

## You Are About to Save Time, Money, And Achieve

This book is designed to make your life efficient using, Assembly Line Engineering Principles.

- Less than two hours to read.
- Lifetime savings upwards of \$500,000+ or \$10,000 a year.
- 14,000 hours of lifetime time savings, or an extra hour a day.
- Solutions to make your life organized, meet personal goals, and complete dreams.

This is the book that uses math, science, and engineering to be efficient in life.

## The Lean Methodology

Lean is the general way Toyota runs their manufacturing plants to be efficient in every possible aspect. Studying processes, collecting data, and making adjustments improved their quality, their cost, and customer satisfaction. Today, nearly every manufacturing company implements Lean. Hospitals and non-manufacturing companies are implementing these methods too. I studied these and now, we apply Lean to your life.

## Apply Lean to your Life

We all have similar routines, getting ready in the morning, eating food, driving to work. Why wouldn't we want to optimize the mundane and repeated processes to be efficient. You may live for another 50 years, that's 20,000 mornings to get ready, 60,000 meals to eat.

If we can save five minutes every morning getting ready, that is 1,500 hours in your lifetime saved.

A \$5 savings between breakfast, lunch, and dinner is \$100,000 lifetime savings. (Imagine how much a family of four can save).

Toyota studied Lean on the automotive assembly line, I have studied Lean on our daily life processes. In this book, I will present the findings so you can begin applying right away. Each chapter is written to be concise yet detailed so you can be time efficient. For every page you apply, you will be saving thousands of dollars and hours of time.

Make an attempt, what's the worst thing that can happen? You save time and money? : )

Note: The calculations on savings can be found in the appendix

Key

Saves Time

Improves Quality

Saves Money

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## 1. Calories Per Dollar - And Protein, And Nutrition Per Dollar

- Saves \$100,000 per person
- Retire 5 years earlier

Is that frozen pizza for \$4 a good deal?

What about the dollar menu at McDonalds?

These items are actually quite expensive, relatively speaking. With this methodology, we can eat for \$1,000/year/person.

### Premise

- The body requires ~2000 Calories a day, ~70 grams of protein, carbs, fats, vitamins and minerals (micronutrients).
- Instead of just looking at a price tag, we look at the calories, protein, fats, and micronutrients we get for that price.
- Calories, protein, etc. can be optimized by looking at each as:

$$\frac{\text{Calories}}{\text{Dollar}} = \frac{\text{Servings} * \frac{\text{Calories}}{\text{Serving}}}{\text{After Tax Total Cost}} \text{ or } \frac{\text{Protein}}{\text{Dollar}} \text{ or } \frac{\text{Unit}}{\text{Dollar}}$$

### Goal

To eat healthy and nutritious food for \$1,000 a year and come up with an objective method of determining food value.

### Example

$$\text{Calories Per Dollar} = \frac{(\text{Calories in 1 serving}) * (\text{Servings Per Container})}{\text{After tax cost of the item}}$$

Don't be afraid, this is all in the nutrition information, for example:

<b>Nutrition Facts</b> Serving Size 1/2 cup dry (40g) Servings per container: 13 <hr/> Amount per serving: Calories 150    Calories from fat 25	→	$\text{Calories Per Dollar (CPD)} = \frac{(150 \text{ Calories}) * (13)}{\$2.13} = 915 \frac{\text{Calories}}{\$}$
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This value, 915 is how many calories we get for every \$1 we spend. If oats net 915 calories per dollar, but a large fries at McDonalds net 305 calories per dollar, we would be spending three times more for the same number of calories.

## Results(Summary)

The results showed the best values:

- For calories- bread/rice/noodles/oats (3000-2000 CPD)
- For protein- dry lentils/dry beans/chicken/milk/whey (110-50g PPD)
- For fats- oils/fats/home-made gravy
- For micronutrients- veggies/fruits/whole grains/herbs/spices

Additional Findings:

- Eggs and 73% ground beef are both high in calorie and high in protein.
- The best fast food item is the Little Cesar, \$5 pizza, ~2x more expensive than the items listed. (420 calories per dollar)
- At an average of 700 calories per dollar, we can eat for ~\$1000 a year.

## Application

- Include a high calorie per dollar food in every meal and a high protein per dollar food in every meal.
- Include oils, fats, vegetables, and fruits for ESSENTIAL nutrition.
- Combine this with a variety of herbs, spices, to make most recipes.
- Examples of meals: fajitas, fried rice, chicken rice and gravy, stir fry, tacos, casseroles, enchiladas, chicken tortilla soup, alfredo, sloppy joe, lentil soup, burritos.

## Adjust

Use this list to consider what food is a luxury. Doing this quick math at a store using our app can determine if the food is going toward your yearly budget goal. Continue to enjoy luxurious foods as a reward for good habits!



## Find the List below, Sorted by Calories Per Dollar

Item	Price	Calories per dollar	Protein per dollar	Calories per protein	Store	Cost if you only ate that all year
Flour	1.68	4,464	134	33		\$163.52
White Bread	0.78	3,333	103	33	Walmart	\$219.00
Rice	6.53	2,320	46	50	Walmart	\$314.65
Brown sugar	1.54	2,201	0			\$331.62
Plain Oats	7.89	2,148	72	30	Costco	\$339.81
Ramen	2.34	1,949	41	48	Walmart	\$374.61
Pasta(white)	1	1,600	56	29	Walmart	\$456.25
Bread Crumbs	1.08	1,556	52	30	Walmart	\$469.29
Peanut Butter	10.99	1,487	55	27	Costco	\$490.99
Whole Wheat Pasta	1	1,470	49	30	Walmart	\$496.60
Peanut Butter	4.98	1,265	49	26	Walmart	\$577.05
Extra Virgin Olive oil 101 fl	19.28	1,245	0			
Cheesits	5.49	1,230	25	50	Costco	\$593.73
Virgin Olive oil 25.5 fl	5.28	1,136	0			
Pinto Beans (10lbs)	9.12	1,026	80	13	Walmart	\$711.28
Dr Thunder	0.84	952	0		Walmart	\$766.50
Whole Wheat Bread	1.48	946	41	23	Walmart	\$771.71
Lentils	1.12	929	116	8	Walmart	\$786.15
Whole milk	2.59	902	49	18	Walmart	\$809.38
Eggs	3.59	802	70	11	Costco	\$909.97
Kraft*	1	780	30	26	Walmart	\$935.90
0.5% Milk	2.29	699	56	13	Walmart	\$1,044.81
72/27 Ground beef	12.7	439	21	21	Walmart	\$1,661.08
Little Cesars pizza 5 dollar	5.3	423	21	20	Walmart	\$1,727.23
GV italian sausage	2.58	407	23	18		
Taco Bell Beefy 5	1.3	400	15	27	Walmart	\$1,825.00
Dried Cranberry	3	390	0			
Sausage McMuffin	1	370	15	25	Walmart	\$1,972.97
Bagel Bites	9.99	360	13	29	Costco	\$2,025.75
McDouble	1.3	300	18	17	Walmart	\$2,433.33
Banana	1.34	299	3	100	Walmart	\$2,445.50
Muscle Milk	26.99	289	31	9	Costco	\$2,525.99
Chipolte(best vaule)	3.3	248	17	15	Walmart	\$2,937.80
Chicken	2.09	239	50	5	Walmart	\$3,057.52
Lunchable	1.06	236	11	21	Walmart	\$3,095.20
Cytosport Protein	45.99	228	44	5	Costco	\$3,197.40
Large Tomato Sauce Canned	1.24	210	10	20	Walmart	\$3,481.54
White Onion	0.88	206	6	32	Walmart	\$3,545.25
Pork Sirlon Tip Roast	1.99	203	45	5	Costco	\$3,591.66
Bacon	5.48	179	10	18	Walmart	\$4,082.04
Applebees Boneless BBQ Wings	5.175	170	15	11	Walmart	\$4,292.90
Greek Yogurt	3.48	161	16	10	Walmart	\$4,536.43
Subway footlong	5	138	6	22	Walmart	\$5,289.86
Canned Chicken	0.98	115	23	5	Walmart	\$6,359.11
Tilapia	13.98	114	24	5		\$6,378.38
Tuna	0.88	114	25	5	Walmart	\$6,424.00
Salmon	1.42	85	14	6	Walmart	\$8,638.33
Beef Jerkey	5.88	82	14	6	Walmart	\$8,942.50
Frozen Shrimp	18.99	47	10	5	Costco	\$15,483.15
Raspberries	4.98	13	0	43	Walmart	\$55,929.23

## Find the List below, Sorted by Protein Per Dollar

Item	Price	Calories per dollar	Protein per dollar	Calories per protein	Store	Cost if you only ate that all year
Flour	1.68	4,464	134	33		\$163.52
Lentils	1.12	929	116	8	Walmart	\$786.15
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Dried Cranberry	3	390	0			

## 2. Applying Mass Production at Home

- Save 1,500 hours
- Stress-Free Mornings

Consider the decisions made on a daily basis: What clothes should you wear? What food to eat? What needs to be done today?

It may sound surprising, but this actually takes a lot of energy to make these seemingly simple decisions.

### Premise

- Performing tasks in bulk, produces results that are more consistent and saves time.
- Mass Production.
- Mass production reduces the frequency of preparation and clean up tasks.
- Quality is more dependable when everything is made from the same batch.
- If a process is completed regularly, the process can be analyzed, optimized, and made into an assembly line (similar to Process Flow Diagram Chapter).
- Operators do not need to change their mindset as often, saving effort and energy.

### Goal

Reduce the frequency of doing tasks to save time and energy.

### Analysis

Consider what tasks would be great for doing in bulk:

- Tasks that involve making decisions big or small (saves mental energy).
- Tasks done in a hurry, decision making takes extra time, causes stress, and errors.
- Tasks performed on daily or weekly basis.
- Tasks that can be completed ahead of time with little loss in quality.

Some examples of things that cannot be done in bulk:

- Feeding a pet.
- Spending time with friends.

## Examples

- Prepping the following in bulk saves time, energy, and improves the quality of the outcome.
- Make enough outfits at the start of the week.
  - Choosing clothes on a single day reduces the thinking needed every morning or night a single night a week.
  - There will be no trying to remember what was worn earlier in the week.
- Make breakfasts/lunches/protein shakes for the week.
  - Consider that some items such as bread with wet ingredients will lose quality if made in advance.
  - Making food ahead of time saves the time of getting all ingredients out and clean up.
- Make gym bags ahead of time.
- Paying Bills.
- Errands.
- Scheduling Appointments.
- Checking email.
- Scheduling to-do lists.
  - Getting into the mindset of planning is difficult and exhausting, doing clerical work all at once saves time and effort.

## Implementation

Consider a moment in the week that is not busy, stressful, and regularly occurs once a week. For example, Sunday night is common for preparing for work and school. Some tasks like making lunches may only be done every 2-3 days, meaning prep day may change. Find what works, and what doesn't. If it doesn't work.

Adjust!

### 3. Motivation Using Data

- Do everything you want, even if the lazy you does not want to

In production plants there are boards updated frequently with new stats showing improvement. Applying this principle to habits provides a tool for motivation and commitment to anything.

#### Premise

New Year's Resolutions often fail due to lack of accountability.

Setting goals and visualizing them improve personal drive for their success. Visually tracking goals will lead to positive, long term changes.

#### Goal

To start a goal, stick with the goal, and complete it.

#### Plan

- Choose highest priority goals
  - Too many changes at once is difficult, failing can become discouraging.
  - Pick specific, obtainable, trackable goals i.e. finish three books in three months.
    - Trackable examples– Run for at least ten minutes a day, talk to a new person daily, meditate for five minutes a day.
    - Non-Trackable examples- Run more, social, learn meditation.
- The X Effect
  - Get/make a calendar, put it somewhere accessible and visual.
  - For the goal chosen, pick a trackable metric that deserves an X upon completion.
  - Every day the metric is met, mark an X.
  - Use an O for a missed date.
  - Once there are enough X's in a row, you won't want to break your streak.
  - If something has absolutely prevented you from accomplishing the goal, write down what it was in the calendar square.
- Tallies
  - Have a goal for the tally to hit.
  - Ensure that the area to update the tallies is accessible and visual.
- Goals.
  - Write down goals, put it somewhere you look daily.

