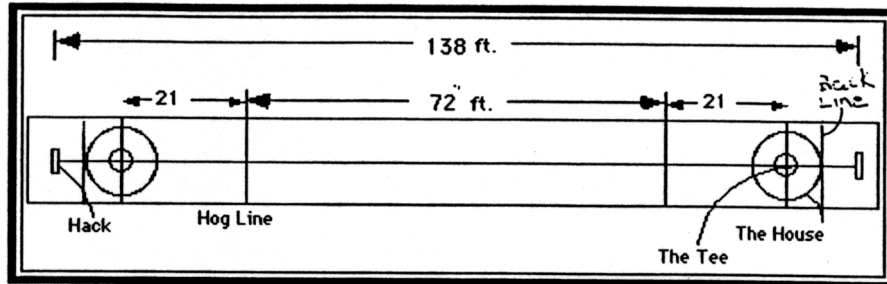


Curling: What the heck is it?

- The Basics
- The Stones
- The Delivery of the Stone
- Strategy of the Game

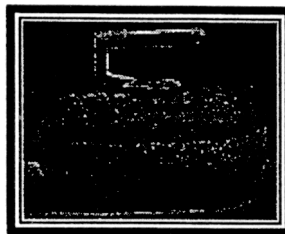
The Curling Rink



The Very Basics

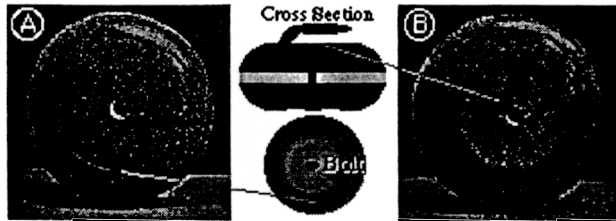
Curling is played on ice with (approximately) 42-pound granite stones. The size of the playing surface (a 'sheet') is 138 feet long by approximately 14 feet wide. The goal is, after all 16 stones are played (8 by each team), to have a stone of your team's closest to the center of the house, called the 'tee' (see above). This is accomplished by sending your stone to rest in scoring position (a 'draw'), by knocking your opponent's stones *out of* scoring position (a 'takeout'), and by guarding your own stones with others. The team with the closest stone, inside the house, scores a point, or more if they also have the second closest stone and so on. Each round is called an 'end' and consists of two stones delivered by each player on each four-player team. The stones are delivered from the hack on one side of the sheet to the house on the opposite side. This consists of the player pushing off from the hack with the stone and releasing it with a spin, or 'curl', which gives Curling its name.

The Curling Stone



The curling stone originated in Scotland from large chunks of rock bowled across the ice, none having

any particular size or shape (see [curling history](#)). They evolved into what are now matched sets of fairly uniformly made stones. They are all made of pure granite, and they are amazingly hard. The best stones come from a single granite mine on an island off the coast of Scotland. Shipping is quite expensive due to weight (16 stones in a set at 42 pounds a piece, not including packaging), and manufacturing is expensive because of the toughness of the material, which is ground with diamonds.



The stone is concave on both the upper and lower surfaces. On some stones, the degree of concavity is different on both sides to allow for reversing the stone for 'faster' or 'slower' ice. A handle, usually on a circular plastic disc, is bolted onto the stone through a channel running through the middle of the stone to a bolt on the other end, as shown in the red highlighted region in the

cross-sectional diagram. The figure on the right shows the top of the stone, more obviously concave, but without a smooth running surface. The handle is affixed onto this circular surface.

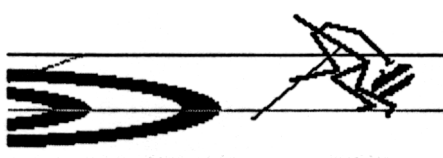
In the figure above, part A is the bottom of a curling stone, which is concave, although you can't see it well in this picture. The red circle is the actual running surface of the stone. This allows the stone to go farther, more accurately, and pick up more 'curl' than would be possible on a flat surface.



