

# Weekly Digest

During the coronavirus shutdown

April 20th, 2020

Did you know...

Different metals are what create the different colors in fireworks! Copper makes blue, strontium red, calcium orange, and sodium makes yellow! [Check out this YouTube Video from NPR for more!](#)

(Chemists use flame tests to identify metals. Check out [this video!](#))

## Chemistry in the Kitchen: Cheese

Ever wonder how cheese is made? All cheese starts off as milk, which is made of water, fat, lactose, & proteins. For cheese, we'll be focusing on the chemistry of a particular protein called casein micelles. In order to make cheese, the casein needs to clump! How can we get it to do that? The casein molecule is a ball with little hair-like strings covering its surface that keep it surrounded by negative charge. This negative charge causes them to repel each other (like two negative magnets). There are two methods for removing the negative charge: (1) flood the protein with positive charge by increasing acidity. The positive charge neutralizes the negative charge or (2) add an enzyme (rennet), which chops off the little hairs (& their negative charges). Once that negative charge is gone, the protein clumps, making cheese curds, which then are pressed into cheese.

**Experiment with making cheese this week:** [Herbed Paneer Cheese](#) [Ricotta Cheese](#)

Cheese made using the acid method tends to be soft & does not melt very well. Can you guess why?

## Check this Out!

The **entire NASA media library** is open to the public and available to download! Select "Most Popular" photos for a selection of awe-inspiring pics. Click on each image for more information about its contents. [Check it out at NASA.gov](#)

**Horses and dogs playing together?** A small study has shown that play & communication cues are shared between these two species. Check out more at [NationalGeographic.com](#)

Atari, Sony Walkman, Humminbird LCR Fishfinder, airPods, & more! Scroll through the **Consumer Electronic Hall of Fame** at [Spectrum.ieee.org](#) & marvel at how far technology has come in 50 years!

## Taking care...

Looking for ways to find healthy solitude rather than loneliness? Yale fellow Rita Watson has some suggestions on how to do just that in her [Psychology Today article](#). Here are a few of her ideas:

- Light a candle and watch the flame.
- Breathe & listen to [the] rhythm
- Sit with a journal or note cards to write out thoughts that come your way.
- Make a list of your positive qualities.

## Culture during COVID-19

Cirque Du Soleil is showing a 60-minute special of ZED, a show only ever performed in Tokyo. Watch the show on their [youtube channel](#)

Logical Fallacy of the Week

## Equivocation

**Mr. B cannot freely eat all the chocolate cake in the world, therefore Mr. B does not have free will.**

"Equivocation exploits the ambiguity of language by changing the meaning of a word during the course of an argument and using the different meanings to support some conclusion." In the above example, the meaning of the word "free" changes.

An Illustrated Book of Bad Arguments, Ali Almosawi, p16, [bookofbadarguments.com](#)

## Craft Corner

**Experiment with painting!** All of the iconically quirky Bob Ross Joy of Painting episodes are available for on [YouTube](#). His show is not only mesmerizing & soothing to watch, but also teaches a stress-free & relaxing approach to painting. If you don't have a canvas, use scrap cardboard, wood, or paper.

With the help of a few tools, you can **create your own mandala!** Check it out at [Instructables.com](#). What principles of math & engineering are used?

Happy Pic Of the Week



[Learn more about the adorable American Pika](#)

Photo by Tony LePrieur

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