

Inquiring Minds: *Seeing and Loving the World Around Us*

#48 April 2018 "Making Models help us visualize and appreciate the heretofore unimaginable." -moi

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Compelled to Count and Compute

At times I identify with Count the Count on *Sesame Street* ([see the video here](#)) because, like him, I like to count or compute all sort of things. Below are some of my favorite models complete with linked math worksheets.



Scaling the Sizes of our Sun and Planets

If we were to shrink the earth to the size of a pingpong ball, the sun we calculated would be the size of a weather balloon measuring nine feet across. The largest planet in our solar system, Jupiter, would be about the size of a basketball. This model could fit in a classroom, and is a powerful representation. ([more](#))

Scaling the Distances in our Solar System

If we were to use the same model where 1 inch = 8000 miles to represent the distance of the earth from the sun (93 million miles); this would put the pingpong-ball-sized earth about 969 feet or the length of 3 football fields away from the 9 foot-wide sun. ([more](#))

How Long is a Million, a Billion Dollars?

If we were to tape one million one dollar bills end-to-end, they would stretch about 100 miles, or from



Redwood City to Sacramento. One billion ones so attached would stretch 1000 times more, or 100,000 miles, which is about 3.3 times around the earth which itself is about 30,000 miles. ([see the worksheet](#))

The Hardest Working Machine Ever

This machine works every second for 70 to 90 years and daily moves 2000 gallons of liquid, the equivalent of four small spas. In the course of its lifetime, it will move enough liquid to fill 93 olympic-sized swimming pools. It is the human heart. Considering the average adult body has 5 quarts of blood continually recycling, one could bleed out in less

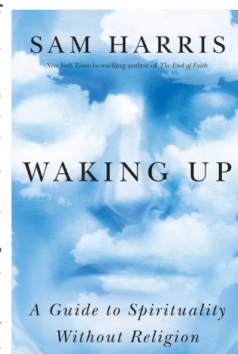
than a minute from a serious wound, so, if seriously wounded, *nota bene*, stop the bleeding ASAP. ([more](#))

Modeling Size and Distance of an Atom

According to [this funny video](#), if the the nucleus (center) of a hydrogen atom were a one-meter (3 foot) diameter balloon, the nearest electron would be the size of the tip of a ballpoint pen and would be 50 km (31 miles) away. The distance between the nucleus and the electron would be space as is most of matter.

Personal Models for Spirituality, Communication, and History

Thanks to the recommendation of Jay at [COJ](#), I read *Waking Up* by Sam Harris. I had heard about this author as one of the skeptics who I have come to admire because his taking on belief systems based on myth, dogma, superstition, etc., and points to values backed up by science and reason. For me it was a refreshing journey even looking at the most scientific of the spiritual wisdom traditions, Buddhism. ([more](#))



After talking with Jay I went on to a meeting in Palo Alto on [Non-Violent Communication](#) (NVC) based on the book by Marshall Rosenberg. I have been doing this off and on without ever having read the book, so I finally checked one out of the library. Patricia and I have been reading and discussing it together for the last three weeks. We find it to be very interesting, insightful, and challenging in helping us communicate more effectively when we have differences of opinion. NVC has been around since the 1960's. ([the website](#))

My favorite movie relates the story of how close the world came to being taken over by Hitler when Great Britain debated surrendering. Factual, dramatic, and relevant, [Darkest Hour](#) is one of my favorite movies of the year. Tells me things I never realized. On Demand for \$6, but select the correct movie about Winston Churchill. —dedicated to Patricia on our 48th anniversary

As we confront evil may we find or create our own joy by seeking out the goodness which also surrounds us. —*Joe 2/21*