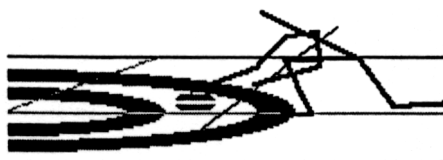
There is a lighter-colored band in a ribbon around the curling stone. This is the 'striking surface'. In manufacturing, the entire stone is very highly polished. This surface is dulled down for the purpose of improving collisions with other stones, both so that there will be a larger contact patch in the collision and so that the stones will not chip.

[\(click here for a video demonstration of the stone delivery\)](#)

The stone is delivered *sort of* similarly to a bowling motion. Actually, it's not that similar, but it's the only thing that even resembles it. You start off at what's called a 'hack', or basically a block sticking out of the ice.



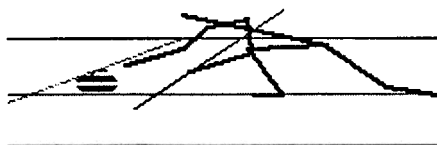
Your first motion is to take the stone and pull it backwards, frequently lifting it off the ice in the backswing, then you swing it forward into a smooth glide down the ice.



However, to deliver a stone well, you should glide along with the stone as far as possible.

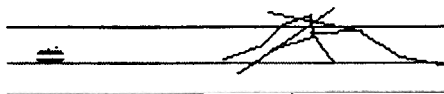


Good curlers usually glide very close to the ice, in an odd, very stretched pose.

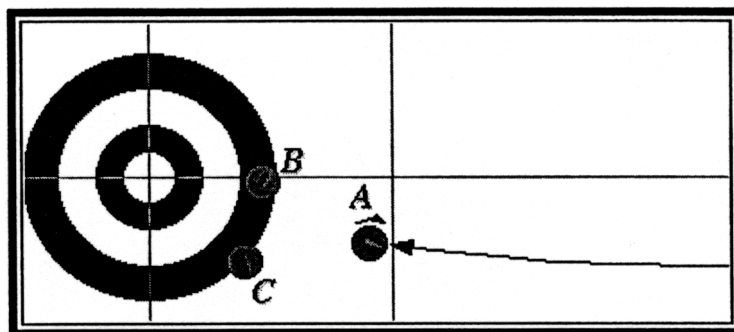


You must release the stone by the 'hog line' (see at the top of the page, the diagram of the rink)

As you slow down, the stone glides on, to come into play on the opposite side, beyond the other hog line.

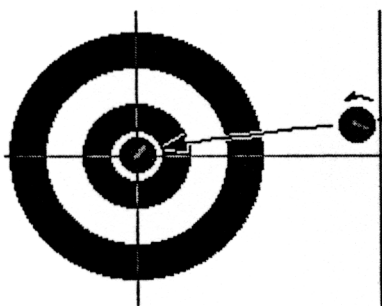


The Game



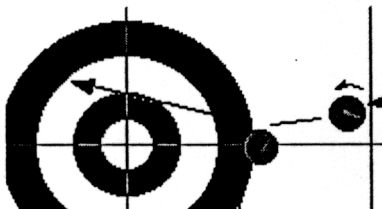
Curling is always mentioned as a game of strategy by curlers, partly because it is, but also probably because they want to make sure that it's seen as more than throwing rocks and slipping around on the ice.

Strategy is definitely the big thing in competitive curling, though. A great deal of effort goes into planning an end so your team's stone ends up closest to the center. There are a bunch of different strategic moves, and here we show the standards:



The Draw

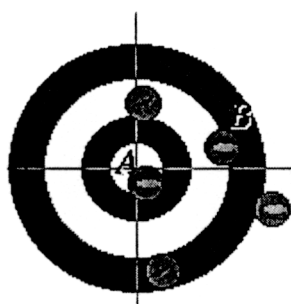
A 'Draw' is obviously the most basic move. You send the stone down the sheet, and with the help of the sweepers and the direction of the skip, you somehow get the stone to stop where you want it. Here is shown a perfect draw into the Tee, the center of the House. This would be fairly pointless as a first shot, as it could easily be taken out.



