

# Winterlude

GENERAL MOTORS  
ICE DREAM

HOW TO  
BUILD A  
SNOW  
SCULPTURE



FEEL THE ACCELERATION



# WELCOME

Welcome to the **General Motors Ice Dream** snow sculpture contest.

Snow sculpting is as much a part of the Canadian winter as snow itself, and anyone who has ever built a snow fort or a snowman knows the fundamentals of the art. **General Motors Ice Dream**, an annual contest that has been a part of **Winterlude** since its inception in 1979, has allowed amateur sculptors in the region to develop their technique and to use their imagination to the utmost.

Experience is the best teacher, and most of the suggestions in this booklet have been contributed by past contestants. We hope that some of the ideas presented here will save you time and trouble and help you to create a really wonderful snow sculpture.

When you have completed your masterpiece, taken your prize, and have time to spare, please let us have any comments and suggestions that occur to you.

Write to us at:

**GENERAL MOTORS ICE DREAM**  
National Capital Commission  
Winterlude  
161 Laurier Avenue West, 7th floor  
Ottawa, Ontario K1P 6J6

# **KEEPING WARM AND HAPPY**

## **CLOTHING**

Winter is wonderful (if you dress for it!). Don't let the exhilaration and fun of carving turn into the misery of being wet and cold. Check the temperatures and wind chill before setting out for a day or evening of carving and dress accordingly.

Shovelling and chopping are good exercise and will tend to keep you warm. However, control the pace of your work and try not to sweat. Damp clothing will chill you as soon as you begin to tire.

## **MITTS, GLOVES AND SOCKS**

Each team member should bring at least one change of socks, mitts and gloves. Woollen gloves inside rubber gloves will keep your hands warm and relatively dry without restricting movement; thin plastic bags also work but tend to restrict movement .

## **BOOTS**

Warm boots are essential, and they should be thick-soled, well insulated and water-tight. Felt liners are recommended.

## **RAINCOAT**

Hoses are supplied so that you can spray your work and allow it to freeze. Bring a raincoat to keep your cold-weather clothes dry.

## **SUSTENANCE**

Bring some thermoses of hot coffee, soup or chocolate to the site. Dried fruit or raisins will also give you energy and warmth. Do not bring alcohol as this contributes to the rapid loss of body heat (to say nothing of a certain lack of artistic precision).

# TOOLS

Caution! You will have less control of sharp tools while working outdoors in gloves than you would inside with bare hands. Be careful!

## Shovels

These are the fundamental tool. Lightly coat your shovels with wax or oil to keep the snow from sticking.

## Sleds

Small plastic sleds have proven useful for mixing snow and water to a good consistency for moulding.

## Other

- Snow scoops
- Heavy-duty plastic buckets
- Chisels
- Hand-saws
- Hatchets
- Putty knives (for carving)

# DESIGN CONSIDERATIONS

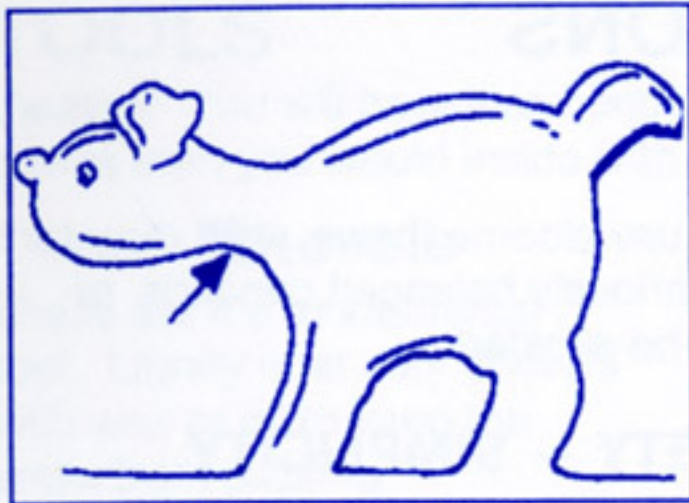
## STRUCTURE

Gravity, to say nothing of bright sunshine and unwelcome thaws, spell disaster for poorly designed carvings. Attenuated or precariously balanced carvings, or those with weak connecting elements, should be avoided.

