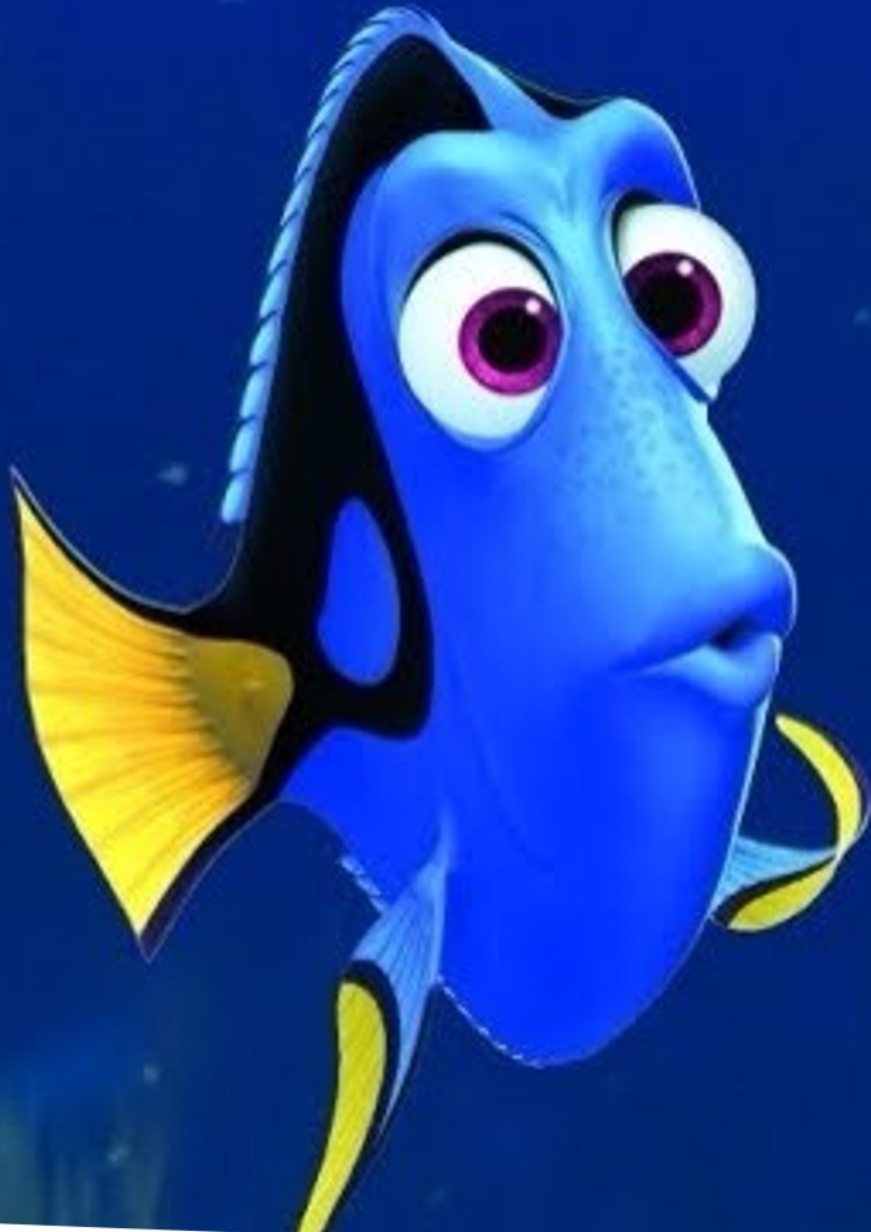


# Nutrition for Optimal Brain Performance

*How to best sustain your brain at work, at play, and while aging.*



**Presented by Ginny Santos, MSc.**



# Creativity Has a Downside...

Creativity allows us to save millions of lives



**BUT**



It also allowed us to create 65 types of refined sugars

# The Health Crisis in Canada

1/3 Canadians are pre-diabetic or diabetic

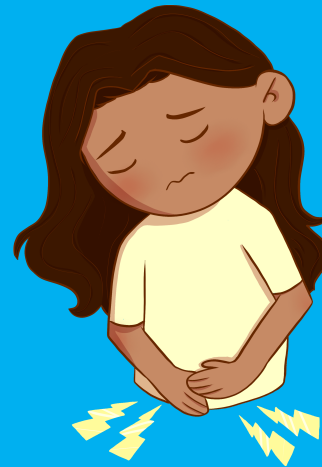
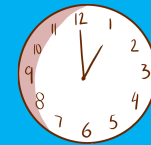
1/2 Canadians will be diagnosed with cancer

Rise of Type 3 Diabetes

# We think it's normal to...



- Have headaches
- Need caffeine
- Be tired every afternoon
- Catch a cold every season
- Have PMS



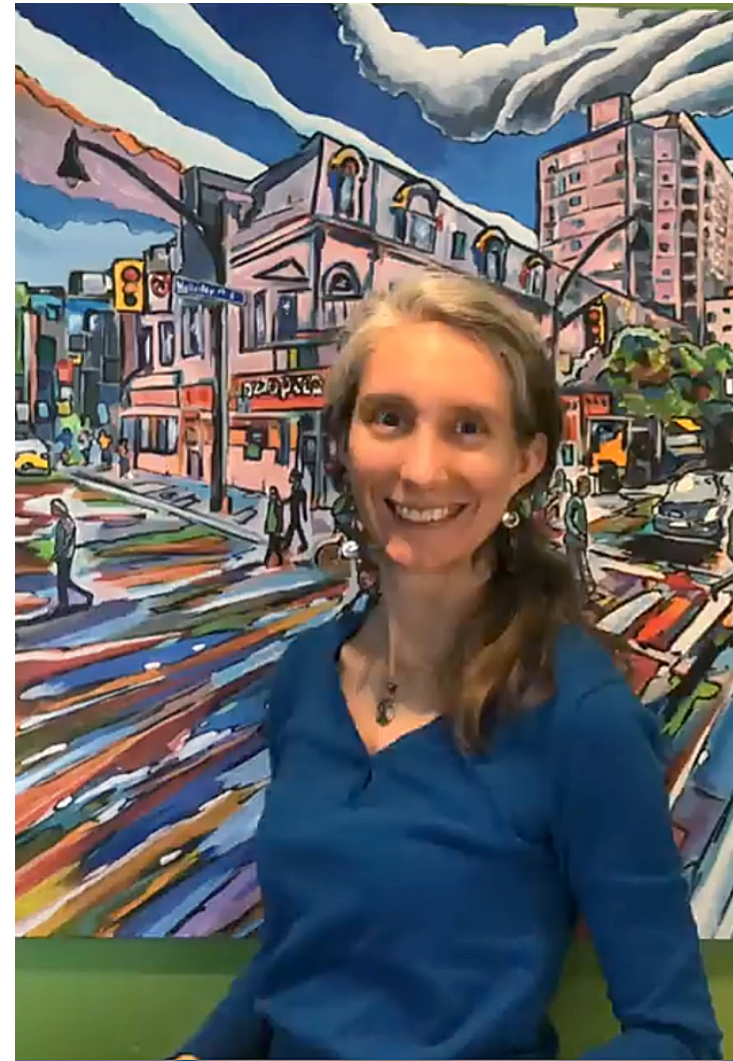


20% of health and longevity is determined by genes

80% is determined by lifestyle

# Credentials

- My qualifications now include:
  - ★ Certificate in Nutrition Sciences at Stanford University
  - ★ Certificate from the Canadian Centre for Brief Coaching
  - ★ WildFit Certified Coach
- **I offer workshops, holistic coaching, free weekly tips (via email), and this course.**