The Takeout

Here, the green stone is taken out by the yellow. The yellow continues on, maintaining most of its momentum (usually takeouts are thrown harder than draws), while also knocking the green stone

out of play. The yellow stone could, of course, remain in play if it remained in bounds, but in a basic takeout, the only concern is removing the other team's stone.



Guarding

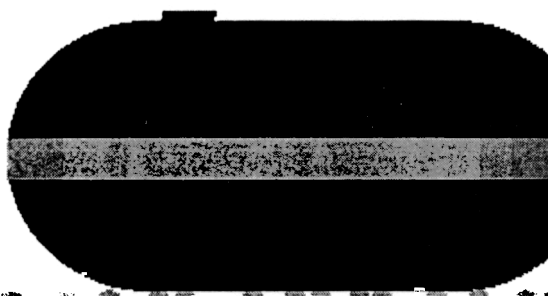
Guarding is, as its name implies, placing a stone in front of another (with a draw) to prevent a takeout. In this diagram, we see two green stones and three yellow stones that have already been played. To protect stone A, the yellow team has sent a draw, stone B, immediately in front of A. This prevents a takeout by stone C as would have happened here.

The Team

The team consists of four players, called the 'Skip' the 'First', the 'Second', and the 'Third'. Terribly imaginative. The Skip ([click here to see a skip of the old days](#)) is essentially the team captain -- generally the most experienced, well-tempered person on the team. Play rotates so that all four team members get to deliver two stones each. At any time, there is one skip, two sweepers, and one person delivering a stone. When the Skip is scheduled to deliver his stones, the 'third' (so called because he is the third in line to deliver stones) acts temporarily as skip. From this, we can pretty much guess that the later stones are more important to the outcome of the game. I'm not sure that they couldn't deliver in any order they chose, but that seems to be the way it's done. Sweeping is directed by the skip, and the type of shot, as well as the placement of the shot, is called by the skip (or acting Skip).

The Ice

A large element of the game not mentioned so far is the 'curl' of the stone. As you can see in the above diagrams, the stone is not coming in on a perfectly straight path. This is due to the curl put on the stone by the curler. As the stone is delivered, a slight spin is put on it, acting like a very, very slow curveball.



The pebble is what helps the stone pick up the lateral motion. As is seen here, the ice is sprinkled before the game with a 'pebbler', which creates a smoothly hilly effect on the ice, much like little pebbles. Without the pebble, the stone would not be able to travel as far. Our best guess, based on what we've been told by people who know, is that the small travelling surface of the stone itself combined with the small contact area

of the ice (created by the pebble) creates the same effect you get when you brake on an ice patch. A thin film of water on top of ice creates a hydroplane. Using brooms, the sweepers slightly warm the pebble and thereby increase this effect, causing the stone to glide farther and grip less (which also has the effect of lessening the lateral motion due to curl).

Here's an explanation we got from a pamphlet published by the United States Curling Association

Each player shoots or delivers two stones each end, or inning, alternately with their counterpart on the opposing team. A twist of the handle on release makes the stone curl, a little like a "hook" in bowling.

All four team members shoot two stones an end and sweep for their teammates' shots. While one player shoots, two sweep as needed. Sweeping posishes the ice so the stone travels farther if delivered too softly, and vigorous sweeping requires fitness. In a typical two hour game, a curler walks almost two miles.

The skip acts as team captain and strategist. Strategy is a major factor in curling, as important as shooting skill. Some people call curling "chess on ice".

The playing surface is called "a sheet of ice", and is designed to allow play in both directions.

The object of shooting is to get the stone, or rock, to come to rest at a predetermined place (a draw or guard) or to move another rock (a takeout or raise).

