



## Fun-DUCT-Raiser – Fundraising Information

The Fun-DUCT-Raiser was created as an event:

1. For people to have fun at Spryfield’s beautiful Long Lake Park as part of the first annual Spryfield Days community event and;
2. As a fundraiser to support the Long Lake Provincial Park Association [LLPPA], a non-profit volunteer group that funds the Park’s operations.

Event expenses and organizing efforts are being paid for by POLYCORP Group, a Spryfield area business [2016 Spryfield Business of the Year].

3M Canada has very generously donated approximately \$17,000 worth of their premium quality duct tape to the event to support this community fundraising event so that participants do not need to spend money on duct tape [the good stuff is pricey – this 3M stuff is not the cheap stuff that they sell at the dollar store – it’s premium!].

There is no entry fee to participate in the event. Instead, teams are asked to raise as much money as they can in support of the LLPPA. 100% of the proceeds raised go directly to the Long Lake Park Association to fund park operation and facilities expansion.

Suggested fundraising targets for teams:

Youth	Family	Open Class	Corporate/Community
\$100	\$250	\$500	\$1000

Don’t feel obligated to raise this much – just do the best you can and come out and have some fun at the park while raising money for a great cause!

You can direct your sponsors to our official Go Fund Me page:

<https://www.gofundme.com/long-lake-park-funductraiser>

OR bring your donations to the race. We will be collecting them as you arrive.

Our goal this year is 5,000! Let’s see how much we can raise for this beautiful oasis.

Let’s Get Quacking!





## **Race Day Schedule**

**Location:** Long Lake Provincial Park

**Pre-race line-up: 12 p.m. - 1:00 p.m.**

Please line up your duct tape boat in the 'old pumphouse boat launch' parking area on Old Sambro Road (opposite Schnare Street). You may temporarily park your vehicles/trailers in the parking lot (5-10 min maximum) while unloading, but please move them out of the parking lot once finished. Parking is available at the upper parking lot, across from Cowie Hill Drive, on the surrounding streets, and at South Centre Mall, Dentith Road (only a 5-minute walk from the boat launch area).

**Judging: 1:00 p.m. – 1:30 p.m.**

All duct tape boats must be lined up along the lake, to the east or west side of the boat launch area by noon to participate in the judging for most creative duct tape boat.

**Duct Tape Boat races: 2 p.m. – 4 p.m. (approximately)**

Boats will race around a short course that will be clearly marked. **(Once finished, please take your boats with you or discard in the designated area).**

### **Duct Tape Boat Divisions:**

1. Family: This division is for participants 8 years and older. It is intended for families.
2. Youth: This division is for participants aged 12 to 17. The boats must be built, decorated and paddled by youth of this age group with very limited adult involvement.
3. Corporate/Community: This division is open to corporate and community groups.
4. Open Class: This division is open to any age (minimum of 8 years old) or group who wishes to participate.

### **Heats**

Heats will consist of, at most, 5 boats at a time. Boats with the fastest times in the preliminary heats will advance to the semi-finals and finals, depending on the number of qualified teams (that do not sink 😊).

### **Awards: Following the Race**

Once the races are over, please join us at the boat launch area for the announcement of awards!

## GENERAL RACE RULES

- NO pets allowed in the boats.
- Throwing water on another boat and/or unsafe behaviour = disqualification.
- Sunken boats (it happens...) must be dragged to parking lot surface for disposal. Entrants must collect all parts that may become separated from boats in the lake.
- During the competition, the crew must be IN the boat. They cannot be towing it in, pushing it, or holding onto it from the outside. IN means IN!
- No swimming or using a PFD (personal flotation device) to aid boat flotation.
- Unsportsmanlike behaviour will result in disqualification.
- All race participants must sign a waiver and release agreement prior to the race.
- If your boat sinks, your team must exit the water immediately without interfering with the other participants.
- Every crew member must wear a personal flotation device (PFD) and proper footwear.
- All propulsion must be from the entrants and is limited to one oar or paddle per person; kayak type double-ended paddles are allowed.
- No more than 4 people per boat.
- Minimum age of crew is 8 years old. Children under the age of 12 must have an adult in the boat with them.
- Crew costumes and themes are encouraged.
- Boats must be labelled with a name. The name must be in letters/numbers at least 4" high.
- **JUDGES** will decide on the interpretation of the RULES in the event that there is ambiguity or unforeseen situations.

