

FUNtervals

High Intensity Interval Games



Work Hard. Play Hard.

Jasmin Ma
BSC Kin, MSc Candidate
Queen's University

Table of Contents

What Are FUNtervals?	3
Why Use FUNtervals?	4
Contact information if you have questions or would like to the get involved in the research.....	5
Tips for Teaching FUNtervals.....	6
Instructions.....	7
Activities:	
• Popcorn.....	8
• Making S'mores.....	9
• Camping Trip.....	10
• A Pirate's Treasure Hunt.....	11
• Dodging Tomatoes.....	12
• Zoo Animals.....	13
• Pizza Day.....	14
• Superheroes Save the Day.....	15
• Thanksgiving Feast.....	16
• The Amazing Race.....	17
• Winter X Games.....	18
• Goldilocks and the Three Bears.....	19
• Rock, Paper, Scissors Dance.....	20
• Rocket.....	21
• Green Thumb.....	22
Acknowledgements.....	23

What are FUNtervals?

FUNtervals are high intensity interval type activities that consist of whole body movements. Each activity takes them through a story line composed of 20 seconds of quick, enthusiastic movement followed by 10 seconds of rest for 8 intervals.



The Science Behind Them

The protocol for these activities is based off of the work of Izumi Tabata and colleagues. This methodology has been shown to improve cardiorespiratory fitness (ability to run for long periods of time), power (amount of force one can output over time), and anaerobic fitness (ability to perform with maximal intensity for a short period of time) (Izumi Tabata, 1995). Although there has yet to be studies conducted on this particular protocol concerning decreased disease risk factors, other similar high intensity interval training protocols have shown significant decreases in cardiovascular disease and type II diabetes risk factors (Ulrik Wisløff, 2007). This is especially important with the increasing rates of childhood obesity and associated instances of diseases.

Why Use FUNtervals?

FUNtervals were designed to address the number one barrier to being physically active: TIME.

How?

- ✓ Each activity lasts 4 minutes
- ✓ Can be done in a small space
- ✓ Requires no equipment

BONUS:

- ✓ Proven to improve behaviour in the classroom

Questions or Interested in Being Part of the FUNterval Research?

Contact Jasmin Ma at
8jkm@queensu.ca

Tips for Teaching FUNtervals

- ✓ Use yours and the childrens' imaginations.
- ✓ Lead by example: show the children how hard they should be working. Both yourself and the children benefit by getting a better workout.
- ✓ Use FUNtervals in conjunction with the activities provided by the Healthy Schools Guide. FUNtervals are especially effective on days where you're pressed for time. However, it's always nice to keep the children engaged by having a variety of activities.
- ✓ Complete each interval with **BIG MOVEMENTS** and with as much *speed* in the movements as possible!

✓ **HAVE FUN!**

Instructions

- ✧ Each **yellow box** is an interval (a period of time where activity is done).
- ✧ Each interval is done for 20 seconds.
- ✧ Rest for 10 seconds in between each interval. Some activities have specific instructions for rest, others are left to your imagination or can be used as time to explain the next movement.
- ✧ Complete each interval with **BIG MOVEMENTS** and with as much *speed* in the movements as possible!

Popcorn

Your school's class has the esteemed duty of making popcorn for the entire school. Aim to make 20 bags of popcorn for your first batch and top that number for the second batch.

1



Reach for popcorn bags from the top shelf and put them in a giant bowl in front of you: Reach up and squat down

2



Pop the popcorn: jumping stars

3



Scoop the popcorn into a giant sack: Squat down and scoop your arms in front of you and toss beside you

4



Deliver the popcorn: Run on the spot to deliver the popcorn to the cafeteria while it's still hot!

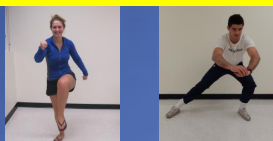
Repeat

Oh no! The popcorn was burnt!
Repeat steps 1-4 and see if you can top the number of popcorn bags you popped.

Making S'mores

What better way to bond with your friends and family than to sit around a campfire and make delicious s'mores?

1



Run out and get firewood: Run on the spot and lunge to collect wood

2



Chop wood: Hands together, swing arms from above head and chop down

3



Load wheelbarrow: squatting down to pick up wood, coming to a stand and throwing the wood over your shoulder

4



Start fire: Fast feet in crouch position while rubbing hands together and exploding in to a star jump!

5



Take ingredients out of your backpack: squat down to grab the ingredients and jump to the side put on picnic table

6



Roast the marshmallow: Star jumps as the marshmallow gets bigger and bigger!

7



Put down the layers of your s'more: Squat down and clap your hands on top of each other

8



Put it all together: Jumping jacks to put both sides of the s'mores together. Make sure they're stuck together!

