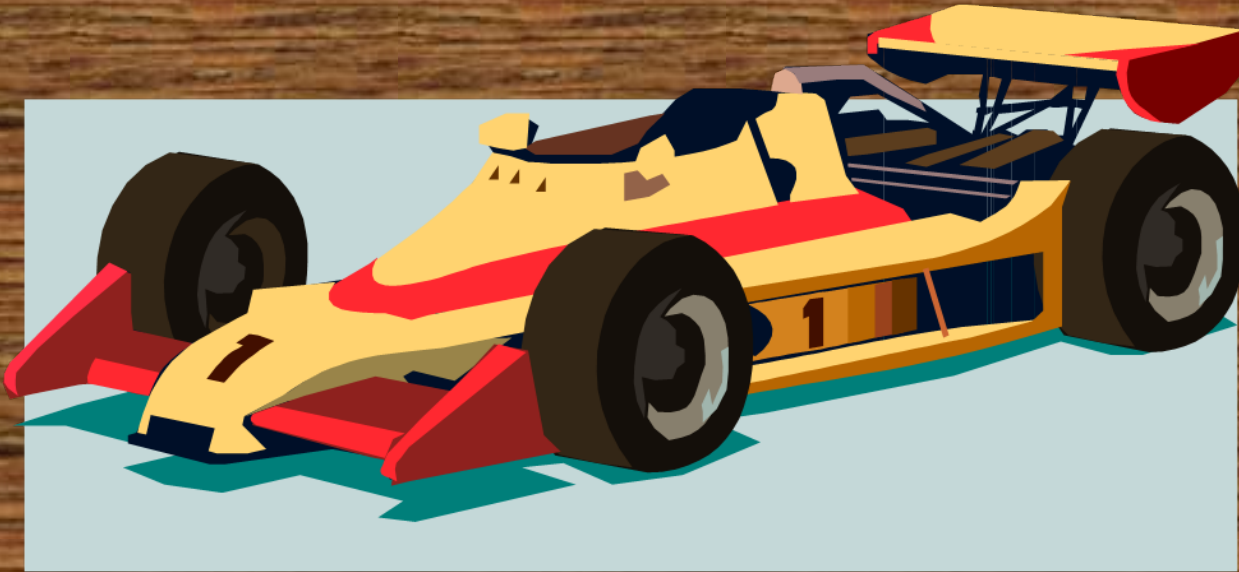


# **Pinewood Derby**

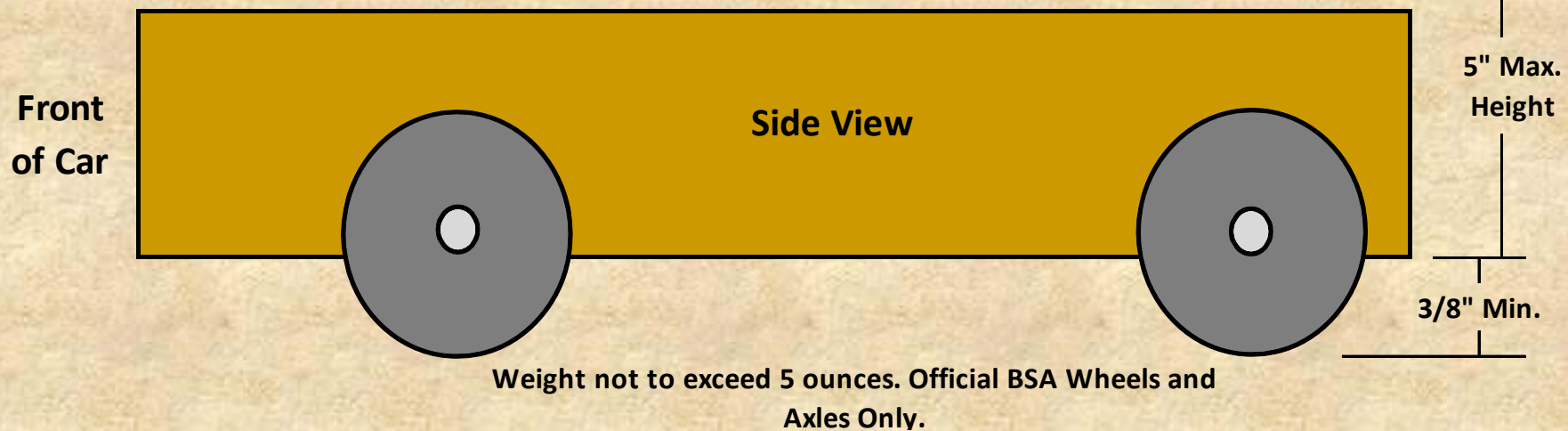
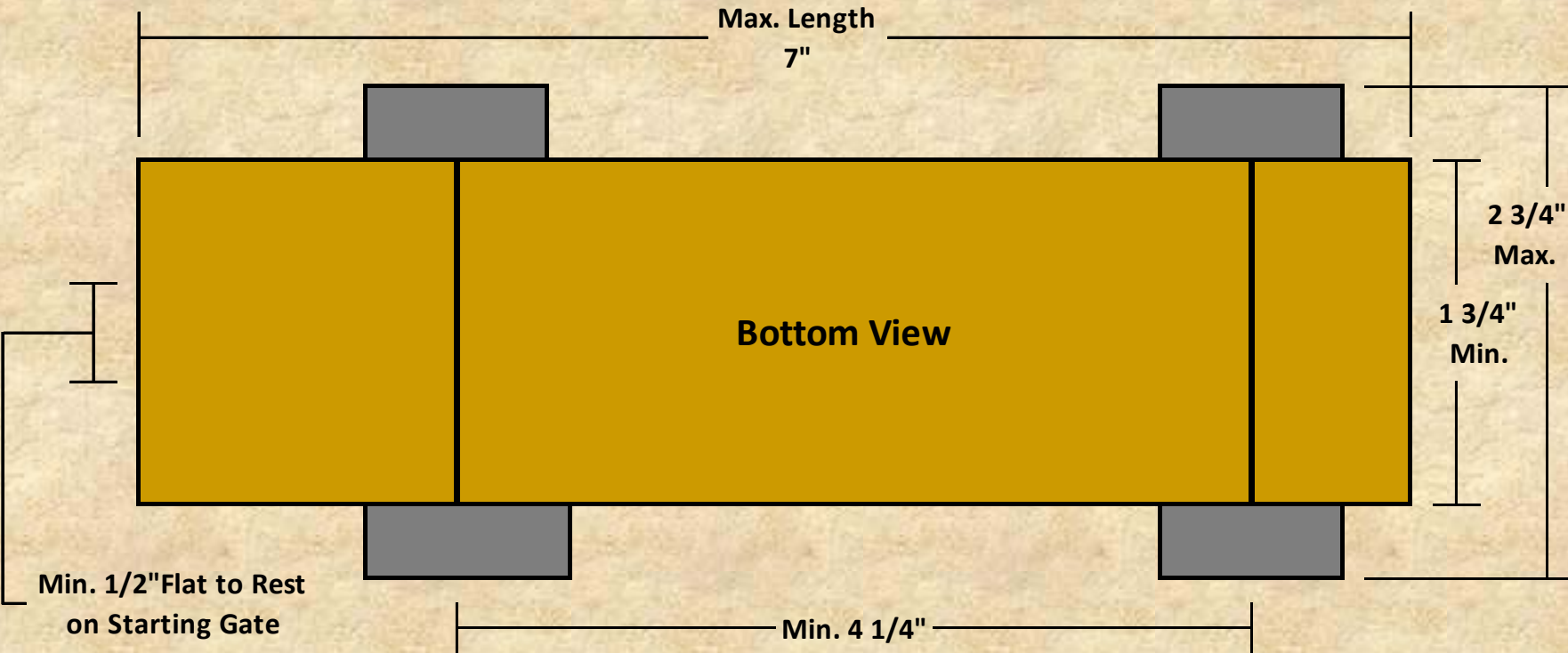


**Pack 802**

**Lantana, Texas**

# Rules

- Official **Pinewood Derby Car Kit** must be used (BSA Part#17006)
- A **new car** must be built every year. **No** previously used cars or parts are acceptable.
- **Width:** maximum, including wheels is **2  $\frac{3}{4}$ "**.  
minimum, measured from inside of wheels is **1  $\frac{3}{4}$ "**.
- **Length:** maximum length is **7"**.
- **Height:** maximum height is **5"**.
- **Clearance:** minimum underbody clearance is **3/8"**.
- **Wheel Base:** **4  $\frac{1}{4}$ "** measured from center of axle.
- **Weight:** not to exceed **5.00 ounces**.



