



CubRoundtable.com



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RT Newsletter  
Webelos activity badges Fitness and Scientist

**Theme: Cub Scout Car Show**

**January: Cub Scout Car Show**

**Tigers** – Ach 1F, 2F, 2G  
Elect. 3, 10, 11, 17, 48

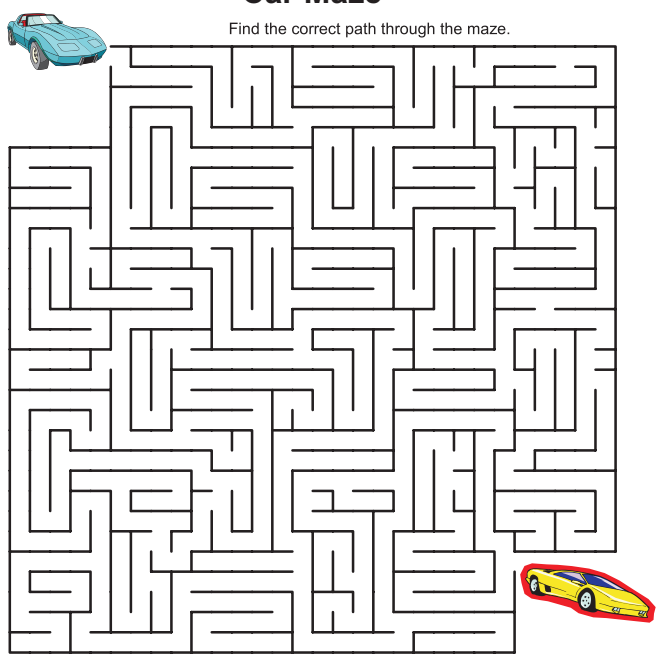
**Wolf** – Ach 6, 9C, 9D  
Elect. 8, 11C

**Bear** – Ach 13D, 15B, 20A, 21A, 21B, 21C, 21D  
Elect. 7

**PRE OPENING ACTIVITIES**

**Car Maze**

Find the correct path through the maze.



Created with Discovery Channel School's PuzzleMaker.



**Car Puzzle**

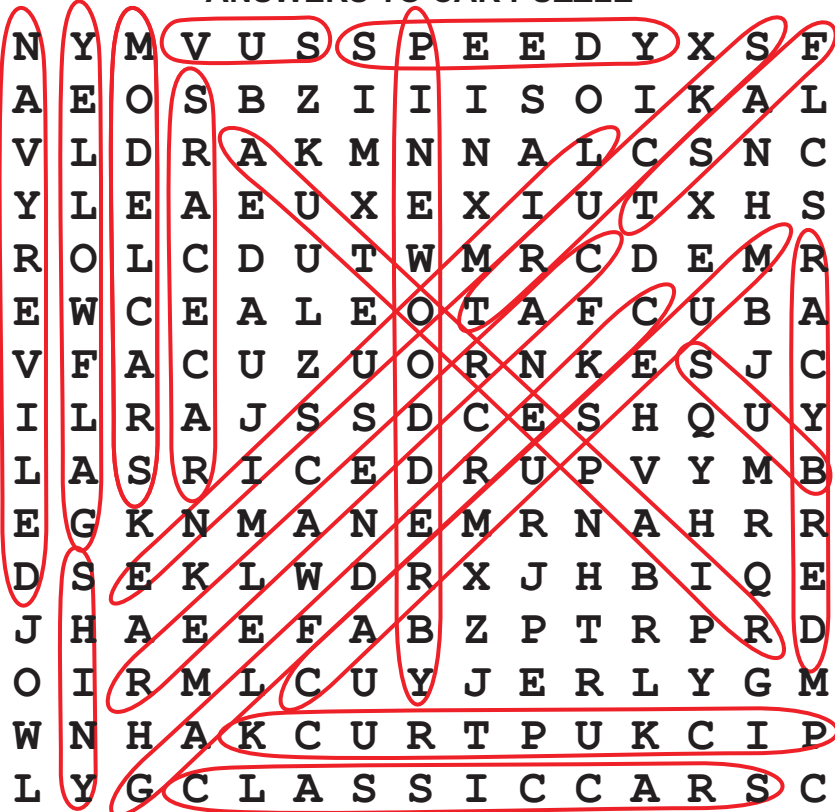
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A	E	O	S	B	Z	I	I	I	S	O	I	K	A	L
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D	S	E	K	L	W	D	R	X	J	H	B	I	Q	E
J	H	A	E	E	F	A	B	Z	P	T	R	P	R	D
O	I	R	M	L	C	U	Y	J	E	R	L	Y	G	M
W	N	H	A	K	C	U	R	T	P	U	K	C	I	P
L	Y	G	C	L	A	S	S	I	C	C	A	R	S	C

**WORDS FOR THE CAR PUZZLE**

- |                |              |             |
|----------------|--------------|-------------|
| AUTO REPAIR    | CLASSIC CARS | MODEL CARS  |
| SPEEDY         | SUV          | BUS         |
| DELIVERY VAN   | PICKUP TRUCK | CAR DEALER  |
| CAR MUSEUM     | FAST         | LIMOUSINE   |
| TRUCKS         | SHINY        | RACE CARS   |
| PINEWOOD DERBY |              | DERBY CARS  |
| CHECKERED FLAG |              | YELLOW FLAG |