Camping Trip

Hike, swim, cycle and paddle to get to a secret camping location. Make up stories of your adventure! Rest is used to 'sleep' to recuperate. After completing the first set, repeat the actions in a backwards order to return home safely. **These activities are done in a chair**

1



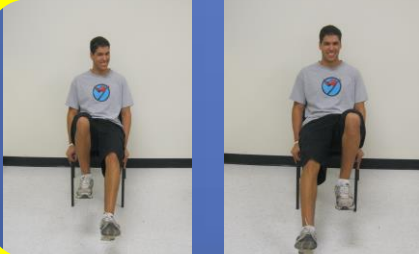
Hiking: Marching, swinging arms back and forth while tapping toes and lifting knees.

2



Swimming: Alternate moving arms as if doing front crawl while kicking legs in a flutter kick motion.

3



Cycling: Hold on to the seat of chair and pedal legs as if riding a bike.

4



Paddling: Paddle side to side just like in a kayak.

Repeat

Repeat steps 1-4

A Pirate's Treasure Hunt

ARR matey! Board the pirate ship and find your buried treasure on skull island!

1



Begin your journey on the seas: Row seated in your chair

2



The waves are getting big! Lunge to the left and right to balance the ship. Power jump when big waves come!

3



Man the sail: Reach up and to the side, lunge and pull down to the opposite side to hoist the sail

4



See an enemy pirate ship, fire cannons: Light the fuse, duck and cover ears

5



Dodge return cannonball attack: jump, tuck, power jump

6



Run off the ship to follow the map and find the treasure: Running on the spot

7



X marks the spot, start digging: Digging motion

8



Open the chest to reveal the treasure: Jumping stars (number of jumps completed equals number of gold coins in the treasure!)

Dodging Tomatoes

Either you've got a tough crowd or singing's just not your career. Avoid the projectile tomatoes by running on the spot calling orders such as dodge, jump, or power jump as evasion tactics. Crouch down to hide during rest.



Quickly run on the spot between orders



"Dodge"- Squat down



"Jump"- Jump up



"Power Jump"- Squat down and explosive jump up



Crouch down to hide during rest.

Rest

Zoo Animals

All of the animals have escaped the zoo and are on the loose! Help the zookeepers lead all of the animals back to their homes before the zoo opens!

1



Lead the kangaroos: Hopping

2



Swing through the trees to lead the monkeys: Swing side to side

3



Climb the tree to help the koalas down:
Raise opposite arm and leg at the same time, alternating back and forth

4



Grow to the height of a giraffe: Power jumps

5



Round up the bear cubs: Squat to pick up the bear cubs

6



Penguins: Waddle

7



Frogs: Frog hops

8



Lions: Sprint back to the lions' den, better be fast though!

Pizza Day

What a coincidence! Everyone at school forgot to pack their healthy lunches today! As a special treat, let's make a giant pizza to feed the whole school!

1



Roll out the dough: Run and stomp on the spot

2



Spread the sauce: Side lunges with horizontal plane arm circles OR mountain climbers if there's enough space

3



Add toppings (lots of vegetables/fruits): Squat down and stand up while scooping toppings on to the pizza

4



Cook the pizza: Fire dance (shimmy while squatting up and down)

Repeat

Repeat to cook a healthy fruit dessert pizza to bring home for you whole family!

Superheroes Save the Day

The evil villain, Megabrain, is wreaking havoc in your hometown. Only you can save the day!

1



Fly into town: Fast feet with arms above head, flying up, down, over, and around buildings

2



Megabrain is throwing cars: Jump up to catch the cars and squat to put them down safely

3



Megabrain turns his attention to the innocent bystanders: Run on the spot while punching the air to protect them

4



Continue to battle: Alternating scissor kicks

5



Megabrain has been defeated, help all of the bystanders that took cover to stand back up: Squat and pick up

6



Clean up all of the rubble: starting a lawn mower motion (squat, reach down, stand up and pull up across body)

7



Celebrate: Jump up and high five your neighbours

8

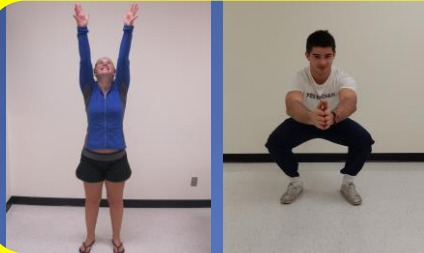


Work is done, fly back home for dinner: Fast feet with arms above head, flying up, down, over, and around buildings

Thanksgiving Feast

Your mom put you in charge of Thanksgiving dinner this year (this year's turkey is giant sized!). Be sure to impress her with your culinary skills!

1



Grab ingredients from the top shelf and stuff the turkey:

Reach up and squat down while pushing out with arms

2



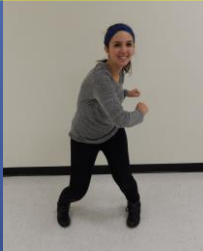
Chop up the fruits and vegetables: scissor kicks with arms swinging back and forth

3



Mash the potatoes: Jump up and down. For big chunks do a power jump!

4



Make fruit smoothies: Twist body from left to right to blend up the fruit

Repeat

There are so many left over ingredients, why not make another round to help a family in need?