## AWARDS

- **1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>** place finishes will be awarded per boat division.
- **Creativity Award** – boats will be judged on design, appearance and originality. Appearance may include consideration for costumes worn by the boat crew.
- **Titanic Award** – this award will be given to the most spectacular sinking.

## CONSTRUCTION RULES

- The **ENTIRE** boat must be built of cardboard and duct tape.
- Only exceptions are paddles and decorations. Regular canoe/kayak paddles are allowed.
- Decorations are encouraged – as long as they don't affect structural strength or buoyancy.
- The crew compartment **CANNOT** be enclosed so as to interfere with escape from a potentially sinking boat.
- Use cardboard boxes, cardboard "blocks" or carpet tubes. Cardboard can be as thick as you want.
- **NO** pre-treated cardboard allowed (i.e., pre-waterproofed since that would be cheating!).
- **NO** Sona-tubes waxed or 'treated' cardboard since that would be cheating too!
- **NO** wood, plastic, fiberglass, Styrofoam, rubber or other flotation aids.
- Latex paint is the only type of paint allowed on the outside/inside of the boats.
- **NO** caulking compounds, single, two-part/mixed adhesives, epoxies, varnishes, sealants, sealant type paints, or oil paints (and we have a simple, secret test to tell the difference between latex paint & all other products people may try to sneak by us!)
- **NO** wrapping in plastic, fiberglass sheet or resins, or peel and stick waterproofing membranes.
- Duct tape may be used to reinforce seams.
- Hull wrapping with duct tape is allowed for waterproofing purposes (inside & outside of boat).
- Waterproof the boat with duct tape **ONLY**.
- **NO** electrical, gas, benzene, propane or any other chemicals or air propulsion system is allowed.
- Illegal boat materials = disqualification. If uncertain about eligibility of a cardboard type material, ask organizers for an official ruling.

### DUCT TAPE SUPPLY

- Each team will be given 6 rolls of 3M Performance Plus Duct Tape.
- Rolls are 55 metres long x 4.8 cm wide = 2.64m<sup>2</sup>. With a 25% overlap, this yields 1.98m<sup>2</sup> surface area coverage (approximately 21 square feet). So, 6 rolls = +/- 120 square feet surface area.
- The duct tape has been generously donated by 3M Canada. Retail value of the product approximately \$25.00 per roll + tax. A limited quantity of extra rolls is available to contestants at \$10 per roll.

## CONSTRUCTION MATERIALS

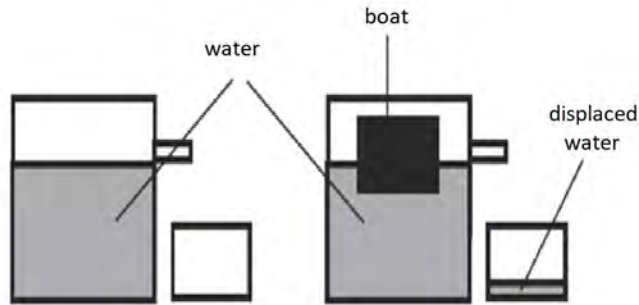
### ALLOWED

### NOT ALLOWED

ALLOWED	NOT ALLOWED
Corrugated cardboard – appliance & grocery	Wood, styrofoam, plastic sheathing
Cardboard "blocks"– furniture stores	Sona-tubes, coated cardboard
Cardboard tubes – flooring stores	Silicon, wax, tar, caulking compounds
Fastening material – duct tape only	Fiberglass, resins, paint (except for above water decorations)
Latex paint	Metal, staples, clamps, screws, nails

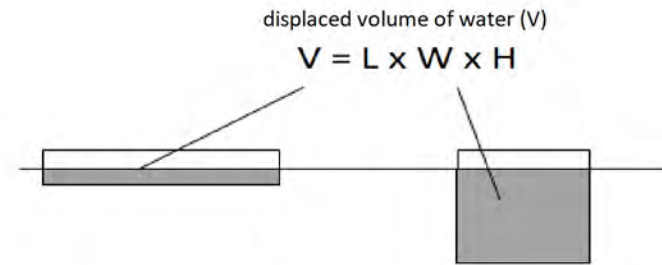
# DISPLACEMENT

## HOW MUCH WILL YOU SINK?



Weight of Water =  
62.4 pounds/cubic-foot

Example: Box boat, 3 ft x 6 ft tall (high)  
Boat volume =  $3' \times 6' \times 1' = 18\text{ft}^3$   
Boat displacement =  $18 \text{ft}^3 \times 62.4 \text{ lbs/ft}^3 = 1123.2 \text{ lbs}$   
Which equates to 93.6 lbs per inch of boat height

