations team
3. Decide on judging categories and awards
4. Recruit person to order cars and awards
5. Recruit person to locate or build a race track to be used
6. Establish list of equipment needed
7. Finalize racing rules (as per pack racing committee)
8. Draw plan of race area and room arrangements
9. Distribute cars with rules for race
10. Arrange for photos and publicity (local newspaper)



Hold preliminary inspection of cars, at least one week before the race, and make official weighing scales available. Only use one set of scales to weigh all cars.

Each pack sets their own rules for the race. This may be the only time that a parent gets involved with their son so encourage parent participation for your pack. **Set and keep rules so the race will be fair for everyone involved. This event is for the boys any decision made are in the interest of fair play for all.**

GUIDELINES FOR RACING

Once a racing committee has been formed, and all rules, etc. have been established, a method of racing must be chosen. The traditional method is the double elimination bracket races. However, with the advent of technology, electronically-timed races, and computer-controlled races are also now being used. The method you choose will be based on availability in your area.

RACING OUTLINE

1. Determine the number of heats to be run. Then determine the number of cars per heat.
2. Assign a number to each car, preferably when the cars are passed out to the Cub Scouts.
3. Determine which cars will run in which lanes, on a rotating basis.
4. At various times during the race, announce the positions of cars in the race.
5. Keep the number of people handling the cars during the race to a minimum. This eliminates much confusion and prevents damage to cars from mis-handling.
6. The officials needed to run a race are as follows:
 - a. A mediator to act as judge.
 - b. A starter to place the cars on the track and start the race.
 - c. A car handler to line up the cars in race order and hand to the starter.
 - d. A finish line judge (two for bracket races).
 - e. A car runner to take cars from the finish line to the table.
7. Putting graphite on the cars is allowed only before registration.
8. After registration and inspection cars will be placed on the judging table and should not be picked up again by the scout until racing is completed.

If each person on the race committee does their job, and all legalities are taken care of before the race, your race will be a successful one enjoyed by all.

CAR QUALIFICATION RULES

Most packs encourage parent and Cub Scout working together on their car. For some parents this may be the only time they take an active part in Scouting with their son. Scouts that are from a single parent family may need assistance. All Scouts need to have the opportunity to experience the thrill of racing. The rules for cars qualifying and racing are established by each pack committee or race committee. Below are tested rules from many years experience of running and racing Pinewood Derby Cars.

1. Car must have been made this year.
2. Axles, wheels, and body shall be from the materials provided in the kit.
3. The width shall not exceed 2-3/4 inches.
4. The length shall not exceed 7 inches.
5. The bottom of car clearance must have a minimum of 3/8 inch above the track surface (including the weights if on the bottom). The lane strips should be 1/4 inch high.
6. Wheel bearings, washers, and bushings are prohibited.
7. Added details must be within length, width, and weight limits.
8. The car must be free-wheeling, with no starting devices.
9. No loose material of any kind is to be in or on the car.
10. No lubricating oil may be used. Axles may be lubricated with powdered graphite or silicone.
11. Grand Prix Pinewood Derby Kit #R17006 is to be used. The kit may be modified in any way you wish, within rules. Help is available in Boy's Life Magazine, Cub Scout Leaders' How-To Book and Cub Scout Grand Prix Pinewood Derby Guidebook (#R33721).
12. No mag wheels are allowed. Official wheels only please.
13. The car's weight shall not exceed five (5) ounces. Cars will be weighed on official scales, at a pre-determined location and time.
14. Weight shall be adjusted to be within limits. This is the responsibility of the Cub Scout and his parent.

AWARDS STRUCTURE

PACK CHAMPIONS

1st Place
2nd Place
3rd Place

DEN CHAMPIONS

1st Place
2nd Place
3rd Place

THEME CARS

Best by Cub Scout
Best Paint Job
Best Detail
Most Unusual
Judges Awards

Try to have as many "Theme or Specialty" trophies as possible, this give all the boys to receive and award for their efforts.

CAR BUILDING TIPS

These building tips should be checked with your racing committee before using them.

1. Remove mold projections from wheels.
2. Sand wheels lightly; do not put anything inside of wheels when sanding.
3. Polish axles before putting into wheels.
4. Glue axles into car body very carefully.
5. Place weight over back wheels.
6. Three wheels go faster than four; leave clearance under one front wheel.
7. Long wheel base cars run straighter down the track.
8. Use powdered graphite. Work into wheels.
9. Have a smooth paint job.

JUDGES DECISIONS ON THEME CARS AND PACK WINNERS ARE FINAL

RESOURCES FOR PINEWOOD DERBY

The following are available at our Scout Distributor:

Catalog No. R17006 Individual Pinewood Derby Kit

R17006 Pinewood Derby 8-pack

Derby Car Carving Templates and Design Decals

R17046 Indy Car

R17048 Turbo 2000

R17047 Dragster

R17007 Replacement Wheels and Axles

R17008 Pinewood Derby Casting Mold ("Pinewood Derby Champion" plus two 2½" mini racing cars)

R33718 Pinewood Derby Pocket Certificate

R17800 Pinewood Derby Ribbons (10)

R00974 Blue Pinewood Derby Medal

R00975 Red Pinewood Derby Medal

R00976 White Pinewood Derby Medal

R17561 1st Place Trophy (6½" high)

R17562 2nd Place Trophy (6" high)

R17563 3rd Place Trophy (5½" high)

R33721 Cub Scout Grand Prix Pinewood Derby Guidebook (also contains information and rules for operating space derbies and raingutter regattas)

R00954 Derby Participation Pin (crossed Cub Scout and checkered flags)

CUBANAPOLIS 500

Here's a den or pack level derby that can be fun for a month. It can be an indoor or outdoor activity.

First you build the cars. This can be done by pairs, trios, quartets or dens depending on how many you want per team. A basic car starts with a cardboard box with the bottom cut out. From there, the sky's the limit. Dixie cups make fine head lights and tail lights, paper plates make good tires, you can cut a ladder out of cardboard and make a fire truck. Use your imagination.

In addition to giving out prizes for best of everything you can think of, there is an actual race to stage. Each car has a team. the first driver steps into the car and holds it around his waist. The pit crew adds socks over his shoes (tires), swim goggles (windshield), some kind of hat (helmet) and gases the vehicle (driver drinks water through a straw). You can use safety cone and checkered flags to make it more fun.

The cars line up for the start (you can have a rolling start with Den Chief pace cars if you want), and the race is on. Every lap or two should have a mandatory pit stop with a tire change or rotation, a windshield spray and wipe, and a refill for gas. Relief drivers may be utilized to get everyone into the act, and you can run heats if space is limited.

Don't forget to reward those that "Did Their Best" not just the race winners. A pack that puts time and enthusiasm into this activity will find it might just be their best activity of the year.