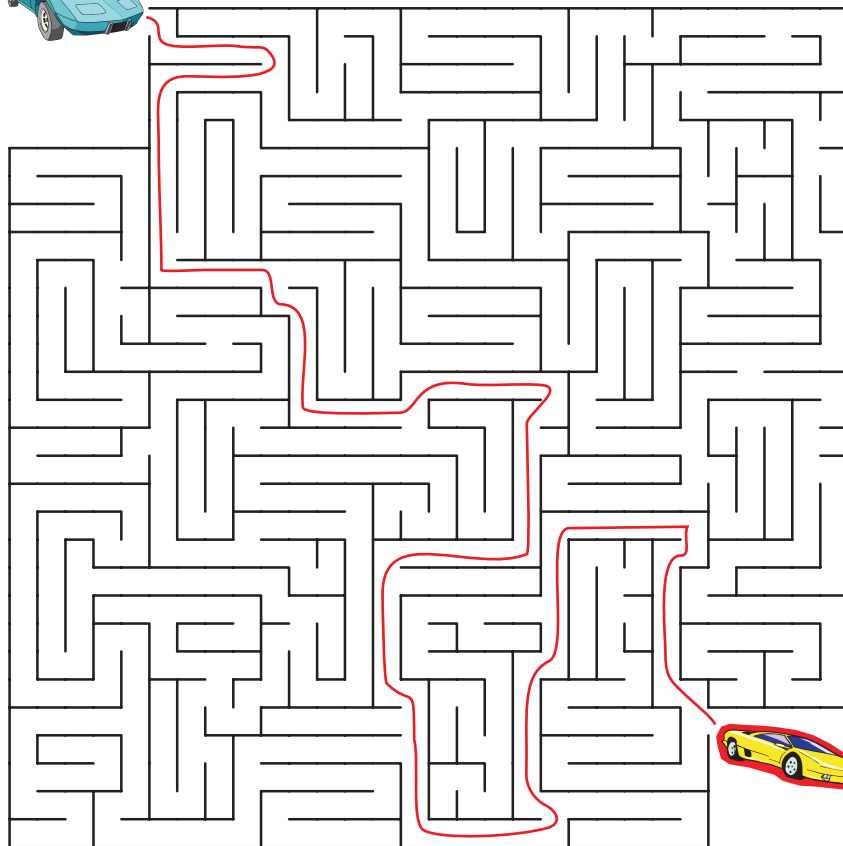
**MERRY CHRISTMAS FROM OHIO!**

ANSWERS TO CAR PUZZLE



Car Maze

Find the correct path through the maze.



Created with Discovery Channel School's PuzzleMaker.

Crafts

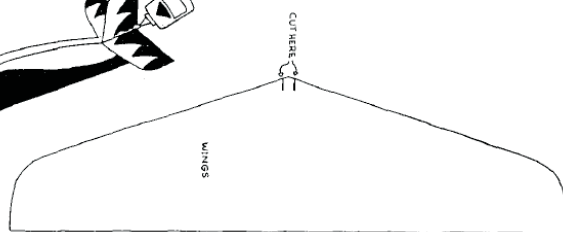
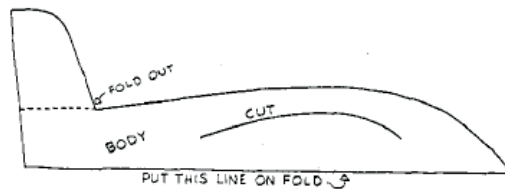
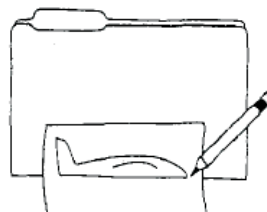
by Heart of America Council

Glider

**Materials:** Manilla file folder

Tracing paper, Pencil, scissors, utility knife  
White glue, Small metal washer or coin  
Acrylic paints or permanent markers

1. Trace the patterns for the body, wings and tail on a piece of paper. On the back of the paper, pencil over the lines so it is nice and black.
  2. Copy shapes onto the manila folder. Be sure the bottom of the body shape is on the fold of the folder. Trace and cut out the shapes.
  3. Cut the wing slot using a utility knife.
  4. Put the tail piece all the way down between the rear wings and tape or glue in place. Fold out the rear wings.
  5. Slide the big wing into the slot of the body spread apart a little bit, and push the wing forward until the body fits into the two small slots on the front of the wing.
  6. Glue or tape the washer or coin inside the nose of the plane.
- Throw the plane gently in a straight line. Don't throw it too hard! If the plane goes down too quickly, the nose is too heavy. Try a smaller coin or washer in the nose. Bend up the rear wings a little and see if the plane will fly further.

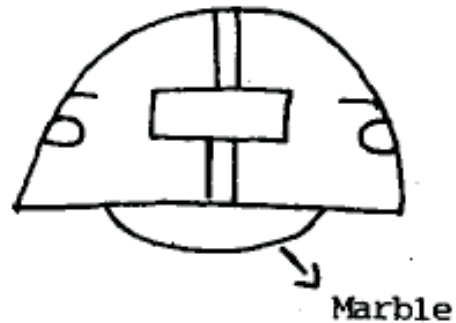
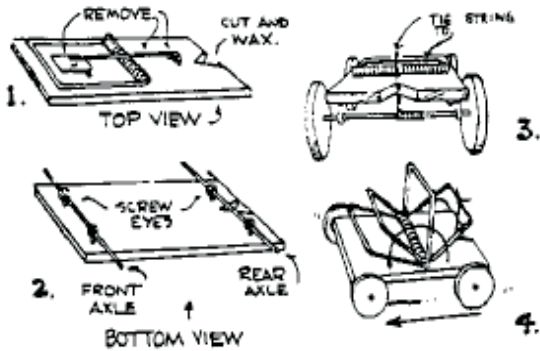