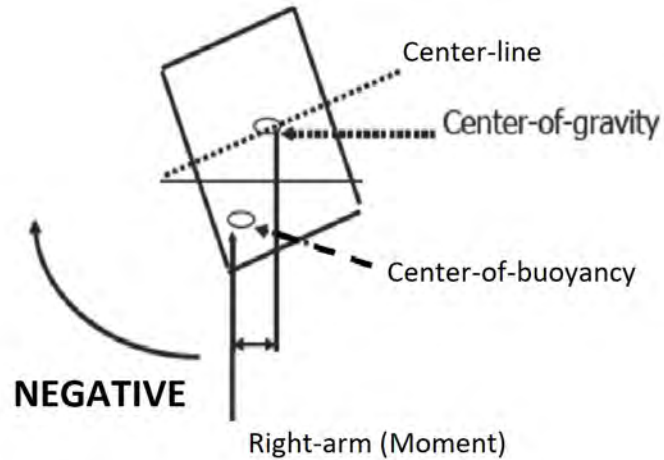
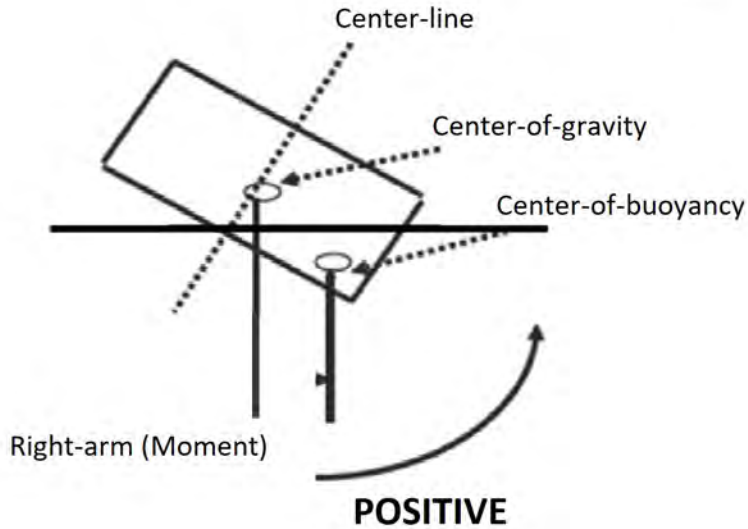


Water displaced (ft<sup>3</sup>) =  $\frac{\text{weight-of-boat \& people (lbs)}}{62.4 \text{ lbs/ft}^3\text{-H}_2\text{O}}$