# Rules

Continued

- **Wheels:** Only **Official BSA Wheels** may be used. Only bumps, burrs, or ridges may be removed. No beveling, tapering, reduction in diameter or width, or other modification is acceptable.
- **Axles:** Only **Official BSA axles** may be used. The axles may be polished to remove burrs, scratches, or ridges using sandpaper or files. **No machining or reduction of the diameter is acceptable.**
- **Detailing:** all parts must be firmly attached, **and fit within the car weight, height, and length requirements.**
- **Lubrication:** only **Graphite or white teflon** may be used. Cars must be lubricated prior to check-in. Once checked in, **no further lubrication is allowed.**
- **Inspection:** all cars will be **inspected at check-in.** Any car failing inspection may make necessary modifications and have his/her car reinspected, only as time allows.

# Rules

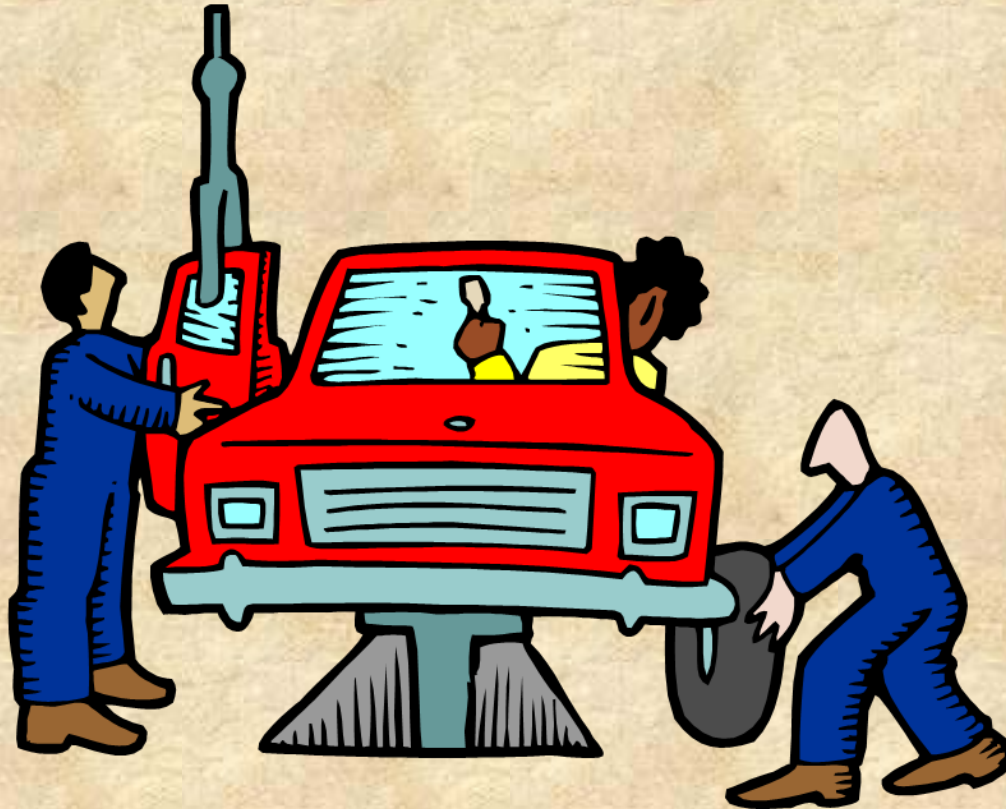
Continued

- Handling:** only the **scout** who has entered the car, **or race officials** may handle the cars.
- Alterations:** no car may be altered once it has been registered. Damaged cars may be repaired at the discretion of race officials, as long as it does not delay the race.
- Participation:** Scouts must be present to race their cars. Substitutions are at the discretion of race judges/officials.