### Mousetrap Racer

**Materials:** Mousetrap

- Wax
- String
- Small screw eyes
- Coat hanger wire
- 1 1/4" Dowel
- Sandpaper

1. Remove bait pan and hook arm from trap
2. Cut a 1/2" V-notch at rear and sand and wax it so the string will slide smoothly.
3. Turn it over and screw in screw eyes 1/2" from edge.
4. Cut axles from coat hanger wire.
5. Make wheels by sawing 3/16" sections from dowel rod.
6. Drill holes in center of wheels. Pound flat ends of axles. Push axles into holes in wheels. Glue in place.
7. Roughen the rear axle with sandpaper where the string will be wound.
8. Tie string to the snapper, but not to the axle.
9. To run the racer, pull snapper back and hold it with your thumb. Wind the string on the rear axle until tight. Set racer on rug or rough surface and watch it go.



### Wacky Racers

**Materials:** Walnut shells or small paper cups  
Marbles or golf balls  
Plywood 8' x 2' or larger  
Molding  
Hot glue or nails  
Markers, construction paper or felt pieces

1. Decorate walnut shells or paper cups like race cars or little critters. The engine is the marble or golf ball.
2. Using molding for lane dividers, either hot glue or nail to plywood.

A starting box is optional and a slat may be attached at the end to stop the cars.

**TO RACE:** Place marble under the overturned shell or cup.

### Traffic Light Tie Slide

**Materials:** Light cardboard or vinyl sign, Scissors or knife, 3 brads, Paint or permanent markers  
Vinyl strip, Glue

1. Draw lines with pencil or marker. Cut out design.
2. Paint brads red, green and yellow.
3. Punch small hole and push brads through, and secure on the back.
4. Cut vinyl strip, and make the ring for the back. Glue into place.



### Stained Glass Pinewood Derby Trophy

#### Materials: Foil tins

Elmer's glue

Pattern

Scissors

Fine sandpaper

Mystic tape

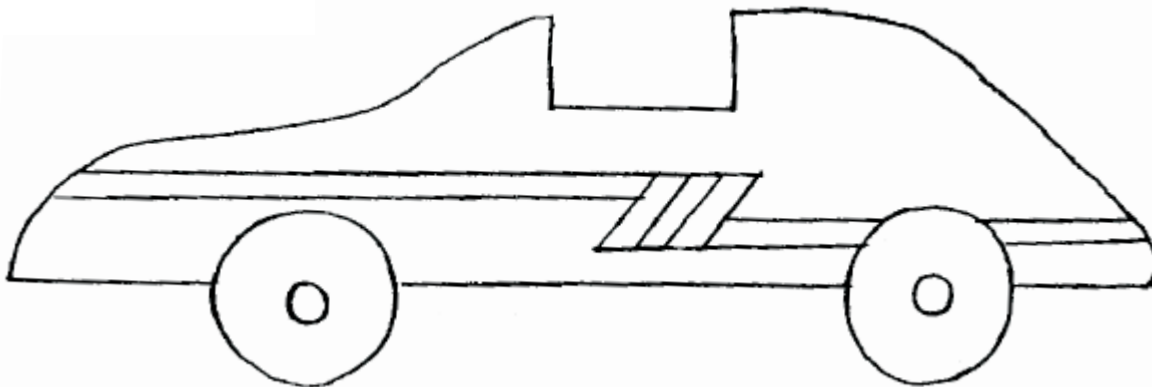
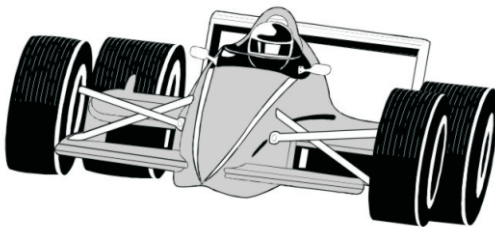
Styrofoam rectangles for trophy

base (one 6" x 3 1/2", one 4" x 2" and one 1" x 2")

1. Place pattern over the smooth part of a pie tin. Use a blunt point of a pencil and retrace the design, pressing down so that it will be transferred to the foil. Cut around the design. Smooth the rough edges of the car with fine sandpaper.

2. Paint plain Elmer's glue on the car where the colored glue mixture is to be applied. Both sides of the car may be painted. When the plain glue is dry, repaint the car with colored glue mixture. If using more than one color, let the first color dry before applying a second color.

3. To make the base for the trophy, glue the rectangles together and set aside to dry. After the base is dry, use the desired glue mixture to paint the Styrofoam base. After the colored glue is dry, cut a slit down the middle of the base, use a colored mystic tape around the edges of the Styrofoam. To complete the trophy, place glue in the slit and press car into the base.



### AUDIENCE PARTICIPATION

#### Too Much Go

Divide the audience into three groups and assign each group one of the following capitalized and **BOLDED** sound effects to be given on cue.

**THINGAMAJIG**: "Back and Forth" (Move hand back and forth).

**DO HICKEY**: "Up and Down" (Move hand up and down).

**WHATCHAMACALLIT**: "In and Out" (Cup one hand in a semi-circle and dip other hand in and back out).

**CONTRAPTION**: All sounds at once.

Ever since the beginning of time, men have been competing with each other, each one trying to invent something that will go farther, higher or longer than any other thing. There are **THINGAMAJIGS** and there are **DO HICKEYS** and even **WHATCHAMACALLITS**. Nobody really knows what each of the **CONTRAPTIONS** are supposed to do. For instance, a **THINGAMAJIG** could be almost anything, and it probably wouldn't even have to have a moving part in it. The same goes for a **DO HICKEY** or a **WHATCHAMACALLIT**.

