

# ***Event Guide***

*(revision November 16, 2019)*

Chippewa District Activities Committee

*Presents*

## **KLONDIKE DERBY 2020**

Event code: (TBD)



## WHAT IS THE KLONDIKE DERBY

The Klondike Derby is a day-long annual event hosted by The District for Boy Scouts and Webelos/Arrow of Light Cub Scouts. Scout patrols will complete several outdoor skill events where a score is given at each station. Scores are tallied at the end of the day and ribbons are awarded to the top scoring patrols.

Scouts compete as a patrol of 6 – 8 youth. Each patrol brings a “Klondike sledge” which is styled after the type of sledge or sled used by gold miners in the Klondike Gold Rush from 1896 – 1899. Each sledge must carry specific equipment needed to complete the competition. Sledge designs and the equipment list are described later in this guide.

Local Troops run the competition stations, which are given names themed around the Klondike Gold Rush. The station activities are designed to last about 20 minutes each and will accommodate approximately 4 patrols at a time. Stations this year are:

First Aid	Bear Bag Toss
Team Building	Log Sawing
Compass/orienteering	Archery
Snowshoe Race	BB Shooting
Tomahawk Throw	Sled Race
Lashings	Fire Building
Signaling	Snowblind Tent Raising

Scots BSA troops also have the opportunity to camp overnight on Friday and/or Saturday night. Most troops view this as an opportunity to do some cold weather camping to earn the “polar bear” award.

## KLONDIKE DERBY LOCATION

**Three Fires Council Camp Big Timber  
37W955 Big Timber Road  
Elgin, IL**

The main lodge will be open for using the rest rooms, but the lodge building itself will not be available for the Derby. Instead, we will use the enclosed porch area for registration and service lunch. The Ansel building will be available as a warming hut. **Please be prepared to be outside all day.**

Overnight campers will be accommodated near the fire bowl. Trailers will be allowed to get as close as possible to the camp sites.

## KLONDIKE TIMETABLE

January 22 Last day to pre-register  
January 24 6:30-8:30 Troops camping  
overnight Friday arrive and set up

### January 25<sup>th</sup>, Saturday

8:00 A.M. Check in opens – main lodge porch  
9:00 A.M. SPL/Patrol Leaders Meeting  
Map Room – Visitors Center  
9:15 A.M. Flag Presentation – Events begin  
**11:15 – 1 PM HOT LUNCH SERVED**  
Main Lodge porch. Exact time will be assigned to each patrol  
3:30 P.M. Competition ends – Patrols turn in  
Score cards at main lodge porch  
4:00 P.M. Award Ceremony Main Lodge Porch

## COST AND REGISTRATION

The cost is \$10 per person. All attendees must pay \$10 (Scouts and adults, including troop leaders). Admission includes:

Camp Big Timber grounds access  
Competition entry  
Event patch  
Hot chocolate & lemon drink throughout the day  
Hot lunch

The main registration is on-line; go to [www.ThreeFiresCouncil.org](http://www.ThreeFiresCouncil.org) and at [www.chippewadistrict.org/](http://www.chippewadistrict.org/)

All units are **required to turn-in a completed roster form (attached)** at registration on the day of the event listing all scouts and adults attending. Any payments made the day of the event must be marked with the following event code:

(TBD)

Scouts BSA units may camp Friday and/or Saturday night at an additional charge of \$1 per person per night. Advance notice and arrangements must be made with the event key contacts. Patrols that camp on Friday night before the event will earn extra score credit.

## Key Contacts

Sean Nadeau, District Executive, 630-797-4630  
[sean.nadeau@scouting.org](mailto:sean.nadeau@scouting.org)

Rich Tatara, Event Chair 630-280-4905,  
[rmtatara428@gmail.com](mailto:rmtatara428@gmail.com)

## ADULT LEADERSHIP

BSA *Guide to Safe Scouting* rules apply to this event just as for all other types of outings. Each participating unit should have in attendance two registered adult leaders, or one registered leader and a parent of a participating Scout or other adult, one of whom must be 21 years of age or older. An extra adult is recommended for every additional group of 4 scouts (known as the rule of 4); for example, it is recommended that three adult leaders be present if there are 8 scouts. It is recommended that parents bring their scout to the event; otherwise, all *Guide to Safe Scouting* rules apply regarding transportation of scouts.