## Countermeasures

Here are some methods and ways to apply The X Effect:

- Hobbies
  - Practice Guitar (25 minutes).
  - Write (25 minutes).
  - Read (25 minutes).
  - Study meditation (25 minutes).
- Habits
  - Quit smoking.
  - Do timed exercise daily.
  - Eat 2 cups of veggies a day.
- Tallies
  - Be productive 8 times today for 25 minutes.
  - Study/work on project 16 times this weekend for 25 minutes.
- Goals
  - Finish Website by 11-14-14.
  - Finish Book by 2-1-15.

After these habits have been established (~90 days), going beyond the minimum requirement becomes easy.

## Implementation

Pick something you want to change, improve, or be more consistent with.

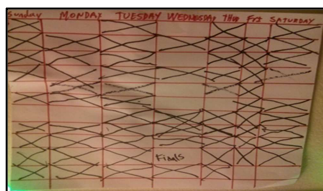
Decide how you will track progress, draw up a form to fill out, post it somewhere you look daily, and begin tracking from day one.

Never skip a day of acknowledging you have a new habit, even if you are too busy, just recognize it.

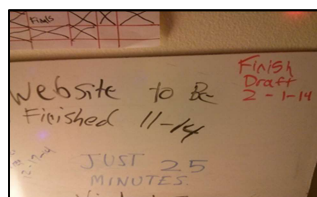
## Adjust

Just get started. Don't take on more than is reasonable. Find what works, and what doesn't work. If one method is effective, find ways to incorporate that more. If a method is not effective, decide if that goal is something we really want, or the method isn't effective.

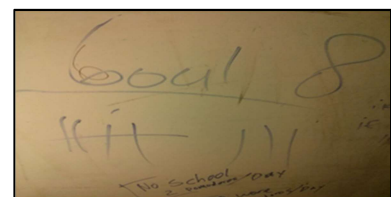
The X Effect Calendar



Visual Goals to Remind You



Visual Tally with Goals



## 4. Just-In-Time Grocery Shopping (and Meal Planning)

- Save 13,000 dollars
- Save 1,500 hours
- Eat delicious healthy food

Just-In-Time logistics is where components (ingredients) are ordered and used shortly after to minimize quantity on hand.

The home kitchen is a perfect place to apply this system to save time shopping, save money on spoiled food, and make great meals.

### Premise

Plan the meals we eat and understand what components each meal requires to give us a standardized list of items to purchase.

### Goal

- To save hours and gas by taking less trips grocery shopping.
- A cleaner pantry with Just-In-Time inventory management.
- Reduce time and frustration in coming up with food for the week.
- Less spoiled food means more monetary savings and a better environment.

### Analysis

Grocery shopping is done multiple times a week due to inadequate planning and overlooked items.

Some groceries spoil quickly rendering them useless.

Mistakes in meal planning means spending up to seven times more eating out.

### Countermeasures

Simplified:

Choose one-week worth of meals to be made. Write down all of the ingredients needed and purchase those meals one week at a time.

Standard:

Pick twenty-eight dishes and place them on days they are convenient to be made e.g.:

- Slow cooker recipes on Tuesdays and Thursdays when very busy.
- Bulk recipes on Saturday and Sunday with extra free time.

Write down all the ingredients needed to fulfill the recipes next to that week.

When grocery day comes up forming a list is easy!

Check off each ingredient and either add to the weekly grocery list or confirm it is in stock.



## Implementation

The list is a tool, not a stone tablet.

When we have company over we may choose to pick a dish that we wouldn't serve that week usually.

Having all of the ingredients, any recipe that week can be made on any day of the week.

There is nothing wrong with swapping within a week.

The current routine:

1. Hit print, pick up printed copy, check the pantry, fridge, and freezer for any stocked ingredients. Cross off.
2. Grocery shop, scratch off as you go. Make a note of anything forgotten or isle locations.
3. Eat food all week without visiting the grocery store again.

## Adjust

- Determine if the recipes are enjoyable or if too difficult to prepare depending on workload.
- Consider adding a day to try new things. (Sushi day is different every month!)
- After eight weeks, we found moving nachos and chicken tortilla soup to the same week kept nacho chips fresh.
- Rearrange the ingredients to correspond to the isles in the store.
- If this doesn't work, adjust, find something that makes grocery shopping easier.
- You will forget some ingredients the first few weeks, but if you persevere after a few weeks you will become a food expert.
- We found that we have enough leftovers to skip one meal a week.
- Thursday is our overflow, if we have leftovers we eat on that day, otherwise we eat breakfast for dinner :D

### List of Recipes Including Ingredients Needed for the Week sorted by Isle.

	Week 1	Week 2	Week 3	Week 4
	<b>Saturday</b>	Beef Casserole	Chili	Chicken Tortilla Soup
	<b>Sunday</b>	Thai Fried Rice	Ginger Asian	Alfredo
	<b>Monday</b>	Fajitas	Tacos	Nachos
	<b>Tuesday</b>	Sausage and Peppers	Pulled Pork	Spaghetti
	<b>Wednesday</b>	Breakfast for Dinner	Breakfast for Dinner	Breakfast for Dinner
	<b>Thursday</b>	Pulled Chicken	Sunday Chicken	Sloppy Joe
	<b>Friday</b>	Whole Chicken and Gravy	Enchiladas	Brown Sugar Pork + Potatoes
Isle Order		Lime	Onion	Salsa Chicken Burritos
		Cucumber	Garlic	Carrots
		2 Green Bell Pepper	Garlic	Celery
		Ginger Root	Potatoes	2 x Onion
		2 x Onion	Hamburger Buns	Tortillas
		Carrots	Alfredo Noodles	Lentils
		Lettuce	Angel Hair Noodles	Elbow Noodles
		Hard Taco Shells	Parmesan Cheese	2 x Cream of Chicken Soup
		2 x Chicken	10 oz. can Enchilada Sauce	Salsa
		Small Tortillas	4 oz. can Green Chopped Chili Puree	2 x Chicken
		Hamburger Buns	1 can Peeled Tomatoes	Breakfast Sausage
		1.5 + (tacos) lbs. Ground Beef	Tomato Sauce	Sour Cream
		Pork	Chicken	Refrigerated Biscuits
		1 or 2 cans Light Red Kidney Beans	Ground Beef	Eggs
		1 Normal Can Tomato Sauce	Pork	Shredded Cheese
		Cream of Chicken Soup	Nacho Chips	
		1 Can Water Chestnuts	Breakfast Sausage	
		Dry Italian Seasoning	Frozen Peas	
		Pinto Beans	Frozen Broccoli	
		Breakfast Sausage	Sour Cream	
		Frozen Broccoli	Milk	
		Frozen Corn	Eggs	
		Sour Cream	Shredded Cheese	
		Cream Cheese		
		Milk		
		Eggs		
		Shredded Cheese		



## 5. Bed to Door in 6 Minutes - Eliminate Non-Value Added Tasks

- Saves 1,000 hours – Watch 3,000 more TV shows in your lifetime

Every morning we wake up, hit the bathroom, shower, put on clothes, do hair/makeup, and hit the road. Missing anything? It is easy to overlook the complexity of the morning routine. Finding the waste between those steps will save minutes every morning.

### Premise

- If we standardize our morning routine to reduce the number of steps, we can sleep in longer and get to work on time more consistently.
  - Reducing even one second of a task will give you an extra 300 minutes over your lifetime.
  - If you can reduce your routine by one minute, you will have an extra 300 hours to do things you enjoy. I found standardizing my routine saved me ten minutes- 3,000 hours! That's 375 x 8 hour shifts saved!
- Process Flow Chart - details every action from start to completion
  - Writing every step down on paper will provide us something to analyze.
  - The more detail, the more waste we will find.

### Goal

Remove non-value-added steps found in the Process Flow Chart and utilize any time waiting.

### Concept

Write down literally every step it takes to perform a morning routine. Leave no stone unturned, the list below is a simplification. The real list can be found on the next page. If you can, have a partner watch, they find steps you forget.

1	Get out of bed	14	Dry using towel
2	Open the door to the bathroom	15	Wait for self to air dry
3	Use the toilet	16	Walk to room
4	Turn on shower	17	Put on clothes
5	Wait for shower to heat up	18	Walk to bathroom
6	Feel and adjust water	19	Do hair
7	Feel and hop in	20	Kiss wife goodbye
8	Go in shower	21	Get lunch out of fridge
9	Rinse	22	Get bag out of cabinet
10	Soap	23	Put lunch in bag
11	Shampoo	24	Grab keys
12	Rinse	25	Arrive at door
13	Turn off shower		

## Countermeasures

Look at the list, consider areas that do not provide value to your morning routine, motion (walking), waiting, mistakes. Some solutions:

**Task Number (from above) - Action taken**

**2-Open the door to the bathroom** - Leave bathroom door open before bed (3 seconds).

**5- Wait for the shower to heat up** - Turn on shower right away. Use shower crayons to mark ideal faucet levels (error proofing). This will make the temperature right 100% of the time (50 seconds).

**10 and 11 Shower Stuff**- Shampoo first, then soap to let it sit as directed. Urinate in the shower, saves water and time (~60 seconds).

**15 Air Dry**- Kiss wife while air drying (20 seconds).

**16 Get clothes from room**- Put clothes in bathroom the night before (15 seconds).

**17 Getting Dressed**- Put shirt on, then do hair, let bottom half continue to air dry (8 seconds).

**19 Get Hair Products** - Leave hair products out unless company is coming over (4 seconds).

**21 Packing Lunch**- Put lunch in bag upon putting away leftovers for quick grab (40 seconds).

Here we saved 200 seconds, or 60,000 minutes, or 1000 hours in our lifetime.

Saving even one minute on the morning routine will add up to 240 hours over the next 40 years! Almost 500 episodes of a TV show!

## Implementation

Removing non-value added tasks, the process flow turns into this:

1	Get out of bed	10	Turn off shower
2	Walk to bathroom	11	Dry using towel
3	Turn on shower	12	Kiss Mandy goodbye
4	Hop in	13	Put shirt on
5	Rinse	14	Do Hair
6	Shampoo	15	Put rest of clothes on
7	Soap	16	Get lunch out of Fridge
8	Urinate	17	Keys at the door
9	Rinse		

## Adjust

With this new routine optimized. It is important to go through with the changes and practice it daily.

After the routine becomes familiar, consider looking at things in more detail and making further adjustments to optimize the routine. Since originally writing this, I have left my clothes in the closet and is the first thing I grab before heading to the bathroom. We figured this out upon applying this to our bedtime routine. Try this on everything from your arriving home from work routine to changing diapers to laundry!

## 6. Clean A Cabinet for The Last Time - 5S

- Never look for something again
- Saves 6000 minutes
- Saves \$1,300

Although the typical household pantry has some flow to it, over time items are misplaced causing them to be lost. Additional ingredients are bought to compensate, and before long, the pantry is getting cluttered and full.

### Premise

- Applying the 5S principals to the kitchen cabinet, we can clean faster, organize it to be more practical, and sustain the cabinet for the future.
- 5S – Clean using the industrial engineering method:
  - Ensures a thoroughly cleaned and organized pantry.
  - Sustainable cleanliness.

### Goal

Permanently organize any space.

### Concept

The 5S phases are the following:

- Sort- Remove all items that are not used, including items that don't belong:
  - Throw away expired items.
  - Give away food that was bought by mistake (it's for charity, feel good about it!)
  - If needed, store portions of bulk items in the pantry and the rest of the bulk items in a storage area.
- Straighten- Ensure all items can be accessed easily:
  - Items should be one motion away from being grabbed. Reaching or moving items takes additional time and is discouraged.
- Shine- Wipe and physically clean surfaces.
- Standardize- Have a correct place for all items:
  - Decide on a permanent location for each item.
  - Label each location with a sticky note or label maker.
- Sustain- Check back to ensure this is working:
  - Work to maintain this system.
  - If things do not work, consider what the problems are, and adjust.