Whenever a man sees a **CONTRAPTION** which has a **THINGAMAJIG**, a **DO HICKEY** or a **WHATCHAMACALLIT** on it, then his mind immediately goes to work trying to invent something that will outdo that **CONTRAPTION**. The man who really fouls this up is the one who keeps trying to invent a better **THINGAMAJIG**, **DO HICKEY** and **WHATCHAMACALLIT**. For in the end, he'll probably be competing against himself. One such ambitious man crated a **CONTRAPTION** upon which there was a **THINGAMAJIG** and a **DO HICKEY** and a **WHAT WHATCHAMACALLIT**. Well, after watching it work, he decided that the **THINGAMAJIG**

next page

needed to go faster and the **DO HICKEY** needed to go higher and the **WHATCHAMACALLIT** needed to go deeper, so he set about to correct it. However, in so doing, he completely destroyed the whole **CONTRAPTION**, for when he made the **THINGAMAJIG** go faster, it hit the **DO HICKEY** which he had made go higher, which, in turn, shot right into the **WHATCHAMACALLIT** as it dove deeper and the result being the whole **CONTRAPTION** quit going, for each part had knocked the other part out. So, in making things go in this world, let's always remember that some things are better left as is, and, remember, we must have the strength to change those things we can, the serenity to accept those we can't change and the wisdom to know the difference. If we remember this, we won't become like the man who tried to better the **CONTRAPTION** and merely ended up with the **THINGAMAJIG** and the **DO HICKEY** and the **WHATCHAMCALLIT** all working against each other. Then, we can really make things go!

### **APPLAUSE** **Motor cycle yell**

Stomp foot as starting motor cycle, say, "Varoom," have arms out like hanging on to handlebars. Twist right hand and say, "Varoom, varroom." Now act like you are driving the bike and say, "AAAAAaaaaaaaAAAAAA."

What disease do race cars get?

### **VROOMATISM**

Racers - Move hand like a racer and go  
"ZZRRrrroooooommmim" three times.

### **Do you know your cars?**

The definitions below describe a type of car. Identify them.

1. First colony in New England
2. Our 16th President
3. City in Michigan
4. Theater in which Lincoln was shot
5. A young horse
6. A spotted horse
7. A motherless calf
8. A stinging insect
9. A shooting star
10. A bullfighter

**Answers:** 1 - Plymouth, 2 - Lincoln, 3 -Pontiac, 4 - Ford, 5 - Colt, 6 - Pinto, 7 - Maverick, 8 - Hornet, 9 - Comet, 10 - Matador.

### **Games**

by Heart of America Council

#### **How Many Ways?**

**Materials:** A map for each cub

Crayons, markers

Each player is given the same state or regional map. They are then given the names of two cities which are located fairly far apart on the map. Using crayons/markers, the boys try to trace as many different routes as possible that connect the two cities—without duplicating a road in any of the routes

#### **Name the Car**

**Materials:** None

This game may be played in two ways. Players may take turns trying to identify the make of an oncoming car, winning one point for each correct identification. Instead of taking turns, the game may be played with the first person to call out a guess winning one point if he is right...or losing one point if he is wrong. One person does not take part in the game, but acts as a judge to settle disputes.

#### **Automobile Relay**

**Materials:** None

Divide the den into two teams (or each den is a team). Establish a starting line and a turning line about 30 feet away.

There are eight legs in the race, so in half-den teams, some boys will run **two legs**. Each Cub Scout is then told which leg or legs he runs and how they are to be run.

At the command, "GO!", car #1 hops to the turning line, comes back and touches car #2 and so on, until each team has run all eight legs.

**The legs are:**

1. has a flat right tire, so he hops on his left foot
2. has a **flat left tire**, so he hops on his right foot
3. can only go in reverse, so he runs backwards
4. has water in his fuel line, so he chugs two steps forward, then one step backward
5. must be cranked every fourth step, so he stops and "cranks" himself
6. he won't go at all so #7 pushes him
8. runs fine

First team finished, wins.

Players hold the hoops like steering wheels; rev- up and start zooming! The idea is to go as fast as possible without crashing into another boat.

The smaller the space, the more the players learn the necessity of “finding the empty spaces” and moving into them. For a variation, Bus Ride, have the boys hook up with some of the others by flipping their hoops over the person in front of them. The front person holds the hoop flat like a steering wheel of a bus. Everyone stays together and goes for a drive.

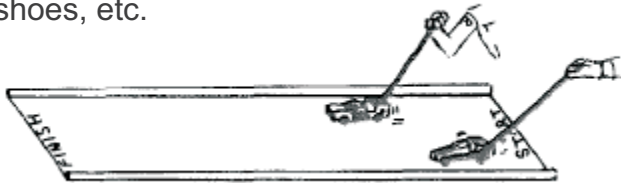
### Stick Derby

**Equipment:** Pinewood derby cars

Two uniform stick (dowels)  
about 18” long

Masonite track - 8 feet long by 18” wide with attached bumper rails made of lathing or furring strips Each heat is run with two boys, winner races next challenger until a final winner is determined. To race cars, each boy takes position next to the track which has been laid in a horizontal position (there should be no slope to it). Cars are placed at starting line and when leader starts race, each boy propels his car down the track using only his stick to push and guide his car toward the finish line. First car to finish line is the winner of that heat

**Variation:** Cars could also be raced on sidewalk or driveway utilizing an obstacle course of tin cans, rocks, shoes, etc.