## MEDICAL FORMS AND TOUR PERMIT

All units should bring Part A & B medical forms for their participants. Leaders will produce the forms at check-in, but then retain them throughout the event. Scouts from units in Three Fires Council who are competing in the Klondike Derby for the day will not need a separate tour permit. Three Fires Council troops camping overnight will not need a permit.

## MEAL PLANNING

The event fee includes a hot lunch which will be served on the enclosed porch but consumed outside. A vegetarian option will be offered. Troops camping overnight must plan and bring all other meals on their own.

## SLEDGE/SLED REQUIREMENT

Patrols competing in the event must transport their gear on a homemade sledge pulled by the scouts. Most troops/packs already have a sledge that has been passed down from generation to generation. If you need to construct a sledge, plans are included at the end of this guide and may be easily found on-line. If you need to borrow a sledge, this can be arranged, but we need at least two weeks notice to contact nearby packs and troops who may be able to loan a sledge for this event. If there is little or no snow present for the event, then you must construct an alternate means to move your sledge through the event; some use wagons while others have optional wheels built into their sledge design. In a pinch, units can use toboggans, plastic sleds or wagons to carry their gear through the competition, but it may be harder to earn Klondike Spirit points during the competition.



## GEAR FOR THE SLEDGE

**IMPORTANT!!!** There are several things you **MUST** bring for your sledge, and each competing patrol will be judged on their readiness. Most units place these items in plastic bins on the Sledge. They will be transported on the sledge by the patrol throughout the day. Here is the list:

- **Come with ONE can of TOMATO BASED Soup or CHICKEN NOODLE BASED Soup (no cream soups, please) per scout to be handed in at registration.** These are used for Klondike Soup at lunch and the excess is donated to a local food shelter.
- **Enough DRY firewood, tinder, and kindling to build a small campfire.**
- **A Patrol Flag and Cheer**
- **6 ft. rope/scout & one 15 ft. rope/sled**
- **Blanket and/or tarp**
- **3 – 6 Lashing staves/poles**
- **Compass**
- **Matches**
- **First Aid Kit**
- **Clip Board**
- **Pencil and Paper**
- **Water bottle for each Scout**

## INSTRUCTIONS FOR TROOPS RUNNING A STATION

- Your unit should arrive early to be prepared for the competition start sharply at 9:00 am on Saturday morning and run continuously through 3:30 pm (including coverage during lunch period).
- Your event needs to be scaled so that up to 4 sled-groups can complete your event within 20 – 25 minutes. This enables derby participants to have a 5 – 10 minute “passing period” between events.
- Your unit should have sufficient adult leadership helping to operate the event so that all of your scouts who want to compete in the derby have that opportunity. Older scouts who choose not to compete can also help run your station
- Units are welcome to partner with other units to operate a station to provide additional depth and coverage.
- Your event must include a method of scoring that accounts for demonstrated skill level, especially as it relates to excellence in traditional scout skills. It should also account for the difference in skill level between Scouts BSA and Webelos Scouts. Your scoring should include extra points for spirit and enthusiasm.

## WINTER EVENT CLOTHING

The Klondike Derby is an outdoor wintertime event, so **participants must dress appropriately to be outside all day**. There are many variables affecting the choice of strategy for staying comfortable in cold weather: weather conditions, ground cover conditions, activity level, variability of activity level, etc. It is expected that all participants will be suitably dressed for winter conditions, including long underwear, water repellant pants, warm coat, gloves and hat. In addition, here a few things to do differently for a Klondike Derby:

- Remember, the insulator in all clothing is air. Loose, thick and dry clothes provide more insulation. Thin or tightly drawn clothes provide little insulation. Most mistakes involve forgetting this. Protection from wind by an outer “shell” is also a key item.

- Add insulation to your legs and head. Most people wear less insulation on their legs and head because they don't feel cold, but these body parts dump out a huge amount of body heat.
- You need especially thick, loose insulation on your feet. Your summer shoes/boots don't have room for this. So, use insulated boots, or else shoes/boots that are 2 or 3 sizes bigger than your summer shoes, and put 2-3 pairs of non-cotton socks on.
- If your fingers get cold, make sure your gloves are thick and loose. Better yet, wear mittens instead of gloves.
- Get moving! Even a small amount of activity will make a big difference.