## Example

Labeling has ensured the items are placed in the correct locations upon restocking.

In addition, any time we are out of a product, it's easy to identify as nothing will be there except the label.

For labels, we personally divided into:

- Hamburger helper
- Pasta sides
- Mac and cheese
- Miscellaneous
- Pop-tarts
- Pasta sides
- Canned Fish
- Deserts
- Syrup
- BBQ sauce
- Honey
- Dry Italian seasoning
- Cream of X Soup
- Canned tomato
- Noodles
- Peanut butter
- Tortillas
- Rice
- Dry foods

We matched square shaped containers to go with other square shaped containers. Cylinders to go with cylinders. Bags to go with bags. This saved space as was intuitive.

## Implementation

This is a lifestyle change and it is important to get all members of the home to understand why there will be changes and have their ideas included into this.

This is extra effective with the Just-in-Time Grocery Shopping as the cabinet will need to be stocked less and be cleaner as a result.

Before



After



## Adjust

After a few months, it may be found we stopped using some products, freeing up some space.

We may want additional labels to be more specific on some products. For instance, separating “dry foods” into lentils and pinto beans. On the flip side, we may find we need more space for “miscellaneous” items.

Consider what products were used most often and put those between chest and eye level for comfort and speed.

Since first writing this, we added sections for recipes, upon the day we make the foods, all items are in a specific corner of the cabinet.

## 7. Choosing Efficient Health Insurance - Rational Decision Making

- Save a quarter million dollars – Buy a boat... or three

It's easy to think more expensive health insurance is better, in reality more expensive insurance may be worse and riskier in the event of a disaster.

### Premise

- The purpose of insurance is to cover the costs of a rare extreme cost.
- The savings from a cheaper plan can be applied to meeting the maximum out of pocket deductible and the cost of visits.

### Goal

Find the most coverage for health insurance at the lowest price.

### Plan

Note: Any time “/” is seen, read as “per” e.g. cost/year = cost per year = cost divided by year.

Make columns in a spreadsheet for:

- ‘Plan’: list each plan name.
- ‘Insurance Cost/Year’: this will be the yearly cost of each plan.
- ‘Maximum Deductible/Year’: this will be each plan’s Max Deductible.
- ‘Total Health Care Cost/Year’: this will be estimated on previous years’ medical costs (doctors’ visits, prescriptions, etc.).
  - There may be differences in cost depending on your plan.
  - Look further into your health insurance plan and find the differences in cost or estimate by multiplying your current plan by 3.14 for the cheaper plans.
  - Deductible – Amount you need to pay before insurance pays anything.
  - Copay- you pay this when using a service.
  - Co-insurance- after you spend the cost of the deductible, you pay the co-insurance from that point forward.
- ‘Sum of Costs/Year’: add cost of the health insurance plan and the estimated medical costs on the spreadsheet.
- ‘Years can meet max deductible + Health insurance cost’:  $\text{emergency fund} / (\text{max deductible/year} + \text{Insurance cost /year})$ .

Plan	Insurance Cost/Paycheck	Paychecks/Year	Insurance Cost/year	Emergency Fund	Max Deductible/Year	Total Health Care Costs/Year	Sum of Costs/Year	Years can meet max deductible + Health Insurance cost
PPO 1000	348.14	=52/2	=C2*B2	14000	7000	160	=D2+G2	=E2/(F2+D2)
PPO 2500	294.38	=52/2	=C3*B3	14000	10000	160	=D3+G3	=E3/(F3+D3)
PPO 4000	263.82	=52/2	=C4*B4	14000	12700	160	=D4+G4	=E4/(F4+D4)
HSA 1250	304.51	=52/2	=C5*B5	14000	4500	320	=D5+G5	=E5/(F5+D5)
HSA 3000	222.04	=52/2	=C6*B6	14000	8000	320	=D6+G6	=E6/(F6+D6)

Obtain costs of health insurance per year and maximum out of pocket deductible for each plan and enter into Excel.

## Implementation

Below is the simplified outcome of the above mathematics

- The PPO programs have a higher base health insurance cost + deductible, making it more costly than the HSA which has a lower base health insurance cost and higher deductible.
- The two most rational options are a cheaper per year, but higher cost of an emergency HSA 3000 or more expensive per year, lower cost of emergency HAS 1250.

Plan	Sum of Costs / Year	Years can meet max deductible + Health insurance cost
PPO 1000	9211.64	0.872185
PPO 2500	7813.88	0.793027
PPO 4000	7019.32	0.715771
HSA 1250	8237.26	1.127463
HSA 3000	6093.04	1.016479

## Act

This allows comparison of health insurance plans. Consider that while a lower deductible may seem safer, the cost savings of a cheaper plan can compensate for an emergency later. Insurance companies ARE sneaky and prey upon the fear of an emergency. Math makes us rational.



## 8. How to Have the Most Fun – Data Analysis

- Have fun more often
- Save money

Looking for a hobby? Something to do on a Friday night? What is more expensive AND enjoyable, a night at the movies or a baseball game? Using some math, we can aid these decisions with a bit of data to define *value*.

### Premise

- In a world of things that cost money to do, it can become difficult to understand what your dollar pays for.
- Calculating hours of fun per dollar allows you to decide if an activity is 'worth it'.
- Using this tool, you can reduce the moderately fun activities to save money so you can do your favorite activities more often.
- Bonus: By rating activities you can subjectively determine best value.

### Goal

Determine the cost and your value of a recreational activity to find out the **best** activities.

### Plan

Hours of fun per dollar is calculated by:

$$\frac{\text{Hours of Fun}}{\text{Dollar}} = \frac{\text{Hours}}{\text{After Tax Cost}}$$

1. Take note of what things you do when you 'go out', the after tax cost, and how much time you spend at these areas. (bonus: rate them out of ten for the amount of fun you have)
2. Label each column and tabulate the data.
3. Calculate the Hours of Fun/Dollar and Value of Fun:

$$\text{Value of Fun} = \frac{\text{Hours of Fun}}{\text{Dollar}} * \text{Fun Rank} \frac{\text{Importance of Fun}}{\text{Importance of Money}}$$



## Do

- Collect the data from common activities you like doing or are considering trying.
- Decide how much fun each activity is on a scale from 1 to 10.
- Declare how important having fun is on a scale from 1 to 10.
- Declare how important saving money is on a scale from 1 to 10.
- Input minutes, cost, and fun ranking in a spreadsheet:

Activity	Minutes	Cost	Hours	Hours of Fun/Dollar	Fun (1 to 10)	Importance of Fun (1 to 10)	Importance of Money (1 to 10)	Value
Novel (Library + Gas)	300	3	=B2/60	=D2/C2	1	6	4	=E2*F2*(G2/H2)
New Videogame	=20*60	60	=B3/60	=D3/C3	7	6	4	=E3*F3*(G3/H3)

Input your constants for "Importance of Fun and Importance of Money". These will not change (unless you change your mind).

Sort the spreadsheet by value to see what you enjoy the most per dollar!

Examples:

Save Money- Importance of Fun= 3; Importance of Money=8

Activity	Minutes	Cost	Hours	Hours of Fun/Dollar	Fun (1 to 10)	Importance of Fun (1 to 10)	Importance of Money (1 to 10)	Value
Diablo 3	19140	100	319	3.19	2	3	8	4.14
Novel(Library+ Gas)	300	3	5	1.67	1	3	8	1.67
New Videogame	1200	60	20	0.33	7	3	8	0.69
Rent a Movie	120	5	2	0.40	4	3	8	0.67
Novel	300	20	5	0.25	3	3	8	0.38
Movies	120	10	2	0.20	5	3	8	0.37
PuttPutt	45	5	0.75	0.15	7	3	8	0.31
Baseball Game	180	20	3	0.15	6	3	8	0.29
Club(cover)	120	20	2	0.10	7	3	8	0.21
Skiing	240	44	4	0.09	9	3	8	0.21
Football Game	180	60	3	0.05	10	3	8	0.12
Restaurant	60	15	1	0.07	4	3	8	0.11
Lasertag	15	7	0.25	0.04	9	3	8	0.08

## Balanced- Importance of Fun=5; Importance of Money= 5

Activity	Minutes	Cost	Hours	Hours of Fun/Dollar	Fun (1 to 10)	Importance of Fun(1 to 10)	Importance of Money (1 to 10)	Value
Diablo 3	19140	100	319	3.19	2	5	5	6.38
New Videogame	1200	60	20	0.33	7	5	5	2.33
Novel(Library+ Gas)	300	3	5	1.67	1	5	5	1.67
Rent a Movie	120	5	2	0.40	4	5	5	1.60
PuttPutt	45	5	0.75	0.15	7	5	5	1.05
Movies	120	10	2	0.20	5	5	5	1.00
Baseball Game	180	20	3	0.15	6	5	5	0.90
Skiing	240	44	4	0.09	9	5	5	0.82
Novel	300	20	5	0.25	3	5	5	0.75
Club(cover)	120	20	2	0.10	7	5	5	0.70
Football Game	180	60	3	0.05	10	5	5	0.50
Lasertag	15	7	0.25	0.04	9	5	5	0.32
Restaurant	60	15	1	0.07	4	5	5	0.27

## Value Fun- Importance of Fun = 8; Importance of Money= 2

Activity	Minutes	Cost	Hours	Hours of Fun/Dollar	Fun (1 to 10)	Importance of Fun(1 to 10)	Importance of Money (1 to 10)	Value
New Videogame	1200	60	20	0.33	7	8	2	800
Skiing	240	44	4	0.09	9	8	2	596
Football Game	180	60	3	0.05	10	8	2	500
PuttPutt	45	5	0.75	0.15	7	8	2	360
Club(cover)	120	20	2	0.10	7	8	2	240
Lasertag	15	7	0.25	0.04	9	8	2	234
Baseball Game	180	20	3	0.15	6	8	2	194
Movies	120	10	2	0.20	5	8	2	125
Rent a Movie	120	5	2	0.40	4	8	2	102
Diablo 3	19140	100	319	3.19	2	8	2	51
Novel	300	20	5	0.25	3	8	2	20
Restaurant	60	15	1	0.07	4	8	2	17
Novel(Library+ Gas)	300	3	5	1.67	1	8	2	2

## Implementation

- With a list like this, it's not realistic to always do free activities. It should be used as a tool for comparison.
- Studies show experiences are more fun than products.
- Limit the expensive activities, savor them when you do them, and use the savings to do more of the activities you really like.
- Live your life! If something is expensive and you want the experience, do it! This is a tool, not a rule book.

## Act

As this list develops, your income or habits may change. Modify the scales to match your current preferences. Don't dwell on expensive purchases, consider it an experience that is worth more than money.

## 9. Stay Up Late, get to Work Early - Calculating the Fastest Route

- Saves 4,000 hours (11,000 more TV shows)
- Save \$15,000
- Less traffic!

You can guess what time is needed to leave home to beat rush hour traffic however, with data collection, we can find the optimal time to leave home to maximize the time saved.

### Premise

The morning commute is affected by, time, route, and weather. Tracking these can be used to analyze a commute. With spreadsheets, it is easily to do statistics to optimize routes, departure time.

### Goal

Reduce the time spent commuting without making major adjustments to your habits.

### Do

1. Get a notebook/note app/spreadsheet/time keeping software.
2. Make columns for date, start time (home), end time (work), start time (work), end time (home), and comments.
3. Enter the time of entry into the car, and the time of arrival to our destination for each day.
4. Continue to repeat step 3, using the car clock for consistency.