### Pinewood Derby Opening

by Narragansett Council

If a Pinewood Derby is to be the highlight of your Pack meeting, the following opening would be appropriate to start things off. Nine Cub Scouts hold up large cardboard cutouts of derby racers.

Each one has a letter on it to spell “Derby Time”.

**D** Dads and sons this month have had some fun.

**E** Everyone working to make their pinewood derby run.

**R** Races will be held right here tonight.

**B** Boys and dads hoping they built theirs just right.

**Y** Yearning to win a race or two.

**T** Thinking about the competitions cars must go through.

**I** In just a short while the races will begin.

**M** May all the best cars win.

**E** Everybody please now rise as the Pledge of our Flag we say, thus declaring Pack (number)’s Pinewood Derby underway.

### Advancement Ceremony: Power-ful

by Goldenrod District

Props: paper pinwheels, tub with boat, pitcher with water to pour into tub, lamp and power source

CM: All this month we've been talking about power. Our boys have really turned on the power as they used their energy and completed lots of achievements. Would the following boys come up for Wolf recognition?(give each Cub a pinwheel)Just as the wind was one of the earliest known power sources, so these young Cubs have achieved great and powerful goals in earning the Wolf badge. Some have even reached hurricane force winds and achieved greater power by earning arrow points!  
(present badges)

CM: Would our Cubs who have earned their Bear rank please come forward and help me fill this tub?(Bears pour water into tub)The power of water has long been recognized. Floods can quickly wash away homes and other structures and cause great destruction. But water is also a power for good - the electricity it generates provides power for many other activities. These Cubs have shown that they can channel their energy to useful purposes. They have earned the rank of Bear.(present badges)

CM: Do we have any Webelos earning their rank badge? Please come forward and help me make some light.(Webelos turn on light switch or complete an electric circuit so a light shines.) Electricity ... that amazing source of power that has dramatically changed our lives. A lightning-quick energy is also found in these Webelos Scouts who continue to energetically get more and more activity badges. We commend this highest source of power.(present badges)

### Race Winners Ceremony

by Narragansett Council

Call winners and their parents forward. Have the winners salute the group in respect for the good job they did as a good winner recognizes the efforts of his competitors.

Have the winners shake hands with their parents in recognition of the partnership formed in working together with tools and on their car. In recognition of a job well done, present trophies to boys with congratulations. Audience applaud.

### Cars Rank Advancement

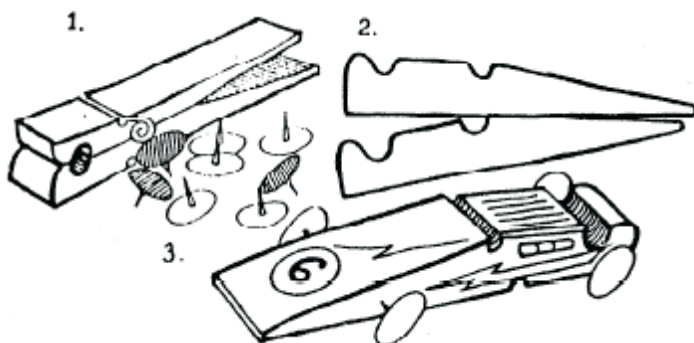
by Narragansett Council

Allow boys to bring in their rank on a radio-controlled car with parent advising on steering. Car could come through a course marked with cones saying "Bobcat", "Bear", "Wolf", etc. If several awards are given or for several boys of the same rank, try to arrange the use of 2 or 3 cars.

### Kub Kar Award

by Narragansett Council

Make two miniature racing cars from spring type clothes pins and eight thumbtacks. Take apart the clothes pins and color the bodies with felt-tip markers. Push or hammer in thumbtacks as wheels. Put a small screw eye into the back of each car and string cars on cord to go around boys' necks as Kub Kar awards.



### ADVANCEMENT CEREMONIES

#### Pinewood Derby Advancement

**PERSONNEL:** Cubmaster, the advancing Cub Scouts and their parents..

**EQUIPMENT:** Pinewood derby track, badges of rank or decals of them and awards to be given to boys.

Put decals or actual badges of rank on stiff cardboard and attach to eight inch long sticks. Tape or tack these to side rails of derby track in ascending order. Bobcat near bottom then Wolf, Bear, Webelos and Arrow of Light on top. If you have a boy graduating into a Scout Troop, have a Scout Badge at the top.

At appropriate places on the track, tape badges and arrow points to be presented. (Note: Equipment must be prepared immediately after the pinewood derby, while the derby chairman is making his awards, so that it will be ready for the following advancement ceremony.)

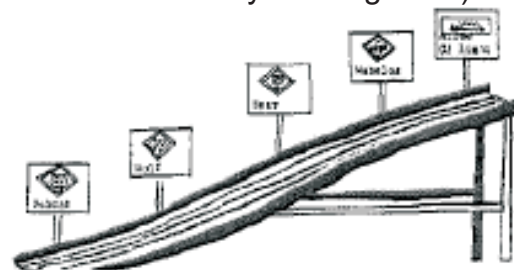
**CUBMASTER:** We've all had a great time tonight watching the pinewood derby cars race down this track. They really speed

Well, you can go uphill on this track, too. It's a little harder, but it's worth the climb from Bobcat to Wolf to Bear to Webelos and to Arrow of Light.