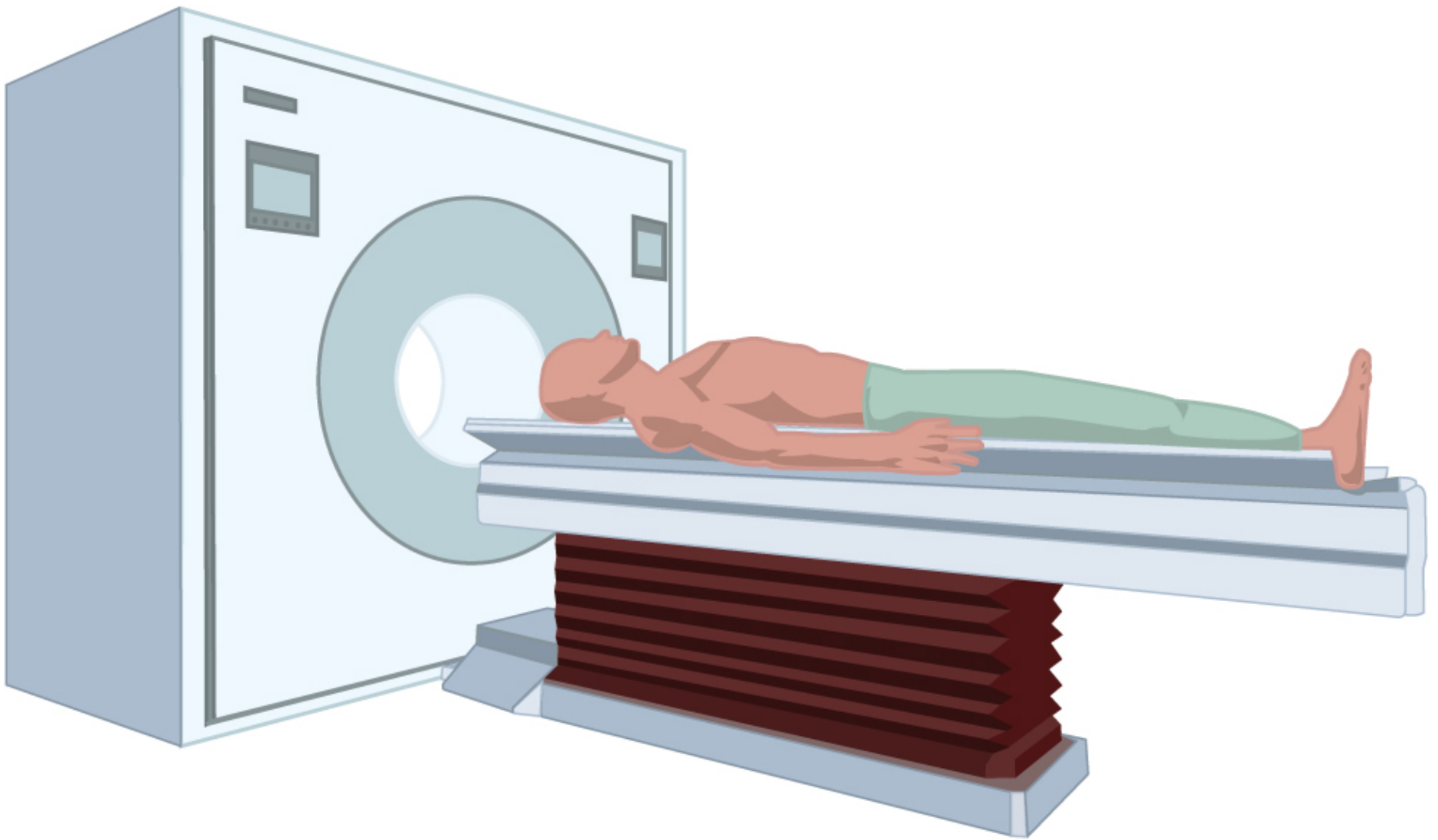
# The Key Questions for Today:

What are the optimal brain foods?

And how might you optimize your eating habits?











**Cheetos**



© 2015 Frito-Lay North America, Inc.

**Frito Lay**

Good fun!

TRANSIT 3500

ROLLING FRITO-LAY SALES, LP  
PLANO, TX 75024-4099  
US DOT 926150

NO CASH

PULL HERE TO OPEN

DRIVER ONLY

DRIVER ONLY

# How we will answer the key questions



Elements of optimal health



Types of nutrients and types of hunger



The anti-nutrients



The influencers of change

# Be an active learner



Turn off distractions



Print the workbook



Take notes



Complete the suggested exercises

# Fundamentals



# When does the brain need more energy?

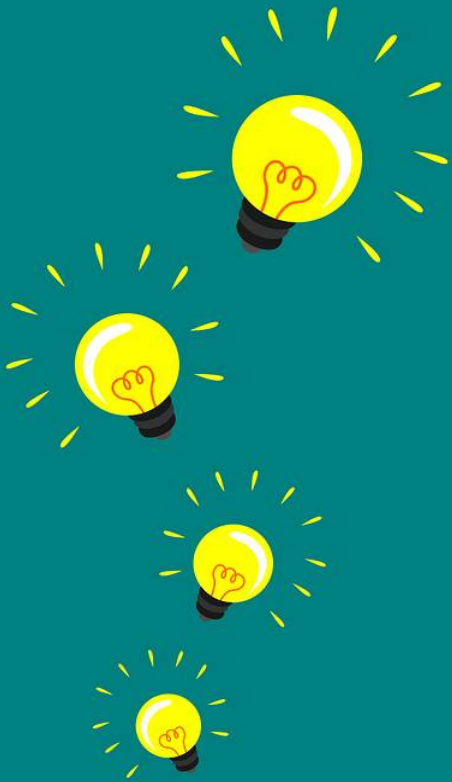
## SYSTEM 1

Fast  
Automatic  
Frequent  
Emotional  
Stereotypic  
Subconscious



## SYSTEM 2

Slow  
Effortful  
Logical  
Calculating  
Conscious  
Infrequent



$$4 + 4 = ?$$



# When does the brain need more energy?

## SYSTEM 1

Fast  
Automatic  
Frequent  
Emotional  
Stereotypic  
Subconscious



## SYSTEM 2

Slow  
Effortful  
Logical  
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Infrequent