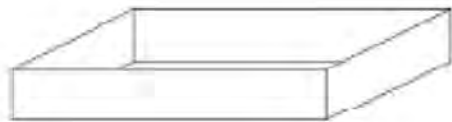
Depth (ft) boat sinks \_\_\_\_\_

# PHYSICS

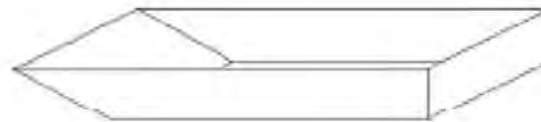
## WIDER IS STEADIER



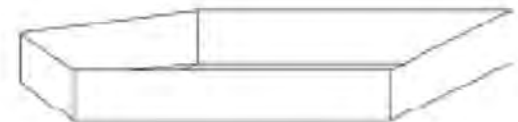
## Basic boat styles



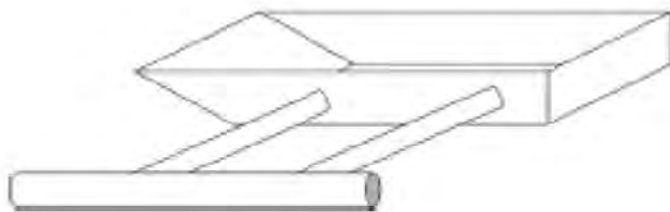
Simple  
Box



Slanted  
Box



V-Shaped  
Bow



Outrigger  
Design



Pontoon  
Design



Raft  
Design

## SUGGESTIONS & CONSIDERATIONS

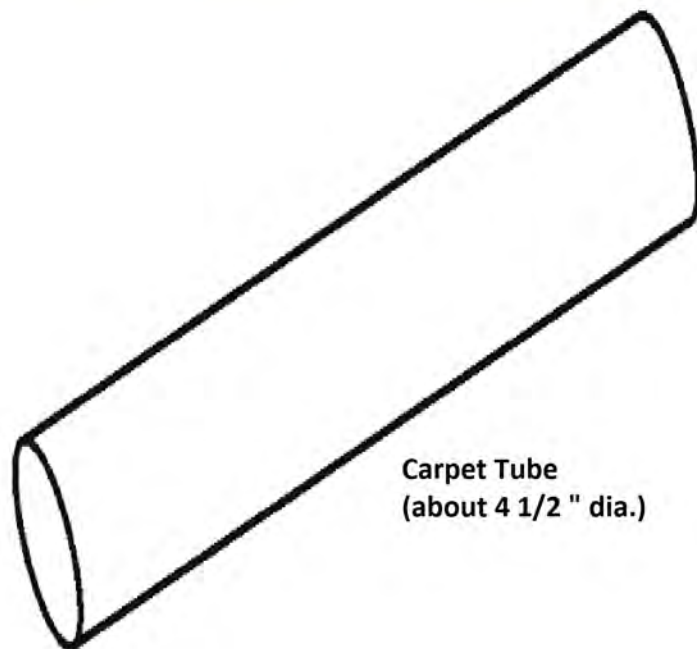
- Set design goal: Fun, Speed & Appearance
- Sketch out your design
- Build a scale model from manila paper
- Estimate materials or plan how to use what you have
- Plan out what construction technique will be used
- A box measuring 1' x 1' x 3' will float 187 lbs
- In theory: If it's big enough to hold you, it will float you
- Flat bottom, sit-to-paddle & canoe styles have been the most popular and successful designs in the past
- Long boats go fast, but are harder to turn
- Short boats (<8') are difficult to paddle straight
- Best Length: 8-12'
- Best Height: 18" (allows room to sit/kneel & still paddle over the edge)
- Best Width: 18"- 30" (max) for 2 or more people in a row  
Minimum 48" wide for 2 people side by side
- Kneeling is a "power" position but sitting is more comfortable



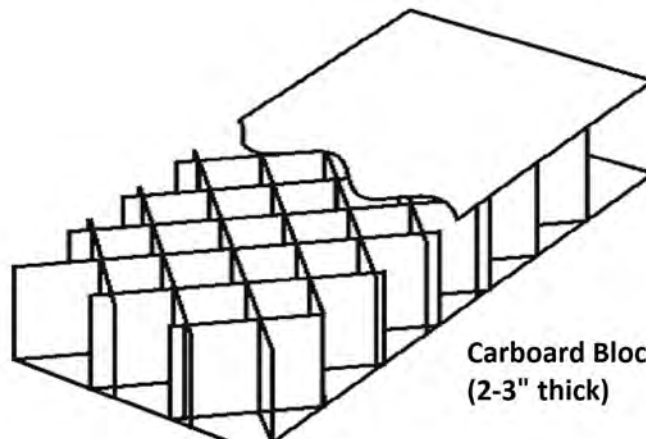
## SUGGESTIONS

- Cover all edges and joints. Cardboard acts like a siphon
- Cardboard tubes make great frames. (Cut for joining & bending)
- Cardboard Hull: 1 or more layers, fasten & cover the seams. With 2 layers, overlap the seams & duct tape like crazy. Decorate with Latex paint (if desired).
- Reinforce the area where the crew will sit, kneel or stand
- Duct tape only non-painted surfaces (duct tape shrinks with painted)

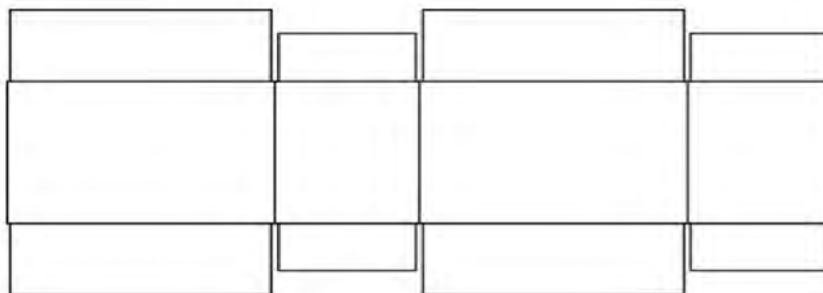
# CONSTRUCTION



Carpet Tube  
(about 4 1/2 " dia.)