**All Decisions of the Race Officials are Final.**



# Lets Build a Car



# Step One:



# Design...

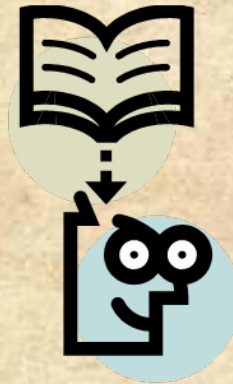
# What Should My Car Look Like?



•What Do You Like:  
Hot Dogs? Star  
Wars? Race Cars?  
Bathtubs?



•Research, Research,  
Research: Books,  
Internet, TV, Movies



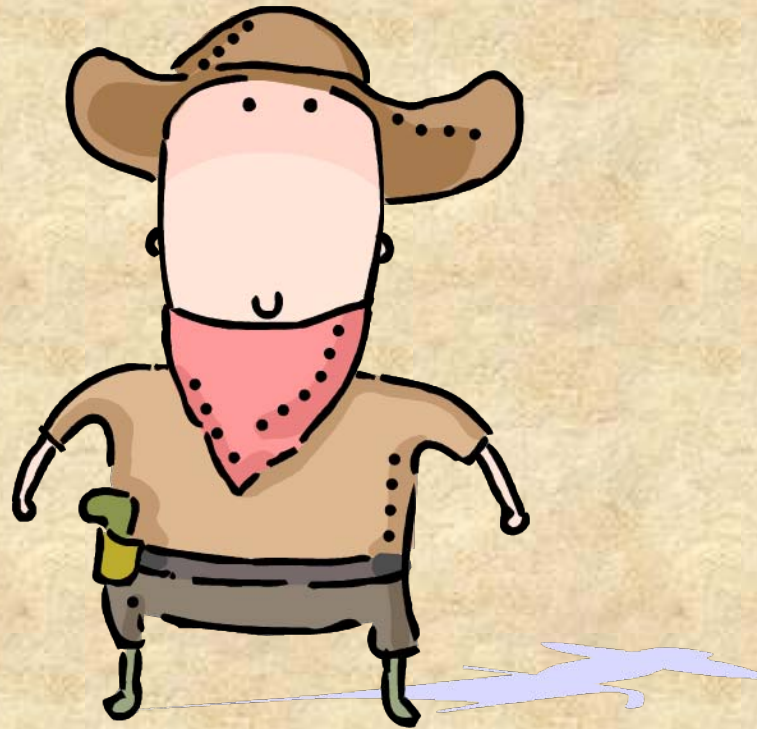
•What Do You Do:  
Camping? Fishing?  
Sports?