## Cold Weather Clothing & Sleeping Gear Videos

There are many variables affecting the choice of strategy for staying comfortable in cold weather. A few years ago we made two videos that cover these topics specifically for Klondike. They are on YouTube:

Clothing video title: Clothing2.flv

Clothing video link:

<https://www.youtube.com/watch?v=N2QYjvoburl>

Sleeping gear video title: SleepingBag.flv

Sleeping gear link:

<https://www.youtube.com/watch?v=QrvbBwlepFw>

## 2020 Chippewa Klondike Competition Events

1. **Bear Bag** – each member of the patrol will tie a bear bag knot. The final bear bag will be hoisted up a bear bag pole/tree and properly secured to a tree. Patrol should have a rope and bear bag on their sled, but the station should have an extra rope and bear bag.
2. **First Aid** - the patrol comes around the bend of the trail and finds an injured scout. Properly administer first aid for this scout. Materials: Patrol should have first aid materials on their sled. The station could supply an injured scout or ask one of the contestants to be the injured scout.
3. **Orienteering** – the patrol is lost. Using a topographical map, locate yourself and identify some symbols on the map. Patrol should bring a compass with their sled. The station should supply a map and have extra compass on hand.
4. **Camp Gadgets/lashings** the patrol will work together to lash a tripod with leg braces to support a 2.5 gallon water jug or construct some other camp gadget as devised by the station. Patrol should bring lashing ropes or twine and 6 poles. Station should have extra ropes and poles.
5. **Fire Building** – Patrol will build a fire; boil some water to warm them up. Patrol will bring matches, pot, water, cups, spoon and hot cocoa mix. Station should have extra pots and provide tinder, kindling and fuel.
6. **Log Town (log sawing)** – Station will provide the Scouts two-man saws and improvised sawbucks. They must saw through a six-inch log against the clock. They can keep the chunk they saw off.
7. **Tomahawk throw/Wrist Rockets** – Station will provide hand axes and stumps for throwing competition (Scouts BSA) and set up a wrist rocket station (Webelos) using dog food. Requires trained range officer.
8. **Sled Race** – The ultimate Klondike Derby event. Station will section off a course of about 500 feet, then time the patrols as they compete for the title of fastest sled using stopwatch or app on phone.
9. **Archery** – station will establish archery range using materials provided by CBT. Patrols will compete for scores. Requires trained range officer.
10. **BB Range** - Station will use CBT BB range and rifles. Patrols will compete for scores. Requires trained range officer.
11. **Teambuilding** – Station to run a teambuilding activity, such as Isotope Relay, Survival Rope Throw (Tie and throw rescue rope to "victim" on cardboard ice floe or simulated ice break-through), Group Ski Race (using 4-man skis), etc.
12. **Snowshoe Race** – a race event where Scouts wear snowshoes – Station would need to obtain snowshoes and time participants. If there is no snow, tug-of-war could be substituted
13. **Signaling** - Patrols have five minutes to decide on a method of signaling a silent message to a line-of-sight outpost. Station gives two Scouts a short message and send them to a visible point—for example, a point 75 yards down the trail— and instruct the scouts to signal the message back to their mates.
14. **Snowblind** - All patrol members but one are blinded (blindfolded) in a snowstorm. But the Scout who can see is injured. He must direct his fellow Scouts in raising a tent as a team within a specified period of time. Station provides tent and blindfolds.

**Units are encouraged to suggest other ideas for stations!**

TROOP/PACK # \_\_\_\_\_

TOWN \_\_\_\_\_

**CHIPPEWA DISTRICT KLONDIKE DERBY 2020**  
**Roster Form to be turned in at Klondike Registration**

UNIT LEADER: \_\_\_\_\_

POSITION: \_\_\_\_\_

YOUTH NAME & PATROL	PRE-PAID ON-LINE?	YOUTH NAME & PATROL	PRE-PAID ON-LINE?
1	Y / N	13	Y / N
2	Y / N	14	Y / N
3	Y / N	15	Y / N
4	Y / N	16	Y / N
5	Y / N	17	Y / N
6	Y / N	18	Y / N
7	Y / N	19	Y / N
8	Y / N	20	Y / N
9	Y / N	21	Y / N
10	Y / N	22	Y / N
11	Y / N	23	Y / N
12	Y / N	24	Y / N
ADULT LEADER NAME	PRE-PAID ON-LINE?	ADULT LEADER NAME	PRE-PAID ON-LINE?
1	Y / N	5	Y / N
2	Y / N	6	Y / N
3	Y / N	7	Y / N
4	Y / N	8	Y / N

