

RACE TIME

ELECTIVE ADVENTURE



SNAPSHOT OF ADVENTURE



This Adventure is the highlight for many Cub Scouts. The Pinewood Derby® and Raingutter Regatta™ are two popular Cub Scout races. The best part about these races is getting to design and build your own car or boat. You may want to design your car or boat for looks, or you may want to go for speed; either way, have fun spending time with your family making your car or boat or both.

REQUIREMENTS

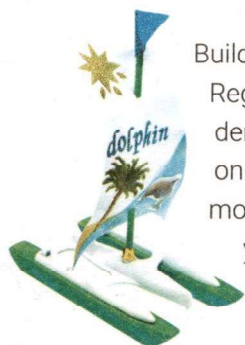
1. With an adult, build either a Pinewood Derby car or a Raingutter Regatta boat.
2. Learn the rules of the race for the vehicle chosen in requirement 1.
3. Identify how you could increase the speed of your chosen vehicle.
4. Before the race, discuss with your den how you will demonstrate good sportsmanship during the race.
5. Participate in a Pinewood Derby or a Raingutter Regatta.



- **Elective Adventure**
- **Scan for this Elective Adventure**

REQUIREMENT 1

With an adult, build either a Pinewood Derby car or a Raingutter Regatta boat.



Building a Pinewood Derby car or Raingutter Regatta boat is a fun way to spend time with your den or family. Here are some basic instructions on how to make these fun vehicles. You may find more advanced tips and tricks with your den or family online.



PINEWOOD DERBY CAR

A Pinewood Derby car is made out of wood and runs on a downward track. The car uses the force of gravity to run down the track. Read all the basic instructions first before starting to make your car.

Equipment:

- ▶ Saw
- ▶ Hammer
- ▶ 200 grit sandpaper
- ▶ Paint
- ▶ Paintbrushes

Step 1 – Draw a design for your car. Take the block of wood in your Pinewood Derby car kit and place it on its side. Draw an outline of the wood on paper. Now draw the profile (side view) of your car.



Step 2 – Cut out your car from the block of wood.

You can use a handsaw, or you can have an adult use a power tool to cut it out.



Step 3 – Sand your car. Sanding will remove sharp corners and will allow paint or other decorations you add to your car stick better.

Step 4 – Paint and decorate your car.

Pinewood Derby cars are made of soft wood, and when you paint them, it may take a couple of layers or coats of paint. Paint the car once and then use sandpaper to lightly sand it. Clean off any dust from sanding and paint it again. You can repeat this over and over until you get the look you want.



Step 5 – Assemble your car.

Using the nails that came in your kit, attach the wheels that came in the kit to the car in the precut areas on the bottom of the car.



Step 6 – Check the weight. Do this step last, as everything else you do will either add or subtract weight from your car. You want your car to be exactly 5 ounces. If it weighs less, you can simply glue pennies to the car to get it just right.

Here is a tip: Make sure your axles are square at a 90-degree angle. This will keep your car straight when going down the track. If your axles are not square, your car may want to turn and rub up against the track, causing it to slow down. You can test your car by simply pushing it across the floor to see if it goes straight.



RAINGUTTER REGATTA BOAT

The Raingutter Regatta kit comes with everything you need to make your boat. The Raingutter Regatta boat is raced in either a homemade track by capping the ends of two 10-foot-long rain gutters or your pack may buy an inflatable track. Two Cub Scouts will race their boats by blowing into the sails.

Equipment:

- ▶ Phillips head screwdriver
- ▶ 200 grit sandpaper
- ▶ Paint
- ▶ Paintbrushes
- ▶ Glue

Directions

Step 1 – Sand the wooden

hulls. It is easier to sand the wooden hulls before you assemble your boat.



Step 2 – Attach the plastic cabin to the two wooden hulls.

Step 3 – Paint and decorate your

boat. If you are painting, it is best to use a primer first. This will help the paint stick to the plastic parts of the boat. You can decorate the sail, too.

Step 4 – Assemble the sail and mast.

Use a small bit of glue in the hole where the mast will go, then place the mast into the hole. Allow the glue to dry before you attach the sail.



Here is a tip: You can add wax to the bottom of your boat to make it extra smooth. The smoother the hull (the bottom) of a boat is, the faster it can go.



_____ Date

_____ Adult's Signature

REQUIREMENT 2

Learn the rules of the race for the vehicle chosen in Requirement 1.

Rules are important so that everyone knows how to play. The rules to the Pinewood Derby or Raingutter Regatta should be kept short and simple so everyone can know and understand them. Rules for the Pinewood Derby and Raingutter Regatta are included in each kit.

Your pack may have additional rules. You should ask for these rules before you start building. Most of the rules about Pinewood Derby and Raingutter Regatta are about what you can and cannot do when building your car or boat.

Next is knowing how your race will be conducted. You may have a race with just the members of your den first and the winner of each den competing for the pack championship. Your pack may run races based on the fastest time. Understanding how your pack will conduct the race will help you understand what is going on during the race and how many times you might be racing.



Date

Adult's Signature

REQUIREMENT 3

Identify how you could increase the speed of your chosen vehicle.

To know how to make your vehicle go faster, you will need to know what things make it move.

For the Pinewood Derby, the thing that makes the car go is gravity. Gravity is the same for every Pinewood Derby car. You can't change the gravity.

For the Raingutter Regatta, the force that makes your boat move is you, your breath, or an air pump.

Any situation where a moving object (such as a car or boat) comes into contact with a stationary object (such as a track or the surface of the water) is going to result in friction. Friction causes things to slow down. You may not be able to get rid of all the friction, but you may discover ways to lower it.

What could cause friction to the way your car moves down the track?

What could cause friction to the way your boat moves in the water?



Date

Adult's Signature

REQUIREMENT 4

**Before the race, discuss with your den
how you will demonstrate
good sportsmanship during the race.**

Just like any race, there is going to be someone with the fastest car or boat. Remember, having a good time building your car or boat is what really matters. The race is done to add excitement and fun. If you worked hard on your car or boat and can say that you did your best, then you have lived up to the Cub Scout Motto "Do Your Best."

Think about the Scout Oath and the Scout Law. With your den or family, point out the parts of the Scout Oath and the Scout Law that will be helpful for everyone to follow during the race.

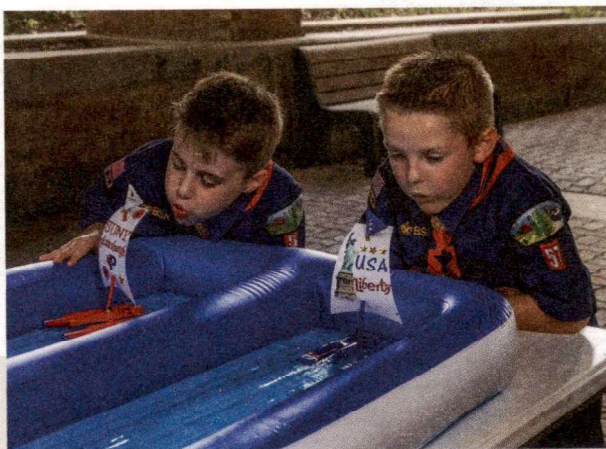


Date

Adult's Signature

REQUIREMENT 5

Participate in a Pinewood Derby or a Raingutter Regatta.



It's race day. Time to take everything you have learned in this Adventure and have a great time with your den or pack.



Date

Adult's Signature