Some of our Cub Scouts have been climbing this course, and now we're going to show how far they have gotten. Will the following Cub Scouts who have made the climb as far as Bobcat please come forward with your parents?"

(When the boys and parents have assembled, remove their awards from the track and have parents pin badges on Cubs. Do the same for Wolf and Bear badges and arrow points. Have Webelos Den Leader take over for Webelos activity badges, Webelos badge and Arrow of Light Awards. Cubmaster resumes if there is a boy graduating into a troop.

(This ceremony can be adapted to the Rocket Derby track if a Rocket Derby is being held.)



### Transportation Closing

by Narragansett Council

This can be a closing ceremony performed by Cub Scouts holding large cardboard cutouts as they read their lines off the back of the cutouts. Or large posters with the lines printed on them can be displayed around the room instead of the closing ceremony.

**Cub 1: (Holding train engine.)** When engineering a project, keep on the right track. This way you never will be caught slack.

**Cub 2: (Holding canoe.)** As the wise old Indian would say to you, learn to paddle your own canoe.

**Cub 3: (Holding covered wagon.)** The covered wagon served folks well in its day, but don't get in a rut - you won't go far that way.

**Cub 4: (Holding plane cutout.)** To guide your life, like a good pilot you'll find it's important to keep an open mind.

**Cub 5: (Holding car.)** If spinning your wheels causes a terrible rumbling, you may not be moving, but sitting there grumbling.

**Cub 6: (Holding space ship.)** Just as an astronaut

flies into space, with a lot of determination, you can go anyplace.

*(Cubs prop cutouts against back wall and join hands in the living circle while the following is read.)*

Just like the cars in a train,  
We're joined together as one;  
We do our best to help the pack go,  
While having Cub Scout fun.  
And when it's time to part,  
Each taking a separate trail,  
We'll do our best for God and Country,  
In that we will not fail.  
We remember our Cub Scout Promise in  
everything we do.  
Won't you please join us as we pledge ourselves  
anew.  
*(Leads boys and audience in Promise.)*

### Cubmaster's Minute

by Narragansett Council

A hitchhiker, signaling with his thumb, is saying in effect: "You furnish the car, buy the gas, attend to repairs and upkeep, supply the insurance and I will ride with you. However, if you have an accident, I will bring suit against you for damages." It sounds like a pretty one-sided affair, doesn't it? To relate this thought to the Scouting organization, and to the many hitchhikers working their thumbs overtime. They seem to be saying to those who are serving in Scouting, "You furnish the time, effort, plan the programs, arrange for transportation, attend to such things as membership drives, Pack meetings and meeting places and we'll go along for the ride. But if things don't go to fit our fancy, we'll complain and criticize and probably get out and hitchhike somewhere else." But, after all is said and done, those that aren't hitchhiking don't really mind so much. So long as there is room, they don't mind having a few hitchhikers, just so the hitchhikers don't try to do too much back-seat driving. The real concern at this point is not for the Scouting organization, but for the people one the side using their thumbs... for they are cheating themselves... there is such a genuine joy in working for the boys that can never be had by watching from the sidelines. Den (*number*) will now retire the colors.

### CLOSING CEREMONY

### Pinewood Derby

by Heart of America Council **Personnel:** 8 boys

**Equipment:** 8 cards with letters PINEWOOD

**Setting:** Each boy holding a letter

**P** —A Pinewood Derby is fun for all. But the whole family must answer the call.

**I** —I entered the competition to win or lose, or whatever my doom.

**N** —Neatly I painted my car with dad's expert help, but I ran it myself.

**E** —Excitement ran all through the night. No matter who won, it will be all right.

**W** —We would all like to come in first, but if not, our bubble won't burst.

**O** —On with the races, don't hesitate. This Pinewood Derby didn't wait.

**O** —Open the gates, down the track, then we reset. For, being Cub Scouts, we've done our best.

**D** —Don't mind tonight, where your car placed;  
**Cub Scouting will help you** through all life's races.

### She'll Be Draggin' Round the Mountain

(Tune: She'll Be Comin' Round the Mountain)

by Heart of America Council

She'll be draggin' round the mountain when she comes,

(EEARROOMM)

She'll be draggin' round the mountain when she comes,

She'll be draggin' round the mountain

She'll be draggin' round the mountain

She'll be draggin' round the mountain when she comes.

Oh! She'll lay a strip of rubber when she comes.  
(EETEET)

Oh! She'll drop her ole transmission when she comes.  
(CLUNK CLUNK)

Oh! Her smog device gets clogged up when she comes.  
(BLAUGH BLAUGH)

Oh! Her engine radiator gets too hot.  
(PPAHHA PPAHHA)

Oh! She'll wind up in the junk yard when she comes.  
(THE END)



## WEBELOS

### Fitness

#### BALANCE TRICKS

No matter what type of shape you're in, there are just some things we can't do. These tricks are to show what happens when your balance is off-center.

1. Stand with heels and shoulders against the wall .try to pick something up that is dropped in front of you .see what happens.
2. Stand with 1 shoulder, arm, leg and foot against the wall, try to raise other foot .what happens?
3. Keep a person sitting down, using only 1 finger .place finger in between their eyes and push gently as they try to stand .they must be sitting in a straight back chair.