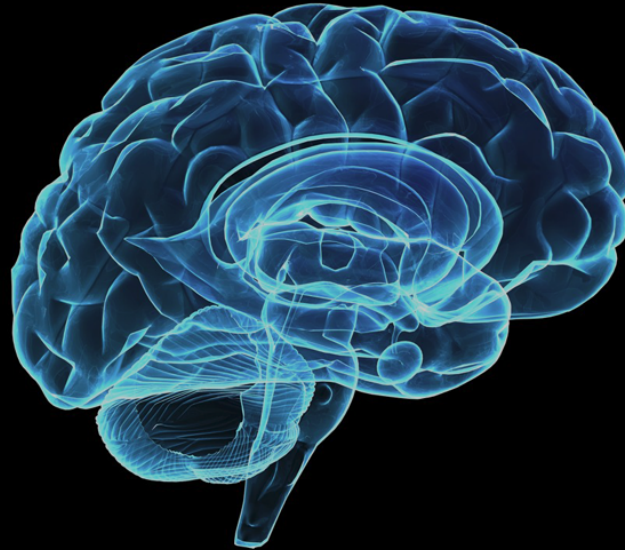


$$38 \times 289 = ?$$

# When does the brain need more energy?

## SYSTEM 1

Fast  
Automatic  
Frequent  
Emotional  
Stereotypic  
Subconscious

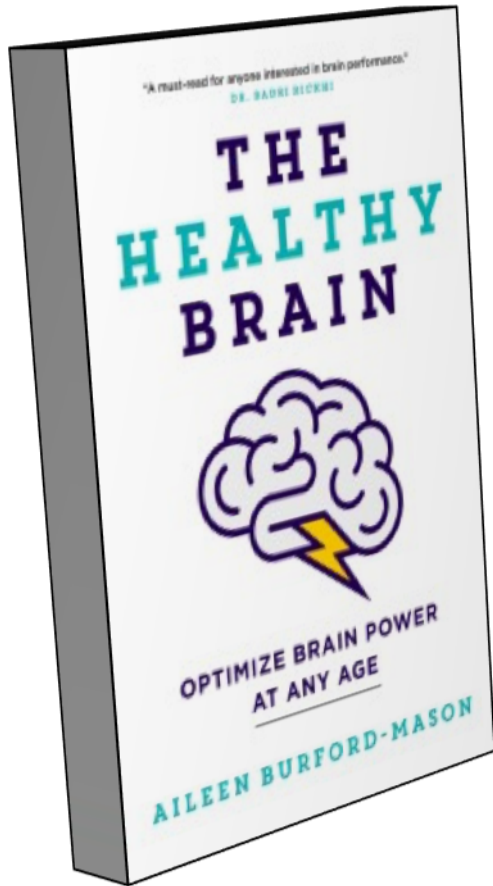


## SYSTEM 2

Slow  
Effortful  
Logical  
Calculating  
Conscious  
Infrequent

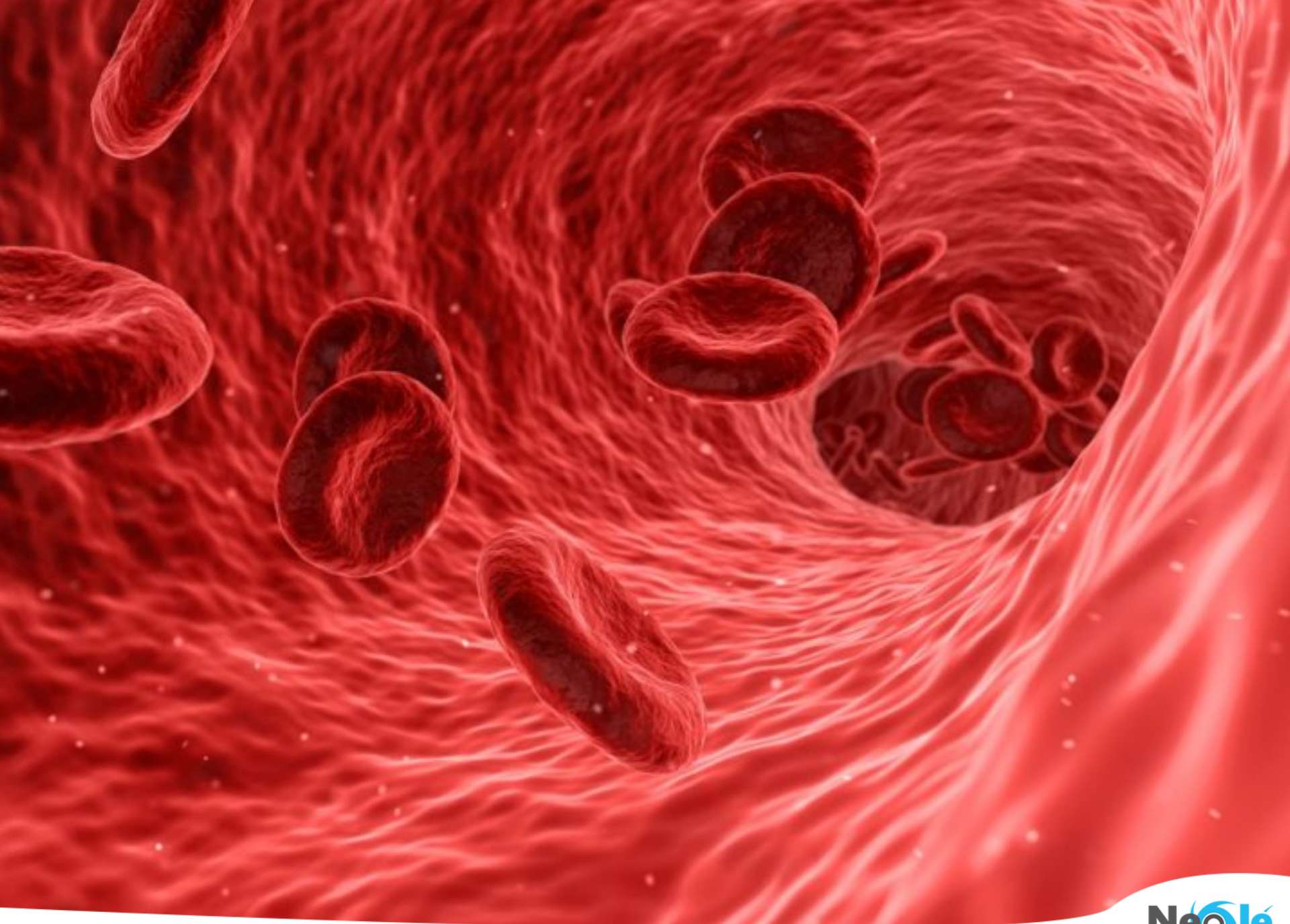






“Most people’s brains are underperforming because they are undernourished. As the most metabolically active organ of the body, the brain has nutritional needs that are ten times higher than that of any other organ. The brain is therefore the first organ to falter when it is improperly fed.”

Burford-Mason PhD, Immunologist and cell biologist.





The brain = 2% of body weight but uses 20% of the body's oxygen supply.



# Tip #1

Moving your body increases  
blood flow to your brain.

Blood carries oxygen to the  
brain.



# An Optimal Lifestyle is possible when ...

The following elements support you:

- ✔ Social & Physical Environment
- ✔ Knowledge & Skills
- ✔ Personal & Social Motivation

# Which one is most similar to your house plant?

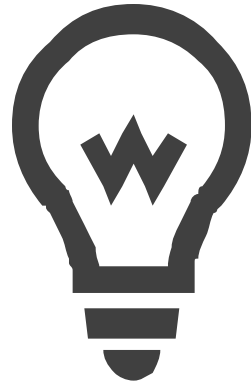




“Humans are food dependent creatures. Do not feed them and they will die. Feed them improperly and parts of them will die.”  
Dr. Emanuel Cheraskin

# An Optimal Lifestyle is possible when ...

- ✔ Knowledge & Skills
- ✔ Social & Physical Environment
- ✔ Personal & Social Motivation



What do you hope will be  
different for you after this  
course?

