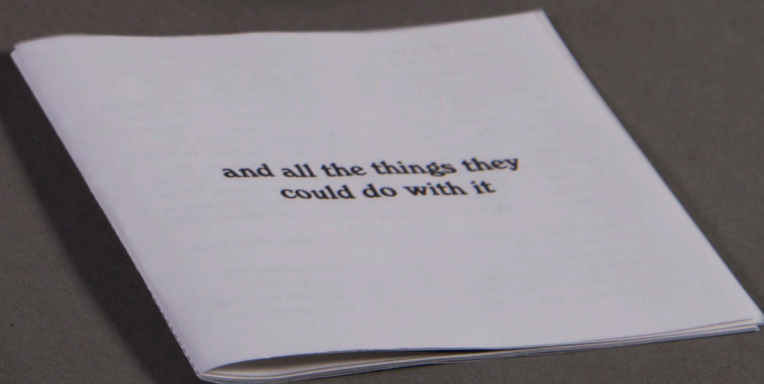
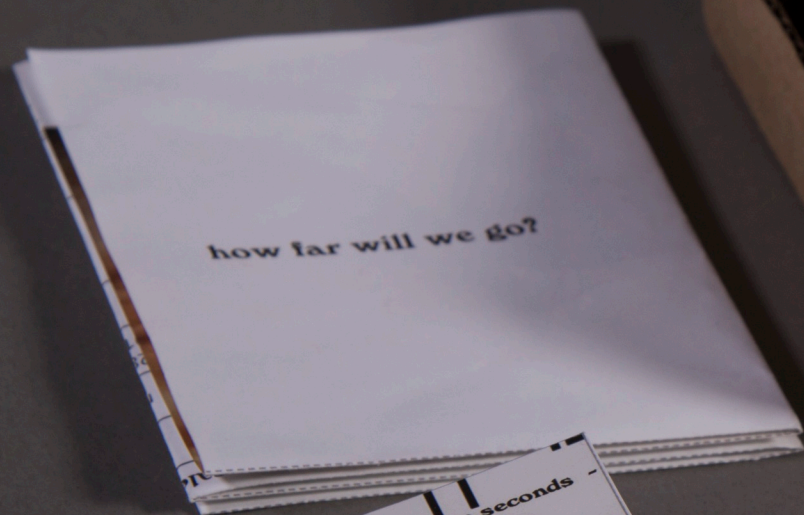


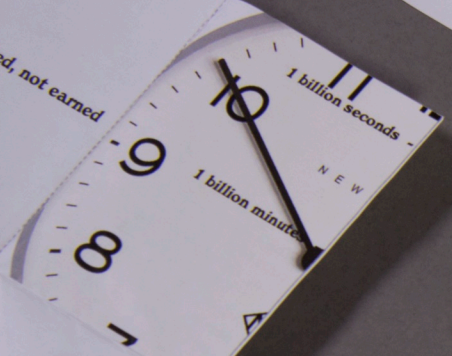
100 times that!
understanding the billion

Want to make your own?
Instructions at bit.ly/and100times!





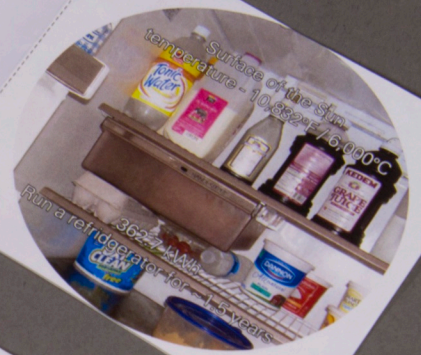
only granted, not earned



Well made campfire
temperature - 2,012°F / 1,100°C



67.4 kWh
Drive a Tesla 3 for ~ 25 miles



Surface of the Sun
temperature - 10,880°F / 6,000°C
Run a refrigerator for ~ 16 weeks

To make one of these
booklets, it takes ~ 0.0654
kWh to make the paper and
then print on both sides.
To create one billion of these
would therefore take roughly
65.4 mil kWh, more than
what 1 billion°F would be
able to power.

and all the things they
could do with it



Average human body
temperature - 99°F / 37.2°C

2.24 kWh
Run a hair drier for 30 minutes

far beyond!