The Amazing Race

Race to collect clues and directions that will eventually lead you to the million dollar prize at the end!

1



Run to your first clue: Running on the spot

2



The next challenge is rather *rapid*- paddle through the rapids: Sit on chair and paddle side to side with feet not touching the ground

3



Make sure you're nice and dry, the next challenge will require you to reach new heights: Shimmy to dry off

4



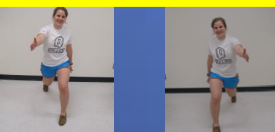
Mountain climbing challenge!: Vertical climbers to race to the top

5



Dodge falling obstacles: Lunge side to side and crouch

6



You've made it to the next round in the Arctic Circle for a cross country ski race: Split jumps

7



Last challenge- Swim the English Channel: While seated, flutter kick and front crawl with arms

8



Winners!: Jumping high fives to celebrate

Winter X Games

You've been selected to compete in the Winter Olympics for 4 events! Wow, such impressive athletes. First set is your practice for the big day. Second time around, give it all you've got to earn your place on the podium!

1



Cross Country Skiing: Jumping split legs with arms swinging back and forth. Do a trick jump during rest.

2



Snowboard Moguls: Lunge shifting weight from side to side. Do a trick jump during rest.

3



Bobsled: Hold on to chair and sprint on the spot as if pushing the sled. During rest crouch down into your "sled".

4



Speed Skating: Alternating semi circles with legs. During rest, glide with your hands up as you cross the finish line)

Repeat

Repeat steps 1-4 and give it everything you've got to ensure a spot on the podium

Goldilocks and the Three Bears

Tell this modified story of goldilocks with your actions

1



You're taking a walk through the forest and it starts to rain: Hop side to side to avoid the puddles

2



It starts to pour, sprint to take cover in the first house you see: Running on the spot

3



You notice a delicious smell coming from atop of a tall counter: 4 small jumps + 1 power jump to see what the smell is

4



It's oatmeal! You decide to eat the biggest bowl, you'll have to take giant scoops: Squat and scoop oatmeal into mouth

5



All of that eating, you need to sit down: Jump to hop onto the giant chair

6



The chair collapses, clean up all the pieces: Starting lawn mower motion (squat, reach down, stand up and pull up across body)

7



All that cleaning makes you sleepy. Climb to the tallest bed to take a nap: Standing climbing

8



You wake up and there are three bears around the bed, run!: Sprinting on the spot

Rock Paper Scissors Dance

Complete the rock paper scissors dance as fast as you can 10 times to power up your rock paper scissors skills. On your rest, have a traditional rock paper scissors game with the person closest to you (best 2 out of 3). Keep track of number of games won for a little added competition. Complete 8 rounds, moving around switching partners each time.

1



Rock: Crouch

2



Paper: Star

3



Scissors: Clap arms together above head, jump legs together

Rest



Rest: Best 2 out of 3 traditional rock paper scissors battle

Rocket

You're headed out for a space adventure! First you must prepare your ship, then survive the travel to the moon to collect some delicious cheese. Make it back in time with the cheese for lunch! Grilled cheese sandwiches anyone?

1



Put the crystals into the fuel tank: Reach up and squat down

2



Crush the crystals to activate their energy: Jump up and squat down

3



Run to the driver's chair before the ship launches: Running on the spot

4



Dodge asteroids: Call out dodge, jump, power jump (squat plus jump) to dodge asteroids while running on the spot. After this you've made it to the moon!

Repeat

Repeat steps 1-4 to get back home. Hurry! Don't want to be late for lunch!

Green Thumb

We're helping the Green Giant grow his magic beanstalk so he can get back to his home. Your job is to control the weather to get the bean stalk to sprout high all the way up into the sky!

1



Light rain: Knees to hands

2



Heavy Rain: Quick running on the spot

3



Thunder (oops, lost control of the weather): Jumping jacks

4



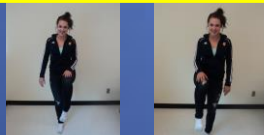
Sunshine: Jumping Stars

5



Air: Pumping motion to add more air

6



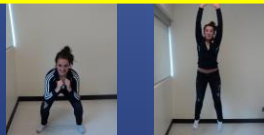
Light Rain: Knees to hands

7



Help the beanstalk start to sprout: Squat and thrust arms

8



Make the beanstalk grow to the sky: Squat and jump up

Acknowledgements

Jasmin Ma*

Dr. Brendon Gurd*

Dr. Lucie Levesque*

* Queen's University

Sources:

- Arnt Tjonna, (2009). Aerobic interval training reduces cardiovascular risk factors more than a multitreatment approach in overweight adolescents. *Clinical Science* , 317- 319.
- Izumi Tabata, (1995). Effects of moderate-intensity endurance and high-intensity intermittent training on anaerobic capacity and VO2max. *Medicine & Science in Sports & Exercise* , 891.

FUNtervals

Work Hard, Play Hard.