# The Elements of Optimal Health



# Your brain is part of the whole

Your brain is healthiest when your whole being is healthy. When your whole being is healthy you live disease-free.

TRUE or FALSE?



# Meet the Blue Zones



Five places around the world where people routinely live to be over a hundred without any chronic disease (no heart disease, dementia, diabetes, cancer).



**Lomo Linda,  
CALIFORNIA**



**Nicoya,  
COSTA RICA**



**Sardinia,  
ITALY**



**Ikaria,  
GREECE**



**Okinawa,  
JAPAN**



# The Blue Zones – Commonalities

- ✓ *Plant-based diets*
- ✓ *No smoking*
- ✓ *Regular fasting*
- ✓ *Sense of purpose and belonging*
- ✓ *Constant moderate physical activity*
- ✓ *Red meats are only consumed occasionally if at all*
- ✓ *No heavy meals late in the day*
- ✓ *Relaxation rituals are built into their routines*

# The Blue Zones - Differences



- ✓ *Some eat lots of healthy fats (fish, avocado, olive oil & nuts)*
- ✓ *Some consume small amounts of alcohol*
- ✓ *Some eat small amounts of dairy*
- ✓ *Some are highly religious*

# Tip #2: Slow down your eating



Remember the Okinawa 80% rule



20 min pass before our brains register the feeling of fullness

# Tip #2: Slow down your eating



Remember the Okinawa 80% rule



20 min pass before our brains register the feeling of fullness



Speed eating results in indigestion and overeating (which requires an increase in blood flow to the digestive system – away from the brain.)

# PRACTICE EXERCISE

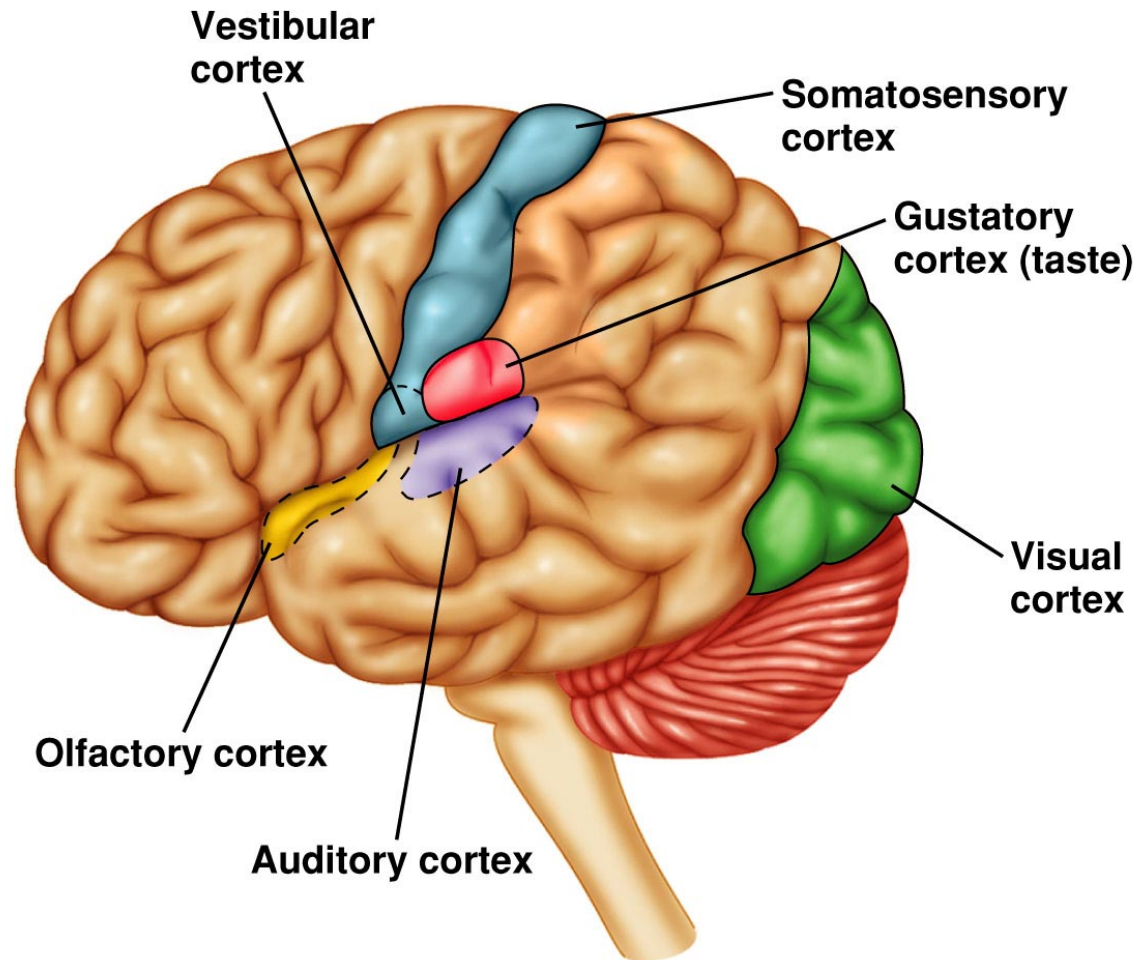
Get a small piece of fruit.  
Something like a raisin or an olive,  
a grape or a blueberry would be  
ideal.

# Learning Experiment





# Learning Experiment



Copyright © 2008 Pearson Education, Inc., publishing as Benjamin Cummings

# Pause & Reflect

- From what you have heard so far, what is most interesting to you?
- How might you apply it in daily life?
- Why would you want to apply it?
- When might you apply it?