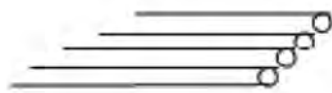


Carboard Block  
(2-3" thick)

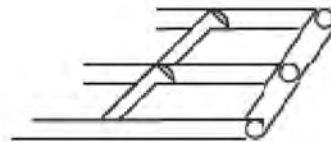


Cardboard Box - cut  
open

## FRAMES

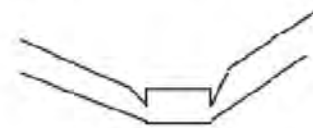


Solid Tube  
Frame

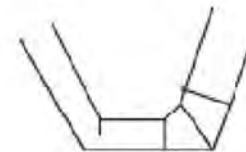


Center/Cross  
Beam  
Frame

## FRAME ANGLES



V-Shaped Cuts



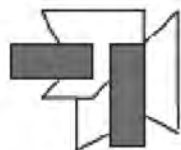
Multiple Cuts  
for Sharper Angles

## CONNECTING TUBES

Cardboard  
Wrapper for Tubes  
End-to-End

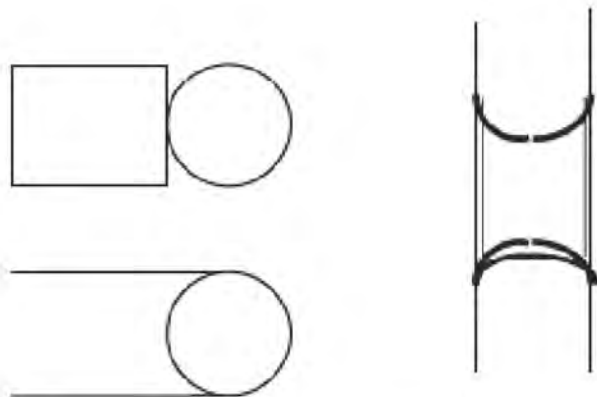


Cardboard  
Wrapper for Tubes  
At Right-Angles

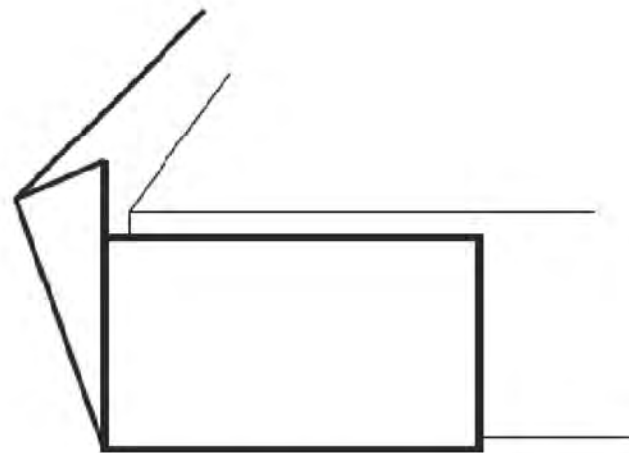


# CONSTRUCTION

**FUN DUCT + RAISER**.ORG  
duct tape boat races



**TUBE CUTTING  
TEMPLATE**



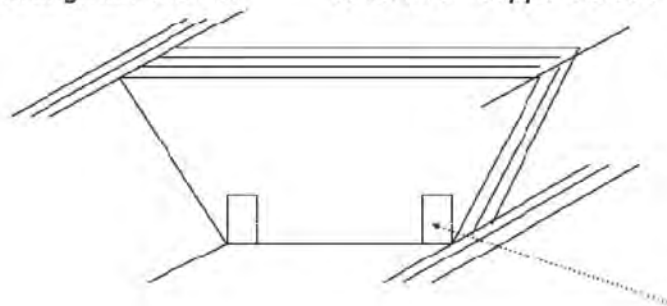
**FOLD & OVERLAP  
CARDBOARD  
AROUND CORNERS**

# CONSTRUCTION

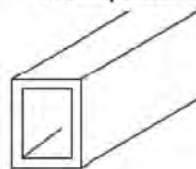
FUN DUCT + RAISER .ORG  
duct tape boat races

Multiple cardboard layers  
"adhered" together with duct tape  
on the sides strengthen *the hull*

Multiple trapezoid-shaped pieces  
"adhered" together with duct tape  
to form a "support block"



A sheet of cardboard  
could be folded &  
"adhered" together  
with duct tape to form  
*tubes/beams*



Crease/Score a line  
for a nice

STRAIGHT  
FOLD