#### Do you know someone on drugs?

What clues can a parent, family member, or friend look for to identify someone with a drug problem? Here are some of the basic signs:

1. Moodiness
2. Irritability. A short temper
3. Sudden changes in behavior
4. Unreasonable bursts of anger
5. A need to be alone much of the time
6. A change of friends, especially ones who are not as nice, respectable, or likable as his or her former friends.
7. Failing grades in school, and truancy, especially for a formerly good and reliable student.
8. Irregular eating habits and loss of appetite.
9. Memory lapses and even "blacking out" episodes.
10. The discovery of drug paraphernalia, and even such things as matches when he or she is a nonsmoker.
11. A disinterest in things he or she liked before, such as sports, reading, Scouting, etc.
- 12 Defensive behavior, such as getting angry at normal questions ("Where did you go after school? Why are you always running out of money?")
13. Sleeping more than usual.
- al. Changes in sleep patterns. Not sleeping at night.
14. Dilated (very large) pupils in the eyes, unsteady walking, other signs of physical difference.
15. Dishonesty, such as repeated lies about

where he or she is going, whom he or she is seeing, and stealing money or selling objects from home and elsewhere.

While some or all of these signs might be indications of other problems, or nothing too serious at all, all of them are worth investigating.

#### Fitness Circle Game

Form a circle as large as the room permits with all Webelos facing the same direction. Give instructions for various activities as follows:

1. Start walking in a circle, and keep walking between these exercises.
2. Start hopping.
3. Make yourself as small as possible and continue walking.
4. Make yourself as tall as possible and continue walking. Now reach your hands high over your heads.
5. Bend your knees slightly, grasp your ankles, and continue walking
6. Walk as if the heel of one foot and the toes of the other were sore.
7. Walk stiff-legged.
8. Squat down and jump forward from that position.
9. Walk on hands and one foot with the other leg held high, imitating a dog with a lame foot
10. Walk forward at a rapid pace (don't run) while swinging the arms vigorously.
11. Take giant steps. \_\_\_\_\_
12. Walk forward, raising your knees as high as possible with each step.
13. Run, lifting your knees high.
14. Walk on your hands and feet.

#### TEST YOUR HEARTBEAT

by Great Salt Lake Council

Did you know that you can't actually hear a heartbeat? The heartbeat itself is just a contraction of muscle and is perfectly quiet. What you hear is the sound of heart valves snapping shut.

**To test your heartbeat:** Press the first two fingers of one hand over the radial artery in the opposite wrist. Sit quietly and move your fingers until you can feel the pulse of blood. Using a watch or clock with a second hand, count the number of beats in 10 seconds.

Multiply by 6.

Now you know the number of beats per minute. Run, exercise, or jump rope for 10 minutes, then take your pulse again to see how much faster your heart is pumping.



### Scientist Marble Eyeball

**Materials:** Cardboard egg carton  
Cat's eye marble  
Plaster  
Ring from 2 liter bottle

1. Seal inside of egg carton cup with clear spray enamel.
2. Place marble in crease on bottom of egg carton cup.
3. Mix plaster and fill cup past marble.
4. Insert ring.



### Magic Braided

**Materials:** 1 3/8" x 4 3/8' piece of fabric backed vinyl or soft leather  
Stapler  
Knife

1. Cut leather or vinyl using pattern.
2. Grasp left bottom corner and push it through slit between 2 and 3 (Fig. a).

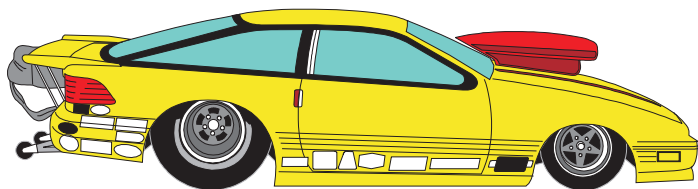
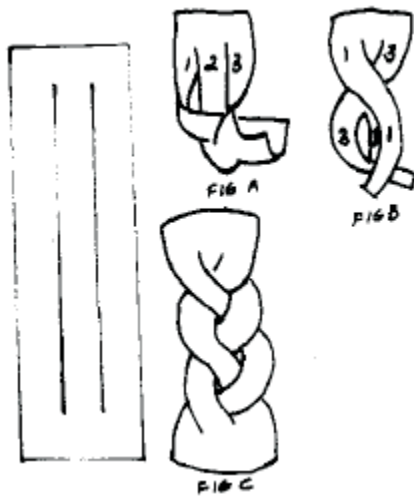
3. Put strip 3 on top of strip 2, then put strip 1 on top of strip 3, making a sandwich with strip 3 in the middle.

Work strip 3 out to left, exposing an open loop (Fig. b).

4. Take bottom end, bring it toward you, then insert it through loop and pull it through.

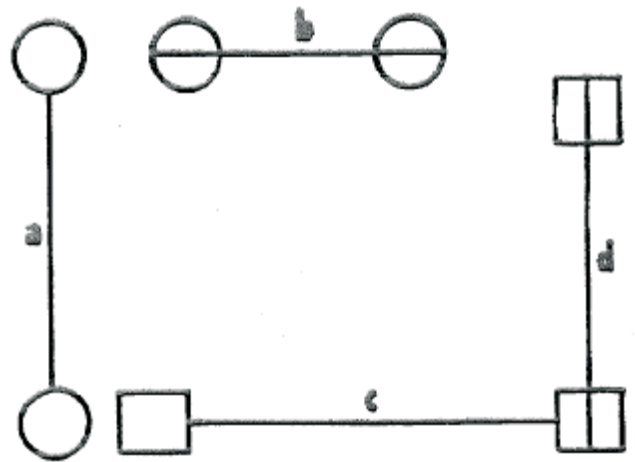
5. Rework with fingers into a braided strip which looks like Figure C.