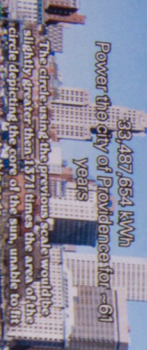
2 100 times that!

understanding the billion

Dexter McChesney



and all the things they
could do with it



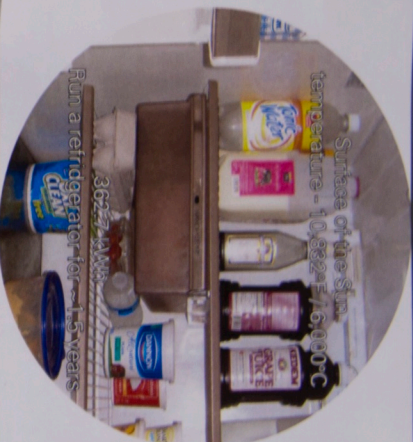
Power the City of Proclaimers for -61
33,427,654 kWh
YEARS
The earth's entire previous year would
sufficiently sustain 137 times the area of the
circle depicting the size of the sun, unable to fit
onto the globe.

2.24 kWh
Run a hair drier for 30 minutes

Well made campfire
temperature - 2,012°F / 1,100°C



67.4 kWh
Drive a Tesla 3 for ~ 25 miles



To make one of these
booklets, it takes ~ 0.0654
kWh to make the paper and
then print on both sides.
To create one billion of these
would therefore take roughly
65.4 mil kWh, more than
what 1 billion°F would be
able to power.

and all the things they
could do with it

1 billion°F
555,555,538 °C

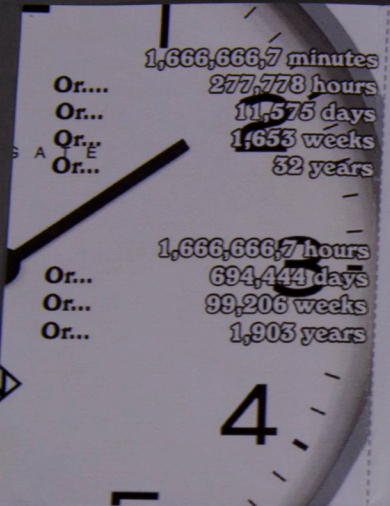
Power the city of Providence for ~61
years

The circle using the previous scale would be
slightly greater than 1371 times the area of the
circle depicting the core of the sun, unable to fit
onto this page.