Below is a sample of data collected

Morning					Evening				
Start	End	Date	Comment	Time Difference	Start	End	Date	Comment	Time Difference
6:43	7:30	03-Sep		0:47	3:50	4:40	03-Sep	End at OU	0:50
6:45	7:38	04-Sep		0:53					
6:45	7:30	10-Sep		0:42					
					5:21	6:32	11-Sep		1:11
6:16	7:02	12-Sep		0:48	3:53	5:08	12-Sep		1:15
6:34	7:21	15-Sep		0:47	3:44	4:35	15-Sep		0:51
6:15	6:59	17-Sep		0:44	3:42	4:38	17-Sep		0:56
6:13	6:58	18-Sep		0:45	3:44	4:50	18-Sep		1:06
6:32	7:18	19-Sep		0:48	4:08	5:24	19-Sep		1:16
				0:48	3:42	4:42	22-Sep		1:00
6:19	7:05	23-Sep		0:48	4:12	5:31	23-Sep		1:19
6:26	7:12	24-Sep		0:49	4:05	5:09	24-Sep		1:04
6:32	7:21	25-Sep	Southfield Bridge Collapses	0:47	4:13	5:22	25-Sep		1:09
6:29	7:16	26-Sep		0:45	4:24	5:44	26-Sep		1:20
6:18	7:03	29-Sep		0:48					
6:21	7:05	30-Sep		0:48					
6:26	7:12	01-Oct		0:45	4:51	6:00	01-Oct		1:09
6:20	7:05	03-Oct		0:43	3:29	4:29	03-Oct		1:00
6:02	6:45	06-Oct		0:44	3:34	4:34	06-Oct		1:00
		07-Oct		0:44	3:38	4:26	07-Oct	Pilot Commute beg	0:48
				0:43	3:39	4:31	08-Oct	Hickory Grove	0:52
6:31	7:15	09-Oct	Rain	0:47	3:47	4:44	09-Oct	Franklin	0:57
6:30	7:13	10-Oct		0:42	3:37	4:33	10-Oct		0:56
6:27	7:14	13-Oct		0:44	3:43	4:35	13-Oct	Hickory Grove and	0:52
6:19	7:01	17-Oct		0:47	3:34	4:23	17-Oct		0:49
6:25	7:09	20-Oct		0:43	3:56	4:51	20-Oct		0:55
6:19	7:06	21-Oct			3:30	4:15	21-Oct		0:45

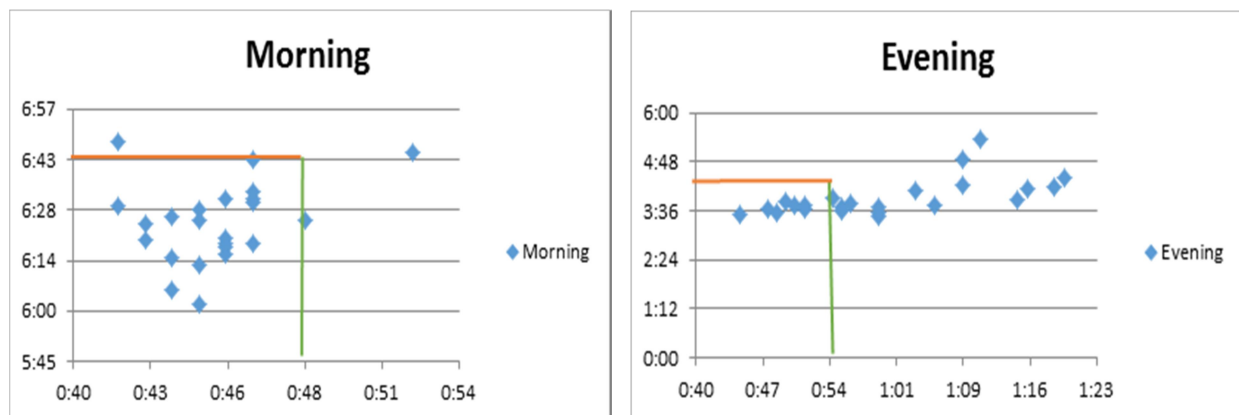
There are some blank spaces due to forgetting and a few freak events. However, with a large enough sample size, we can learn from the data.

## Analysis

Using the graphs on the next page we found ways to optimize this commute.

- Leaving home before 6:40AM was optimal and leaving work before 3:36PM provided the most time savings without drastically affecting the schedule.
- If work was departed after 4:08PM, the commute was extended more than 20 minutes. This lasted until 6:08PM.
- It was found that after 6:50AM, a popular route was slower than using a subdivision, before 6:50AM the popular route saved more time.

If plotting this yourself, pick a goal time (i.e. under 55 minutes) and mark a green line across that time. Then mark another line that maximizes the number of data points under it. That is your latest (or earliest) time you can leave.



## Implementation

It is important to consider your situation. How flexible is arriving and leaving your destination? Is your boss okay with you coming in and leaving early? Find a time that optimizes your commute and satisfies your attendance requirements.

If waking up early is the bottleneck, it's a matter of discipline. Consider using The X Effect chapter to motivate yourself into good habits.

## Follow Up

Using this same methodology, we can determine which routes are the fastest. We can see how this varies depending on the day of the week.

In this study, we found Thursdays and Fridays provided almost no value in leaving the office before 4:00PM.

It might seem like a pain to write down these times, but the seconds it takes will add up to an extra 4000 hours of your life you can enjoy doing anything.

## 10. Fitness Success - Engineering Your Workout

- Lose 62lbs, Lift 350lbs, run a mile in 6 minutes
- Without wasting time

Before continuing, do any workout, even if it takes ten minutes. Reading on without having worked out, is slacktivism. It feels like we are doing something, but we are not. Once we decided we are serious about getting fit, we are going to ensure success.

### Define the Goal

Consider a goal, here are some examples:

- Gain Muscle- This would be for strength, aesthetics, or for females getting 'that butt'.
- Lose weight- 80% of your results are diet, 20% is your workout.
- Accomplish a feat- Running races, training your 'dunk', etc.
- Being healthy- Be consistent and workout frequently.

### Plan

If we work out, why waste time? Why not do it right the first time? Here are some techniques used to track progress and motivate:

- Write down the goal, and have specific ways to measure progress.
  - If lifting heavy weights, write down the routine lifts, the weight and reps completed every workout.
  - If running a race, write down distance and times.
  - If the goal is to workout daily, use the X effect from Chapter three.
- Pick gym dates and stick with it. Never skip a planned workout, skipping one, and it snowballs into skipping another and another.
- Take body measurements at the same time for consistency.
  - Take before pictures and update every few months.
  - Weigh every morning after waking up and urinating. This is likely the most consistent time of the day.
  - Write it down! Use a calendar and compare vertically. We eat different on Saturday than we eat on a Wednesday.'
  - Consider taking measurements of muscles if that is an interest.
- Stick with the goals set. In short, most don't gain muscle and lose weight at the same time. Once we are happy with the progress, try something new.

## Do

Planning means researching what workout will achieve your goals. We aren't experts, don't reinvent the wheel, others have studied and found what works.

- Researching form.
  - Jogging and light exercise is fine with little experience.
  - It isn't safe or effective to deadlift 2x our bodyweight or run a half marathon without researching the correct form.
- Researching progression.
  - Many people have proven workouts and plans of progression that work.
- Get questions answered.
  - Ask message boards, google, etc. even for stupid question.
  - Take all advice lightly but into consideration.
  - Consider posting form checks or your progress story, people may have advice for when they were there.

## Check

Get started. Don't skip a workout, follow the routine/program. Don't worry about the guy running faster or the girl lifting. Everyone starts somewhere and everyone wants you to do your best. Take a notebook and start filling it up with goals and your data.

For motivation, use The X Effect for your workouts.

## Adjust

Maintain the routine until satisfied with the results. This should be made apparent because we have been writing down body weight, taking pictures, and writing down lap times/lift weights. Once goals are reached, adjust goals and repeat planning. Fix mistakes and move forward!

## 11. Engineering Your Diet - Attention to Food Energy

- Lose 1lb of weight a week, get your dream body

The body isn't an exception to physics, the first law of thermodynamics is energy (calories) in = energy (calories) out. Counting calories is the efficient way to diet, ten minutes a day is all it takes to meet body weight goals.

### Plan

Understanding how the body handles energy is the solution to forming a diet.

- Humans typically require between 1600 calories and 2400 calories to function. This can be increased by doing Work (running, vacuuming, etc).
  - Energy cannot be created or destroyed. Eating 6,000 calories worth of apples causes weight gain and eating only 300 calories worth of donuts will cause weight loss. Calories are calories, it's just energy.
  - "Eat all you want and lose weight" doesn't exist. Even Weight Watchers counts calories but hide it behind a point system.
- To lose weight, one needs to use more calories than the body takes in.
  - Find Total Daily Energy Expenditure (Google it) for the height, weight, gender, and activity level that pertains.
  - The recommendation is to eat slightly less than the TDEE found and be consistent. If the goal is to lose 1lb a week, eat 500 calories less than the TDEE daily.
    - 1lb= 3500 calories.
    - 3500 calories/7 days= 500 calories.
  - One can lose more or less weight a week depending on how many calories are consumed. To maintain muscle, it's recommended to lose less than 1lb a week.
  - At 500 caloric deficits, one will wake up, pee, and lose 0.14lbs a day. Every, single day of the week.
  - Many people lose more than 5lbs of water weight in their first two weeks. Be aware of this.
- To gain weight (muscle), one needs to eat above their TDEE.
  - This is harder than it sounds, many people binge eat on holidays but don't realize they eat less the following days.
  - Fat will be put on as well, but many 'cut' after a sustained bulk to keep muscle and remove fat.

## Do

Implementing can be as simple as a pen, paper, and dollar calculator.

To count calories in less than ten minutes a day:

1. Use Tupperware to make portions.
2. Weigh food using a food scale (less than \$15) or use volume tools like measuring cups/spoons.
3. Write down dates/weights on container using wet erase marker.
4. Add calories together using a calorie counting App.

Keep in mind: Although calories are what determine weight, a balance of proteins, fats (measure!), and carbs (mostly fruits/veggies) are good for health and keeping hunger down.

After six months of counting calories, it becomes easy to 'guess' how many calories are in foods. It isn't recommended, but it is a great skill to have.

## Check

Being consistent and counting calories provides steady weight loss, with nearly no hunger. The ten minutes it takes provides a healthy way to change the body.

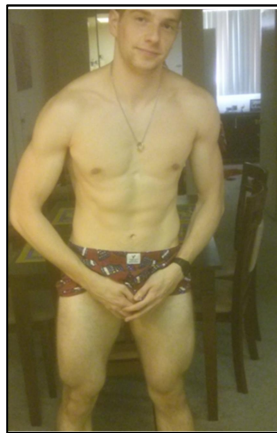
Using a process flow chart, it was found to do the following: Tupperware cabinet next to food scale. Place Tupperware on scale, tear scale, add food, write down weight on top of Tupperware. Fridge.

To check body weight, weigh oneself at the same time daily. Suggested wake up, pee, weigh, write weight on calendar. Compare vertical days for consistency. If weight isn't being lost on average, adjust caloric intake accordingly.

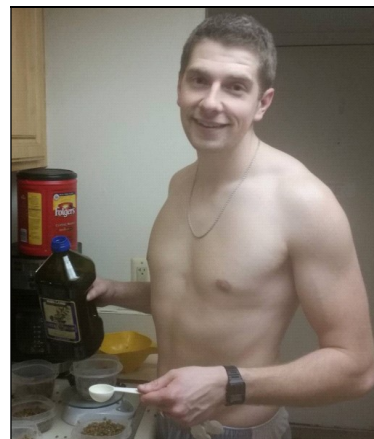
**Dec 2012**



**March 2013**



**March 2016**





## 12. Rationally Being Afraid of Dangers

- Stop worrying about things that will not happen.

Afraid of flying in an airplane? Is it because airplane accidents are common or we watch too much television? Should you be afraid of rabid dogs? How about Terrorism? Data can tell us what to be afraid of.

### Premise

It's hard to determine what is actually dangerous with constant bombardment of anecdotal evidence and buzz headlines. We answer the question:

What is most likely to harm us?

### Goal

Make rational decisions on how to react to events and lower stress levels.

### Check

Deciding what we are afraid of, finding data, and doing easy math takes only minutes and can ease lower stress forever.