TOTAL NUMBER OF YOUTH: \_\_\_\_\_

TOTAL NUMBER OF ADULTS: \_\_\_\_\_

TOTAL NUMBER IN ATTENDANCE: \_\_\_\_\_

@ \$10.00 each = TOTAL DUE \$ \_\_\_\_\_

**PLEASE USE ON-LINE REGISTRATION**

TOTAL PAID ON-LINE \$ \_\_\_\_\_

TOTAL PAID AT REGISTRATION BY CASH OR CHECK \$ \_\_\_\_\_

MAKE CHECKS PAYABLE TO: THREE FIRES COUNCIL, BSA

*NOTE: This form is turned in at Klondike Registration*

WEBELOS ADVANCED REGISTRATION FORM (paper)

2020 CHIPPEWA DISTRICT KLONDIKE DERBY

PACK NO. \_\_\_\_\_ DEN NO. \_\_\_\_\_ TOWN \_\_\_\_\_

CHIPPEWA DISTRICT? YES/NO

ADULT LEADER: \_\_\_\_\_

PHONE NO.: \_\_\_\_\_ E-mail \_\_\_\_\_

E MAIL \_\_\_\_\_

TOTAL NUMBER SCOUTS ATTENDING \_\_\_\_\_

TOTAL NUMBER ADULTS ATTENDING \_\_\_\_\_

\_\_\_\_\_ LINKED UP WITH TROOP NO. \_\_\_\_\_

\_\_\_\_\_ ATTENDING ON OUR OWN

ACTUAL
_____
_____

IN ADDITION TO \$10.00 EVENT FEE EACH SCOUT IS ASKED TO BRING A CAN OF SOUP WITH HIM TO BE TURNED IN @ REGISTRATION. PLEASE TRY TO REGISTER AS A UNIT AND PAY ON-LINE AT [www.threefirescouncil.org](http://www.threefirescouncil.org) . OTHERWISE, COMPLETE THIS FORM, SCAN AND E-MAIL TO EVENT CHAIR RICH TATARA AND DISTRICT EXECUTIVE SEAN NADEAU. AT THE DAY OF THE EVENT PLEASE PAY BY WAY OF ONE CHECK MADE PAYABLE TO "THREE FIRES COUNCIL". PATCHES WILL BE GIVEN TO LEADER AT TIME OF REGISTRATION.

Please scan and e-mail this form to Event Chair Rich Tatara  
[rmtatara428@gmail.com](mailto:rmtatara428@gmail.com) and  
District Executive Sean Nadeau [sean.nadeau@scouting.org](mailto:sean.nadeau@scouting.org)  
NO LATER THAN January 22, 2020!

*Thanks and we hope your Scouts have a great time!*

Amount Paid	_____
Check No.	_____
# Patches Given	_____

**2020 CHIPPEWA DISTRICT KLONDIKE DERBY**  
**SCOUTS BSA TROOP ADVANCED REGISTRATION FORM (paper)**  
PLEASE COMPLETE AND RETURN THIS FORM:

TROOP No. \_\_\_\_\_ TOWN \_\_\_\_\_ CHIPPEWA DISTRICT? YES/NO

NAME OF ADULT CONTACT \_\_\_\_\_

PHONE NO. \_\_\_\_\_ E-MAIL ADDRESS \_\_\_\_\_

NUMBER OF PATROLS \_\_\_\_\_

ESTIMATED NUMBER OF SCOUTS \_\_\_\_\_

ACTUAL _____
ACTUAL _____
ACTUAL _____

ESTIMATED NUMBER OF ADULTS \_\_\_\_\_

WE INTEND TO TENT CAMP @ CBT FRIDAY, THE 24TH \_\_\_\_\_ YES \_\_\_\_\_ NO

WE INTEND TO TENT CAMP @ CBT SATURDAY THE 25TH \_\_\_\_\_ YES \_\_\_\_\_ NO

COST FOR THIS YEAR'S KLONDIKE IS \$10.00 PER PARTICIPANT, WHICH INCLUDES LUNCH AND EVENT PATCH. OVERNIGHT CAMPING IS AN ADDITIONAL \$1 PER PERSON PER NIGHT. IN ADDITION TO REGISTRATION FEE, EACH PARTICIPANT IS ASKED TO BRING A CAN OF SOUP, AND THE S.P.L. OR SCOUTMASTER CAN TURN THESE IN AT TIME OF REGISTRATION. FEES ARE DUE BY JANUARY 25TH AT REGISTRATION. PLEASE MAKE CHECKS PAYABLE TO "THREE FIRES COUNCIL".