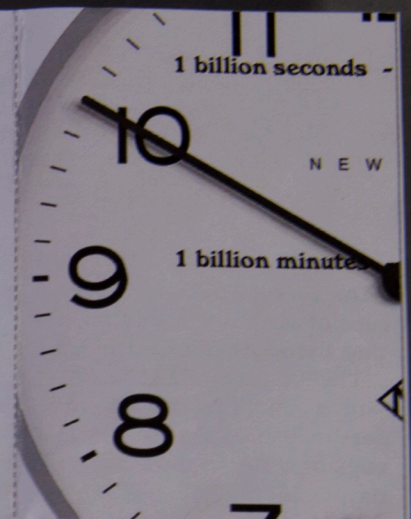


Average human body
temperature - 99°F / 37.2°C

2.24 kWh
Run a hair drier for 30 minutes



only granted, not earned



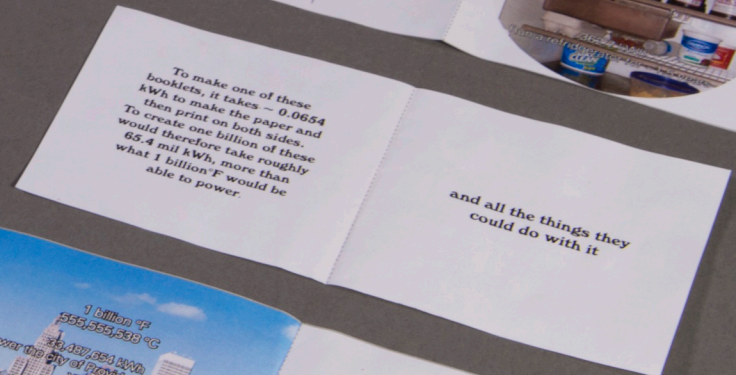
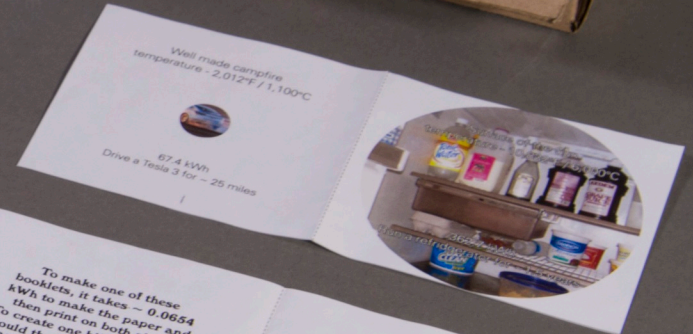
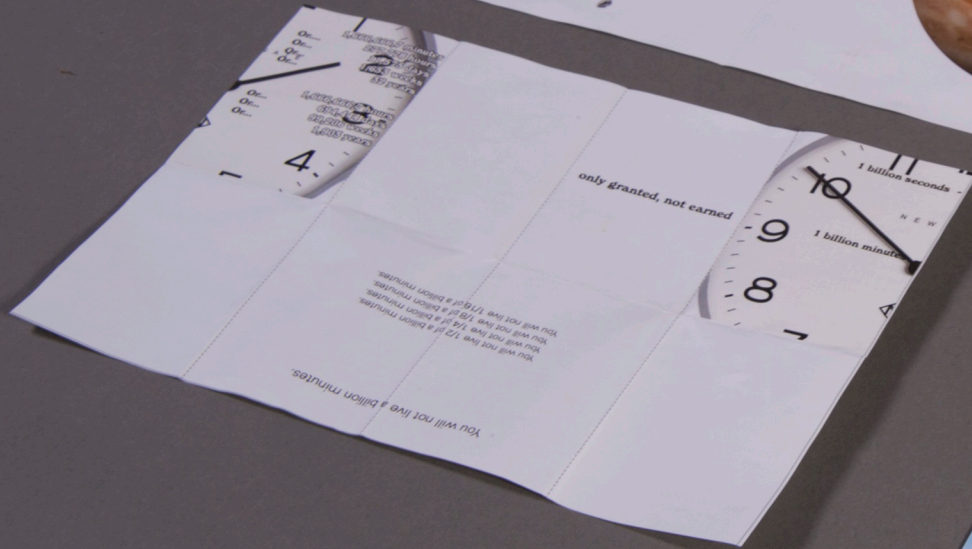
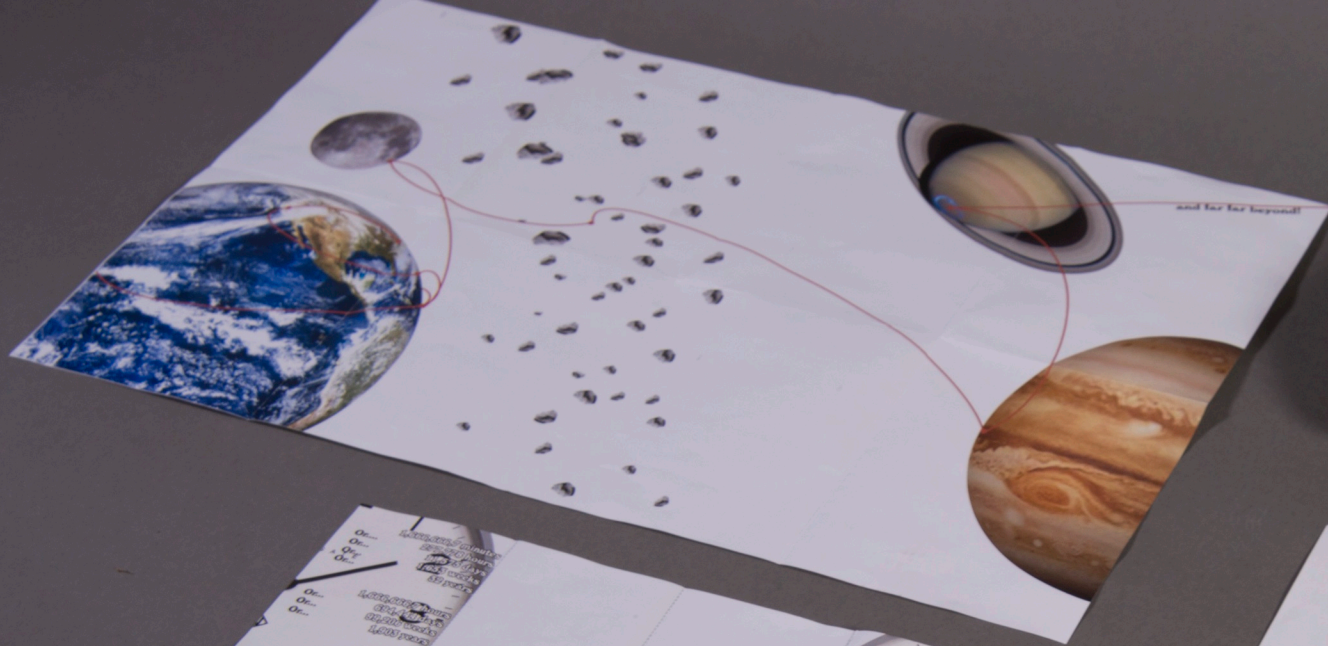
You will not live 1/2 of a billion minutes.
You will not live 1/4 of a billion minutes.
You will not live 1/8 of a billion minutes.
You will not live 1/16 of a billion minutes.