# Chapter 4:

# Real Hungers and Essential Nutrients

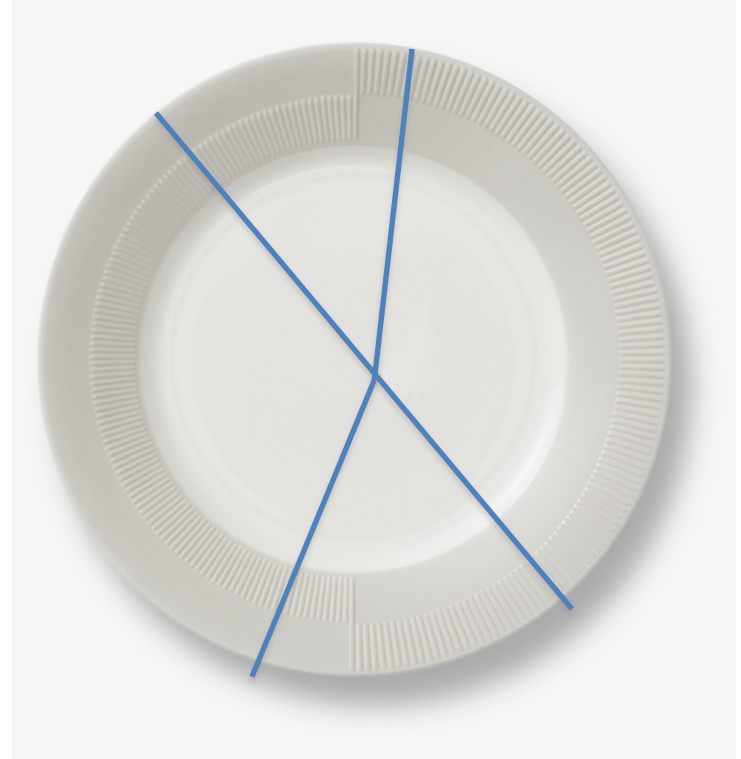
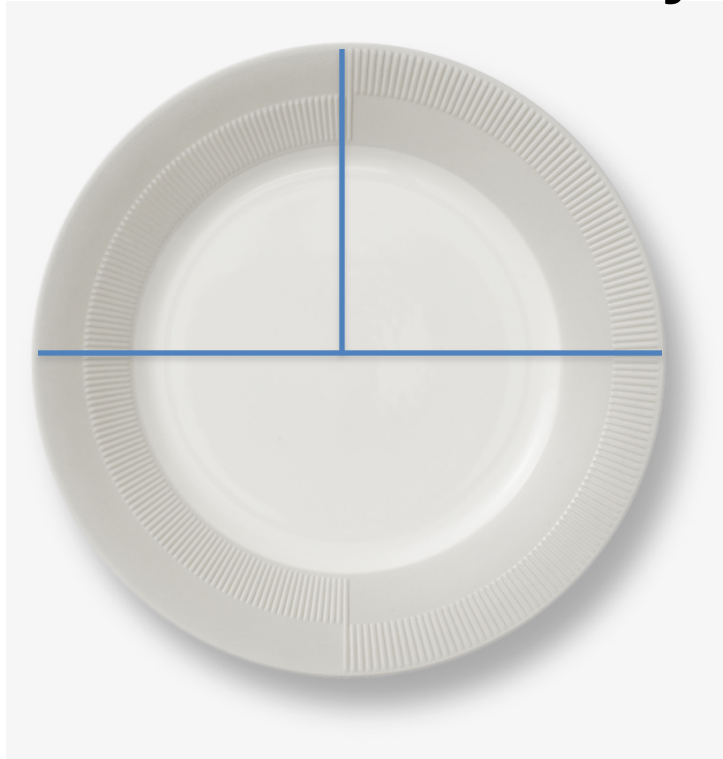


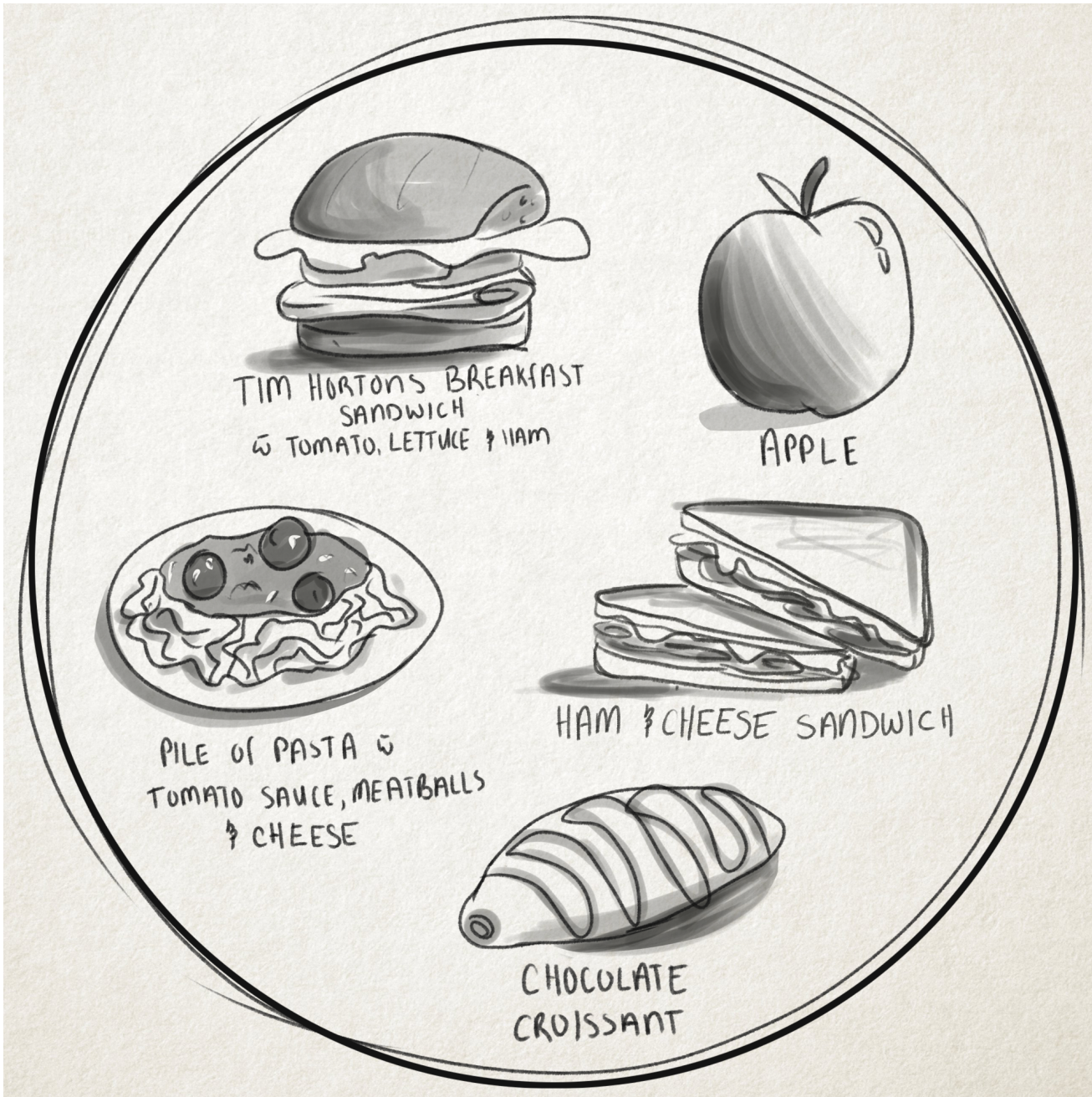
Reflect: What do you typically eat throughout the day and night?





# What categories of foods would be on your plate?





TIM HORTONS BREAKFAST SANDWICH  
w/ TOMATO, LETTUCE & HAM

APPLE

HAM & CHEESE SANDWICH

CHOCOLATE  
CROISSANT

PILE OF PASTA w/  
TOMATO SAUCE, MEATBALLS  
& CHEESE

# Canada's Dietary Guidelines



“Health Canada is committed to improving the lives of all of Canada’s people and to making this country’s population among the healthiest in the world as measured by longevity, lifestyle and effective use of the public health care system.”