## Only You Will Know For Sure!



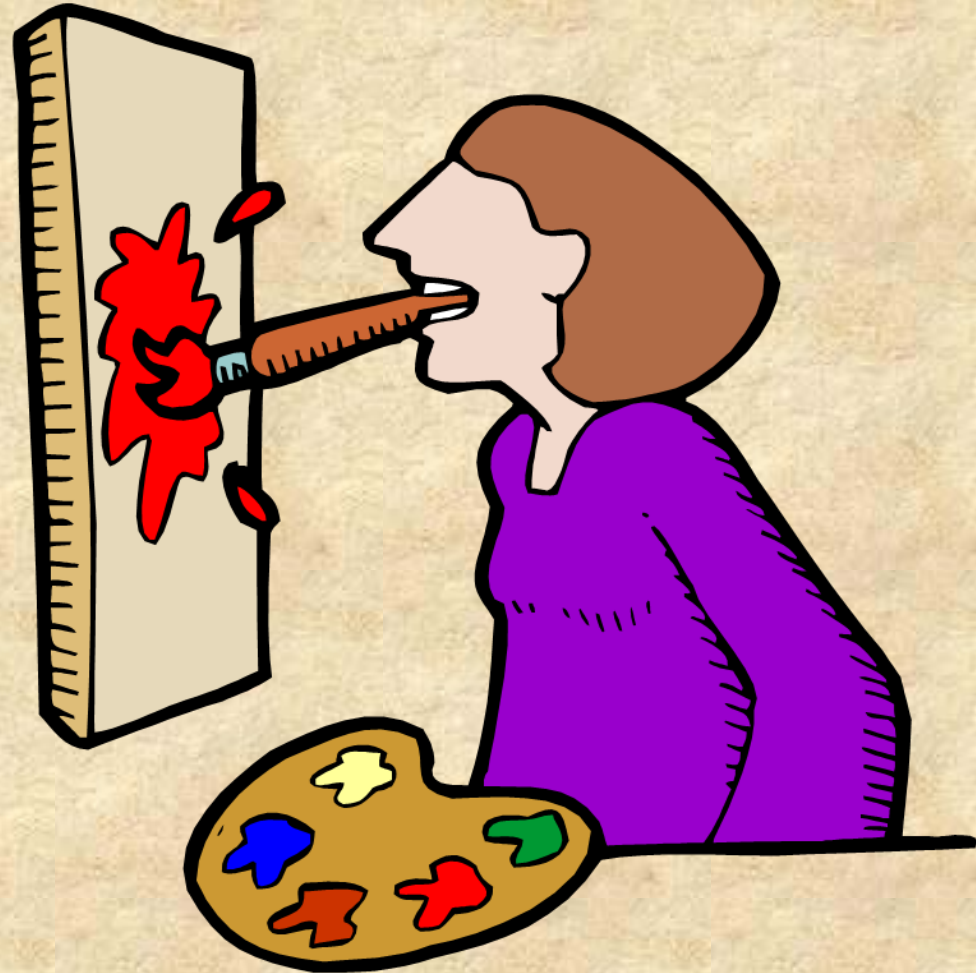
# Step 2:



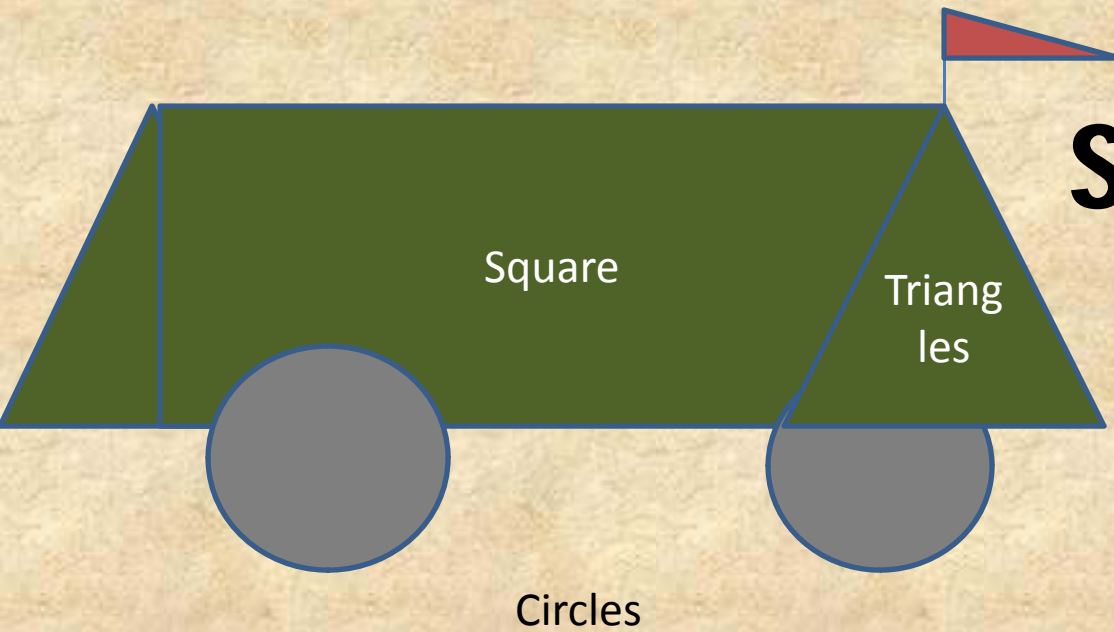
# DRAW!