You will not live a billion minutes.



1,666,666,7 minutes

1 billion seconds



For this we have to use a smaller scale for the radius, moving from
 $1/64$ of an inch = 100°F to $1/64$ of an inch = $10,000^\circ\text{F}$

lighting
temperature - $54,032^\circ\text{F}$ / $30,000^\circ\text{C}$



1,809.4 kWh
Power an average American home for 10
months

The circle produced by using this scale would be barely seeable
if not completely invisible for any circle up and including a well
made campfire.

Hot or fast cooking oven
temperature - 500°F / 260°C



16.7 kWh
Run a microwave ~16 times

This scale is measuring different levels of heat and energy up to 1 billion degrees Fahrenheit, then using a calculation to find how much electrical energy in kila Watts per hour (kWh). This calculation is done assuming an impossible reaction in which all the thermal energy created is converted into electrical energy. This scale is a little harder to understand, since once we start going above ~8000 degrees Fahrenheit, it gets a lot harder for a human to understand. It's also hard to find things that are extremely hot that the average person will know of, most things that go above a couple million degrees are chemical reactions in space or in labs; while this makes it a little harder to picture, it really cements a billion as the huge number it is, which is why this is still effective.

The scale of the radius of the circles is $1/64$ th of an inch = 100 degrees Fahrenheit.

The calculation of the thermal energy is done using the average mass of a human (62kg, 136.7 lbs), the heat capacity is for human flesh, 5500 J/kgK, and the starting temperature as the melting point of ice, 0 degrees celsius.

Oil, coal, gas... while the currently richest people didn't make their money off these things (wouldn't be surprising if they actually did though), they still control so many things and have so much power over the state of our world. This applies to all aspects of the world, economics, politics, the environment... and so much is done to keep the people who own these things in power, with a little help from lobbyists, PR, and the CEOs' wads of cash. At the time of writing this, the gas company shell had recently started burning off huge amounts of gas since they were making too much to sell. Of course reducing the prices or focussing on something else wouldn't make sense, right?

60W incandescent lightbulb
temperature - 260°F / 126.6°C



8.7 kWh
Keep a Macbook Air running for around
10 hours

Core of the Sun
temperature - $27\text{ mil}^\circ\text{F}$ / $15\text{ mil}^\circ\text{C}$



Once again we have to lower the scale, this time from $10,000^\circ\text{F}$ to
 $1/64$ of an inch to $1000,00^\circ\text{F}$ to $1/64$ of an inch.

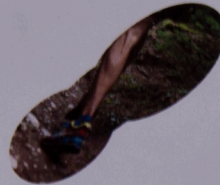
904,167 kWh
Keep a medium/large office building
powered for ~45 years

The circle produced by using this scale for the temperature of lightning would be as large as the degree sign, if not smaller. Using this scale for anything else would be impossible to see.