**Have plenty of  
vegetables and fruits**

**Eat protein foods**

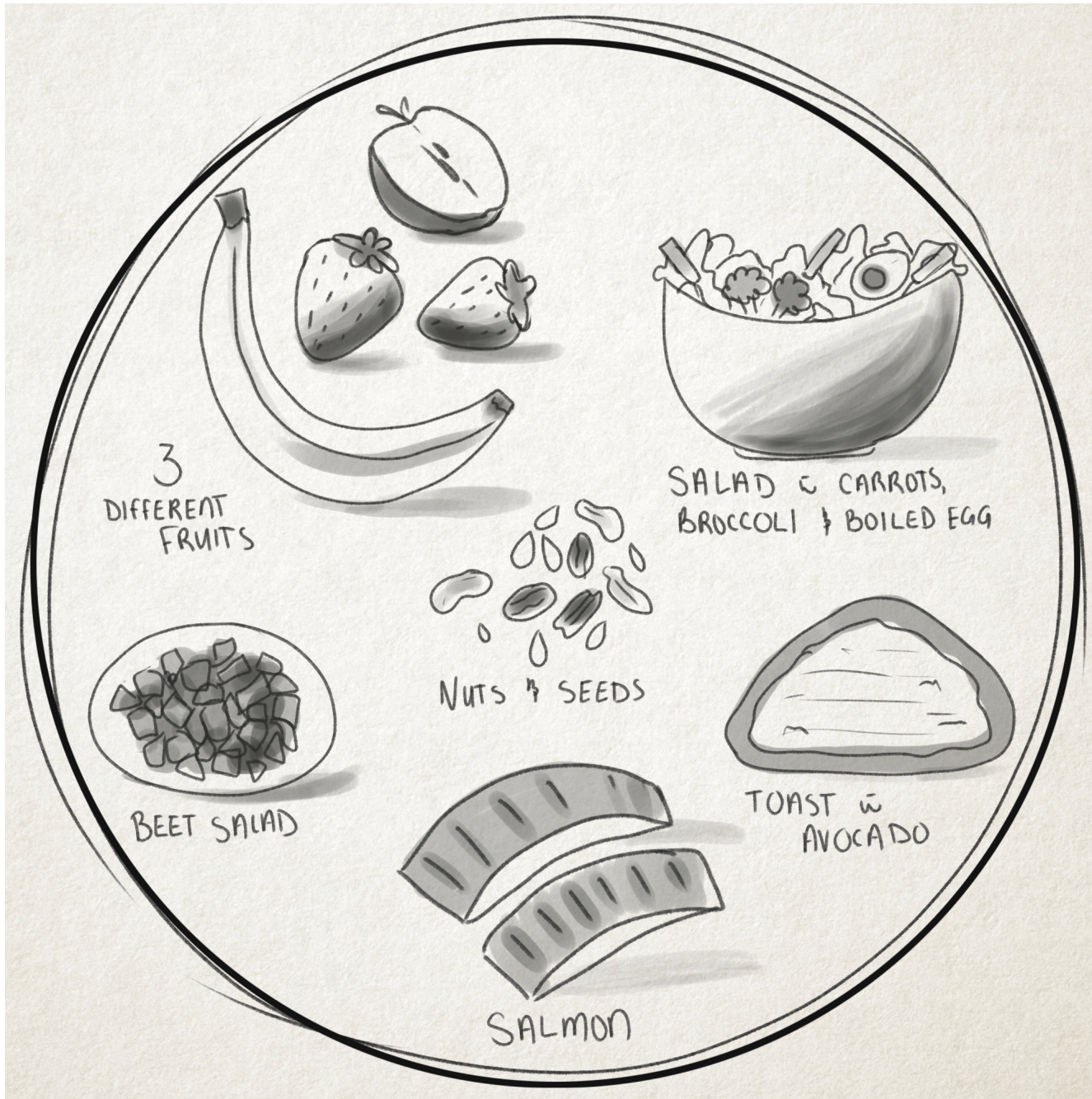
**Make water  
your drink  
of choice**

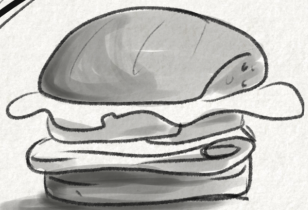
**Choose  
whole grain  
foods**



# Health Canada: Guideline #1

- ✔ Vegetables, fruits, whole grains, and protein foods should be consumed regularly. Among protein foods, consume plant-based more often.
- ✔ Unsaturated fats should replace saturated fats
- ✔ Water should be the beverage of choice





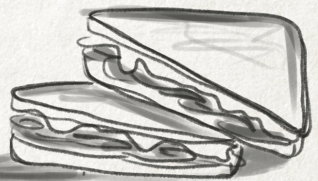
TIM HORTONS BREAKFAST SANDWICH  
w/ TOMATO, LETTUCE & HAM



APPLE



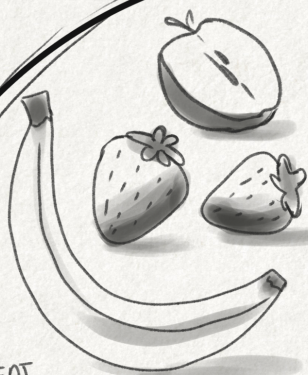
PILE OF PASTA w/  
TOMATO SAUCE, MEATBALLS  
& CHEESE



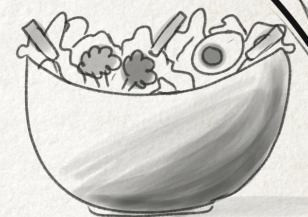
HAM & CHEESE SANDWICH



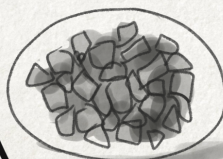
CHOCOLATE  
CROISSANT



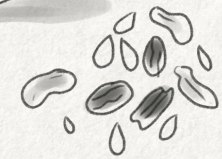
3  
DIFFERENT  
FRUITS



SALAD w/ CARROTS,  
BROCCOLI & BOILED EGG



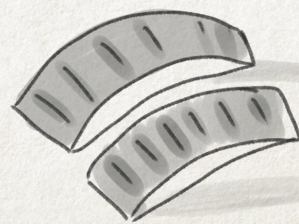
BEET SALAD



NUTS & SEEDS



TOAST w/  
AVOCADO



SALMON

# Types of Hunger



Hydration Hunger



Nutritional Hunger



Hunger for Variety



Blood Sugar Hunger



Empty Stomach Feeling



Emotional Hunger

Eric Edmeades, 2019

# Tip# 3: Stay hydrated



6 to 8 glasses of spring water/day



Non-caffeinated teas also count

# Tip# 3: Stay hydrated



6 to 8 glasses of spring water/day



Non-caffeinated teas also count

# Essential Nutrients



Carbohydrates



Fats



Proteins



Vitamins & Minerals



# Carbs and Carbs

- **Healthy Carbs** energize your brain:

- Nutrient Dense
- Long lasting energy
- Feed your gut and protect your liver
- Includes: most vegetables and legumes, fruits and whole grains (quinoa, barley, oats)

- **Simple Carbs** drain your brain:

- Nutrient deficient
- Energy spike (will overload your pancreas over time)
- Starve your gut bacteria and stress your liver
- Includes: white rice, most bread, soda, pastries, pasta

Choosing healthier options on a daily basis  
will energize your brain day after day

AND

will reduce your risk of Alzheimer's by 35%  
in old age

Aileen Burford-Mason MD, 2017

# Unsaturated Fats are **Healthy Fats**

- The brain is 60% fat. Fat = building blocks.
- It needs a balance of Omega3 and Omega6 fatty acids.