1. Look at the sources of fear.
  - a. Causes of death and death rates.
  - b. Crimes and crime rates.
  - c. Injuries and injury rates.
2. Obtain data for each situation (death/crime/injury). This will require one of the following:
  - a. Percent in lifetime.
  - b. Percent per year.
  - c. Incidences per year and population.
3. Find percentage of death in lifetime or odds (i.e. 1 in 100,000).
  - a.  $\text{Percent in lifetime} = (\text{percent per year} * 50 \text{ years})$ .
  - b.  $\text{Percent in lifetime} = 50 \text{ years} * (\text{Incidences per year/population}) * 100$ .
  - c.  $\text{Odds in lifetime} = 100 / \text{percent in lifetime}$ .
4. Sort to determine the most probable events, high percentages = more likely.

## Do

## Top Causes of Death

Cause	Percent	People per Year	Chance per year	Percent per Year	Odds (1 in X)	Percent in Life
Ischemic Heart Disease	12.64	7208466	0.001148	0.1148	8	8.84
Cerebrovascular	9.55	5509001	0.000877	0.0877	10	6.75
Respiratory Infection	6.95	3963516	0.000631	0.0631	14	4.86
Lower respiratory tract	6.81	3883675	0.000618	0.0618	15	4.76
HIV/AIDS	4.87	2777312	0.000442	0.0422	21	3.4
Chronic Obstructive	4.82	2748796	0.000438	0.0438	21	3.37
Perinatal Conditions	4.32	2453653	0.000392	0.0392	23	3.02
Diarrhea Diseases	3.15	1796414	0.000286	0.0286	32	2.2
Tuberculosis	2.75	1568296	0.000250	0.0250	36	1.92
Malaria	2.23	1271747	0.000202	0.0202	45	1.56
Lung Cancer	2.18	1243232	0.000198	0.0198	45	1.52
Road Traffic Accidents	2.09	1191906	0.000190	0.0190	48	1.46
Childhood Diseases	1.97	1123471	0.000179	0.0179	51	1.38
Diabetes Mellitus	1.73	985502	0.000157	0.0157	58	1.21
Hypertensive Heart Disease	1.6	912454	0.000145	0.0145	53	1.12
Suicide	1.53	872544	0.000139	0.0139	55	1.07
Stomach Cancer	1.49	849732	0.000135	0.0135	57	1.04
Cirrhosis of the liver	1.38	787000	0.000125	0.0125	72	0.96
Nephritis/Nephropathy	1.19	578645	0.000108	0.0108	84	0.83
Colorectal Cancer	1.09	521616	0.000099	0.0099	92	0.76
Liver Cancer	1.08	515913	0.000098	0.0098	93	0.76
Measles	1.07	610210	0.000097	0.0097	93	0.75
Violence	0.98	558884	0.000089	0.0089	102	0.69
Maternal Conditions	0.89	507558	0.000081	0.0081	112	0.62
Congenital Abnormalities	0.86	490449	0.000078	0.0078	116	0.5
Breast Cancer	0.84	479044	0.000076	0.0076	119	0.59
Esophageal Cancer	0.78	444826	0.000071	0.0071	128	0.55
Inflammatory Heart Disease	0.71	404906	0.000054	0.0054	141	0.5
Alzheimers Disease	0.7	399203	0.000054	0.0054	143	0.49
Falls	0.69	393500	0.000053	0.0053	145	0.48
Drowning	0.67	392094	0.000051	0.0051	149	0.47
Poisoning	0.61	347877	0.000055	0.0055	154	0.43
Lymphomas, Multiple	0.59	335471	0.000054	0.0054	169	0.41
Rheumatic Heart Disease	0.57	325055	0.000052	0.0052	175	0.4
Oral and Oropharynx Cancers	0.56	319352	0.000051	0.0051	179	0.39
Fires	0.55	313650	0.000050	0.0050	182	0.38
Pertussis	0.52	296551	0.000047	0.0047	192	0.36
Prostate Cancer	0.47	268036	0.000043	0.0043	213	0.33
Leukemia	0.45	262333	0.000042	0.0042	217	0.32
Peptic Ulcer Disease	0.45	262333	0.000042	0.0042	217	0.32
Protein-Energy Malnutrition	0.45	262333	0.000042	0.0042	217	0.32
Endocrine/Nutritional	0.43	245225	0.000039	0.0039	233	0.3
Asthma	0.42	239522	0.000038	0.0038	238	0.29
Cervical Cancer	0.42	239522	0.000038	0.0038	238	0.29
Pancreatic Cancer	0.41	233819	0.000037	0.0037	244	0.29
Tetanus	0.38	216710	0.000035	0.0035	253	0.27
Sexually Transmitted Diseases Excluding HIV/AIDS	0.32	182498	0.000029	0.0029	313	0.22
Bladder Cancer	0.31	176790	0.000028	0.0028	323	0.22
Meningitis	0.3	171087	0.000027	0.0027	333	0.21

## Low Risk Events

Causes	Population	People Per Year	Percent/year	Percent in life	One in X
Terrorism	30,930,000,000	25	0.0000081	0.0006	12,372,000
Airplane	700,000,000,000	761	0.0000109	0.0008	9,198,423
Alcohol Overdose	30,930,000,000	29001	0.0093763	0.7220	10,665
Firearm Death	30,930,000,000	33636	0.0108749	0.8374	9
Homicide	30,930,000,000	16121	0.0052121	0.4013	19,186
All Illicit Drugs	30,930,000,000	17000	0.0054963	0.4232	18,194
Cannabis	30,930,000,000	0	0	0	0
Pharmaceutical Drug	30,930,000,000	38329	38329	0.0123922	1
Roller Coasters	30,930,000,000	5	0.0000016	0.0001	61,860,000

Event	Population	People per year	Percent/Year	Percent in Life
Kidnapping	69,750,000	58200	0.08344	1.50

## Odds of Crimes in Detroit and Flint Michigan

	Crimes	Occurrences	Chance Per Year	Percent Chance (5 Hours)	One in X (5 hours)	Percent Chance (3 years)	Percent Chance (Lifetime)
Flint	Auto Theft	770	0.77	0.00044	227532	2.31	52.4
	Burglaries	3628	3.63	0.00207	48291	10.88	246.7
	Thefts	2200	2.2	0.00126	79636	6.6	149.6
	Property Crimes	5645	5.65	0.00322	31.036	16.94	383.9
	Violent Crimes	2774	2.77	0.00158	63.158	8.32	188.6
	Murders	63	0.06	0.00004	2780952	0.19	4.3
	Rapes	108	0.11	0.00006	1622222	0.32	7.3
	Robberies	673	0.67	0.00038	260327	2.02	45.8
	Total	15861	15.86	0.00905	11046	47.58	1078.6
Detroit	Homicides	48	0.05	0.0003	3634855	0.14	3.3
	Rape	70	0.07	0.0004	2510029	0.21	4.7
	Robbery	696	0.7	0.0004	251869	2.09	47.3
	Aggravated Assault	1334	1.33	0.00076	131374	4	90.7
	Violent Crime	2137	2.14	0.00122	81969	6.41	145.3
	Burglary	2242	2.24	0.00128	78131	6.73	152.5
	Larceny	2307	2.31	0.00132	75936	6.92	156.9
	Theft	1594	1.59	0.00091	109926	4.78	108.4
	Arson	134	0.13	0.00008	1306488	0.4	9.1
	Property Crime	6144	6.14	0.00351	28518	18.43	417.8
	Total	16587.6	16.71	0.00947	10562	50.12	1136

## The Math

	Crimes	Occurrences	Chance per year	Percent chance (5 hours)	One in X (5 hours)	Percent chance (3 years)	Percent Chance (Lifetime)
Flint	Auto Theft	770	=C4/(B0:B5)*100	=5*D4/(24*365)	=100/E4	=D4*3	=D4*68
	Burglaries	3628	=C6/(B0:B5)*100	=5*D6/(24*365)	=100/E6	=D6*3	=D6*68
	Thefts	2200	=C8/(B0:B5)*100	=5*D8/(24*365)	=100/E8	=D8*3	=D8*68
	Property crimes	5645	=C7/(B0:B5)*100	=5*D7/(24*365)	=100/E7	=D7*3	=D7*68
	Violent Crimes	2774	=C9/(B0:B5)*100	=5*D9/(24*365)	=100/E9	=D9*3	=D9*68
	Murders	63	=C9/(B0:B5)*100	=5*D9/(24*365)	=100/E9	=D9*3	=D9*68
	Rapes	108	=C10/(B0:B5)*100	=5*D10/(24*365)	=100/E10	=D10*3	=D10*68
	Robberies	673	=C11/(B0:B5)*100	=5*D11/(24*365)	=100/E11	=D11*3	=D11*68
	Total	=SUM(C4:C11)	=SUM(D4:D11)	=SUM(E4:E11)	=100/E12	=SUM(G4:G11)	=SUM(H4:H11)
Detroit	Homicide	48.2	=C14/(B0:B5)*100	=5*D14/(24*365)	=100/E14	=D14*3	=D14*68
	Rape	69.6	=C15/(B0:B5)*100	=5*D15/(24*365)	=100/E15	=D15*3	=D15*68
	Robbery	696.6	=C16/(B0:B5)*100	=5*D16/(24*365)	=100/E16	=D16*3	=D16*68
	Aggravated Assault	1333.6	=C17/(B0:B5)*100	=5*D17/(24*365)	=100/E17	=D17*3	=D17*68
	Violent Crime	2137.4	=C18/(B0:B5)*100	=5*D18/(24*365)	=100/E18	=D18*3	=D18*68
	Burglary	2242.4	=C19/(B0:B5)*100	=5*D19/(24*365)	=100/E19	=D19*3	=D19*68
	Larceny	2307.2	=C20/(B0:B5)*100	=5*D20/(24*365)	=100/E20	=D20*3	=D20*68
	Motor Vehicle Theft	1593.6	=C21/(B0:B5)*100	=5*D21/(24*365)	=100/E21	=D21*3	=D21*68
	Arson	134.1	=C22/(B0:B5)*100	=5*D22/(24*365)	=100/E22	=D22*3	=D22*68
	Property Crime	6143.6	=C23/(B0:B5)*100	=5*D23/(24*365)	=100/E23	=D23*3	=D23*68
	Total	=SUM(C16:C23)	=SUM(D16:D23)	=SUM(E16:E23)	=100/E24	=SUM(G14:G23)	=SUM(H14:H23)

## Implementation

- Airplane accidents and Terrorism are nearly nonexistent.
  - You are 1,419,921% more likely to die from a heart attack than a terrorist.
  - You are 174,557% more likely to die in a car accident than in an airplane accident.
- Heart Disease, Stroke, and Respiratory are the highest causes of death.
  - These are highly linked to poor diet and exercise.
  - Correcting a lack of exercise and fixing diet problems will lower your odds for this cause of death.
- We are far more a danger to ourselves than other individuals.
- There is a 16% chance of crime per year living in the seventh most dangerous city in America (almost entirely theft crimes).
  - Living there your whole life you would have a 5% chance of being murdered. (Flip a coin and have it land on heads ten times in a row).
  - If you lived in Detroit, MI you would likely experience 11 crimes in your lifetime.
  - Visiting this city for five hours on a given night you have a 0.009% chance of being a victim of a crime. 1 in 110 odds.
- A child has a 1.5% chance of getting kidnapped by a stranger in their life.
- Spiders are gross but only a 0.00016% chance of getting killed/yr.

## Act

Many fears are mostly irrational and the biggest dangers are likely ourselves. Next time the media has a story on one of these rare events, don't waste your energy worrying about your safety.

## 13. The Laundry Problem, The Ergonomic Solution

- Reduce back pain
- Save 450 hours
- Hate laundry less

Doing the laundry causes back pain and takes a ton of time. By applying ergonomics to the laundry routine, it makes laundry faster and more comfortable.

### Situation

- Moving the laundry basket can be horrible and heavy if filled to the brim.
- Reaching in a basket to hang up heavy wet clothes can be a back sore from bending over.
- When it is time to put clothes away, everything needs to be sorted.

### Goal

To find and eliminate causes of back pain when doing the laundry. Save time when hanging up and putting away.

### Analysis

#### The Laundry Basket

Problem: Laundry baskets can be heavy and awkward to pick up.