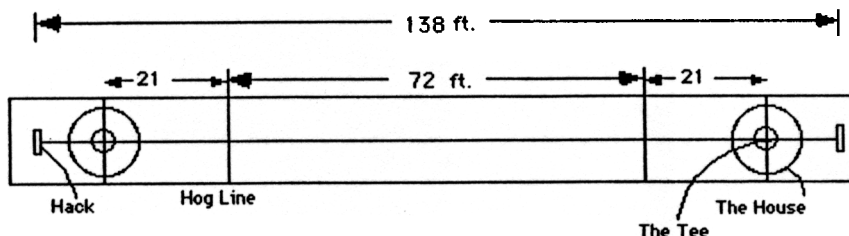
The score is determined after each end of 16 stones. See the example illustrated at bottom right. A 12 foot circle, the house, is the scoring area. Stones in the house must be closer to the tee (center) than any opposing stone to score.

The maximum score in one end is eight points. Typically, one to three points are scored. Games are 8 or 10 ends, lasting 2 to 2.5 hours.

So, there it is.

That explanation didn't include the very basics -- which are, basically, that you use the hack (see below) to push off, you with the stone. You travel with the stone. You must release it by the 'hog line' on your side. To count as a valid shot, it must make it past the hog line on the other side. The form is sort of shown on the previous page, with our really pretentious "Ivy League Champions" logo. The stick guy with the very long neck has just delivered the stone, and it's on its way to the opposite 'house'. People who are really good seem to move effortlessly halfway down the sheet after they've released the stone. You use the broom to support your left side (assuming you're right-handed). You slide on your left foot, with your right leg stretched out behind you, dragging, as you lean far forward to release the stone with your right arm. Pictures are coming soon, but it's a bit of work to scan them, etc.

MORE COMING SOON!



EQUIPMENT

Like most sports, comfort is the key to enjoying the activity. A beginning curler can be equipped at little expense, for the purpose of trying the sport. The following personal gear is recommended:

- clean running shoes or flat soled leisure shoes
- stretchy slacks or sweat pants
- warm, not bulky, sweater
- close fitting gloves
- for extra warmth, 2nd pair of warm socks and a hat or toque

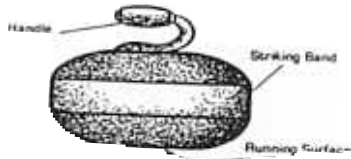
All curling clubs will have as part of their facilities, regulation curling rocks for use. For instructional purposes, the club may also provide a variety of curling brooms or brushes.

Beginners may be outfitted with sliding tape or a slip-on slider to one foot, in order to enable the curler to glide along the ice.

CURLING ROCKS

A curling rock weighs approximately 19 kg or 44 lbs. From special granite that is only found in Scotland and Wales, each rock is precision crafted to a uniform size by expert quarrymen.

Recent innovations have produced a synthetic curling rock which is half the size and weight of regulation rocks. This development has enabled curling to become adaptive to the abilities of young children, who wish to share in the action and spirit of curling.



THROWING THE ROCK

The action by the curler which places the rock into play is called the delivery. The delivery is started from the stance position (fig. 1), where the curler places himself into the appropriate hack or starting block. While in the stance, the curler lines up the desired shot, concentrates on the objective and begins the delivery.

Fig. 1



The rock is put into motion by using a sequence of body movements. This press, rock back, foot back, rock forward, foot forward and slide action (fig. 2) allows the curler to generate the force required to propel the rock down the ice surface. The balanced slide (fig. 3 & 4) from the hack enables the curler to release the rock on target, with the desired control to make the shot.

Fig. 2



Fig. 3



Fig. 4



There are a few minor variations to the delivery that take into account body size, flexibility, strength and personal style. Under the guidance of a curling instructor, the curler is able to practice and refine their curling delivery.

SWEEPING

Sweeping or brushing (fig. 5 & 6), when performed properly and effectively, allows a team to control the amount of "curl" and the distance the rock travels. Sweeping requires team work, strength, endurance and good judgement, in order to guide the rock to its desired position. Even though the mechanics and theories of sweeping are complicated, the fact is, sweeping works. Over the years, many championship rocks have been thrown and judged poor shots at first, but in the capable control of good sweepers, these shots have been known to become winners.