PLEASE SCAN AND E-MAIL THIS FORM TO EVENT CHAIR RICH TATARA AND DISTRICT EXECUTIVE SEAN NADEAU OR CALL IN THE INFORMATION BY JANUARY 22nd. PATCHES ARE LIMITED AND WILL GO OUT ON A FIRST COME BASIS TO THOSE WHO PRE-REGISTER.

*BEST WISHES FOR A GREAT EVENT!*

Sean Nadeau  
District Executive  
Office: 630-797-4630  
Cell: 630-303-4025  
E-mail: [sean.nadeau@scouting.org](mailto:sean.nadeau@scouting.org)

Rich Tatara  
Event Chair  
Cell 630-280-4905  
Email: [mtatara428@gmail.com](mailto:mtatara428@gmail.com)

TOTAL PAID \$ _____
BY CHECK #/CASH _____
# PATCHES GIVEN _____



# Klondike Sled Project

By Steven Maxwell • Illustrations by Len Churchill

**C**ross-country sled races deliver adventure, endurance and a wilderness challenge. And these plans are your ticket to that world. This sled is specially designed for Klondike Derby races in which boys—not dogs—provide the pulling power. Even though this sled is fast and strong, you don't have to be a master carpenter to build it. Cost of materials is about \$100.

## How to Use These Directions

The instructions are divided into four parts: Building the Runners, Installing the Floor, Adding the Rails, and Finishing Up. Read everything at least once before you begin so you know how it all fits together. Then focus on each section as you work. Also, be sure to read "Prepared for Safety," which follows. What's the point in building a Klondike sled if you get hurt in the process?

## Building the Runners

The runners take more punishment than any other part of the sled. That's why they need to be made of tough wood. Ash is the material of choice here—the same wood used for snowshoes and old-time cross-country skis. It's tough and flexible, and the open grain holds wax well—an important detail that'll help win races.

If you can't find ash lumber where you live, oak, maple or hickory are good, too. Just don't use pine, cedar or any wood soft enough to be dented easily by your thumbnail. These are fine for other parts of the sled, but softwood won't last long as runners or runner blocks.

When professionals build dogsleds they cook the ends of the runners for about an hour in special steam cabinets, then clamp the softened wood to

form curves when it cools. Sound complicated? It's really not. Since you need to curve only the ends of your runners, you can easily make your own steam cabinet using short lengths of galvanized duct pipe and an electric kitchen kettle. The plans show how. Make sure an adult is on hand to help you.

There's another option for runners. The plans show how to slice partway through the ends of the runners to make the wood flexible without steaming. This is called kerf bending, and it works O.K., though it does weaken the runners. They don't look as cool, either. Use this method only if nothing else is possible.

The fastest, easiest way to get your sled on the snow is to use a pair of old downhill skis as runners. Even though they're usually made of fiberglass, skis can still be drilled and fastened easily to the rest of the sled. They're tough, too.

With runners ready, it's time to drill them for the No. 12 x 2-inch screws that fasten them to the runner blocks. The plans show where each block goes and how the screws are positioned. Because they're hardwood, you'll need to create pilot holes using a  $\frac{5}{32}$ -inch-diameter drill bit, to ease the entry of the screw. The plans show how to use screws as they extend through the runners to mark the runner blocks for accurate drilling. Also see "Drilling and Gluing" for more help.

## Installing the Floor

At this stage, you have two separate runners with four blocks attached to the top of each one. Now it's time to join these into a single unit using the four main floor supports. Cut these to length, then drill screw holes and fasten them to the runner blocks using glue and just one No. 10 x  $1\frac{3}{4}$ -inch screw per joint. Even though the front floor support is the same size as the other floor supports, leave it off for now. The plans show how the edge of the front floor support needs to be angled a bit, but that's a job for later.