Causes: The basket isn't easy to carry.

Root Cause: Carrying the basket means grabbing it by handles causing us to bend and lift with our backs.

Countermeasure: Hug the laundry basket instead of using handles. Try it!

#### Hanging Me Out to Dry

Problem: Hanging up clothes causes bending and twisting.

Causes: Basket shape and the movement required to hang clothes up.

Root Cause: Bending over for clothes and the equipment used to hang up clothes.

Countermeasures:

- Dump wet clothes onto a high platform (if possible, chest level). Try a bed or counter. This eliminates hip and back from bending.
- Place rack underneath the platform or as close as possible to the platform. This reduces the amount the back has to twist.
- Try out different types of racks or lines of string that do not cause you to bend or reach.
- Find a balance between easy to put clothes on and efficiency for space.

### Sorting Clothes

Problem: Every type of clothing requires a different place and method of storage.

Causes: Variety of clothing and multiple members in the household.

Root Cause: After laundry, all clothes are mixed.

Countermeasures:

- Put similar destination clothes on the same rack. This will make it easier to move all the clothes at once to their final destination.
  - A more complex version is to put items that share the same destination next to each other. This will make it so a single scoop will get all of the wife's underwear in one grab.
- If possible, hang clothes to dry near the location they are put away. This removes movement.

### Follow Up

Once a few loads of laundry have been completed, consider buying new baskets and drying racks. The time saved and the reduced medical bills will pay for itself. Look for equipment that can limit bending, twisting, and time.

Try the ergonomic solution out for a few weeks, if it isn't desirable adjust to the old routine, the back pain will be enough convincing!

## 14. Get Skilled at Anything Fast - PDCA

- Learn Guitar
- Create something beautiful
- Get proficient at anything you desire

The difference between untrained and proficiency is a combination of memories, coordination, an understanding of the subject at large, and time. Learning from the best, we become proficient fast.

### Premise

- When doing things for the first time, we are terrible at it.
- Our practice may yield little results.
- Sometimes our practice will form bad habits.
- Other people are experts in this field and spent thousands of hours on these techniques.

### Goal

To develop new skills/abilities/expertise faster and with better quality.

### Do

- Practice (time)
  - This is necessary, it's suggested frequent shorter sessions are more effective rather than rare long sessions.
  - Some suggest it will take 10,000 hours of practice to become as good as a paid professional. Don't worry proficiency comes faster.
- Memory (coordination)
  - Correct form/technique makes everything easier and has long-term benefits.
  - For memorization, try doing the activity a half hour before bed.
  - Many skills require 'muscle memory' and need to be repeated over the course of months.
- Study
  - Read advice/tips and find what people suggest doing as practice.
  - Watch professionals and try to understand what they do.

## Do

1. Plan a routine, they are nearly necessary to continue to improve.
2. Write down specific goals you hope to achieve.
3. Practice **that goal** at least **25 minutes every day** (or as often as possible).

Many times we start with a generic and broad goal i.e. Get better at guitar.  
As you progress, you will find weaknesses i.e. Barr Chords  
The smaller the goal, the better you will be at that specific skill/activity i.e. Holding down all strings clearly for a Barr chord.

4. Spend time practicing and supplement it with learning good form, efficient practice methods, and looking into professional skills.
5. After 90 days, evaluate your progress, continue or change the routine and goals.

These are rough suggestions that I found personally effective. The steps being taken are to make sure you are working toward your goal, and not spending time on things that don't move you toward a goal i.e. learning how to read sheet music, when you want to be able to play Barr chords.

## Check

- Consistency - Did we practice frequently?
  - We like using the X method for metrics, however any method to determine quantity of practice.
- Quality - How was our form? Did we practice everything we wanted?
  - Record yourself, have you, friends, and experts give feedback.
  - Are you diverse in all the areas require for competency in that subject?
- Goals -
  - What goals did you achieve? What goals require more work?

## Adjust

Review what goals were not achieved, review what worked, and what didn't work. Adjust your plan for moving forward and targeting weakness. Do your plan again, check your efforts, and continue to adjust until proficiency. Just 25 minutes - you can do it!



## 15. The Power of the To-Do List

- Prioritize your life to achieve your goals and dreams

It's easy to forget what is actually important and it's even easier to watch TV.

To-do Lists provide you with clarity on what's important and what can wait.

### Premise

Thinking is hard and time consuming.

Trying to remember what needs to be done next week or next month, is mentally taxing and if forgotten, potentially devastating.

Writing down tasks provides a process to keep track without being burdened with a set schedule.

To-do Lists give the ability to be rigid or flexible depending on urgency or mood, this helps to maximize your time.

### Goal

To develop a resource that can decide the best use of time.

### Plan

Having ideas written down allows us to skip thinking and go straight to work or begin what is most enjoyable.

- Tasks – These are time consuming jobs that need to be completed.
  - Adding a very rough estimation for the time it takes for completion provides an ability to sort depending on how much free time is had.
- Entertainment – We have things we want to do, read a book, play a video game, or practice an instrument. However, it's hard to remember we want to do these things with TV a moment away. A list of entertainment ideas can fill this void.
- Monthly – Tasks to do every month, such as pay bills, clean a bathroom or dust.
- Yearly – Birthdays or events that require planning ahead. These could be a reminder to do things like backup a hard drive or apply a protective coating on before winter.

## Do

- Task List: A job that needs to be done.
  - Specify the first thing needed to begin the task.
  - (Optional) In a separate column, a quick estimated time is jotted down.
  - E.g. Make a family tree, call dad | 10 minutes.
- Entertainment- list recreational activities.
  - Multiple categories may be effective
    - E.g. hobbies, books, videos/movies, activities with Mandy, and video games.
- Yearly – separated by month, it can act as a reminder
  - January - buy present for Abby/Sara, backup hard drive or plan vacation.

## Examples/Sample

Videos	Movies	Job	Time
History Educational	Rainman	Go through Notebook	15
Vice	We Are The Millars	Find someone that will sell my items on EBAY X	
How X is made	The Mask	Separate markers from pens	5
Workout Form	Hobbit 3	Go through harddrive	15
		Backup harddrive	5

## Adjust

Don't obsess, use this as a tool for when spare time exists and it should be allocated. Watching a movie that you want to see over a re-run on TV produces a higher quality experience. Adjust categories and formatting to what works personally.

I found as I became busier I set aside time to specifically knock out tasks in my calendar, even if I was the only person needed. Everyone will find a system that works for them. The first step is starting to build your system, the most important step is adjusting the system to meet your lifestyle and needs.

## 16. End Procrastination Through Project Management

- Clean the worst messes and be excited about it

It's a huge project and you haven't touched it weeks, months, and think about it- there's something that hasn't been finished in... years. Everyone has these, but no more, project management will conquer all of them.

### Premise

There are a few reasons these projects have turned into nightmares.

- The project takes significant time.
- It will take a substantial amount of decision making or physical activity to complete.
- "We will get to it eventually".
- Not having it complete is acceptable.
- It may require others to make decisions.
- If started it, it needs to be finished.
- The project isn't fun.
- It has been so long, relearning what needs to be done is a burden.

### Problems

Why we don't do these projects:

- Time
  - Don't have time.
  - It is difficult to find time to spend on day long tasks.
- Work.
  - Doing physical tasks requires motivation and energy.
  - Working on mentally draining tasks can be difficult if we are intellectually exhausted.
- Procrastination.
  - It can be done later.
  - We would rather do other things.
- Need input from others to complete.
  - Need to consult someone or use their equipment.

## Analyzed Solutions

Think of one of the projects there hasn't been recent progress on. It can be any project, regardless if this is the one we are going to attack first. This example is cleaning my closet.

- What are the first things we need if we clean the closet?
  - Go through a box of old school supplies.
  - Go through a box of my clothes.
  - Go through a bag of old school folders.
  - Go through a box of cables.
  - Go through a box of random junk.
- When we have 20-29 minutes, pick a single task, and do it. I personally do not work for more than 29 minutes, even if motivated.
- Every time 25 minutes of work is completed, put a check mark on each task you completed or worked on like discussed in Chapter Motivation.
- If we want to continue working, take a 5-9 minute break. No TV, no video games. Go get coffee, stretch, walk around.
- Combine with things you enjoy doing. Listen to music, audiobooks, or podcasts if they are not distracting.
- If we still cannot find motivation to complete these tasks, make a bet with someone to have the project completed by a specific day. Guaranteed to work!

## Conclusion

Breaking down projects into a series of tasks may not sound like a groundbreaking solution to procrastination. However, consider that procrastination is a psychological problem.

Changing the way the mind perceives a task will break the mental block. Notice that we use short intervals of work, methods of tracking progress, and even a false sense of urgency. These will get our body moving when our mind had the breaks on.

Start today. 5 minutes is all you need to get started. You can do more next time.

## 17. Never Forget Items at Home Again - Checklists

- Never forget anything again
- Save 200 hours

Everyone has forgotten something at home and it's only a matter of time before it will happen again. Whether we forget something for the in-laws, a work ID badge, or a wallet – checklists Error Proof our lives. Never forget again.

### Premise

- There is a lot on in the mind when leaving home, it's difficult to remember everything needed.
- Probability for mistakes are elevated when late or rushed.
- Forgetting can be irreversible, by the time it is realized, it's too late to turn around.
- Checklists.
  - Decide what items are needed when leaving home.
  - Can include tasks such as 'Start Crockpot'.
  - If followed ensures 100% success.

### Goal

Never forget an item or task at home again.

### Plan

- Start small, list less than a dozen things.
- Neglect things such as a jacket, they are obvious and clutter the list.
- List everything in a language that can remind you what needs to be remembered i.e. hair= check to make sure hair was styled.
- Having short words at the start of the list make it faster to go through.
- Events like going to the gym don't always happen, but often enough to include gym bag on the list.
- (optional) Place a table near the door for items that are leaving the house eventually. Great for remembering to take things to parents or friends' homes.

### Example

Our checklists: (currently handwritten and taped to our door):

### Implementation

The most difficult aspect of this error proofing, is remembering to do it.

Creating a habit of going through the list is essential to its success.

It should take no longer than one second per item once the routine is down.

If the checklist is completed, there is no way to forget any items or tasks.

Michael	Mandy
Wallet	Laptop
Keys	Backpack
Phone	Purse
Belt	Keys
Lunch	Phone
Hair	Lunch
Gym Stuff	Gym Bag
School Stuff	Crockpot
Window Closed	Spray Nigel
Outgoing Table	Outgoing Table

## Adjust

Figure out what items/tasks that continue to be forgotten, add them to the list. It is possible to simplify the checklist once you find you don't need a specific task/item. Upon revising the list, we cut down a few items that we did not take often enough or were obvious like a winter coat.

If effective, multiple lists can be made for specific situations, for example a checklist for work and a checklist for school.

The important thing is remembering and sticking with the process. I haven't left my lunch home since :)

## 18. 1 Size Fits All - Reducing Kitchen Complexity

- Make life simple
- Save 400 hours

Although having every size and shape imaginable for Tupperware might seem great for every occasion, but a multitude of options means spending time making decisions and requires consumption of additional space.

### Premise

- Having multiple types of an item means multiple locations for storage and sorting. This takes additional time when using the item and putting it away.
- This becomes critical in highly active areas such as the kitchen, bedroom, and bathroom. Storage is a great solution to keeping rarely used items.
- Simplicity allows grabbing items to be faster and easier.
- Complexity may not be avoidable

### Goal

To reduce complexity to save space and time.

### Examples

- Replace:
  - New Tupperware, all the same shape for stacking. Never frustrate at not finding the right top. If we must keep old Tupperware, separate it from the frequently used good Tupperware. Save yourself time.
  - Socks, pick one color. Black socks serve business and casual purposes. Keep a few pairs of white, but don't mix them in.
- Remove:
  - Give away toaster when owning a Toaster Oven, saves space and preforms same job.
- Separate.
  - Gym clothes from street clothes. Makes it easy to pick out clothes when needed, less complexity when looking and making decisions.
  - 1 pile of gym shirts and 1 pile of gym pants make it very quick to select gym clothes.
- Combine:
  - Silverware – instead of having a large spoon, small spoon, big fork, small fork, separated, combine each into just spoon and fork piles.