Fig. 5

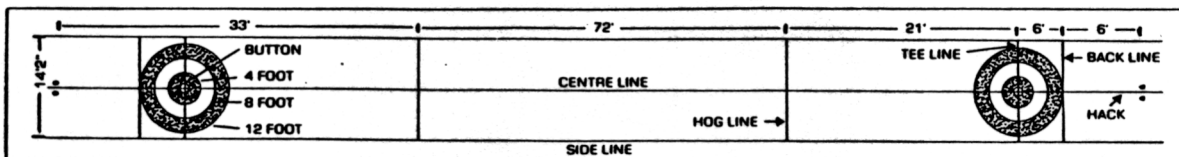


Fig. 6



COMMON TERMS

- House - brightly coloured circle/target at each end of the ice surface.
- End - the time it takes for both teams to deliver all the rocks to one end of the ice surface and determine the relative score.
- Bonspiel - a curling tournament.
- Curl - the amount of curve a rock has from the delivery to when it comes to rest.
- Take-Out Shot - a rock delivered with enough force to remove an opponent's rock from play.
- Draw Shot - a rock delivered so that it comes to rest in the desired position.
- Heavy Ice - condition of the ice playing surface which makes it necessary to deliver a rock with greater force than normal, so that the rock reaches the house. Usually caused by a frosty ice surface or fresh pebble.
- Keen Ice - condition of the ice playing surface where little effort is required to deliver the rock. Also called "fast" ice.



CURLING: SIGNIFICANCE OF LINES

BACK LINE - Once a rock has passed completely over this line, it is out of play. It should be removed immediately and placed to the sides of the hack.

TEE-LINE - A rock thrown with perfect draw weight is one which comes to rest on this line - referred to as "tee-weight". Once an opponent's rock has crossed this line, the other team may try to sweep it out. If you are delivering a rock and pass over this line, you must release the rock.

HOG LINE - NEAR ONE - You must release the rock before you or your broom cross this line. Once the rock has been released, you may continue to slide over the line.

- **FAR ONE** - The rock must cross completely over this line to remain in play.

1. GLOSSARY OF CURLING TERMS

Biter - A rock barely touching 12ft. ring.

Blanking the End - Attempt of skip playing last rock to create scoreless end in order to carry last rock advantage into next end.

Burned Rock A moving stone touched by sweeper's broom.

Draw Weight - A delivery of sufficient weight to put the rock in the 12ft. circle.

Freeze Two stationary stones touching each other.

Guard rock. One stone protecting another from removal by opposing rock.

1. GLOSSARY OF CURLING TERMS Cont'd

Hack - The toe-hold or foot support used by the player in delivering his stone at each end of ice.

Heavy A stone delivered with more weight than is desired.

In-Turn · Clockwise turning of the handle of a moving stone

Light - A stone that is delivered with insufficient weight.

Narrow - A stone delivered inside the imaginary line to the skip's broom.

On the Broom A stone delivered accurately on line with the skip's broom.

Out-Turn Counter-clockwise turning of the handle of a moving stone.

Back Ring Weight - A stone delivered with sufficient momentum to stop in the back-rings.

Sheet The ice area on which a game is being played.

Short A rock that stops short of its desired destination.

Strategy Plan of play conceived in the mind of the skip.

Swinging Ice - Playing ice on which the curve followed by a

Tee-Line - The horizontal line bisecting the rings. No opponent may sweep your rock until it passes this line.

Weight The amount of momentum given to a delivered stone.

Wide - A stone delivered outside of the imaginary line to the skip's broom.

2. CURLING ETIQUETTE

Curling is known for its keen rivalry, but even more so for the courtesy and good sportsmanship of its competitors. Only a few of the courtesies below can be found in the rule book, but all are practised by those who know and love this ancient sport.

While a match is in progress, keep off the centre of the rink. Leave the ice free for the opposing player and his sweepers. Skips and vice-skips may stand inside the circle, but the skip of the playing team has priority. Back of the sweeping line, both skips have equal privileges..

Congratulate your opposition when they make a good shot and never embarrass a player who has missed his shot.

When a curler is in the hack, keep a respectable distance away and be still and quiet.