Pretty easy so far, right? Don't get too confident because there's trouble lurking ahead, something that could make your sled crooked if you don't avoid it. Luckily, there's a slick trick to do just that:

With the two runners joined by the four floor supports, measure the length of diagonal distances taken from the outer corner of one floor support to the diagonally opposite corner of another. The plans show how. If your growing sled is square, then these measurements will be equal. Trouble is,

they're probably not going to be, though that's no reason to panic. Remember how you put only one screw in each joint? That lets you push and pull the runners until diagonals are equal, plus or minus  $\frac{1}{8}$  inch. Once they are, the base of your sled is square. You can count on it! Now add the second

### DID YOU PAY?

These plans are available on the *Boys' Life* Web site ([www.boyslife.org](http://www.boyslife.org)) as an Adobe Acrobat PDF file, for downloading. Cost: \$10 per copy. Payment is on the honor system. Failure to pay - whether for a PDF file, photocopy or any other duplication of the plans - limits the magazine's ability to create other exciting, professionally-designed projects (not to mention a lifetime of guilt, and a sled doomed to last-place finishes and certain structural failure). Please remit to: Boys' Life Snow Sled Plans, P.O. Box 152079, Irving, TX 75015-2079.

screw to each joint to lock everything in place. Then fasten the floor boards with glue and screws.

The plans include a close-up view of how the front floor support, floor boards and runners come together. Take a close look at this now. You'll need to use a hand plane to angle the leading edge of the front floor support so the floor support and runners are in full contact where they meet. This is the hardest part of the project, but even this isn't a big deal. The plans show the angle to be about 35 degrees, but it will vary depending on the curvature on the ends of your runners. When all looks good, clamp the front floor support in place and drive screws through the runners into it. More screws will be added later through the sloped top rail to secure the floor boards.

### Adding the Rails

The sled's rail assembly is made of 8 uprights, 2 angled tops, and a hand rail. Like everything else on the sled, these parts fit together in strong, simple ways with screws and glue. Cut the four kinds of rail uprights you'll need now—two of each type—then fasten them to the runner blocks, straight up and down, with glue and two screws per joint. The rail uprights are listed longer than necessary so you can trim along the sloped top rails with a handsaw to remove a triangular block of waste after installation. Follow the plans for the location of these parts and fasten them now. You may be tempted to trim all the rail uprights now, but don't do it. Trim only the back rail uprights so you can install the rail handle, also using

screws and glue. Leave the other rail uprights until the glue dries.

### Finishing Up

Your sled's looking pretty good by now, right? But there are still a few things to take care of. The plans show the two  $\frac{5}{8}$ -inch-diameter holes you'll need to drill through the floor boards, behind the front floor support, for the tow rope. You should also sand the sharp corners off the rail handle and sloped top rails, so no one gets slivers. Painting or varnishing your sled is optional. It'll look better if you do, but it is a lot of work, and it won't make the sled last any longer. Whatever you do, don't coat the underside of the runners. See "Wax Works" below for a speed-demon trail-tip.

#### PREPARED FOR SAFETY

Woodworking is fun—it may even become your career one day—but there's one thing you must remember. Always be careful. You must wear safety glasses when using any wood-working machinery, even if an adult is helping you. And don't forget ear protection. Earplugs or foam earplugs work fine. And if you're ever uncertain about how to use any tool, ask for help.

#### WAX WORKS!

You can build the best sled in the world, but it'll never win races unless you've treated the runners right. It's a make-or-break detail, and wax is the key. The best kind is cross-country ski wax—the hardest type you can find, rated for 30 degrees below zero temperatures. Rub the wax onto bare-wood runners (not varnished) when the sled's indoors, smoothing the surface with a piece of cork to get rid of the lumps. Your runners won't feel slippery after this, but that's O.K. Once they get outside, on the cold snow, they'll slide along the trail like a lightning bolt. And the guys pulling will certainly appreciate that. Just remember to let your sled cool down before setting it in the snow. Warm runners can melt snow, forming water droplets that freeze, making the runners rough and slow.

#### DRILLING AND GLUING

Glue and screws hold this project together, and both are easy to use if you understand a few key points. First of all, don't use ordinary white, yellow or brown carpenter's glue on this project. They're great for indoor projects but are guaranteed to turn to mush when they get wet outside. Even some brands rated as water-resistant on the label won't last long if the snow turns to slush. What you need is something called type II wood glue. It's weatherproof and available under brand names like Titebond II and Weatherite. Polyurethane glue works well outdoors, but it's more expensive. Drilling screw holes is always more accurate if you hammer a nail lightly into the wood before you bore each hole. This makes a little crater so the drill bit won't wander off the mark as the bit starts spinning. After drilling holes in the runners you'll need to flare out the bottom end with something called a countersink bit chucked into your drill. This creates a cone-shaped pocket for the screw head, so it doesn't extend below the underside of the runner and drag on the snow. Holes drilled in soft wood parts don't need to be countersunk because the screws draw themselves level with the surrounding wood.