## Plan

Reducing complexity:

- What are the most used items that get mixed with other items?
  - Look at items used with high frequency.
- What items are frequently used but mixed together with rarely used items?
  - Think of the kitchen appliances that are rarely used, but are in the way.
- Remove items that get in the way.
  - Consider tools that can be replaced without a loss in quality of performing the task.
- Stop separating items that provide no additional value.
  - Many items perform the same job with no loss in quality. Separating is a separate and unnecessary step.

Adding complexity to reduce complexity:

- Separate items into more convenient locations.
- Divide to prevent mixing. No searching needed, just reach and grab.

## Implementation

It is important to get consideration from all other house members before going forward. Take the discussion as advice, with many minds, a brand new solution can be formed. Once everyone buys-in, the changes can begin together.

## Adjust

Practice these techniques for a few months, however if life was better before complexity was reduced, Adjust! Go back and learn what makes the old way better. Look for other areas that changes in complexity can improve quality and save time.



## 19. Clean Less Using Statistics

- Always have a clean house
- Save 500 hours

By applying statistics, we will reduce time spent cleaning, the number of times we clean, and even make our homes look cleaner.

### Situation

- There are areas in our home that are messy, we don't know when they got bad or how it happened.
- We either clean disasters or spend lots of time cleaning frequently.
- We don't know how frequently we should do our chores.
- Pareto principle says that 80 percent of the effect (messy look) is caused by 20 percent of the causes (messy area).

### Goal

To reduce the number of times we clean and as a result save time. With this extra time, we will have time for special cases i.e. Cleaning blinds/windows. This will allow our home to be clean with less effort than ever.

### Examples

Problem: We don't know what makes a home look clean. We don't know what point an area needs to be cleaned.

Causes: We don't have data supporting when we should clean or maintain an area.

Root Cause: No system in place that maps out tasks and the frequency required to ensure a clean home.

### Countermeasures

- Track frequency of cleaning an area.
- Collect data over the course of months.
- Use this data to determine how often to provide maintenance to an area.
- Implement findings.

### Procedure

1. Clean an area or problem in our home. (This is your concern you are trying to limit)
2. Write down the date of cleaning that area.
3. If we notice something become a 'disaster', write down the date.
4. The next time that area gets messy, we will be aware of the task.
5. Find the average time it takes for something to get messy so we can schedule cleanings only when it is needed.

## Implementation

In an Excel file, we were able to find how often these tasks reach their 'disaster' point. We need to dust at least once every 75 days, the standard deviation tells us when we should start looking for dust accumulation.

Task	Date 1	Date 2	Date 3	Days Between 1	Days Between 2	Average	Std Deviation
Closet	09/27/2013						
Trash	09/11/2013	12/11/2013	11/13/2013	3	1	2	1
The Pit	09/27/2013	07/10/2013		10		10	0
Dusting	09/30/2013	12/12/2013		75		75	0

## Follow Up

This is a long term project for us. If it took 75 days to determine we needed to dust, it's going to take us a year to get statically significant data. With this data, you won't need to dust before company comes, it can be a scheduled task.

Remember that in some situations, we may find that dusting is a weekly chore. That is wonderful, that means you have optimized your dusting chore effectively!

## Optional. How to use Microsoft Excel

- [Learn Excel useful for any career and many chapters in this book.](#)

Some chapters require math, this will be a brief summary on how to use spreadsheets for our purposes.

### Goal

Learn to add, subtract, multiply, divide, reference cells, some formatting, and take averages in a spreadsheet program.

### Plan



Each cell has a name, if it is the second column and the second row, it is B2. Double clicking a cell allows us to type in values. Hitting enter or clicking off the cell keeps the value in the cell.

Rows and columns can be made bigger or smaller by clicking and dragging the space between a row or column:



We can add borders for clarity. Click and drag cells we want borders around:



Then select the arrow to choose a border:  The results of all borders:



If we want any cells to be bold, italicized, or underlined, highlighted, or different color text use these:



Take five minutes to play with all of these.

## Do

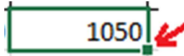
To use a formula type in =, this will allow computation. For instance, =2+2 will return 4. Next, enter this example:

	A	B	C	D	E	F	G
1	Hotel Price \$	Ticket Price \$	# of people	Gas Cost \$	Cost of all Tickets	Total Cost \$	Cost per Person \$
2	450	350	3	80			

To get a value from another cell, type in = and either type in the cell name or click on it. As an example =C2 would return the number 3.

- For cost of all tickets, we will go to the cell E2, and type in =C3\*B2. This will multiply 3 times 350.
- For total Cost we enter =A2+D2+E2
- Finally Cost per person =F2/C2

Hotel Price \$	Ticket Price \$	# of people	Gas Cost \$	Cost of all Tickets	Total Cost \$	Cost per Person \$
450	350	3	80	1050	1850	617

To copy a formula, highlight a cell, click the square  and drag the direction we want the formula to be copied to.

If we drag down, a formula that once was =B2, will turn into =B3. This is very useful for data that changes such as the example below. If you do not want it to change, you can add an \$, for instance =\$B\$2 will stay =\$B\$2 when dragged down, but change to =C\$2 if dragged right.

Hotel Price \$	Ticket Price \$	# of people	Gas Cost \$	Cost of all Tickets	Total Cost \$	Cost per Person \$
450	350	3	80	=B\$2*C2	=\$A\$2+\$D\$2+E2	=F2/C2
		4		=B\$2*C3	=\$A\$2+\$D\$2+E3	=F3/C3
		5		=B\$2*C4	=\$A\$2+\$D\$2+E4	=F4/C4

## Implementation

Practice this for ten minutes before continuing with the book.

## 20. The Best 30 Mins You Can Spend - Household Accounting

- Stop worrying about finances
- Start living

Will there be enough money to pay for college in six months? Will there be money in the account in 2-10 years? Is purchasing a luxury a bad decision? Take the guess work out of it, spend 30 minute doing finances.

### Premise

- Laying out incomes and expenses to find out future balances is essential to making any financial decision, big or small.
- With a spreadsheet program, it is extremely fast, easy, and intuitive to calculate finances.

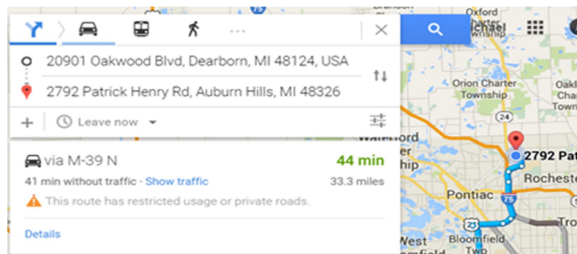
### Goal

To find out where we stand financially in six months, one year, two, five, and ten years.

### Plan

- Open a spreadsheet:
  - Make 3 columns: "Item", "Yearly Cost", "Monthly Cost".
  - Plug in rows for all sources of income and expenses: "Income", "401k", "Medical", "Rent/Mortgage", "Food", "Cable", "Electricity", "Insurance", "Cell Phone", "Presents", "Gas", etc.
- Find costs for each item:
  - Income- use after tax salary or if hourly use an average
  - To find Average Yearly Income, add up 6 weeks of pay then divide by 6. This is the weekly average, multiply by 52 for a yearly average income.
  - Be reasonable, don't pick the best 6 weeks. More weeks=more accurate.
  - For food calculations, save grocery and eating out bills for 6 weeks, do the same math as above.
  - Same applies for gas, electric, and yearly medical costs, save these receipts and find out yearly spending.
  - 401k, Medical Insurance, Rent, Home Insurance, Car Insurance, Cell Phone Payments, and Cable, should all be pretty static in cost.

## IE: Gas Calculation



Up to 26 city, 35 highway

2007 Saturn ION, MPG



2007 Saturn VUE  
Up to 23 city, 29 highway

2007 Saturn Sky  
Up to 22 city, 31 highway

2007 Saturn Aura  
Up to 20 city, 29 highway

	Round Trip Miles	Days Working/Year	Mile/Year	MPG	Gallons/Year	Cost of Gas/Gallon	Cost/Year
Michael	67	255	16983	30.5	557	3	1670
Mandy	80	255	20400	35	583	3	1749

## Implementation

- Keep the spreadsheet organized, neat, and clean.
- Do scratch math as needed, keep that organized too.
- Total up:
  - Multiply monthly values by 12 to calculate yearly values.
  - Divide yearly expenses by 12 for monthly values.
  - Add all sources of (after tax) income, label that 'Revenue'.
  - All sources of expenses, labeled 'Expenses'.
  - Multiply the total of expenses by 1.314 to account for errors. (if you are very detailed, 1.05 may be used) Label this 'Expense Estimation'.
  - Finally take Revenue, subtract Expense Estimation in both yearly and monthly profit columns.

### Output

Item	Yearly	Monthly
After Tax and Benefits	58,660.80	4,888.40
Medical	4,800.00	400.00
Rent	8,808.00	734.00
Food	3,600.00	300.00
Cable	360.00	30.00
Electricity	720.00	60.00
Car Insurance	2,400.00	200.00
Car Maintenance	300.00	25.00
CellPhone	1,200.00	100.00
Christmas	500.00	41.67
Presents	600.00	50.00
Michael Work Gas	1,670.00	139.17
Mandy Gas	1,749.00	145.75
Mandy School	23,180.00	1,931.67
Michael School	7,647.00	637.25
Recreational Gas	300.00	25.00
Yearly Total Living Expense	57,834.00	4,819.50
Buffer	2,891.70	240.98
Profit	826.80	68.90

### Input

Item	Yearly	Monthly
After Tax and Benefits	=C2*12	=2444.2*2
Medical	=C3*12	=400
Rent	=C4*12	734
Food	=300*12	=B5/12
Cable	=30*12	=B6/12
Electricity	=60*12	=B7/12
Car Insurance	=C8*12	200
Car Maintenance	300	=B9/12
CellPhone	=100*12	=B10/12
Christmas	500	=B11/12
Presents	=C12*12	50
Michael Work Gas	1670	=B13/12
Mandy Gas	1749	=B14/12
Mandy School	23180	=B15/12
Michael School	7647	=B16/12
Recreational Gas	300	=B17/12
Yearly Total Living Expense	=SUM(B3:B17)	=B18/12
Buffer	=B18*0.05	=B19/12
Profit	=B2-B18	=C2-C18

- With this, we can add or subtract from our current bank balance to find where we will be six months, one year, five, or ten years from now.
- Interest and mortgage payments can be calculated using online calculators.

## Check

- Ensure all figures are consistent in terms of months or years and positive or negative values.
- Share this information with someone trusted to check the spreadsheet for any errors.

## Adjust

Seeing the bottom line or an account in five years may be a wakeup call. Update values for income and costs as spending habits change or income is changed. Save a copy and play with expenses and income, this can be used to find areas to save money and make goals.

## 21. Self-Sustaining Organized Closet - 5S

- Never look for clothes
- Save 100 hours

There is a good reason we hang clothes up, and it's not just for wrinkles. A messy closet isn't much better than a pile of clothes on the floor. A chaotic closet takes additional time to find what we want.

### Premise

- Organizing a closet can make choosing outfits easier.
- A closet with zones reduce the area needed to search for each occasion.
- It is easier to determine when a piece of clothing is lost or in laundry.
- A sorted closet can determine abundance and deficiencies.

### Goal

To reduce complexity to save space and time.