# Unsaturated Fats are **Healthy Fats**

- The brain is 60% fat. Fat = building blocks.
- It needs a balance of Omega3 and Omega6 fatty acids.
- Eating fat helps you absorb vitamins like A, D, E and K.
- Recommendations: Avocado, seafood, fatty fish, tofu, nuts, eggs, olives.



# Essential Nutrients



Carbohydrates



Fats



Proteins

# Proteins

- They regulate our metabolism
- They build structures (nails, hair, bone, tissue)
- Found in every type of food
- Health Canada recommends that we choose plant-based protein more often than animal proteins.
- Great sources: beans, nuts and whole grains

# Essential Nutrients



Carbohydrates



Fats



Proteins



Vitamins & Minerals



# Veggies & Fruits are Rich

- Ideal source of most vitamins and minerals
- Rich in fiber when unprocessed
- Provide a sustained-release of glucose (the brain's main fuel)
- Replenish your magnesium and Vitamin C
- Increase focus and attention (thanks to the magnesium and Vitamin C)

# Tip# 4: Increase your intake of fruits and vegetables



10 servings per day



Fruits and veggies contain healthy carbs, fiber and many vitamins and minerals



Minimally processed is best

# Stress = Higher nutritional needs

A close-up photograph of a gorilla sitting in a lush green field, eating a piece of grass. The gorilla's dark fur is the central focus, and the background is a soft-focus green landscape.

Stress depletes your Vitamin C and Vitamin Bs

# Real Hungers



Hydration Hunger



Nutritional Hunger



Hunger for Variety

# Pause & Reflect

- From what you have heard so far, what is most interesting to you?
- How might you apply it in daily life?
- Why would you want to apply it?
- When might you apply it?



# The Fake Hungers & Anti-nutrients



# Fake Hungers



Blood Sugar Hunger



Empty Stomach Feeling



Emotional Hunger

# The Anti-Nutrients



Refined Sugars



Saturated Fats and Trans Fats



Sodium (when consumed in excess)



# Health Canada: Guideline #2

- ✔ Processed or prepared foods and beverages that contribute to excess sodium, free sugars, or saturated fat should not be consumed regularly.
- ✔ Free sugars include “added sugars”
- ✔ Avoid all trans fats

- The [World Health Organization's public health recommendation](#) is to reduce the intake of trans fats by the majority of the population to less than 1% of total energy intake. Canada is helping by banning all Partially Hydrogenated Oils- which is the main source of trans fats. So you are generally safe from Trans Fats within Canada – although there might still be the occasional product still circulating in the supermarkets.

# A closer look at sugars



1. Repeated spikes in blood glucose levels = long-term health complications
2. Train our taste buds to dislike healthy foods
3. As addictive as heroin and cocaine
4. Cause inflammation in the brain

# Recommended Upper Limits

- ✔ | Adults: 25 - 37g per day
- ✔ | Children: 9 – 10g per day

# Recommended Upper Limits

- ✓ | Adults: 25 - 37g per day
- ✓ | Children: 9 – 10g per day

## Average Consumption

- ✓ | Adults: 93g per day!  
Children: 101g per day!

# An Optimal Lifestyle is possible when ...

Knowledge & Skills

Social & Physical Environment

Personal & Social Motivation

What are all the names given to  
sugars?







3 teaspoons of  
sugar



5.5 teaspoons of  
sugar



9.7 teaspoons  
of sugar



9.25 teaspoons  
of sugar



# What are all the names given to sugars?

Sugar, High Fructose Corn Syrup, Brown Sugar, Corn Syrup, Fructose, Honey, Dextrose, Invert Sugar, Molasses, Maple Sugar, Levulose, Turbinado Sugar, Raw Sugar, Confectioner's Sugar, Corn Syrup Solids, Maltose, Maltodextrin, Evaporated Cane Juice, Rice Syrup, Fruit Juice Concentrate, Lactose ...etc.

Tip# 5: If you crave sweets after a meal give your taste buds a change in flavour.



Have a cup of tea



Brush your teeth

# The Anti-Nutrients



Processed/Refined Sugars



Saturated Fats and Trans Fats



Sodium

# Tip# 6: Avoid processed foods



Prioritize whole foods

Or choose processed foods with



< 5g sugar,

< 5% sodium,

< 5% saturated fats, and

0 trans fats.

# Creating New Habits



# The 4 key steps to keep your brain at its healthiest during your entire lifetime:



Eat a plant-based diet



Exercise regularly



Manage your stress



Get enough sleep

Harvard School of Medicine, 2020



# An Optimal Lifestyle is possible when ...

Knowledge & Skills

Social & Physical Environment

Personal & Social Motivation

PRACTICE DOESN'T MAKE  
PERFECT  
PRACTICE MAKES HABITS

And habits can be positive or negative

# Jim Kwik's Advice for a life-long healthy brain



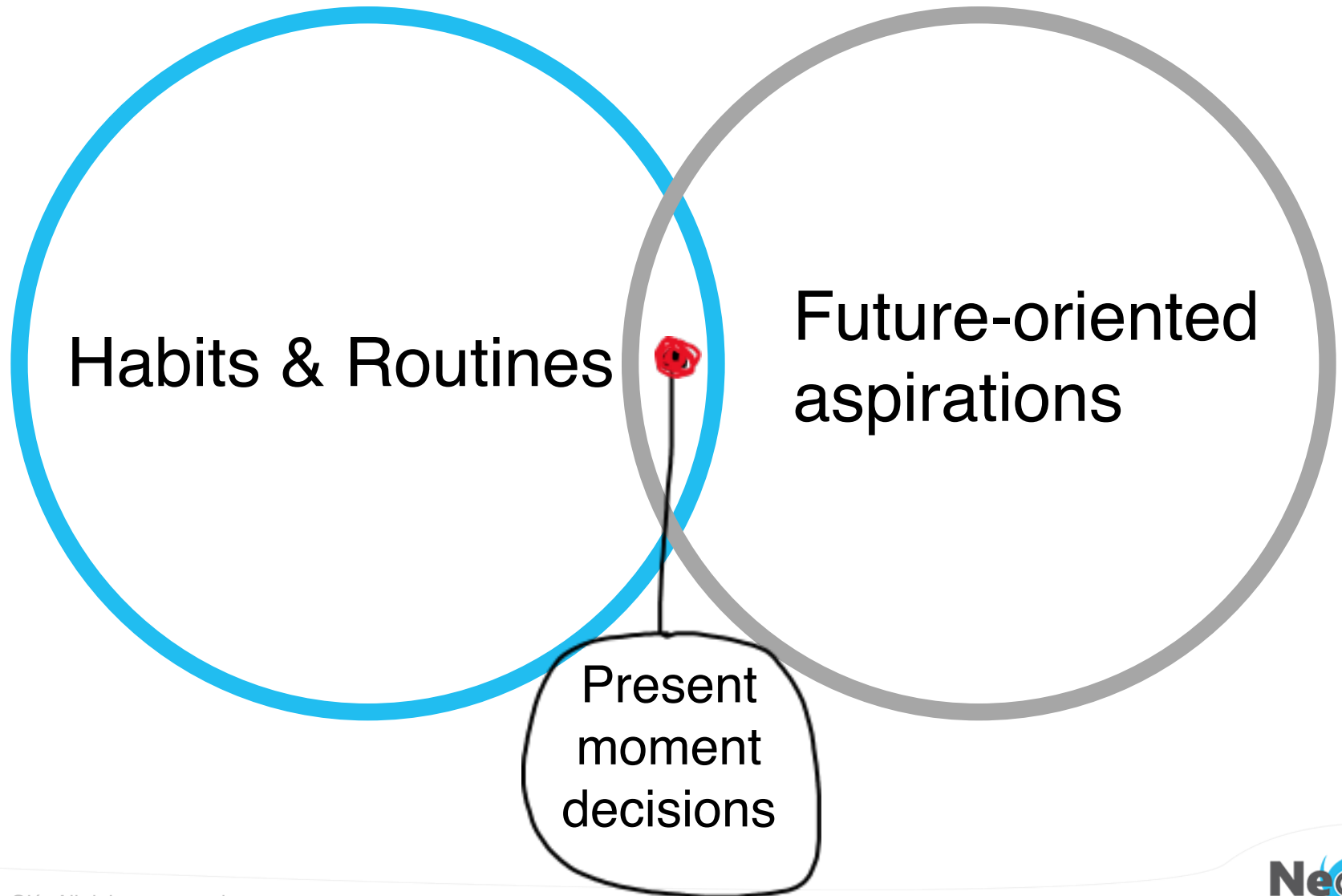
# Reflect on your upbringing...