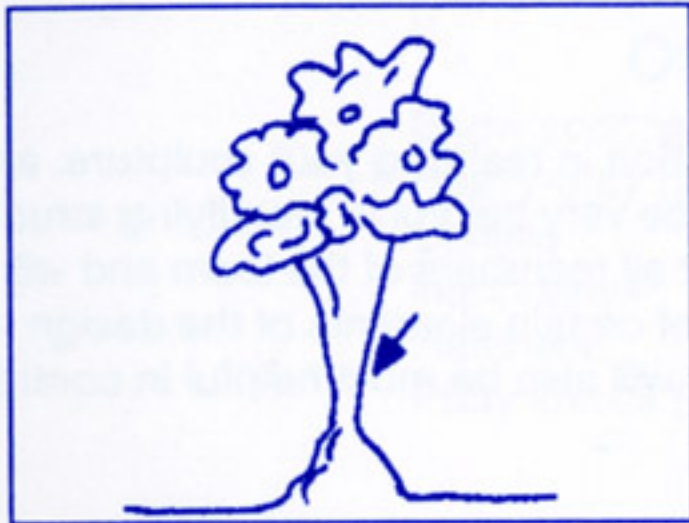
The key words are: **STRENGTH – SAFETY – SIMPLICITY**

## BUILDING A MODEL

Careful planning can save you hours of frustration in realizing your sculpture, and a small model made of clay or plasticine may be very helpful in identifying structural problems. A model will also help to orient all members of the team and will give them a useful guide for carving. Models of certain elements of the design – animals or cartoon characters, for example – will also be most helpful in controlling the development of the carving.



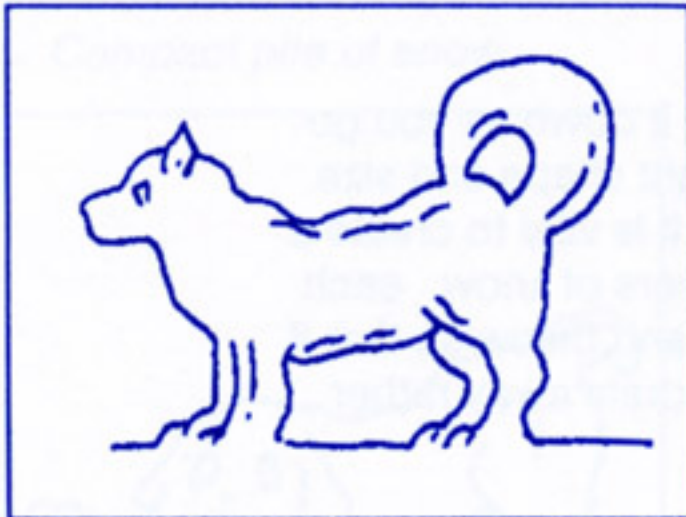
*Weak under any conditions.*



*Weak unless the carving is built of solid ice that will support the weight.*



*Weak.*



*Stronger. The tail attached to the back and the single column legs provide a solid structure.*



# METHOD

## STEP ONE

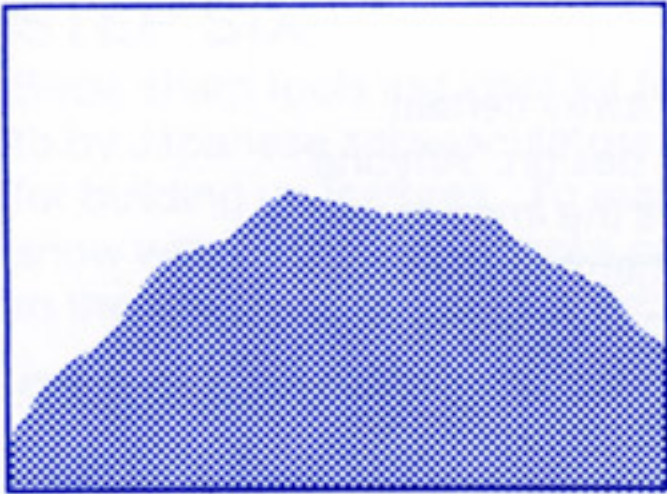
Prepare a model or scale drawing.

## STEP TWO

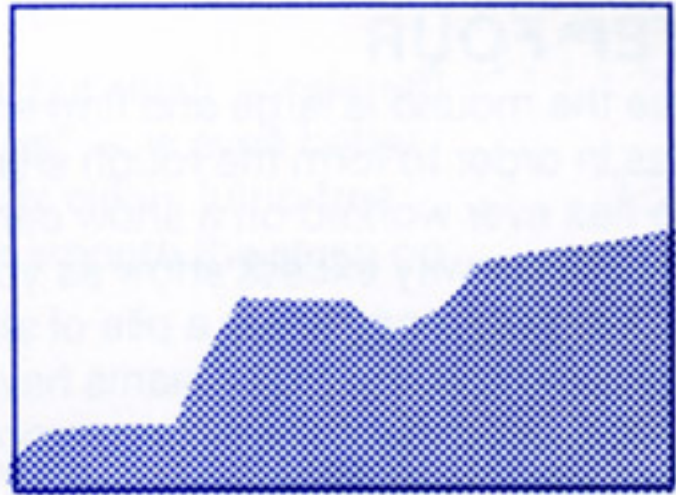
Use a shovel to mark the site according to the approximate dimensions indicated on the model or scale drawing.