## Materials List

### FOR THE RUNNER ASSEMBLIES

RUNNERS	hardwood $\frac{1}{2}$ "-thick x $3\frac{1}{2}$ "-wide x 89"-long	2
RUNNER BLOCKS	hardwood $1\frac{1}{2}$ " x $3\frac{1}{2}$ " x $3\frac{1}{2}$ "	8

### FOR THE FLOOR

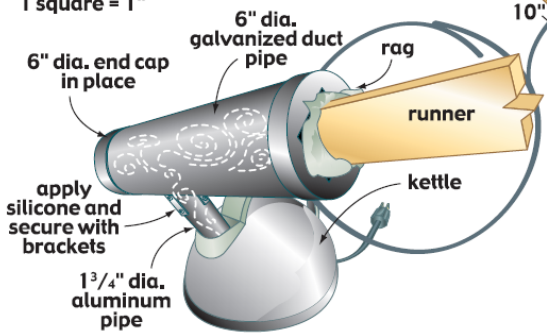
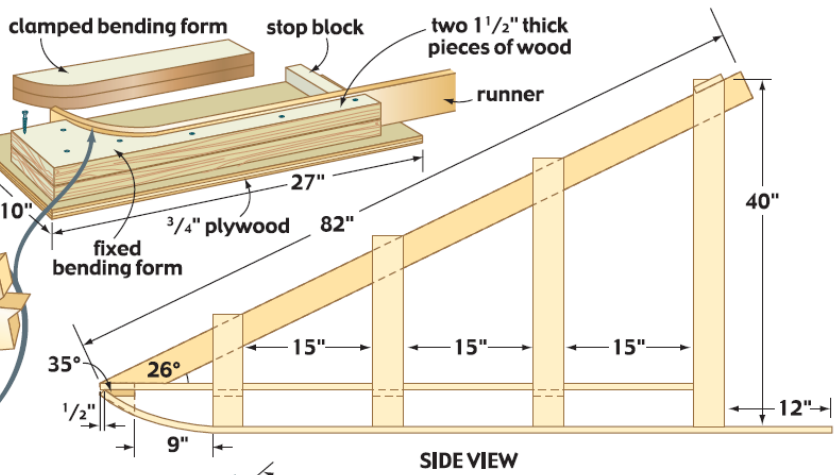
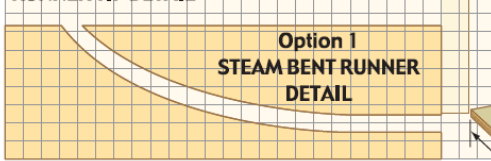
FLOOR BOARDS	softwood $\frac{3}{4}$ " x $3\frac{1}{4}$ " x 73"	5
MAIN FLOOR SUPPORTS	softwood $\frac{3}{4}$ " x $3\frac{1}{2}$ " x 18"	4
FRONT FLOOR SUPPORT	softwood $\frac{3}{4}$ " x $3\frac{1}{2}$ " x $19\frac{1}{2}$ "*	1

### FOR THE RAIL ASSEMBLY

SLOPED TOP RAILS	softwood $\frac{3}{4}$ " x $3\frac{1}{2}$ " x 82"	2
RAIL HANDLE	softwood $\frac{3}{4}$ " x $3\frac{1}{2}$ " x $19\frac{1}{2}$ "	1
FRONT RAIL UPRIGHT	softwood $\frac{3}{4}$ " x $3\frac{1}{2}$ " x 14"	2
SHORT MIDDLE UPRIGHT	softwood $\frac{3}{4}$ " x $3\frac{1}{2}$ " x 22"	2
LONG MIDDLE UPRIGHT	softwood $\frac{3}{4}$ " x $3\frac{1}{2}$ " x 31"	2
BACK RAIL UPRIGHT	softwood $\frac{3}{4}$ " x $3\frac{1}{2}$ " x 40"	2

\*Trim front edge to fit curve of your runners, about 35 degrees.

**RUNNER TIP DETAIL**



**DON'T STEAM WOOD WITHOUT AN ADULT!**