**Share your  
childhood meals  
and snacks**

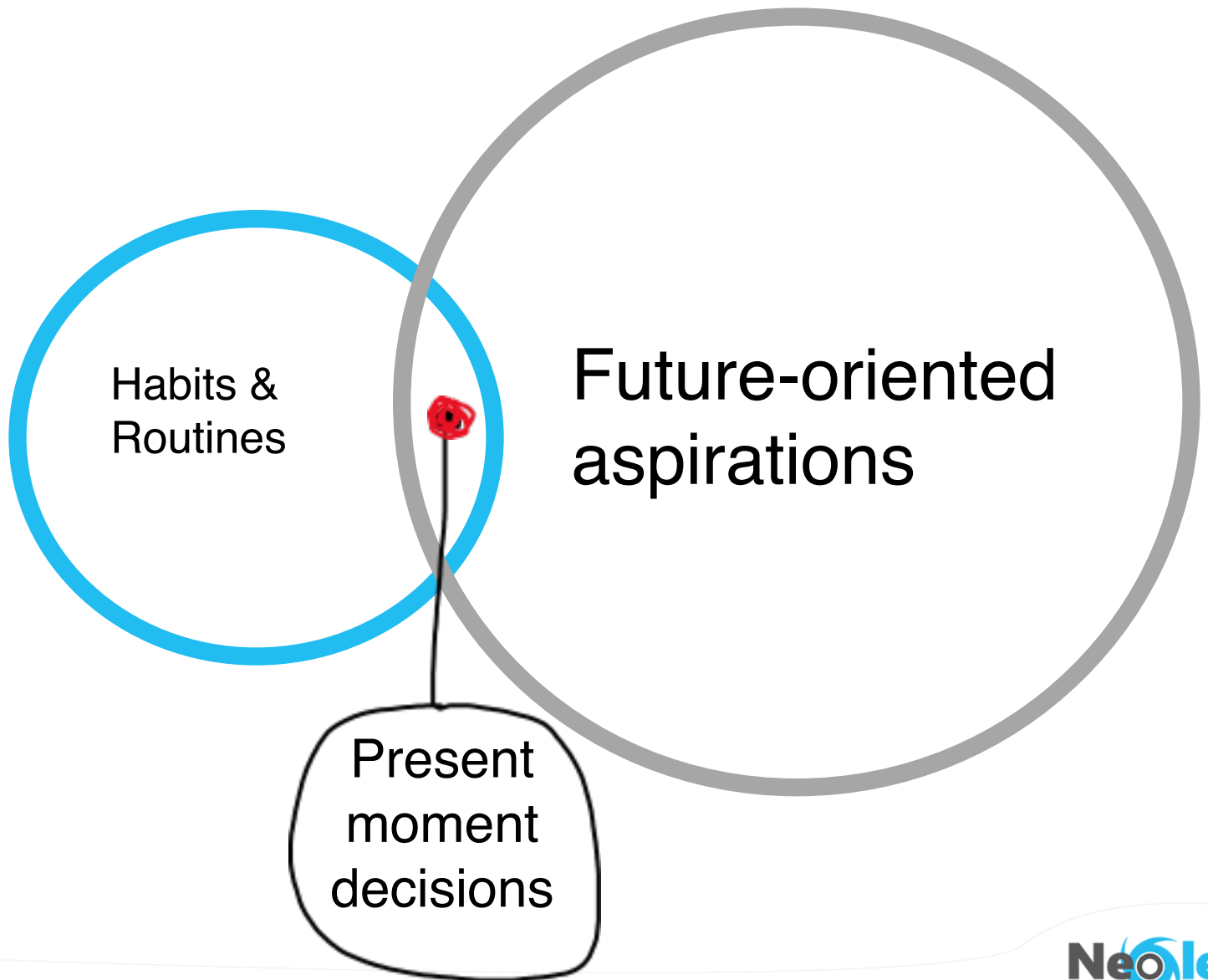
**Share the related  
events & feelings**

**Be grateful for any healthy  
habits you learned during  
childhood**

# Influencing the present moment



# Influencing the present moment



**Aspiration = The hope or  
ambition of achieving  
something**



# Engage your supporters

- Who will motivate you to stay on course?
- Who is on board with your aspiration?



**BRAINTORM A LIST OF NAMES NOW**



# Create a supportive environment for yourself

- What can you change about your social & physical environment to ensure your success?
- How can you make it easier to make healthier choices more often than not?
- How might you make healthy eating the new normal?



BRAINTORM ANSWERS TO EACH QUESTION NOW

# Make the learning Stick

- **What do you want to remember most about this course?** (list 2 or 3 things that stood out for you)
- **How will you make sure you remember?** (write down one action you can commit to)
- **Why do you care to remember this?** (write down one key motivator)

# The link between lifestyle and disease

- 1 in every 2 Canadians will be diagnosed with cancer
- 1 in 3 Canadians is pre-diabetic or diabetic
- Alzheimer's cases are expected to rise by 66% by 2030

# If you want...

- A free weekly email with tips to help you stay on track and continue to optimize your habits.

Sign Up Here:

<http://bit.ly/NeOleSignUp>

Stay in touch: [ginny@neole.ca](mailto:ginny@neole.ca)



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*Principal & Collaboration Leader*



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www.neole.ca



@GinnySantos



# Sources of information and influence

- Stanford Center for Health Education
- Health Canada
- American Heart Association
- American Diabetes Association
- The World Health Organization
- The Food & Agriculture Organization of the United Nations
- Eric Edmeades, author of Wildfit
- Jim Kwik – Brain & Learning Expert
- Aileen Burford-Mason MD., author of The Healthy Brain