## STEP THREE

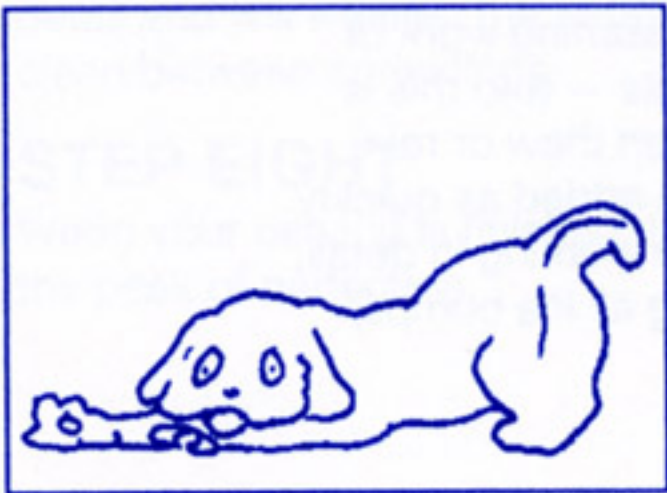
Move in whatever snow is necessary, packing it down as you go until it forms a mound of approximately the right shape and size. The snow will shrink as you pack it down, but it is vital to create a solid core. Spray water sparingly between layers of snow: each layer of water is insulated by the snow above and below so that if too much water is sprayed on the snow it will drain away rather than freezing.



*Compact pile of snow.*



*Rough shape.*



*Design pattern.*

## **STEP FOUR**

Once the mound is large and firm enough, cut away certain areas in order to form the rough shape of your design. Anyone who has ever worked on a snow carving knows the importance of cleaning away excess snow as you go. Remember that it is much easier to cart away a pile of slush than to hack away at a mound of solid ice. Many teams have members take turns at cleaning up so that one or two people are assigned to this duty at all times.

## **STEP FIVE**

The last step in the process, after the time-consuming work of creating the basic shape, is the adding of details – and this is where the real winners develop. Since a sudden thaw or rain shower can ruin fine work, the detail should be added as quickly as possible in the last three days or so. Before working in detail, you should clean up the sculpture by removing all ice bumps, stones and irregularities with a sharp tool.

## **STEP SIX**

Small sharp tools are ideal for fine carving, but slush – referred to by Japanese snow sculptors as “make-up” – is even better for building up features. To make slush, mix clean, lump-free snow with water until it packs easily. Then smooth the slush on to the sculpture, patting it solid as you go.

## **STEP SEVEN**

To finish off the sculpture with a glossy coating, sprinkle the work with water every 20 or 30 minutes over a period of several hours. Resist the urge to douse it with water, as this will wash away detail and will weaken the structure. Once again, scrape the area clean between sprinklings.

## **STEP EIGHT**

When your carving is finished, take a photograph while it is still at the peak of perfection.

# **SPECIAL EFFECTS AND TECHNIQUES**

## **MOULDS**

One of the simplest ways to create a specific shape is to build a mould, fill it with slush, allow it to freeze and then remove the mould. Plastic milk cartons make excellent block moulds; bowls can be used to form hemispheres; heavy cardboard tubes make good columns. All moulds work better if they are greased before being packed with slush. Remember: slush, like water, expands by about 10 per cent as it freezes.

## **PLASTIC**

Sheets of plastic can help to define certain shapes. To make a small arch, for example, pile up a mound of snow to form the shape of the inner edge of the arch. Cover it smoothly with a sheet of plastic, then lay on a thick layer of slush to form the outer edge of the arch. When the shape is solid, chop snow out from under the arch and pull off the plastic.

## **CHICKEN WIRE**

When building a curved wall, form the shape from wire then pack it with snow. When the wall has frozen, the wire pulls easily away.

## COLOUR

Colour is a dangerous temptation! Colour absorbs rather than reflects the sun's rays, and the surface of a coloured carving will melt more quickly than a white one. The darker the colour, the more severe the damage to detail and shape is likely to be. A few coloured details on the north side of the sculpture may be safer.

If you decide to use colour, lay a thick layer of ice under and over the paint to minimize running. Some sculptors have mixed powdered paint with slush before applying it.

Certain paints are made specifically for use with ice (in hockey rinks, for example), and these are available in several colours from paint companies in the region. These paints are water-based, so mix only a little at a time or you will end up with a large and very colourful, bucket-shaped ice cube.

Felt-tipped marking pens give a pastel tint that can be very effective.

# WORKING ON THIN ICE

## DON'T FORGET!

Ice sculptures can weigh up to two tons each, and you are working on the surface of a lake. *Do not dig around the base of the sculpture* or you may have the pleasure of seeing all your hard work sink!

Pumps have been supplied to draw water through holes in the ice, and these will work in cold weather as long as there is a flow of water through the hose. The rule, therefore, is never shut off the water. On the other hand, do not leave hoses running near the sculpture. Simply put the nozzle of the hose back through the hole in the ice as soon as you have finished using it so that the water can run safely away.

Do not force the intake hose too deeply into the water, or it will suck up sediment from the bottom, and you may end up spraying good black muck all over your beautiful white sculpture.

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