**OOPS...**

**I Mean  
Draw...**

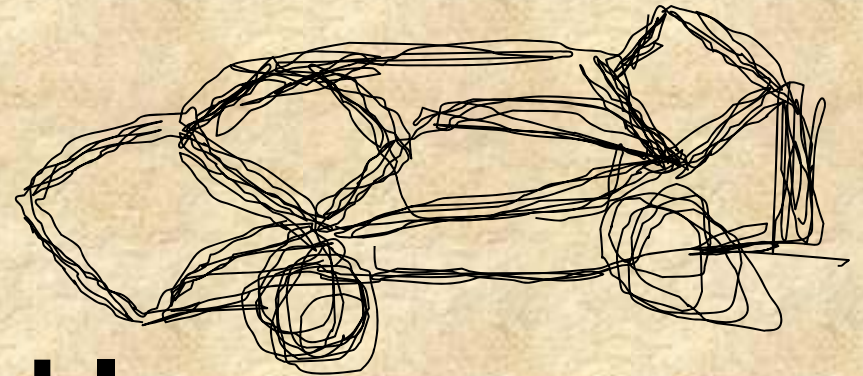


# Sketch Your Car



Use and  
Combine  
Basic  
Shapes

Try Scribble Line  
Method.



## Not an Artist? No Problem

# Now Make Top and Side Views and Then...

**Draw a 7" x 1 ¾" Box for  
Your Top View (Just Trace  
Around Your Block of Wood)**

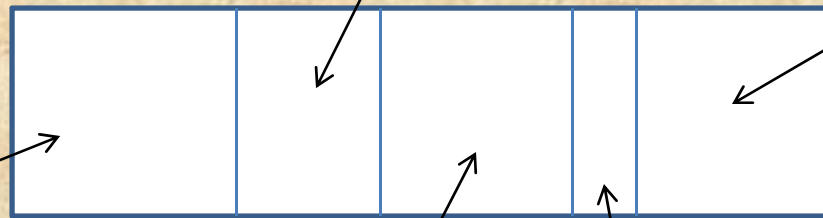
Hood Area

Front Windshield

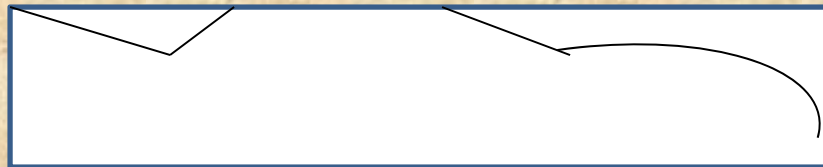
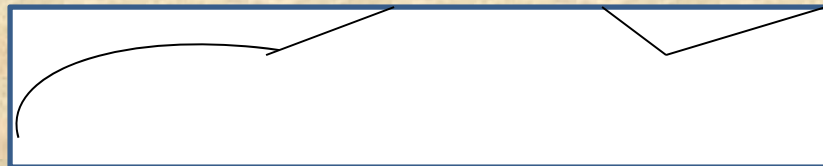
Rear Spoiler

Roof

Rear Windshield



**Draw a 7" x 1 ¼" Box for  
Your Side View. Do Both  
Sides.**



## Transfer These Drawings to Your Block of Wood



• **Not Certain? Try it in Modeling Clay First...**



**Say What?!!!**

# Step 3:



# Cut Out Your Car

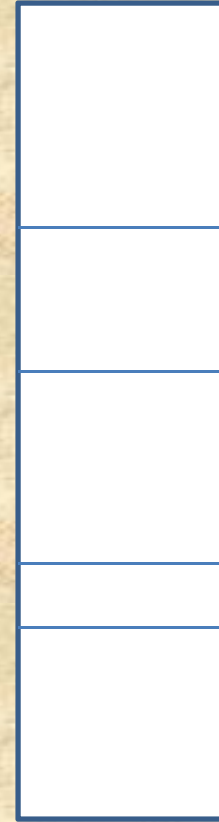
# Car Cutting Tips:

- **Using a Band Saw:** cut to shape.
- **Using a Miter Box and Miter Saw or Coping Saw:** make several cross cuts, then chip out scrap wood.