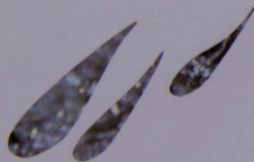


The average person will sleep 7 hours and 7 minutes (or 427 minutes) per day, meaning they will sleep roughly 748,041,420 seconds in their life.

The average person drinks 4 cups of plain water, 946 ml, per day, therefore drinking around 116,800 cups or 27,633,478 ml in a lifetime. The average person also drinks around 13.4 cups of water in total during a day, resulting in 391,280 cups, or 92,572,152 ml in a lifetime.



The average amount of steps is roughly 5,079 per day, meaning the average person will take roughly 148,219,200 steps in their lifetime.



The average person will take around 20,160 breaths a day, meaning they will take roughly 588,672,000 breaths in a lifetime.



Time is not something you can earn in our society, the people who have time have had it all their lives, and the people who don't never did. The exception to this is that time is only gained if someone gives it to you, and as you get more and more, it seems like you hold onto each second much more greedily in your hoard. Shouldn't time, a concept so universal, unpredictable, but most of all limited to your lifespan, be something that isn't granted? It almost seems fictional to call the people at the top the lords of time, like some sort of fantasy novel, but it doesn't seem to be inaccurate.



Pangea split into the continents we know today roughly 200,000,000 years ago.

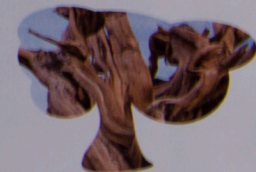


It took roughly 100,000,000 years for the Appalaichain mountains to form.



The first use of fire by humans is estimated to be roughly 1,400,000 years ago.

The oldest tree in the world is only 5,062 years old.



how far will we go?

New York City to San Francisco - **2505 miles** (4031 km)
driving at 100 kmh - **~41 hours**
flying at 24791 mph - **6 minutes**

New York City to Rome - **4281 miles** (6889 km)
driving at 100 kmh - **~69 hours**
flying at 24791 mph - **10 minutes**

New York City to New Delhi - **7303 miles** (11754 km)
driving at 100 kmh - **~118 hours**
flying at 24791 mph - **18 minutes**

Earth's circumference - **24,901 miles** (40,675 km)
driving at 100 kmh - **17 days**
flying at 24791 mph - **~1 hour**

Earth to the Moon at closest point - **225,622 miles** (303,104 km)
driving at 100 kmh - **126 days**
flying at 24791 mph - **~9 hours**

And if we take 1 inch on this line to be representative of 1,000 inches in our scale above, making 1 inch = 10,000,000 miles...

All these small lines are the distances described above...

Earth to Jupiter - 390.682 mil miles (628.743 mil. km)

driving at 100 kmh - 71 years 282 days
flying at 24791 mph - 1 year 291 days

Earth to Saturn - 746 mil. miles (1.2 bil. km)
driving at 100 kmh - 1369 years 315 days
flying at 24791 mph - 3 years 159 days

One billion miles (1,609,344,000 km)
driving at 100 kmh - 1837 years 55 days
flying at 24791 mph - 4 years 220 days 17 hours

All calculations here are made assuming traveling is done nonstop. 24791 miles per hour (~39897 km/h) was chosen as that is the fastest speed a human has traveled known to man, the speed at which astronauts travel at re-entering the atmosphere. When numbers got higher they are rounded in order to make them more understandable. Farther distances will also have less accurate distances as they are harder to get averages of from earth.

100 km/h = ~62 mp/h
1 inch on these lines = 10000 miles

Earth to Asteroid belt - 158 mil. miles (254 mil. km)

driving at 100 kmh - 289 years 348 days
flying at 24791 mph - 265 days 13 hours

What is it with the 1%'s obsession with leaving earth anyway? It seems like so many billionaires are so focused on getting off this damned planet that they don't put a penny back into it! These few aren't the only ones pushing this though, they're hailed as 'pioneers' as well as people who are finding a way to somehow escape a worldwide crisis (that they could most definitely fix with pocket change), when the reality is that any of the tickets to their solutions are going to cost millions!