### Plan

- Declare the types of clothing:
  - Tops
  - Bottoms
  - Belts
  - Accessories
- What are the different occasions we wear each piece of clothing?
  - Casual
  - Formal
  - Gym (Don't need to be hung, clothes can be wrinkled)
  - Bed Time Clothes
  - Special Occasion (Bathing Suits)
- How do we pick out clothes we want?
  - Color
  - Outside Temperature (Long sleeve)
  - No Preference
- Decide if the type clothes need to be viewed before worn.
  - Gym/bed time clothes can be folded instead of hung up



## Examples

- Separate:
  - Tops, Bottoms, Belts, Accessories.
  - Casual, Formal, Gym, etc. (Separating for belts and accessories may not be necessary if they are low in quantity)
    - For clothes that aren't worn for appearances, clothes can be folded.
- Sort by Color (ROYGBIV)
  - Large quantity zones
    - Exclude belts/accessories if the quantities are low
  - Clothing types that are dependent on matching
  - Exclude gym/bed time clothes as they don't need to match

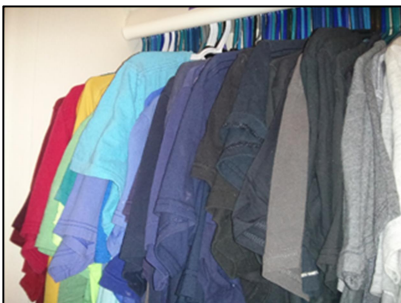
## Implementation

Upon implementation, it will take time to get used to the new system. Give it a try for 90 days and decide if you like things better.

After the first time, the area will get messy just like every other closet, some maintenance will be required. However, once the system is stable or you make adjustments, time will be saved every time clothes are chosen.

Labels were used to keep folded piles- folded. Without the labels, they would turn into piles. The little things make a big difference.

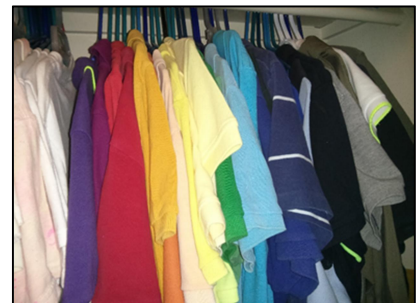
Shirts together sorted by color:



Clothes labeled for easy sorting:



Work shirts separated:



## Act

Decide what works and where. After months of trial and error, it was found that gym clothes could be folded and stacked next to each other as they didn't need to match. Snow pants were used only in the winter and were placed with personal gloves/hats.

## 22. Stress Free Vacation, So Easy Your Neighbor Can Do It

- [Worry free vacation :\)](#)

When going out of town, there is often maintenance that needs to be performed at home. Feed pets, water plants, get newspapers, etc. These seem trivial, but when a new person needs to replicate these tasks, they run into problems.

### Premise

Tasks are more complicated than they seem. It is easy for a stranger to the tasks to skip over a critical detail.

Work Instructions:

- Put on paper all of the necessary steps to complete a process.
- Ensure the detail is sufficient that anyone could do the task.

### Goal

Ensure an inexperienced person can take care of home duties without any confusion.

### Plan

- Consider every job that needs to be done:
  - Plants
  - Pets
  - Home maintenance
  - Receive mail
  - Check for leaks during heavy rain
- Go through each job marking the order, locations, and actions needed.
- Add detail, including measurements, frequency, and anything specific about each process:
  - I.e. Dog eats one cup, at morning and at night (total 2 cups).
  - Look for traces of water in plants, water if none is found.

## Examples

Below outlines the detail describing specific locations and actions needed to perform each task.

### Feed Nigel

Notes: If Nigel is on the top of the cage, do not open the top. Either spray him gently, wait for him to move, or skip feeding for the day. Feed one time a day.

1. Open tank by removing latch (Push latch toward inside of tank and lift up).
2. Take out plastic food tray from inside the tank.
3. Rinse tray with water until clean.
4. Open bag of Crested Gecko food on kitchen counter.
5. Take 1 scoop food (use stick next to bag), add to plastic tray.
6. Using the same scoop, fill with water, and add to plastic tray.
7. Repeat previous step.
8. Stir, and place inside tank.
9. Latch the top by pressing down.
10. Spray the tank generously with bottle right of tank (two times a day).

### Water Plants

Notes: Feel soil, if damp, skip watering. Water two times a week.

1. Watering Can is in bedroom on window sill.
2. Water all plants on window sills in bedroom (except plant labeled rosemary), water plants in spare bedroom window sill, water plant in living room window sill.

## Implementation

Coming up with a list makes it easy to take trips. With sufficient detail, there is no necessity to train anyone. When a person follows the directions, they should have no issue. If any problems come up, make sure to adjust the list for anyone else that may take on these tasks in the future. Idea: work instructions for resetting the internet?

## 23. Multitasking Tips

- Save 1,000 hours
- Enjoy driving
- Get more done

Science says multitasking is not real, however there are ways to make the most out of every second. With these time saving tips, you will get more done and enhance the quality of day-to-day life. If no premise or goal this chapter, let's save time and get right to it!

### Examples

- Watch TV shows, Movies, and Online Videos at 1.1x speed.
  - When watching a three-hour thriller, watching a movie at 1.1x speed will save you almost 20 minutes. We could watch an episode of our favorite TV show with that extra time!
  - Try slowly bumping it up, for entertainment, many shows can be watched at 1.3x speed without any loss in quality.
  - Try repeating classroom lectures at 2x-3x speed until a professor's lines get stuck in your head.
- Work fast, work efficient.
  - Don't waste time dusting every nook and cranny, a few swipes over a surface is enough.
  - Move around the home quickly, do the chores quickly, doing things slowly doesn't provide extra value. With the extra time saved, enjoy a cup of comforting tea.
- It is okay to leave things out.
  - Instead of putting a blow dryer that we use daily away, leave it out. Put it away for company.
- Clean while you cook.
  - There are moments when you are waiting for water to boil or we wait for food to cook, take those few seconds to put away the mess.

### More Examples!

Pair up:

- Listen to music or audiobooks when doing activities, you dislike. This is motivating to do more work and enjoyable, plus you finish a book!
- Listen to Podcasts or Audiobooks when driving. Pick any of your interests, history, comedy, entrepreneurship, news, learning a foreign language, lectures, or the latest hit book. Much better than radio.
- Do a hobby or enjoy company while watching sports, practicing an instrument or hanging out with family will make your time spent watching sports much more valuable.

Don't:

- Watch TV or listen to music while studying. People cannot multitask and the quality of your time studying is drastically worse when watching TV. Music and studying is not recommended (I'm guilty of doing this).
- Facebook/text/check phone while doing work/studying. Every time you are interrupted it takes a minute to get back to full productivity.

## Implementation

This might be a lifestyle change to put real focus on activities. The benefits are staggering when you get work done in a fraction of the time. Implement a few things at a time, a life of continuous improvement is a marathon, not a sprint.

## Act

Making the most of every minute will give you more time for the things you love. If you prefer to watch a TV show at normal speed because that's your time to enjoy a TV show, do that!

## 24. End Fighting, Analyzing Arguing

- Smile after a heated discussion

When problem solving, there are times where there was frivolous arguing, rambling, irrelevant tasks discussed without knowing better, and a need for someone to lead.

### Premise

- People often associate leadership as management, they are different.
- Specifying the goals of a conversation or meeting can frame a discussion.
- Knowing a few lines or discussion tactics can save a group conversation going awry.
- These can be applied with everyone from friends, coworkers, family, to upper management.

### Goal

Solve long winded conversations and get to an answer.

### Plan

There are common problems that commonly occur during discussions. Correctly identifying the problem can provide us with a quick solution.

(Each number lines up with examples on the next page).

1. Straying from the original topic.
2. Senseless arguing.
3. The conversation is going nowhere or blaming and dwelling on the past.
4. The issue at hand is on the surface and there are no attempts to find out root cause.
5. No responsibility or ownership of an issue and its solution.
6. The solution is known but the conversation continues.

### Examples

These lines can be used as a solution to these common problems:

1. Stop the conversation to ask, "What are the goals of this meeting/discussion?" Do not proceed until everyone is in agreement and all goals are laid out. Go after one at a time.
2. Ask the parties to "repeat what the other person is saying in their own words". Many times there is simply miscommunication.
3. As a meeting has been discussed for a while, it's common for people to go on-and-on. Ask "What are the next steps that need to be done?" Once the task is decided, assign a specific person to complete it and have a follow up date.
4. Use "five Whys". Asking why something happened over and over will find out "Why" something happened. This is particularly useful for brainstorming what went wrong.
5. Deciding upon or assigning a specific person that will track a task until they hand it off.
6. Give a follow up date and move on.
7. Occasionally you will have a personality that won't go budge and wants to hear themselves or vent. Let them go, follow up at a later time.

## Implementation

These conversational tactics should be used in combination with general manners. Having good relationships make a group much more apt to work together. Consider using these only when you are stuck and traditional methods did not work. Stay positive and be the better person. There will be blaming, but focus on what needs to be done next.

## 25. Make Food Taste Good by Cheating

- Make the best tasting food ever without learning how to cook

Our body biologically craves certain flavors. Psychology has also found tricks that make food taste better without adding calories. Here are the 'cheat codes' to making food taste good. This is a scientific approach to the taste of food.

### Premise

- The human body is always trying to survive, as a result it wants quick energy and long term energy.
- Our bodies have receptors to taste some minerals and vitamins. This tells the body 'eat this, it has essentials that are required for life.'
- Our brain has found that vibrant colors and complex dishes are more appealing.
- Combining these, form the basis for what most food companies and professional chefs use on almost every dish.

### Goal

To combine all of these 'cheats' into a single dish to win taste buds and minds over.

### Analysis

The following have physiological and psychological triggers to a human body:

Vitamin C- An essential nutrient for multiple aspects of the human body.

Sodium- An essential nutrient that helps regulate many blood functions.

Simple Carbohydrates- Quick energy that can be metabolized easily.

Fats- Long term energy, also used in many essential body functions.

Amino Acids- Same as previous items, the body is always looking for help.

Vibrant Visuals- Variety of color means better variety of nutrients.

Aromatics- When your nose can smell it, your body is telling you to eat.

(Optional) Capsaicin- Spiciness in foods cause endorphins to go off. You become happy from eating this because your body still is telling you to keep eating regardless of the pain.



## Implementation

To utilize all of those we add the following **(note: add slowly and taste as you go)** to a dish when we want to impress:

Vitamin C- Acids - Ex: Lime Juice, Lemon Juice, Vinegar

Sodium- Salt, taste as you go, we still aren't going to be adding a McDonald's amount of salt.

Simple Carbohydrates- Sugar and/or Flour, go easy, we only need a bit. Brown sugar or syrups can be used for a deeper flavor.

Fats- Oils/Butters/Fats/ Creams/Gravies, not for taste, adds a 'feeling' of smoothness in your mouth. (Can be flavored for extra taste!)

Amino Acids – MSG, monosodium glutamate. It's not unhealthy, it's not dangerous, and the media has misinformed people on this subject. Some people are allergic to MSG, similar to how people are allergic to Peanut Butter or Strawberries. MSG is safe. It can be bought online, it comes in tiny grains, typically a pinch can be added to dishes. Alternatives to MSG: Worcestershire sauce, Fish sauce, oyster sauce.

Colors- Vegetables and fruits contain a vast array of colors, steam or gently fry them. We don't want them brown. We want them bright!

Aromatics- Garlic, onion, or mirepoix (carrots/onion/celery) are common.

Caspian- Hot sauce, cayenne pepper, black pepper, remember this is optional.

Psychology trick- Name your food, "Grandma's Chili" tastes better than "Chili".

Layer up- In a recipe, add these to each component in a dish in addition. Ex: Chicken - salt, veg oil, lime juice. Rice – salt, vinegar, sugar, MSG, butter. Veggies: salt, olive oil, hot sauce.

## Application

- Include a high calorie per dollar food in every meal and a high protein per dollar food in every meal.
- Include oils, fats, vegetables, and fruits for ESSENTIAL nutrition.
- Combine this with a variety of herbs, spices, to make most recipes.
- Examples of meals: fajitas, fried rice, chicken rice and gravy, stir fry, tacos, casseroles, enchiladas, chicken tortilla soup, alfredo, sloppy joe, lentil soup, burritos.

## Adjust-You Can't Adjust

Taste as you go. Add a little bit of each one and taste. Consider having a bowl of cooked food to test the outcome of adding each. Next time, pick a dish you already like, and modify these slightly. You can't take out salt once you added it.

Bon Appetit! Enjoy your new diet, new flavors, and new eating and life habits! :D