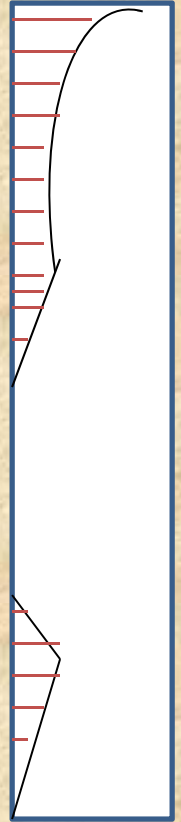
Left Side  
View



Top View



Right Side  
View



**Always Follow Safety Procedures and  
Never Work Without Adult Supervision!**

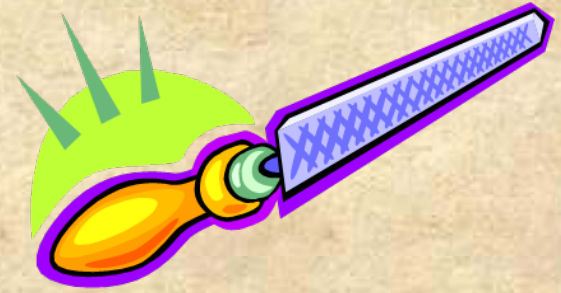
# Step 4:



# Sand

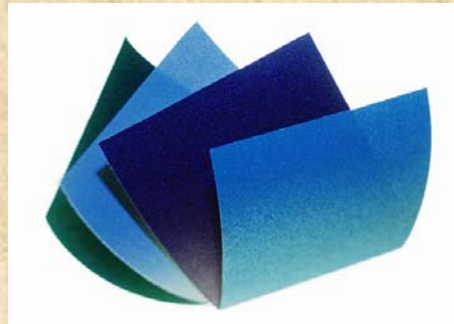


- Use a file as necessary to finish shaping your car.



- Use a course/rough grade of sandpaper to smooth out any rough edges.

- Use progressively finer grit sandpaper to finish smoothing/sanding your car.