6. Use a small stapler to staple top and bottom ends together.



### Spaced Out

Which lines are the same length?



line "a" equals "b" and "c" equals "d." Line "a" seems longer than "b" because we unconsciously add the circles on the ends of the line to its length. The same is true of line "c" with its open squares.

### A Fog Making Machine

**Materials:** Glass gallon jug  
Stopper to fit it  
Bicycle pump  
Water or alcohol

Put a small amount of water or alcohol (which works even better) in the jug. Bore a hole through the stopper in the mouth of the jug. After a few strokes of the pump, remove the stopper quickly. There will be a loud pop and you will see that a cloud will form in the jug. To get 'fair weather', all you need to do is replace the parts as they were, and pump air back into the jug. The reason the cloud was formed is that in pumping air into the jug, the temperature was raised, making it possible for the air to hold more moisture. When, the top was removed, the air expanded and cooled. This cool air could not hold as much moisture, thereby forming a cloud.

### Homemade Barometer

**Materials:** Small mouth jar  
A soda straw  
A piece of rubber cut from a balloon  
lightweight cardboard  
Glue

Cover the mouth of the jar with the piece of balloon, tying it in place with the string. Glue one end of the soda straw to the middle of the balloon. Make a scale on a piece of cardboard, by making 1/2 inch marks about 1/8 inch apart. Superimpose the free end of the straw across the scale, but don't let it touch the scale.

Mark the scale from 1 to whatever number of lines on the scale. Ask one of the boys to be in charge of the barometer for a month. Have him mark the number on the scale that the barometer points to each day at a certain time. This way there can be a check between your barometer and the actual air pressure as given in the newspaper each day. Remember that as the air pressure increases, the straw will point higher on the scale.

### Air Cannon Hockey

This game will demonstrate air pressure. Use round cardboard oatmeal boxes. Cut a hole the size of a penny in the tops. Fasten the lid back to the box tightly. Use a table for a field, with a goal at either end. Have a boy sit at each end of the 'field' with a cannon (box) and put a ping pong ball in the middle of the table. By tapping the back of the box and aiming it at the ball, try to score by putting the ball through your opponent's goal. The Webelos leader can demonstrate the effectiveness of his oatmeal box cannon by using it to put out a candle. Fill cannon with smoke, then aim at candle, tap back of box, and flame will be put out. These cannons are effective up to about six feet.

### Hot Air Balloon Power

Divide Cub Scouts into two or more teams. Each player is given a balloon which he blows up and holds by the neck until his turn. A raceway is defined for each team and a ping pong ball placed at the beginning of each raceway. Team players take turns letting air escape from their balloons blowing their team's ball down the raceway. The winner is the team that blows the ping pong ball the furthest way down the raceway

### Auto Gyro

#### Materials:

Paper 3 1/2 " wide by 8 1/4" long

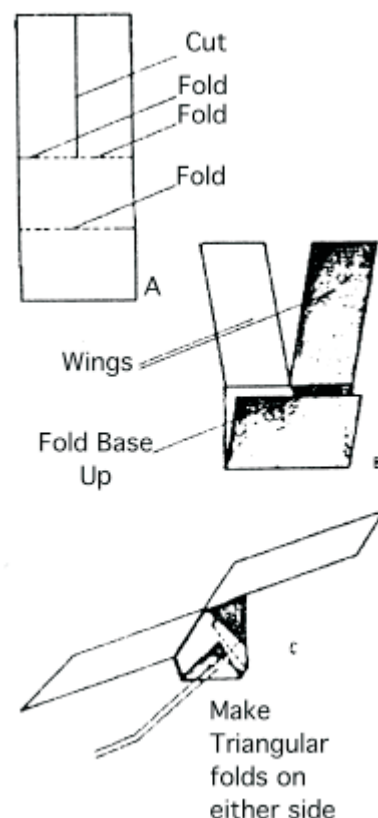
The principle of the Auto Gyro can be easily demonstrated by making one as shown in the sketch.

1. Cut from a piece of paper 3 1/2" wide by 8 1/4" long, cutting down the center of the paper 4" and then folding the cut section to opposite sides as shown, to form the two wings.

2. Fold the balance in half, and then make two triangular folds to the midline and your Auto Gyro is ready.

3. Make two other Auto Gyros basically the

same as the first one, but cut the wing area to three inches on the second one and to two inches on the third one. Try flying from the same height and observe how each model reacts. Does any thing seem to slow their descent? What actually makes it spin? Note the order in which the three models reached the ground. Are wing size, air resistance, and rate of descent related?



### WEB SITES

These sites are current as of 11-30-07

For auto racing sounds, ideas for decorating your Derby race go to my Council's Race to Scouting web page

<http://www.bsac449-bsa.org/race-to-scouting.htm>

For Derby info

<http://www.raceview.com/demo.html>

<http://members.aol.com/randywoo/pine/>

<http://www.rahul.net/mcgrew/derby/>

<http://members.aol.com/StanDCmr/scfair.html>

<http://www.newdirections.ws/>

<http://www.microwizard.com/>

<http://www.scoutorama.com/derby/>

<http://home.simplyweb.net/bosworth/>

<http://www.geocities.com/~pack215/pinewood.html>

For design ideas (check your Councils rules to see if they are within the rules)

<http://www.abc-pinewood-derby.com/pinewood-car-designs.htm>