Be ready to play when it's your turn and don't take more than a reasonable time to play - set up rocks.

Never cross the ice when an opposing stone is being played or a player is in the hack.

When it's your turn to play or sweep, look alive! Be on the ice, ready to go, not in the lounge.

3. IMPORTANT RULES

A moving stone cannot be touched by any part of the sweeper's broom or body, or by other team members. If so, the stone must be removed from the ice by the playing side.

Score one point for every stone which is nearer the button than any stone of the opposing rink. Any stone touching the outer circle is eligible. Disputed shots must be settled by the vice-skips, an umpire or neutral party, in that order. No measuring is allowed until the end is over, except by the umpire, to decide whether or not a stone is alive.

When a stone passes the "back line" it is automatically out of play.

A stone must pass the "hog line" to stay in play, unless it strikes another stone first.

When the skip, vice-skip or second is absent, the lead must play 4 stones. If the lead is absent, the second plays 4 stones.

All curlers must start their delivery from the hack. A curler may slide past the hog line as long as the rock has been released before any part of the curler's body or broom crosses the hog line.

Sweeping from tee to tee is always under direction of the skip. Behind the tees, or sweeping line, skips and vice-skips have equal rights.

4. SWEEPING

Sweeping is a very important part of curling. Good sweeping can affect the length of a throw by as much as 10 or 15 feet on keen ice, and helps hold the direction of the stone.

Sweeping looks far easier from behind the glass than it really is. Beginners should practise sweeping without moving their feet. This teaches balance, as you have to bend over the stone with your knees slightly bent.

It takes a lot of practise to correctly sweep a moving stone. The most effective method of sliding with the stone is a rhythmic shuffle. Sweepers should sweep directly in front of a moving stone, sweeping as closely as possible without touching it.

A sweeper must also be able to judge the weight or speed of the stone and know just how hard to sweep. The judgment should not be left entirely with the skip, but should be under his direction.

The Over Grip - Grip the top of the handle lightly, but firmly with the fingers of the right hand. Now slide your left hand well down the shaft with the palm under or towards your body. Here again grip with your fingers to leave your wrists free to deliver that all-important flipping action to the broom.

The Under Grip - The right hand grip is the same as in the over grip. The difference is in the left hand. The palm faces outward or away from your body. Personally, I prefer the over grip, but the important thing is to use the grip that is most natural and comfortable for you.

5. BASIC CURLING STRATEGY

The shots called by a skip during each end are frequently based on whether or not his team will be throwing the last rock in that end. Assuming that you make the last shot, you should score at least one point in every end in which you throw last. If team B has the last rock advantage, team A will try, by calling certain shots, to make certain that the skip of team B has a difficult shot on his last rock. On the other hand, team B will try score more than one point anytime they have the last rock advantage.

Regardless of whether you have last shot or not, certain shots should be called depending on the situation.

- a) If your opponents have one rock counting, take it out.
- b) If you have one rock in, the opponents have none - draw a rock in to the opposite side of the house. Keep the rocks spread out to make it more difficult for your opponents to make double take-outs.
- c) If your opponents have two rocks in, you may try several options:
 - (i) take-out the shot rock
 - (ii) if they are lined up one in front of the other, hit the front one hoping to drive it onto the back one for a double take-out
 - (iii) freeze to the shot rock

While the previously mentioned shots are commonly called, certain strategy is dictated by having the last-rock advantage.

- a) with last rock
 1. Keep all rocks away from the front of the house. You want your skip to have a clear shot to the house on his last rock. If your opponents have the shot rock and guard it, a good call is often to take-out the guard. Then if they miss guarding it on the next shot, you can remove the shot rock.
- a) with last rock cont'd
 2. Do not guard your rocks in the house. Spread them around. Even if your opponents remove the shot rock, your skip will still have a clear shot at it.
- b) without last rock
 1. Plug up the front of the house to block the path of your opponent's rocks.
 2. If you get rocks in the house, it is often a good idea to guard them. If you have the shot rock and have it guarded by the time the opposing skip comes to play his last shot, he often will have play a draw and count only one.