*Wood filler can also be very helpful.*

*Sometimes its helpful to wrap your sandpaper around a block of wood.*

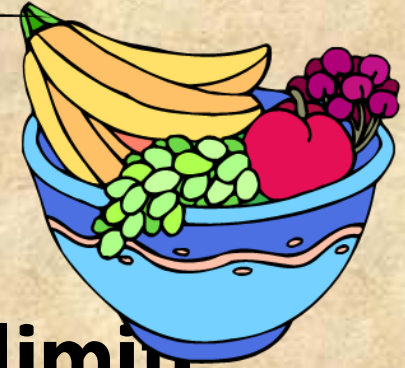


# Step 5:

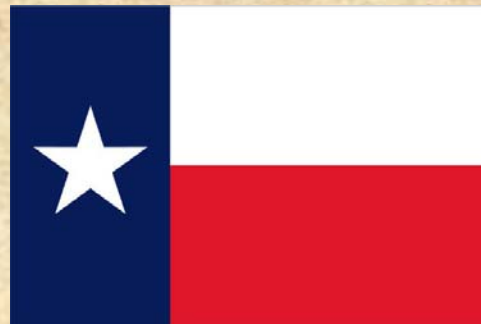


# Detailing





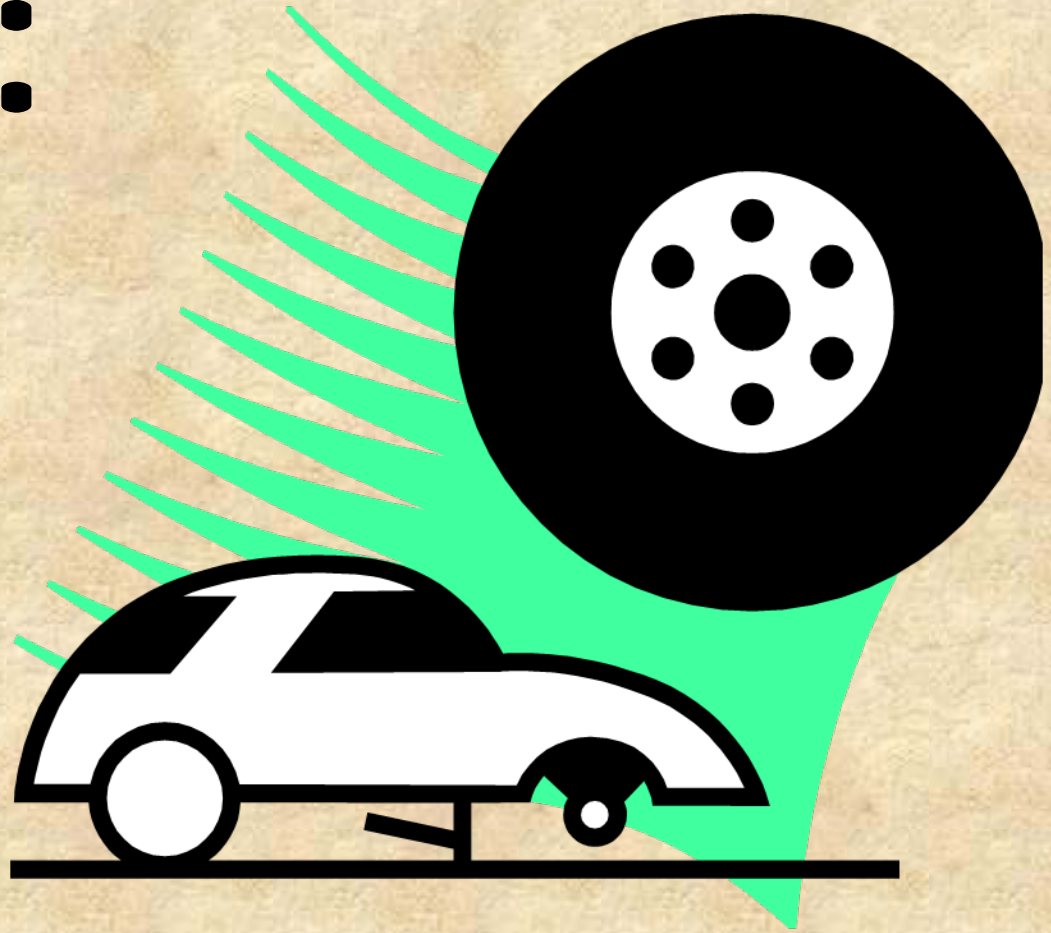
**OK...The sky (not to exceed 5") is the limit!**



**Just Make Sure Nothing Falls Off**



# Step 6:



# Wheels On

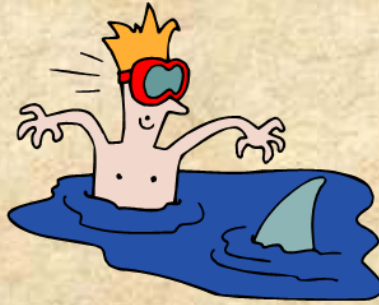


Use the precut axle locations on your Official BSA Block of Wood.

Carefully press the nail/axle into place. Once started, put the nail head against the table/wall and use the block of wood to gently push the axle into place.



# Step 7:



# Be Careful!!!

Your car is very delicate. If you want it to go fast, you must protect it.

- Don't Store it on its wheels, store it upside down.
- Don't drop it.
- Don't roll it on the ground.
- Don't use it to frighten the dog.(ok, I made this one up. But its still true.)

# Helpful Hints





**Weight Equals Speed:** Get as close to the 5 ounce weight limit as you can.

**Get the Weight Back:** Get the weight as far back as possible, but be careful. If you go too far back, the front of the car will be too light and that's no bueno.

**Check Your Axles:** The nail/axle will have several imperfections, clean up the nail head area, polish the nail body, and make sure the nail is straight and true.

**Check Your Wheels:** Lightly sand the wheels to remove the injection molding sprue and any plastic flashing from around the wheel.

**Alignment:** Test roll your car. It should move straight ahead. If it moves to one side or the other, adjust the axles until it moves straight ahead. Once your car is true, lock the axles in place. Try Super Glue.

**Lubricate:** Dry graphite works well on the axles/wheel wells. Remember to lube prior to the race, no additional lubrication will be allowed once your car is checked in.

**Easy Does It:** Remember, once your car is tuned, don't get crazy with it. Treat it gently and don't rest it on its wheels.

